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Minimizing Employment Taxes in U.S. "S" Corporations: Levels of Compensation and Shareholder Sophistication

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Abstract

In the U.S., firm owners operating as an S corporation may minimize the incurrence of employment tax by reducing compensation paid to shareholder-employees and increasing the amount of tax-free distributions from the firm. While the U.S. limits a taxpayer's ability to use this technique, many firm owners are still able to reduce employment tax expense to some degree. Using the U.S. Federal Reserve's 2003 Survey of Small Business Finances, we find that more sophisticated S corporation owners make use of this tax planning technique than their counterparts operating in C corporations.

Keywords: s corporation, officer compensation, employment tax, tax planning

1. Introduction

In the United States (U.S.), firms classified as corporations for tax purposes will generally have earnings taxed twice: once at the corporate level when earned and again at the shareholder level when a dividend distribution is made. In contrast, firms operating as a pass-through entity in the U.S. will not be subject to tax at the firm level. Instead, income earned will generally pass through to the owners in proportion to their ownership interest in the firm and is taxed only once at the owner level. Because operating in corporate form offers many non-tax benefits, including a familiar organizational structure and limitation of liability, many firm owners still choose to operate in corporate form despite the double tax detriment. Fortunately, the U.S. permits corporations meeting certain qualifications to make a "Subchapter S election" and be treated as a pass-through entity for tax purposes. This election in many ways offers the best of both worlds for some taxpayers: a corporation with profits only taxed once.

Qualifying corporations making the S election are known as S corporations. Generally, profits of the corporation are taxed to the owners when earned by the S corporation whether or not the corporation makes any distribution to its shareholders. Subsequent distributions of previously taxed earnings are generally received by the shareholders tax-free.

The U.S. imposes a limit on the number of shareholders an S corporation may have. In fact, S corporations are legally titled "Small Business Corporations." Historically, owners of small, closely-held firms often work in the organization in a management position or as a key officer (Plesko, 1995). As employees, any compensation received is subject to federal employment taxes in the U.S., namely Social Security and Medicare. These employment taxes can be as much as 15.3% of compensation in addition to any income tax levied, all of which is ultimately borne by the shareholders in the pass-through context. As a result, shareholder-employees of S corporations have often utilized a tax planning technique to reduce the incurrence of employment taxes: pay less salary to shareholder-employees while making larger distributions of previously taxed income. This strategy has the effect of reducing compensation and thus the gross amount against which employment taxes are levied while maintaining the amount of monies received by the shareholder-employees from the S corporation. The U.S. Internal Revenue Service (IRS) limits the S corporation shareholder's ability to do use this technique by requiring reasonable compensation be paid under the facts and circumstances of employment. To be sure, the IRS requires S corporations to specifically report the amount of compensation paid to officers. This reasonable compensation standard is question of fact that gives S corporation owner-employees some latitude in structuring their compensation and thus, tax planning opportunities arise.

In a previous study, we looked at the utilization of debt as a method to reduce tax expense in the U.S. and the level of sophistication of owners using debt capitalization techniques (Brajcich & Lawson, 2012). That study found debt capitalization of corporations is a complex tax planning tool that most owners would not employ without some degree of sophistication. Likewise, the use of reduced S corporation compensation packages to shareholder-employees coupled with higher distributions to shareholders is a complex tax planning technique. Here, using the 2003 Survey of Small Business Finances by the U.S. Federal Reserve Board (SBBF), we look at the level of compensation paid to S corporation shareholder-employees. For the more sophisticated firm owner operating in an S corporation, we would expect to see lower levels of compensation. For corporations that have not made the S election, we would not expect to see similar results as any tax advantage of reduced compensation and increased dividends is mitigated by the double tax regime imposed on such corporations, commonly referred to as C corporations.

Our results are varied. When using the graduate degree as a proxy for sophistication as done in our previous study (Brajcich & Lawson, 2012), we find that C corporations compensate their officers more than average to a statistically significant degree, while S corporations compensate their officers less than average. Surprisingly, S corporations do not compensate officers below average at a statistically significant level. Using the college degree and age of the firm as additional proxies, we find that C corporations compensate their shareholders two to three times as much as S corporations.

We also look at results from a sub-sample that excludes firms that do not compensate their officers. This approach should produce results more representative of our hypothesis because of IRS rules surrounding officer compensation by S corporations. Specifically, a firm owner seeking to take advantage of this strategy to limit employment taxes must pay its officers a reasonable compensation. Rarely is zero compensation reasonable when working for a firm and to work for free as an S corporation owner would bring increased scrutiny by the IRS. Compensation of S corporation officers has been a recent enforcement priority of the IRS (Rettig, 2010). When looking at firms that compensate their officers, we see similar results, i.e., C corporations pay more compensation to a statistically significant degree while S corporations pay less, but not to a statistically significant degree.

When looking at the experience of the firm owner, however, the results are not what we would expect. We find that with increased experience, S corporations compensation of officers is higher than average at a statistically significant level. As noted in our previous study, experience may be a proxy for business savvy, but does not necessarily translate to sophistication in the tax planning sense (Brajcich & Lawson, 2012).

2. Literature Review

The challenges and characteristics of small businesses are very different from those of large businesses (Ang, 1991). Small businesses are often closely-held and tax considerations are likely to have a greater bearing on the choice of entity in the small business context (Ayers, Cloyd, & Robinson, 1996) and (Carroll & Joulfaian, 1997). Although the small firm is a separate legal entity from its owner, the interrelations between owner and firm result in many common interests between both parties. For example, compensation to owners of S corporationsmay be postponed during formative years as these owners are more likely to be indifferent to receiving compensation or profit distributions and can integrate personal incomes to minimize personal taxes (Ang, 1991).

Given that tax is a pertinent consideration for small business, tax practitioners and owners alike seek to minimize small business tax expense. After the Tax Reform Act of 1986, the U.S. saw a rise in elections to be S corporations that is largely attributable to the increased corporate tax rates (Carroll & Joulfaian, 1997). While many studies have looked to the pass-through characteristic of S corporations and differential tax rates between individuals and corporations as driver in their increased popularity (Plesko, 1996), few have observed the use of specific tax planning opportunities with respect to employment tax. A multitude of law review articles have looked at the issue of reasonable compensation in the S corporation context, e.g. Bertozzi (1978), or IRS enforcement, e.g. Watters and Burckel (1991), but we find no empirical study on point that looks at the use of the employment tax reduction technique analyzed here.

3. Methodology

We begin by regressing compensation of S- and C-corporations to shareholders on sophistication and education variables using ordinary least squares. The first regression to estimate is:

$$\text{comp}_i = \delta + \delta_2 \text{firm\_age}_i + \delta_3 \text{college}_i + \delta_4 \text{graduate}_i + \delta_5 \text{bus\_exper}_i + \varepsilon_i \qquad (1)$$

where: $comp_i$ is the total amount of officers' compensation/guaranteed payments to shareholder-employees for firm i; $firm\_age_i$ is the age of the firm in years scaled by 10; $college_i$ is a dummy variable that equals one if the owner of the firm has a college degree and zero otherwise; $graduate_i$ is a dummy variable that equals one if the owner of the firm has a graduate degree and zero otherwise, and bus_exper_i is the owner business experience in years scaled by 10. ε_i is the error term for firm i. δ's are coefficients to be estimated. We report the results from this regression in Table 1.

In a second regression model, we exclude firms that report non-positive compensation to shareholders and repeat the regression above in an effort to estimate the marginal effects sophistication and education have on C- and S-corporations compensation to shareholders. We report the results from our second regression model in Table 2. In a third regression, we use a subsample of firms that are owned by a single individual and repeat regression (1). We report these regression results in Table 3. In the final regression model, we use single-owner firms that report positive compensation to shareholders and repeat the regression. We report our final regression results in Table 4.

4. Data

We use survey data from the SBBF, which is a random sample of 4,240 small businesses. (Note 1) Since the focus of our study is on S- and C-corporations, we exclude sole proprietors, LLCs and partnerships, leaving a sample of 2,893 firms. We also drop financially constrained firms, including firms with negative equity and firms that were consistently denied or discouraged from applying for loans or renewals of lines of credit, leaving a sample of 1,743 firms. We also drop 12 firms that report non-positive total assets. This leaves a final sample of 1,731 firms, including 1,067 S-Corporations and 664 C-Corporations for our first regression model.

We use compensation payments to shareholders as the dependent variable for all of our regression models. For sophistication proxies, we use the age of the firm in years and the number of years of business experience of the owner of the firm, each scaled by 10. To determine the extent education has on compensation, we use dummy variables for college and graduate degrees, where degree equals one if the firm owner has a degree. Since college degree and graduate degree are highly correlated to each other, we orthogonalize the two variables to avoid multi-collinearity problems.

5. Results

We report ordinary least squares regression results in Table 1 where the dependent variable is compensation to shareholders. Regression results for S-corporations are reported in column 1 and C-corporations in column 2. As the main goal of this study is to explore the significance of sophistication and education on compensation distribution within a S- and C-corporation, we begin by focusing on the age of the firm and whether or not the owner of the firm has a college or graduate degree. As reported in columns 1 and 2, older firms are associated with distributing additional compensation to their shareholders. For every 10-year increase in firm age, S-corporations distribute an additional $2,950 in compensation to their shareholders, whereas C-corporations distribute more than twice that amount ($5,980), results that are statistically significant at the 5% and 1% level, respectively. Similarly, C-corporations that have owners with college degrees distribute nearly three times more compensation ($163,827 versus $56,328), on average, to their shareholders than S-corporations with college degree holding owners, results of which are significant at the 1% and 3% level, respectively. Furthermore, C-corporations with graduate degree holding owners distribute $287,292 more compensation, on average, than C-corporations with non-graduate degree holding owners. This result is also statistically significant at the 1% level. The graduate degree variable is negative for S-corporations, however, the result is not statistically significant.

The results in Table 1 fit nicely with our hypotheses that sophistication and education are important factors with regards to mitigating the double tax regime with the exception of business experience. We find that a 10-year increase in business experience for S-corporation owners is associated with an additional $2,896 in compensation to shareholders, but a decrease of $4,279 in compensation for C-corporation owners, results that are both significant at the 5% level. Based on our hypotheses, we expected the opposite. We offer no explanation here, only that experience may not necessarily translate to good tax planning.

Table 1. Compensation of S- and C-corporations

Variables	S-Corporation Compensation	C-Corporation Compensation
Firm Age	2,950.47**	5,979.55***
	(0.013)	(0.001)
College Degree	56,328.01**	163,827.08***
	(0.018)	(0.000)
Graduate Degree	-33,840.02	287,292.21***
	(0.301)	(0.000)
Business Experience	2,895.83**	-4,278.77**
	(0.017)	(0.040)
Constant	39,340.83	167,926.97***
	(0.191)	(0.005)
Observations	1,060	625
R-squared	0.031	0.083

Description: This table reports regression results of Compensation to shareholders on education and sophistication variables. Regression results for firms that file their taxes as S-corporations and C-corporations are displayed in columns 1 and 2, respectively. Firm Age is age of firm in years divided by 10. College degree and Graduate degree are dummy variables that equal one if the owner of the firm has a college (graduate) degree and zero otherwise. Graduate degree and College degree are highly correlated and are thus orthogonalized to each other. Experience is the number of years of business experience of the primary owners divided by 10. *, ** and *** represent significance at the 10%, 5% and 1%, respectively.

In Table 2, we report ordinary least squares regression results on a subsample of firms that have reported positive compensation to shareholders. By excluding the firms that award zero compensation to their shareholders, we are able to examine more closely the marginal effects sophistication and education has on compensation within S- and C-corporations. Similar to the results in Table 1, a 10-year increase in firm age corresponds to an additional $4,783 in compensation within a C-corporation. However, unlike Table 1, the age of the S-corporation is not a statistically significant factor with respect to compensation, at least not within the 10% level. The owners of S-corporations (C-corporations) with college degrees are associated with an additional $73,202 ($186,505) in compensation to their shareholders, both results which are significant at the 1% level. For S-corporations, graduate degree continues to be an insignificant factor for compensation, while business experience continues to be a significant influence. A 10- year increase in experience is associated with a $3,807 increase in compensation, a result which is significant at the 1% level. Graduate degree becomes an even greater factor for C-corporations, where $341,087 additional compensation is associated with graduate degree holding owners. Business experience for C-corporations continues to be negative, however the statistical significance diminishes with this subsample.

Table 2. Subsample of S- and C-corporations with positive compensation

Variables	S-Corporation Compensation	C-Corporation Compensation
Firm Age	2,033.16	4,783.15**
	(0.148)	(0.020)
College Degree	73,201.86***	186,504.53***
	(0.010)	(0.000)
Graduate Degree	-34,519.80	341,087.13***
	(0.375)	(0.000)
Business Experience	3,807.38***	-2,800.48
	(0.009)	(0.236)
Constant	60,531.75*	184,583.41***
	(0.096)	(0.005)
Observations	877	541
R-squared	0.030	0.093

Description: This table reports regression results of a subsample of firms for Compensation to shareholders on education and sophistication variables. The subsample includes firms that reported positive compensation. Regression results for firms that file their taxes as S-corporations and C-Corporations are displayed in columns 1 and 2, respectively. Firm Age, College degree, Graduate degree and Business Experience are as defined in Table 1. *, ** and *** represent significance at the 10%, 5% and 1%, respectively.

6. Conclusion

Our results are varied. Using the graduate degree as a proxy for sophistication, we find that C corporations compensate their officers more than average to a statistically significant degree, while S corporations compensate their officers less than average, but not at a statistically significant level. Using the college degree and age of the firm as additional proxies, we find that C corporations compensate their shareholders two to three times as much as S Corporations.

When analyzing a sub-sample of only the firms that pay officer compensation we see similar results: C corporations pay more compensation to a statistically significant degree while S corporations pay less, but not to a statistically significant degree. This sub-sample should produce results more consistent with our hypothesis given the limitations placed on officer compensation by the IRS and related enforcement efforts.

Finally, looking at the experience of the firm owner, the results are not what we would expect. With increased experience, S corporations compensation of officers is higher than average at a statistically significant level. One possible explanation is that while experience may be a proxy for business savvy, it does not necessarily translate to sophistication in the tax planning sense or the regular and consistent use of tax planning professionals.

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Note

Note 1. The survey is representative of the approximately 6.3 million U.S. small businesses and include nonfarm, nonfinancial for-profit businesses that have less than 500 employees and were listed on Dun's Market Identifier file as of May 2004. The survey became publicly available in September 2006.

Personnel Service, Consumption Emotion, and Patronage Intention in Department Stores

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Abstract

This paper explains customer patronage intention by analyzing the relationships among personnel service, consumption emotion and patronage intention. The findings are as follows: (1) customers' perceptions of the reflection and assurance of personnel service significantly influence their consumption emotion. Reflection and assurance significantly influence happiness, dominance and arousal. However, the influence of reflection is negative, meaning customers who perceive stronger reflection from service personnel feel lower consumption emotion when shopping for relaxation; (2) customers' perceptions of the consumption emotions of happiness and arousal significantly influence their patronage intention. That is, the more happiness and arousal customers feel, the more patronage intention they exhibit; (3) Consumption emotion mediates between personnel service and patronage intention. This research not only improves understanding of customer patronage intention, but also provides management guidance for department store operators.

Keywords: personnel service, consumption emotion, patronage intention, department store

1. Introduction

The rise of online shopping has affected the operation of physical stores strongly and negatively, including department stores. The shopping habits of customers have changed. Customers browse for merchandise in stores, note the price and item number, and then search online for the same items of clothing, household appliances, cosmetics, and household goods, seeking e-shops that often sell the goods much cheaper (Roland Berger Strategy Consultants, 2010). While managers of department stores are trying to attract customers by enhancing services, improving service personnel management, and upgrading store decorations, the effectiveness of these measures remains unclear. The reality is that many bright and spacious shopping malls attract few customers, and traditional forms of promotion are increasingly ineffective in attracting customers. However, customers continue to patronize department stores. One reason is that customers believe department stores offer lifestyle models and actual shopping experiences; functions that online shopping cannot replace. Therefore, identifying how to enhance the shopping experience and make it unique is important for helping department stores attract customers. Emotions are important to many shopping experiences.

Customer consumption needs have changed from 'job consumption' to 'joy consumption' (Bakewell & Mitchell, 2003; Tamura, 2007). This study labels the latter 'hedonic shopping'. Hedonic shopping describes shopping motivated not merely by the need to make a purchase, but also for enjoyment. Previous studies emphasized environmental influences, for instance, color (Donovan & Rossiter, 1982; Bellizzi & Hite, 1992; Chebat & Turley, 2005), music (Yalch & Spangenberg, 1990, 2000; Broekemier, Marquardt, & Gentry, 2008) and temperature (Chun & Tamura, 1998; Michon, Chebat, & Turley, 2005). However, department stores are service-intensive operations in which salespeople interact with customers at different times and across diverse locations. Customers experience more emotions during service consumption when they frequently encounter enthusiastic service personnel (Price, Amould, & Deibler, 1995). How service personnel behavior affects customers and enables them to experience specific emotions is an important question that previous studies have neglected. On the one hand, while customer satisfaction is fundamental to interpreting customer experience, it cannot explain the failure of satisfied customers to return. On the other hand, researchers interested in the service perspective have focused too much on minor details, such as facial expressions and behavior (Hansen, Sandvik,

& Seines, 2002; McColl-Kennedy, Patterson, Smith, & Brady, 2009). The literature has failed to present practical findings that managers can apply to improve store operations.

To redress these weaknesses of the literature we examine how interactions with service personnel affect customer consumption emotion, and whether the feelings associated with consumption emotion further affect customer patronage intention. We attempt to answer these questions by establishing a relational model of personnel service, consumption emotion and patronage intention, and analyzing the relationships among them. Such modeling and analysis will provide practical guidance to the management of department stores for improving store performance.

2. Literature Review

2.1 Personnel Service

Research on personnel service remains immature. However, the service encounter and service quality literature includes research on personnel service.

2.1.1 Personnel Service in Service Encounter Research

Service encounters involve service production and service consumption, and it can be defined from both perspectives. Specifically, service encounters involve interpersonal interaction between customers and service providers during service delivery, as well as interaction with other customers (Surprenant & Solomon, 1987). Examples of research adopting a narrow view of service encounters include Interactive Marketing by Kotler (1984) and Moment of Truth by Normann (1984). However, many scholars (Shostack, 1985; Bitner, Booms, & Tetreault, 1990; Fan, 1999) consider service encounters to refer not only to interactions between customers and service facilities or the physical environment, but also to interpersonal interactions.

Both perspectives consider personnel service an important element in service encounters. Perceptions of personnel service differ among industries because of different levels of customer's involvement in service. Based on customer involvement, Lovelock (1983) classified service industries into three types.

(a) *Low connection*. Customers seldom interact directly with service providers. Such services normally rely on special tools and equipment, and include information, postal and telecommunications services. Customer requirements are focused on equipment rather than personnel service. Customers only become concerned with personnel service quality when they need service that the equipment cannot perform.

(b) *Medium connection*. Customers participate in certain stages of service provision. Examples of such services include banks, lawyers, and real estate brokers. Customers of medium connection services are more involved than those of low connection services and so have higher requirements of service providers. However, no standardized service evaluation criteria exist.

(c) *High connection*. Customers participate in all or most activities during service provision. Examples of such services include department stores, cinemas, public transportation and schools. In high connection services, customer requirements of service providers are much higher than in the previous two types. Customers gradually develop criteria for service evaluation. Darian, Tucci, and Wiman (2001) analyzed customer perceptions of salespeople in electronic stores and found that customers felt strongly about four characteristics: (1) respect for customers, (2) knowledge, (3) responsiveness, and (4) friendliness. These characteristics represent important service attributes that shape customer perceptions.

2.1.2 Personnel Service in Service Quality Research

Customer perceptions determine service quality. Therefore, service quality is a complex composite that cannot be measured using service alone. Service quality comprises various elements and requires comprehensive evaluation. Parasuraman, Zeithaml, and Berry (1985, 1991) further improved the operationalization of service quality. They researched the determinants and customer perceptions of service quality and identified five fundamental dimensions: (a) tangibility, referring to physical evidence of service, such as service facilities and visible service personnel; (b) reliability, accurate delivery of service; (c) responsiveness, willingness and readiness to provide timely and effective service; (d) assurance, friendliness and competency of service personnel; and (e) empathy, the commitment to sincerely care for customers, learn their real needs, and provide service accordingly.

Although personnel service is not proposed as an independent dimension of service quality, service providers rely on their personnel. The five dimensions described above are closely associated with service personnel activities. Customers measure the five dimensions by assessing the services provided by service personnel, especially in high connection service industries like department stores, hotels and restaurants.

2.2 Consumption Emotion

2.2.1 Definition of Consumption Emotion

Numerous scholars have long been attempting to define consumption emotion. One argument suggests that consumption emotion is the psychological response derived from acknowledgement of products and services in consumption experiences (Mano & Oliver, 1993; Richins, 1997). Consumption emotion, which is a customer affective state and its evolution, describes a feeling that results from using or consuming products and services. Therefore, consumption emotion is dynamic. During consumption, a customer might experience happiness, excitement, satisfaction and other positive emotions, as well as disappointment, anger, sadness, guilt and other negative emotions (Menon & Dubé, 2000). Baker, Levy, and Grewal (1992) argued that positive emotions and negative emotions, two independent bipolar definitions, do not exist simultaneously. However, emotion is a continuously evolving process characterized by variability, complexity and abstraction. Customer affective state is constantly located between two poles. Customers might experience positive and negative emotions simultaneously during consumption (Westbook & Oliver, 1991).

After reviewing 28 definitions of consumption emotion in the literature, Plutchik (1980) claimed that they lack consistency and clarity. Hence, some scholars (Ortony, Clore, & Collins, 1988; Mano & Oliver, 1993; Oliver, 1993; Richins, 1997) have attempted to better understand the definition by focusing on the characteristics of the emotions involved. Affective response to certain situations is one of the most clearly described emotional characteristics (Clore, Ortony, & Foss, 1987; Ortony et al., 1988). This perspective views consumption emotion as a set of affective responses that a customer experiences while consuming products and services (Richins, 1997). Consumption emotion thus is the customer's affective response to the consumption value achieved based on perceived product and service attributes (Mano & Oliver, 1993; Oliver, 1993; Richins, 1997). Words such as happiness, anger, and fear can be used to describe customer affective state during consumption (Havlena & Holbrook, 1986; Jang & Namkung, 2009).

In summary, consumption emotion is the response customers generate from their experience of consuming products and services.

2.2.2 Classification of Consumption Emotion

The most prevalent classifications of consumption emotion in the current literature are as follows: (a) the PANAS model (Watson, Clark, & Tellegen, 1988), (b) the PAD model developed by Mehrabian and Russell (1974) (Lutz & Kakkar, 1975; Donovan & Rossiter, 1982; Holbrook, Chestnut, Oliva, & Greenleaf, 1984), and (c) Izard's (1977) four-dimensional classification.

The PANAS model classifies customer feelings as positive affect and negative affect. Positive emotions include active, calm, alive, peaceful, cheerful, warmhearted, delighted, happy, joyous, relaxed, lighthearted, restful, pleased, stimulated, and excited. Meanwhile, negative emotions include critical, depressed, disgusted, offended, skeptical, sad, upset, and distressed. However, the ambiguity of certain emotions makes classifying emotions as positive or negative problematic. Empirical researchers in service marketing often find it difficult to differentiate positive and negative customer emotions (Babin & Griffin, 1998)

Russell (1974) illustrated customer emotion using two categorical dichotomies of (1) pleasant/unpleasant and (2) arousing/Sleepy.

By integrating the dimension arousing/soothing into the pleasant-unpleasant model, Russell (1974) more accurately described the various customer feelings. Havlena and Holbrook (1986) compared the reliability, internal validity and external validity of the two models and found Russell's model better suited to consumption emotion study. However, Russell's model does not reflect customer affective responses to external stimuli. Hence, Mehrabian (1980) developed the Pleasure-Arousal-Dominance scale (PAD scale) based on Russell's model. PAD measures pleasure and arousal states stimulated by external factors instead of consumption emotion itself. The PAD scale also gauges intrinsic rather than positive/negative feelings.

The above review demonstrates that arousal is not classifiable as either a positive or a negative emotion. Accordingly, Izard (1977) classified emotions using a four-dimensional taxonomy, namely pleasantness, tension, excitement and assurance. Izard further categorized emotions into three types: positive, negative and neutral.

3. Research Framework and Hypotheses

3.1 Research Framework

No model exists for the relationship among personnel service, consumption emotion and patronage intention. However, previous research has improved understanding not only of the constructs themselves, but also of how

they relate to each other and drive behavior. The existing research indicates that: favorable service quality perceptions improve satisfaction (Totterdel & Holman, 2003; Söderlund & Rosengren, 2007); favorable service quality perceptions leads to customer re-purchase behavior (Dubé & Menon, 2000; Netemeyer, Maxham III, & Pullig, 2005; Kuo, Wu, & Deng, 2009); and customers with positive emotions display positive behavior, including re-patronage and re-purchase intention (Havlena & Holbrook, 1986; Baumeister, Vohs, DeWall, & Zhang, 2007).

Theoretical justification for the above relationships can be found in the appraisal→emotional→response coping framework developed by Bagozzi & Lynn (1992) (Gotlieb, Grewal, & Brown, 1994). Bagozzi and Lynn's (1992) model suggests that the initial service evaluation (i.e., appraisal) leads to an emotional reaction that drives behavior (Figure 1).
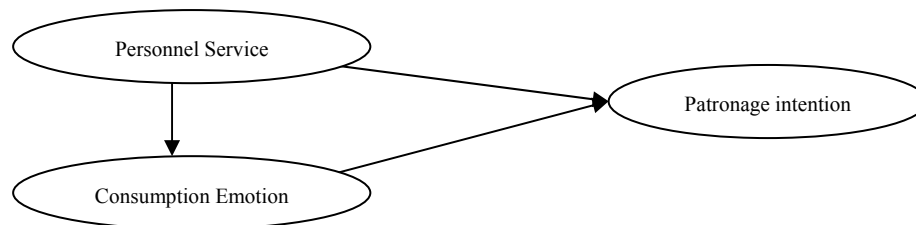
Figure 1. Personnel service, consumption emotion and patronage intention model

According to our preliminary analysis (Hou & Wu, 2011) that personnel service can be analyzed in terms of assurance, empathy, reflection and tangibility: (1) assurance indicates the knowledge and courtesy of employees and their ability to inspire trust and confidence; (2) empathy indicates the caring, individualized attention that the firm provides customers through its employees; (3) reflection indicates personnel's willingness to help customers and provide prompt services; (4) tangibility indicates the appearance of personnel (Parasuraman, Zeithaml, & Berry, 1988) (Note 1).

Consumption emotion can be analyzed in terms of happiness, dominance and arousal (Junya, 2005). We assume consumption emotion to be a multi-attribute and uni-polar concept. The various attributes should be gauged separately in measuring consumption emotion. Numerous scholars adopt this view (Westbrook, 1987, 1988; Wirtz & Bateson, 1999; Wirtz, Mattila, &Tan, 2000; Walsh, Shiu, Hassan, Michaelidou, & Beatty, 2011).

3.2 Hypotheses

One purpose of retail stores is to enhance the sense of pleasure of in-store customers and encourage their re-patronage intention through reinforcing their relationship with the service provider (Reynolds & Beatty, 1999). Service procedures, service environment, and interactions between customers and service personnel in the consumption process normally influence customer feelings (Gardner, 1985; Jang & Namkung, 2009; Ma & Dubé, 2011). Good service perception increases positive emotions and decreases negative emotions.

The service marketing literature recognizes the importance of interpersonal interaction between customers and service personnel. The quality of this interaction is critical to customer satisfaction (Bitner, Booms, & Mohr, 1994). Lemmink and Mattsson (2002) studied the relationship between service personnel behavior and customer consumption emotion in the banking, retail, automotive repair, hospital and hotel industries, and showed that the facial expression, behavior, language, and tone displayed by personnel during the service process influence customer consumption emotion. The SERVQUAL service quality scale also emphasizes employees by incorporating employee-related components (e.g., sincerity, courtesy, knowledge, and appearance) that characterize employees who are willing to provide prompt and personal service by understanding and instilling confidence in customers (Zeithaml, Parasuraman, & Berry, 1990).

Dominance and arousal are always looked on as neutral emotions. This means sometimes they can be looked on as positive emotion and sometimes, on the country, as negative. According to Thyaer's (1989) research, when neutral emotions reach to some too high level that will make person uncomfortable. But, in the retailing context, it seldom happens, because, customers are independent, they will choose to leave if they feel too much neutral emotions.

Accordingly, we hypothesize the following:

H1 *Reflection* of personnel service is positively associated with the consumption emotions of (a) *happiness*; (b) *dominance*; and (c) *arousal*.

H2 *Empathy* of personnel service is positively associated with the consumption emotions of (a) *happiness*; (b) *dominance*; and (c) *arousal*.

H3 *Assurance* of personnel service is positively associated with the consumption emotions of (a) *happiness*; (b) *dominance*; and (c) *arousal*.

H4 *Tangibility* of personnel service is positively associated with the consumption emotions of (a) *happiness*; (b) *dominance*; and (c) *arousal*.

The encounter between service personnel and customers is called 'personalization' (Mittal & Lassar, 1996). The language, behavior, demeanor, and even appearance of service personnel affect customer behavior, including their purchasing decisions and approach/avoidance intentions. The language and marketing tools employed by service personnel stimulate customer buying behavior and post-purchase behavior (Walsh *et al.*, 2011). Personnel providing good and appropriate service will increase customer intention to stay in the store (Hansen & Seines, 2002; McColl-Kennedy *et al.*, 2009).

Accordingly, we hypothesize the following:

H5 (a) *Assurance*; (b) *empathy*; (c) *reflection*; and (d) *tangibility* of personnel service are positively associated with customer patronage intention.

Customers extend their consumption emotion to their recognition of products and related issues and to their decision-making process and shopping behavior (Holbrook & Hirschaman, 1982; Peterson, Hoyer & Wilson, 1986). Customer patronage intention is the direct response to in-store perceptions. Such psychological models can elaborate the influence of emotions on customer behavior as M-R. Russell and Mehrabian (1978) discussed the relationships among *pleasure*, *arousal* and *approach intention*. *Arousal* is the customer's affective response to external stimuli. Customers without purchasing needs, influenced by such stimuli, determine to buy or create a preference, which in turn is reflected by such behaviors as purchase or attention. The M-R model indicates that *arousal* stimulates *approach intention* in a pleasant atmosphere and avoidance intention in an unpleasant atmosphere.

The following theoretical hypothesis is proposed based on the M-R model and the strength of the relationship between personnel service and patronage intention.

H6 Consumption emotion significantly affects patronage intention, or at least partially mediates between personnel service and patronage intention, and the consumption emotion of (a) *happiness*; (b) *dominance*; (c) *arousal* are positively related to patronage intention.

Figure 2 shows a structural model of personnel service, consumption emotion and patronage intention with constructs.
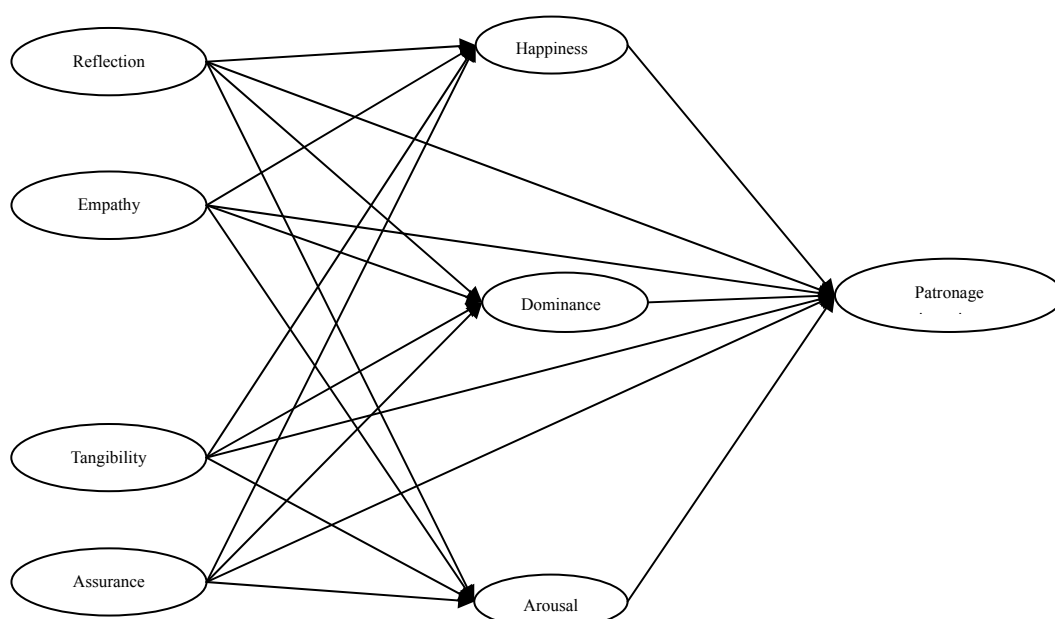
Figure 2. Personnel service, consumption emotion and patronage intention structural model

4. Methods

We chose customers in department stores D and P as the research targets (Note 2). We sent out 300 questionnaires and sampled 150 customers of each department. We interviewed customers who just went out from the departments D/P. We took the first person who accepted our interview as sample No.1, and then carried on the interview at 10-person interval to get sample No.2, No.3 …. Sometimes if a customer refused our interview request, then the next customer following shall automatically became a new research target. All 300 questionnaires were returned, for a response rate of 100%, and 298 (99.33%) of the returned questionnaires were valid. Table 1 lists the demographics of the sample.

Table 1. Demographics of samples

Dimensions		Result
Gender	male	32.6%
	female	67.1%
	not responding	0.3%
Age	under 25	22.5%
	25-39	51.7%
	40-54	20.1%
	over 55	5.7%
Education	under college (not includes college)	27.9%
	college	60.1%
	master degree and above	11.1%
	not responding	1.0%
Family income	under 2000 yuan	10.7%
	2000-3999 yuan	31.2%
	4000-5999 yuan	26.9%
	above 6000 yuan	30.9%
	not responding	0.3%

Notes: the Family income is based on the responders' family income per month (including the income of wife/husband, parents), and the unit is RMB.

4.1 Measurement

The research variables in the questionnaire were taken from the previous literature, and adjusted to fit the situation of local customers.

The personnel service questionnaire was created through the following steps. First, the personnel service interview questionnaire was developed based on the literature, and then 11 service persons from three different department stores were selected. These service persons were randomly divided into three groups (group one contained five persons, while the other two groups each contained three persons), and group interviews were conducted. Semantic analysis was used to extract interview content related to customer contact, yielding 35 items dealing with personnel service. Second, we discussed these 35 items with department store managers, and adjusted them based on the discussion. This produced an initial questionnaire comprising 39 questions. Third, we interviewed 100 customers who just went out from the Friendship, Mykal, Sunrise, Parkson and Newmart department stores. We use the same process to get our samples as above. The collected data was subjected to preliminary analysis and ambiguous items were changed as appropriate. Fourth, the questionnaire was subjected to a second round of testing. This round involved distributing 200 questionnaires, of which 196 were returned. Factor analysis then obtained four constructs for personnel service, namely *assurance*, *empathy*, *reflection*, and *tangibility,* and the scale was tested for reliability and validity. After these four steps, the personnel service questionnaire was finally obtained (see Appendix).

The consumption emotion questionnaire was developed based on individual interviews (23 subjects interviewed for 10-20 minutes each). Respondents were asked to describe their psychological feelings during shopping, and their responses were consolidated (Table 2).

Table 2. Emotional interview summary

Positive		Negative	
Interesting	Happy	Despair	Not fun
Funny	Pleasure	Tension	Not good
Relaxed	Exciting	Bored	
Satisfaction	Ease		

The primary scale for measuring consumption emotion combined Table 2 and the scale of Danyuanshunye (2005) (Note 3). Subsequently, field investigations were conducted in the Friendship, Mykal, Sunrise, Parkson and Newmart department stores, with 250 questionnaires distributed, and 220 valid questionnaires recovered. We interviewed customers who just went out from the departments. We also use the same process to get our samples as above. Factor analysis identified the three constructs of *happiness*, *dominance* and *arousal* for the consumption emotion scale (Hou, 2011). The reliability and validity of the scale were tested to establish the formal consumption emotion questionnaire.

Patronage intention was tested with three questions, namely: (1) I would be very likely to shop in this store; (2) I would be willing to buy merchandise at this store; (3) I would be willing to recommend this store to my friends (Grewal, Baker, Levy, & Voss, 2003).

4.2 Measurement Model

We use the maximum likelihood estimation method to verify the measurement model and path analysis with AMOS 17.0. The results were as follows: χ^2/df=814.634/320 2.55<5, root mean square error of the approximation (RMSE) =0.072<0.08, comparative fit index (CFI) 0.913, normed fit index (NFI) 0.865, incremental fit index (IFI) 0.914, goodness of fit index (GFI) 0.840, and adjusted goodness of fit index (AGFI) 0.802. All the indexes exceeded 0.80, meeting the respective minimum criteria and showing good fitness for the data and theoretical model (Bagozzi & Yi, 1988).

To ensure the suitability of constructs and data for further analysis, we tested the internal consistency reliability, convergent validity and discriminant validity of the measurement model before conducting the path analysis (Appendix). Internal consistency reliability was tested by Cronbach α, where the value should exceed 0.7. Convergent validity was tested using average variance extracted (AVE) and composite reliability (CR), where the AVE value should exceed 0.5 and the CR value should exceed 0.7 (Fornell & Larcker, 1981), which indicates favorable convergent validity between the constructs. Discriminant validity was tested by comparing the square root of AVE with the correlation coefficient between the constructs. If the former exceeds the latter then desirable discriminant validity exists between the two constructs.

The results in Appendix reveal that the measurement model used in this study has good internal consistency reliability, convergent validity and discriminant validity. The only issue is that the correlation coefficient between *assurance* and *empathy* is bigger than the square root of AVE. Table 3 lists descriptive statistics and correlations for all variables.

Table 3. Descriptive statistics and correlations

Construct	Mean	SD	1	2	3	4	5	6	7	8
1. assurance	3.733	.654	.823							
2. empathy	3.650	.655	.759**	.738						
3. reflection	3.708	.681	.708**	.686**	.774					
4. tangibility	3.721	.633	.647**	.636**	.553**	.780				
5. happiness	3.226	.659	.706**	.599**	.499**	.519**	.921			
6. dominance	3.376	.608	.425**	.437**	.365**	.384**	.540**	.780		
7. arousal	2.822	.719	.539**	.492**	.377**	.408**	.726**	.465**	.855	
8. CPI	3.304	.756	.618**	.543**	.454**	.462**	.723**	.465**	.649**	.864

Notes: Coefficient alphas are reported along the diagonal; **p<.01 (two-tails).

4.3 Results

To test the hypotheses, a structural model is estimated and displays respectable fit. Figure 3 illustrates the results (significant paths are indicated in bold). Table 4 summarizes the results.
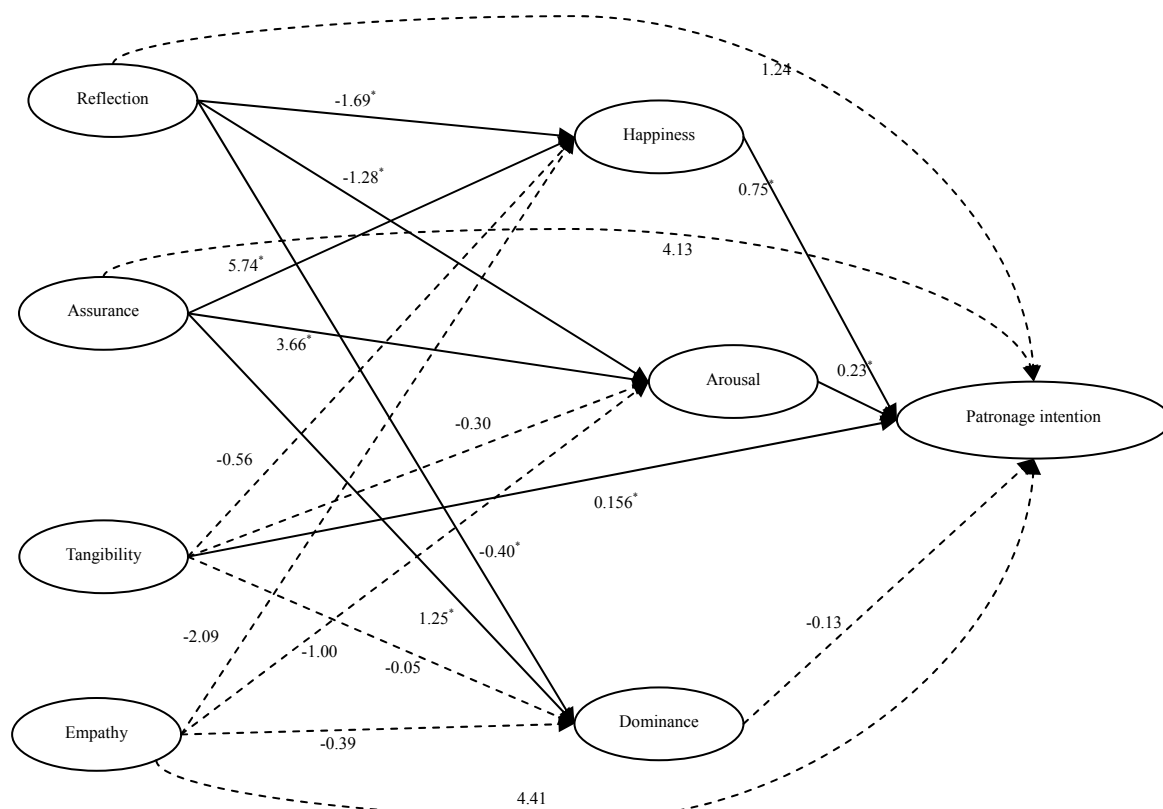
Figure 3. SEM final model

Figure 3 shows the effects of personnel service on consumption emotion, and reveals that the *reflection* of personnel service significantly influences *happiness* (-1.69, p<0.05)*, arousal* (-0.04, p<0.05) and *dominance* (-1.28, p<0.05). Surprisingly however, the influences are negative in all cases. Therefore, hypotheses H1-a, H1-b and H1-c are not supported. Possibly these hypotheses are not supported because previous research involved customers primarily concerned with are "job consumption", meaning quick and timely reflections by service persons are very important. However, in this study, customers are motivated by "joy consumption" and prefer feelings of freedom and individualism. The customers surveyed in this study may feel uncomfortable if service persons reflect too fast. Therefore, personnel service and consumption emotion are significantly related as shown in the model.

Empathy does not significantly affect any dimensions of consumption emotion (-2.09, p>0.05; -0.39, p>0.05; -1.00, p>0.05), and thus H2-a, H2-b and H2-c are not supported. The hypotheses may not be supported because the department stores examined in this study standardize service modes. For example, the department stores require their service persons to use uniform greetings and maintain a uniform facial appearance. Customers have difficulty feeling true "humanity" from such standardized service modes. Besides, previous research on service recovery found that when a customer feels negative and unhappy the salesperson should exhibit self-identification and sympathy with the customer's experience to gradually lift the customer's mood (Karatepe, 2006); i.e. *empathy* is important when customers feel negative emotions. However, this study is focused on department store customers who are seeking happiness, so the influence of *empathy* is less obvious and the hypotheses are not supported.

Tangibility does not significantly influence any dimensions of consumption emotion (-0.56, p>0.05; -0.05, p>0.05; -0.30, p>0.05), and so H4-a, H4-b and H4-c are not supported. The hypotheses are not supported because *tangibility* belongs to the basic evaluation criteria. Bitner, Booms, and Tetreault (1990) posited that service persons with untidy outlook (such as dress) will cause customers to feel uncomfortable and develop negative perceptions of the service personnel. Based on Herzberg's Motivation-Hygiene Theory, we believe that salespersons in department stores perform well in this respect and avoid negative customer appraisals. However, the existing high level of performance in this dimension means that improved performance contributes little to positive customer emotions.

Assurance significantly and positively affects *happiness* (5.74, p<0.05), *arousal* (3.66, p<0.05) and *dominance* (1.25, p<0.05). Therefore, H3-a, H3-b, H3-c are supported.

Reflection (1.24, p>0.05), *empathy* (1.41, p>0.05) and *assurance* (-4.13, p>0.05) do not directly influence patronage intention. Therefore, H5-a, H5-b, H5-c are not supported. However, *tangibility* (0.16, p<0.05) directly and positively influences patronage intention, and so H5-d is supported. *Happiness* (0.75, p<0.05) and *arousal* (0.23, p<0.05) positively influence patronage intention, and therefore H6-a and H6-c are supported. *Dominance* (-0.13, p>0.05) does not obviously influence patronage intention, and thus H6-b is not supported.

Table 4. Results of Structural Equations Analyses

Path		Estimate	S.E.	t-Value	p	Hypothesis[*]	
reflection→	happiness	-1.69	0.67	-2.54	0.01	Rejected	-
	dominance	-0.40	0.17	-2.38	0.02	Rejected	-
	arousal	-1.28	0.38	-3.34	***	Rejected	-
	patronage intention	1.24	2.09	0.59	0.55	N.S.	
empathy→	happiness	-2.09	1.23	1.70	0.09	N.S.	
	dominance	-0.39	0.27	-1.44	0.15	N.S.	
	arousal	-1.00	0.64	-1.52	0.13	N.S.	
	patronage intention	1.41	2.46	0.58	0.57	N.S.	
assurance→	happiness	5.74	2.00	2.88	***	Accepted	+
	dominance	1.25	0.39	3.20	***	Accepted	+
	arousal	3.66	0.87	4.22	***	Accepted	+
	patronage intention	-4.13	7.01	-0.59	0.57	N.S.	
tangibility→	happiness	-0.56	0.41	-1.36	0.17	N.S.	
	dominance	-0.05	0.11	-0.46	0.65	N.S.	
	arousal	-0.30	0.27	-1.12	0.26	N.S.	
	patronage intention	0.16	0.07	2.11	0.04	Accepted	+
happiness→	patronage intention	0.75	0.10	7.77	***	Accepted	+
dominance→	patronage intention	-0.13	0.14	-0.93	0.35	N.S.	
arousal→	Patronage intention	0.23	0.06	3.68	***	Accepted	+

Notes: ***p<0.01. Accepted means the hypothesis is significant; Rejected means the hypothesis is significant but has opposite direction; N.S. means the hypothesis is insignificant. Symbol in the brackets means the direction; + means the direction is positive; - means the direction is negative.

Table 5 lists the estimated value, standard error and "t" value of indirect effect for the results. Figure 6 shows that the *happiness* and *arousal* aspects of consumption emotion completely mediate the effect of *reflection* and *assurance* on patronage intention, supporting H-6.

Table 5. Direct and indirect effects for the final model

Construct	Direct effect												Indirect effect		
	happiness			arousal			dominance			patronage intention			Patronage intention		
	estimate	S.E.	t-Value	estimate	S.E.	t-Value	estimate	S.E.	t-Value	estimate	S.E.	t-Value	estimate	S.E.	t-Value
reflection	-2.006	0.060	-3.922	-1.802	0.028	-4.177	-0.522	0.014	-2.719	-1.913	0.003	3.684	-1.913	0.003	3.684
assurance	3.133	0.063	5.184	2.800	0.029	5.460	0.835	0.015	3.629	2.984	0.002	7.769	2.984	0.002	7.769
tangibility	0.000	-	-	0.000	-	-	0.000	-	-	0.156	0.002	2.106	0.000	0.002	2.106

To study whether customer characteristics affect customer perceptions of personnel service and consumption emotion, this study used demographic variables as a classified variable for t-value testing of individual samples, and analyzed whether perceptions of personnel service and consumption emotion differ in different classifications.

Table 6 shows that customers' appraisals of personnel service differ with their individual characteristics. Specifically, females generally rate personnel service more highly than males, especially on *reflection,* showing that males are more rational customers and rate personnel service more neutrally. Regarding age, older customers rate personnel service slightly higher than younger customers, but the differences in each dimension are minimal. This shows that different age groups do not differ significantly in their perceptions of personnel service. Regarding income, customers with high monthly income rate personnel service more highly than those with low monthly income, showing that high income customers are more sensitive to personnel service. Regarding patronage frequency, customers with high patronage frequency rate personnel service much more highly than

customers with low patronage frequency, supporting the hypothesis that patronage intention increases with perceived personnel service.

Table 6. Personnel service in different categorical variables independent sample T-test

Personnel service		Gender		Age		Monthly family income		Patronage times	
		Male	Fmale	Low	High	Low	High	Low	High
reflection	mean	3.53	3.79	3.68	3.78	3.59	3.79	3.66	3.77
	S.D.	0.77	0.62	0.66	0.73	0.71	0.65	0.67	0.69
	t	-3.09		-1.07		-2.52		-1.31	
assurance	mean	3.65	3.78	3.72	3.76	3.65	3.79	3.64	3.87
	S.D.	0.67	0.64	0.62	0.74	0.67	0.64	0.69	0.57
	t	-1.60		-0.41		-1.88		-3.07	
empathy	mean	3.56	3.69	3.63	3.72	3.58	3.70	3.58	3.75
	S.D.	0.74	0.61	0.67	0.62	0.69	0.63	0.68	0.60
	t	-1.62		-1.07		-1.45		-2.12	
tangibility	mean	3.64	3.76	3.68	3.83	3.69	3.74	3.66	3.80
	S.D.	0.70	0.60	0.64	0.62	0.67	0.61	0.62	0.65
	t	-1.57		-1.71		-0.65		-1.89	
Sample size	n	97	200	221	77	125	172	177	121

We divide the respondents into two age groups using 39 years of age as a marker. The two groups are named the younger age group (39 years old and under) and the older age group (over 39 years old). As for household income, families with monthly income below 4000 RMB are assigned to the lower income group and those with monthly income above 4000 RMB are assigned to the higher income group. Finally, respondents are grouped according to visit times, with those who visit the store less than three times per month belonging to the lower visit frequency group and those who visit the store more than three times per year belonging to the higher visit frequency group. The t-value is the standardized outcome based on the statistical test of variance equality.

Table 7 shows that customer appraisals of their perceptions of consumption emotion differ according to their individual characteristics. Specifically, females and males clearly differ in their perceptions of *arousal*, and females have slightly higher perceptions of *happiness* and *arousal* than males. This indicates that male customers are more rational than female customers, matching common observations in daily life. Regarding age, older customers exhibit higher perceptions of consumption emotion than younger customers do, but the differences are not significant. Regarding income, no obvious differences exist between the higher and lower income groups, showing that income does not significantly influence perception of emotions. Regarding patronage frequency, high frequency shoppers display clearly higher perceptions of consumption emotion than low frequency shoppers do, supporting the hypothesis that patronage intention increases with consumption emotion.

Table 7. Consumption emotion in different categorical variables independent sample T-test

Consumption emotion		Gender		Age		Monthly family income		Patronage times	
		Male	Fmale	Low	High	Low	High	Low	High
happiness	mean	3.12	3.28	3.20	3.29	3.20	3.25	3.07	3.45
	S.D.	0.74	0.61	0.63	0.73	0.69	0.64	0.64	0.62
	t	-1.88		-1.05		-0.66		-5.09	
arousal	mean	2.69	2.88	2.78	2.94	2.86	2.79	2.69	3.02
	S.D.	0.72	0.71	0.71	0.73	0.80	0.66	0.66	0.76
	t	**-2.07**		-1.67		0.73		-4.07	
dominance	mean	3.39	3.37	3.35	3.44	3.36	3.39	3.29	3.50
	S.D.	0.61	0.61	0.62	0.57	0.74	0.49	0.55	0.66
	t	0.32		-1.05		-0.32		-2.95	
Sample size	n	97	200	221	77	125	172	177	121

We divide the respondents into two age groups using 39 years of age as a marker. The two groups are named the younger age group (39 years old and under) and the older age group (over 39 years old). As for household income, families with monthly income below 4000 RMB are assigned to the lower income group and those with monthly income above 4000 RMB are assigned to the higher income group. Finally, respondents are grouped according to visit times, with those who visit the store less than three times per month belonging to the lower visit frequency group and those who visit the store more than three times per year belonging to the higher visit

frequency group. The t-value is the standardized outcome based on the statistical test of variance equality.

5. Discussion

5.1 Conclusions

This study used SEM to test how customers' perceptions of personnel service influence their consumption emotion, and further affect their patronage intention. We reached the following conclusions:

(1) Customers' perceptions of *reflection* and *assurance* significantly influence their consumption emotion. Figure 6 indicates that *reflection* and *assurance* significantly influence *happiness*, *dominance* and *arousal*. *Reflection* has a negative influence, showing that customer consumption emotion reduces as they perceive increasing *reflection* from service persons. However, as Díaz and Ruíz (2002) pointed out, customers feel unhappy if a service provider fails to promptly provide a requested service. Understanding the negative influence of *reflection* can help make useful observations regarding department stores. For example, since customers visit department stores to relax they need individual space and may feel unhappy if service persons are excessively attentive. In contrast to *reflection*, *assurance* has a positive influence, proving that customers appreciate the feeling of security that service persons create. Additionally, *tangibility* does not significantly influence consumption emotion, but does significantly influence patronage intention. This indicates that *tangibility* does not stimulate customer consumption emotion, but can influence patronage behavior.

Notably, *empathy* of personnel service does not significantly affect customer consumption emotion and patronage intention. Many scholars have mentioned that individual differences between service persons moderate customer consumption emotion and patronage intention. However, we found *empathy* to have no obvious effect on customer behavior when correlated with individual service person quality.

(2) *Happiness* and *arousal* significantly and positively influence patronage intention, as shown in Figure 6. Therefore, department stores can promote patronage intention by strengthening customer perceived *happiness* and *arousal*. Additionally, *dominance* of consumption emotion does not obviously influence patronage intention. This finding is slightly unexpected given that customers mentioned both "self-perception" and "feeling of freedom" during interviews and thus revealed intense self-perception. This study finds no suggestion that *dominance* influences patronage intention. First, customers' understanding of *dominance* may differ from theoretical definitions, affecting the accuracy of model testing. Second, *dominance* does not affect patronage intention because customers have high willingness to express their own ideas. For example, when salespeople provide suggestions, customers typically express their own points of view regarding the purchase, instead of being influenced by the salesperson. The interviews demonstrate this point.

(3) Consumption emotion mediates between personnel service and patronage intention. This result supplements the theoretical research on consumption emotion and patronage intention. While previous studies emphasized the diversity of consumption emotion, most used consumption emotion as an independent variable, or measured it using "satisfaction" (Babin *et al.,* 2005), approaches that cannot adequately explain the complex behavior of modern customers. This result thus not only enriches the interpretation of customer intentions, but also has practical management implications for department store operators.

5.2 Practical Suggestions for Department Store Management

Department stores face increasing competitive pressure, with rising real estate costs and the rapid development of online shopping posing particular threats. Simultaneously, customer diversity and variability add to the challenges. How to understand customers and improve sales instruments has become an important task for the management of department stores. Accordingly, this study demonstrated a method for analyzing personnel service, and provides operational guidance to the management of department stores as follows: First, management of personnel service cannot be superficial. The results of this study suggest that department stores should focus initially on *assurance* and *tangibility*. However, stimulating customer perceptions via *tangibility* is not easy, and so department stores should instead focus on *assurance*. Specifically, they should seek to enhance the feeling of security that customers derive from service persons. Department stores should attempt to make customers trust and rely on service persons, stimulating positive consumption emotion perceptions and patronage intention.

Reflection demands special attention. Since department store customers seek the feeling of *happiness*, service persons must not be too active in offering service and yet must provide service when asked. Failure to achieve this balance will leave customers feeling either uncomfortable or dissatisfied.

Second, enhancing customer perceptions of consumption emotion should be a focus of department stores seeking to increase customer patronage intention. The results of this study clearly demonstrated the importance of

perceptions of consumption emotion to customers today. To enhance consumption emotion, department stores can start by reinforcing personnel service.

Third, department stores should provide different ways of experiencing consumption emotion according to customer characteristics. For example, department stores can strengthen the consumption emotion of female, older or higher income customers, who have stronger perceptions of personnel service, by using the effect of personnel service on these customer groups to enhance their perceptions of consumption emotion.

5.3 Limitations and Future Research Directions

Although this study investigated an authentic retail setting involving actual customers, the results should be interpreted with the following limitations in mind.

First, only a limited number of customer features were considered. This study only considered demographic characteristics, and no detailed analysis was conducted regarding the influence of customer characteristics, especially shopping experiences. Future research should include more customer characteristics.

Second, this study extended past research on consumption emotion classification and analysis. However, consumption emotion varies across different studies. Taking customer VIP emotion as an example, this study found that department stores use membership cards, such as regular cards, silver cards and platinum cards, with different incentives. According to Pullman and Gross (2004), customers may generate different emotions towards the VIP status endorsed in membership cards. Customers in whom the VIP emotion is established may exhibit increased loyalty. Future research thus should categorize emotions into basic consumption emotion and VIP consumption emotion.

Acknowledgements

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Notes

Note 1. Parasuraman, Zeithaml and Berry (1985, 1991) first described these dimensions in relation to service in SERVQUAL, not personnel service. We borrow their nomenclature because its popularity and familiarity can

improve understanding of the our discussion of Personnel Service.

Note 2. These two stores were chosen for two reasons: first, they are single stores, and are located far from other stores (minimum distance of 500 meters). This helps eliminate the effect of cluster image (Teller & Reutterer, 2008); second customer perceptions of the atmosphere and exterior of these stores did not differ significantly in pre-testing. This helps eliminate the effects of atmosphere and exterior (Michon, Chebat, & Turley, 2005). The sample selection criteria help to effectively control *cluster image*, *outside* and *atmosphere*.

Note 3. Danyan's scale was chosen because it measures customers in Japanese retail stores, which are single shops, and so is suitable for our research.

Appendix

Appendix 1. Results of Convergent Validity Analysis

Construct	Item	Standard Factor Loading	CR
assurance	1. Service Persons are reliable to Customers	0.688[*]	0.821
	2. Service Persons use courtesy words when speak to Customers	0.714[*]	
	3. Service Persons are manner friendly to Customers	0.782[*]	
	4. Service Persons make Customers feel kindness	0.738[*]	
empathy	5. Service Persons can pay attention to Customers	0.617[*]	0.768
	6. Service Persons greet the Customers	0.731[*]	
	7. Service Persons smile to the Customers	0.818[*]	
reflection	8. Service Persons response quickly on Customers'questions	0.700[*]	0.778
	9. Service Persons response quickly on my requests	0.828[*]	
	10.Service Persons have rich knowledge on the merchandise	0.670[*]	
tangibility	11. Service Persons are tidy dressed	0.729[*]	0.785
	12. Service Persons are beautiful (smart)	0.714[*]	
	13. Service Persons are unified dressed	0.779[*]	
happiness	14. I feel satisfied	0.588[*]	0.905
	15. I feel pleasant	0.695[*]	
	16. I feel happy	0.701[*]	
	17. I have good feelings	0.679[*]	
	18. I enjoys to the full	0.858[*]	
	19. I feel spiritual enjoyment	0.890[*]	
	20. It seems interesting	0.753[*]	
	21. I don't want to go home	0.711[*]	
dominance	22. The same as I imagined	0.458[*]	0.800
	23. I can think by my self	0.900[*]	
	24. I can hold my self	0.847[*]	
	25. I feel dominance on the surroundings	0.577[*]	
arousal	26. I feel exited	0.784[*]	0.798
	27. I feel agitated	0.695[*]	
	28. I feel high spirit	0.781[*]	
CPI	29. The likelihood that I would shop in this store is very high	0.905[*]	0.866
	30. I would be willing to buy merchandise at this store	0.787[*]	
	31. I would be willing to recommend this store to my friends	0.784[*]	

Notes: [*] $t > 1.96$, $P < 0.05$. CR: composite reliability.

Appendix 2. Results of Discriminate Validity Analysis

Construct	1	2	3	4	5	6	7	8
1. assurance	**0.731**							
2. empathy	*0.759*	**0.727**						
3. reflection	0.708	0.686	**0.736**					
4. tangibility	0.647	0.636	0.553	**0.741**				
5. happiness	0.706	0.599	0.499	0.519	**0.740**			
6. dominance	0.425	0.437	0.365	0.384	0.540	**0.720**		
7. arousal	0.539	0.492	0.377	0.408	0.726	0.465	**0.754**	
8. CPI	0.618	0.543	0.454	0.462	0.723	0.465	0.649	**0.827**

Notes: the bold figures in diagonal tables are square roots of AVE, other figures are correlation coefficients between constructs.

Seniors and Tourism: An International Exploratory Study on the Use of the Internet for Researching Recreational Information

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Abstract

The aim of this research is to analyse the experience of seniors navigating the Web for information on vacation travel by studying the sources of information and the means they use while researching and planning their vacation. Our international exploratory analysis is based on semi-directed interviews held with 22 French and Canadian seniors who used the Internet to research their tourism destinations. On the theoretical side, the research pointed out 4 different senior internet users: senior-Altruist, senior-Opportunist, senior-Disinclined and senior-Web2.0. It also shows that social interactions help improve the pertinence and the specific information sought. On the management side, our results help clarify the best communication strategies for the tourism industry insofar as using particular tools adapted for seniors and the Internet.

Keywords: seniors, Web 2.0, Internet, tourism, researching information

1. Introduction

The size or economic output of the tourism industry in the world economy continues to increase; in fact, according to the World Tourism Organization (2010), the dollar value attained 850 billion dollars in 2009 with 880 million international tourists, with an anticipated 1.6 billion tourists by 2020. Nonetheless, even if this economic sector is fully expanding, it still remains vulnerable to political, economic, and climatic upheavals.

The industry has faced major upheavals with the arrival of Information Technology (IT) and high-tech communications, especially those that allowed the online commercialization of tourism related services, and ushered in a new era in the relationship between the user and companies centered on the tourism sector (Tran, 2012; Bedard & Kadri, 2004). The Internet is increasingly used by organizations, whether to highlight destinations, a product or service, or to develop a new clientele and public awareness. Among the clientele base, seniors aged between 50 years old and over represent an increasingly prominent place in tourism. Tréguer and Ségati (2005) estimate that in the "next five years, with the arrival of the baby-boomers, seniors will become prevalent demographically, economically, and culturally thus the primary clients in almost all existing products and services". They add that less than 10% of marketing expenses will be targeted directly to seniors as a group.

Companies now faced with this new phenomenon are looking to better understand seniors who travel and to identify the means needed to attract them. Our study will help to better understand the means by which seniors use the Internet; specifically, the Web 2.0 when they search for information on products and services related to tourism.

After reviewing the literature on the tourism industry and how seniors search on the Internet, we will detail the qualitative methodology we used, and then we will present and discuss the results of our findings before concluding with the limitations and the perspectives for further research.

2. Tourism, Seniors, and the Researching of Information

The tourism industry is part of the activity sector in which seniors represent a potential for a sizable consumer base. Although there exists a large disparity in revenue and wealth among seniors, it is often characterized in

industrialized countries by a purchasing power that is above average. In addition, a lengthier lifespan is associated with a change in living conditions that favours the service sector, along with seniors in better physical condition (World Tourism Organization, 2010). Besides, seniors have the time to travel throughout the entire year as a rule, and for longer stays, more frequent trips, and farther destinations than younger persons (Fleischer & Pizam, 2002).

Researching information is often crucial when buying a service that cannot be touched, seen, felt, or pre-tested by the consumer (Reinstein & Snyder, 2005). Lack of knowledge with a country far away geographically and also culturally introduces an additional risk to which already includes a dedication of one's time plus a financial investment risk towards products for which personal involvement is high (Frochot & Legoherel, 2007). In order to reduce the uncertainties associated with such decision-making and to evaluate the opportunities inherent in such a product, the consumer collects and assesses the information.

We therefore focus on the actual information gathering or research preceding the purchase (Amine, 1999; Darpy & Volle, 2007) by examining external sources. According to Amine (1999), these can be commercial, interpersonal, or neutral. The first can be qualified as "market oriented thus partisan" aimed at noticing the existence of a product, producing a behavioural reaction, and includes publicity, packaging, sellers, and the Internet. Interpersonal sources such as person to person, one's entourage, and opinion leaders or experts all have a legitimate function and are considered more credible. Neutral sources are grouped as consumer associations, their reviews, reports, and side-by-side product comparison or testing.

Darpy and Volle (2007) make a distinction between commercial and personal sources, the second type being characterized by the presence of a third party with which the consumer can exchange information. Their categorization presents two flaws: they place sellers, along with trade expositions and chat rooms as part of commercial and personal sources, while they find no relevant place for journalists and comparative testing.

Delacroix, Debenedetti, and Sabri (2009) add to commercial and personal sources (friends, family, neighbours, etc.) public knowledge (press articles, blogs, Internet sites) and other sources that can claim experience from trials and information handling. The advice of Net users and the result of experience and comparative shopping seem to belong to personal and experimental sources.

Bargeman and Van der Poel (2006) use the same commercial categories (sellers, travel agents, brochures) and neutrals (tourism offices, travel guides) that Amine (1999) uses, but add social sources (acquaintances, friends, and social media networks) and mass media sources (newspapers, magazines, radio, television, and the Internet).

These categorizations present a number of problems: they comprise a number of different classes (2 to 4 classes), may contain the same elements in two distinct classes, leave unassigned elements to classes, and is vague between the concept of sources and support. For example, the Internet is cited among commercial sources by Amine, public and experience-related sources by Delacroix et al. (2009), and social sources and mass media by Bargeman and Van der Poel (2006).

The Internet is therefore an indispensible mainstream tool for making purchases by Net users, as confirmed by TNS-Sofres (2010) from a study realized in six European countries. We note that regarding travel and tourism, 82% of Spanish Net users conduct research online before buying, 76% of British users, 73% of Italian users, and 61% of French Net users. By examining the aim of the research by participants as a reference base, the authors of this study identify five Internet user profiles as follows:

- "community-minded" (27%): informed and shares with other consumers;

- "little-involved" (20%): prepare their purchases in physical stores;

- "e-buyers" (19%): buy, particularly in the tourism industry;

- "rational-minded" (18%): compare, and find useful information on the market;

- "economy-minded" (16%): find the best offers;

Besides, the new products and services associated with the Web 2.0, an expression created by Dale Dougherty, Director of O'Reilly Media in 2004, allows individuals to enhance the quality of information. The Net user becomes the co-creator of new applications online, "often initiating in a collective or community manner new forms of Internet connections" (Digimind, 2007). He therefore has the possibility of diffusing the information.

The Web 2.0 is "a culture shared by the Net community that expresses itself within social networks composed of private individuals (friends) and/or professionals and is characterized by obvious elements, on the one hand, such as a simple yet inventive language like SMS, convergent technologies, along with different kind of behaviours

and elements, and, on the other hand, by a set of values, beliefs, and taboos" (Viot, 2009). It comprises two dimensions: social and technological. The first is based on the existence of virtual communities and social networks. The second is exemplified by tools such as avatars, blogs, RSS, widgets, and wikis (Constantinides & Fountain, 2008; Tran, 2012, 2010).

What is of particular importance in the emergence of the Web 2.0 is the magnitude of the social interaction. Moreover, we have seen that among the information sources that a consumer can contact are those considered as either personal or impersonal, and are characterized by the presence of a partner or moderator with which to exchange information. Furthermore, if the exchange is based on experienced gained, it will be referred to as an experience-based source; however, if it is based on a blog, it will be referred to as a public source by Delacroix et al. (2009). By favouring these exchanges, the Web 2.0 plays an increasingly important role as a source of information for tourists (Xiang & Gretzel, 2010).

3. Methodology

We selected the qualitative method, because it allows us to analyse the processes and behaviours in depth and to better comprehend the motivations of the people in the survey sample (Hlady, 2002). The primary data collection is based on semi-directed interviews that provide us access to extremely detailed data regarding local micro actions from the participants (Chakravarty & Moyes, 2003).

Our interview guide comprises two dimensions, one dealing with the skills and mastery of the Internet by the participants, and the other dealing with the Internet that involves travel arrangements. The first dimension deals with the frequency of Internet usage and the degree of proficiency with this tool by seniors. The second dimension requires seniors to describe in the smallest details their research procedures for finding information on the Internet that led to purchasing their last vacation travel package. The description of this procedure will assist in measuring the weight and the place that each participant assigns to the Web 2.0. Each interview requires a minimum time of forty-five minutes.

Our approach is part of a joint Canadian and French international comparison study. A study by Mc Robert, Terhanian, Alldredge and Keppler (2010) shows that Internet utilization measured as the number of hours online by consumers is very close in both countries, with France logging 12.1 hours per week on average, versus 13.1 hours in Canada. However, the importance of the Internet (excluding e-mails) compared to other sources of information differs, with France registering 12% versus 21% in Canada. Considering the similarities and differences, it seems particularly interesting to study in-depth the behaviours of Canadian and French seniors regarding the research of tourism information.

Furthermore, we will distinguish between France proper, and its overseas protectorate, Reunion, 11,000 km away. It is an insular territory where constraints related to travel are particularly difficult, notably in cost and distance, the latter both geographically and culturally.

The survey sample is composed of 22 seniors with the following makeup: 7 French Metropolitan (proper), 7 Canadians, and 8 Reunion citizens, and gender wise with 12 men and 10 women. The average age is 59.5 years, with a breakdown of 13 seniors between 50 and 59 years, 6 between 60 and 69 years, and 3 between 70 and 79 years. They have all use the Internet to research tourism information for at least 10 years on average. Also, on average, they travel on vacation twice per year.

The data collected is classified according to the conceptual coherence principle (Miles & Huberman, 2003). The latter was conducted on the basis of grouping themes that characterize the degree of Internet utilization, researching information on the Internet, and the degree of utilization of tools on the Web 2.0. The procedure for treating the data was done on the basis of content analysis and re-coding responses using the Sphinx software.

4. Results and Discussion

The seniors who were interviewed spend approximately 11.6 hours per week on the Internet, with a high spread depending on home location: In France proper, the average of 5.4 hours is far less than Reunion (12.3) and Canada (17.1). Almost three quarters state they have mastered the use of the Internet (16/22). Regarding the Internet services they use the most apart from Web sites and e-mail, Google is by far the preferred choice of 11 participants. It seems that the notoriety of this Web browser ranks it as quite popular. We note the little use or non-existence of social networks (Facebook, Twitter), RSS, avatars, blogs, widgets, or wikis.

Regarding the researching of tourism information, once again Google plays an important role, for 18 participants mention it as their preference, confirming the conclusions by Xiang and Gretzel (2010). They indirectly access public and merchant sites as well as forums via this browser, which was considered as a characteristic of

moderate Internet users according to Dreze, Lee and Zufriden (2003). However, as stated by Viot (2009), "in France, recent statistics show that Net users have increasingly greater access to research tools", even to an extent that experts themselves are susceptible to using them to find the best offer rather than rely on their favourite sites. It must also be noted that consumers themselves rely on "favourites" for usual purchase (Degeratu, Rangaswamy, & Wu, 2000); but, when it comes to a new type of purchase or involving a travel package for themselves, seniors who participated were more methodological and detail-oriented in their research. On the other hand, participants often contented themselves with viewing only the first page of travel sites.

The principle sites that they know are related to airlines, car rentals, and trains, hotel reservations, tour operators, travel agencies, comparison sites, online guides, and geographic localization sites. Information that is sought by participants concerns price (13), lodging (9), places to visit (7), location (4), tour itineraries (3), and comfort (3).

When it comes to seeking advice from fellow Net users, 13 out of 15 participants in France declared that they discussed issues with other Net users, while no seniors sought advice from their colleagues in Canada.

Those who state that they do not seek the advice of other internet users have very strong views such as: "they do not see any need" (René_C10; Ginette_C13) or "they have no confidence in the advice of other Net users" (Nicole_C14), or "the others do not know any more than I do" (Corinne_F20). Among these participants, a number consult friends or family members: "I consult friends or family members, especially my brother-in-law who travels a lot" (René_C10), or "I prefer the grapevine" (Albert_C12), or "I prefer discussions with family and certain friends" (Claude_C11).

Seniors in France, whether in France proper or in Reunion, state that they seek the advice of other Net users. Their principal motivations are: "to reassure themselves" (it's more reassuring, or "to confirm a choice that I want" or "to remove any doubt" (Christine_R1), obtain additional information "the advice given is more to the point, precise, and recent than what is in the paper guide" (Stéphane_R8), or "more clear regarding quality" Sophie_F21), or having confidence in them "I have more confidence in these people, but it is necessary to review it …" (Bernard_F22).

While they seek the advice of other Net users, the seniors themselves do not contribute, with the exception of 3 French participants, to the forums or sites by providing their own advice or opinions. Among these three individuals, one does so in a systematic fashion while the other two do so in rare situations: "when I am either very satisfied or very unsatisfied" (René_R2), or "in rare cases, when it looks very good or very bad, or if I have concerns" (Sophie_F21). The arguments for not giving advice themselves are as follows: lack of time "I will not waste my time leaving notes … whether pleased or not, I do not have the time" (Monique_R7), or a lack of interest "I have no such interest and I would not necessarily be credible" (Maria_C9), or the lack of competence "I do not have the finesse; I tried once, to no avail" (Stéphane_R8), or refusal "I do not want to be seen on Facebook, so I'm careful (Bernard_F22), or "no grandstanding like in Facebook" (Patrick_F17).

By searching for advice from unknown Net users who have had experience with a particular vacation, the seniors see them as persons who may possibly help them make their choice. This particular information collected belongs to "information requested by the entourage, that plays a role as a "safety net" because of their reassuring and credible nature" (Amine, 1993), but are also more precise and recent. It helps them reduce the perceived risk on criteria that they deem important while also retaining the feeling of being in charge of their choice, and to keep some distance from different recommendations received from close friends and family.

We observe that most seniors who participated in this study did not immerse themselves in the culture of the Web 2.0 to the extent as described by Viot (2009): the myths, language, and technologies of the obvious part of the iceberg are remote and unknown to them; as far as the obscure part, they are worried about maintaining respect for their private lives, notably with social media sites. Therefore they share in the taboos; however, they are far from the notion of sharing information, and feel no moral obligation to render mutual assistance. In fact, they have a utilitarian behaviour by seeking information from other Net users with whom they often have more confidence in than with private companies. These results by the seniors surveyed are the basis for the typology as follows:

Provides advice to other internet users

	NO	YES
YES	**Senior - Altruist**	**Senior - 2.0** Christine_R1 Sophie_F21
NO	**Senior - Disinclined** Nicole_C14 Rene_C10	**Senior - Opportunist** Monique_R7 Yves_F19
	NO	YES

Consults advice from internet users.

Figure 1. Typology of seniors faced with advice from other Net users

Community-minded seniors (opportunists), as defined in the Tns-Sofres (2010) study, seek information and exchange with other Net users of like mind. Among **opportunistic seniors,** we distinguish between those who "profit" from the advice of others: "I find the data and use it!" (Monique_R7) and others who shield themselves behind the reasons previously mentioned. **Disinclined seniors** do not seek the advice of unknown internet users nor provide any. Consequently, we must distinguish between those who are totally hostile to any form of exchange of information from those who do exchange information with close friends and family. Our sample did not include **altruistic seniors** dedicated to helping others, who freely give advice to others without asking for reciprocity.

Finally, a very large majority of seniors interviewed feel that the Internet has considerably changed their way of researching information from different sources. The recommendations from other internet users, browsers, hotel and airline Web sites, new destination portals, and online travel agencies have now become commonplace. Traditional methods for gathering information such as visiting travel guides and travel agencies are much less frequented than before. These results are part of the tendency observed by Patkose, Stokes and Cook (2005) based on their interviews with Americans on researching information specifically for entertainment purposes.

The changes far surpass the scope of simply researching information. In fact, the purchasing procedure is modified by a more active role undertaken by seniors. The latter now have a feeling of having become more competent (confident and knowledgeable) vis-à-vis travel agencies: "before arriving at a travel agency, I know what to expect and I can more easily judge if the package that I am presented with is the best offer" (Nicole_C14), or "before I always went to a travel agency in France; now I find smaller, foreign travel agencies who offer prices at 30% to 50% lower!" (Bernard_ F22). "Seniors can even go further by copying the procedures of travel agencies and preparing their own package, as I do!" (Monique_R7).

Today, the Internet and particularly the Web 2.0 offers the possibility of directly connecting tourists with potential tourists, thus providing important information and reassuring seniors who are increasingly more numerous in buying their packages online.

5. Conclusion: Limits and Future Research

This exploratory work presents interesting results but its usefulness at generalization is limited. A more in-depth quantitative approach to continue this research would be appropriate.

Looking at the results, the seniors who participated, whether they are French from the mainland or from Reunion, or Canadians do not use all the tools available on the Web 2.0, in particular the wikis, widgets, and the RSS. They often even ignore their existence while at the same time profess to have mastered the Internet. Therefore, it is currently difficult for private sector companies, at least in tourism, to develop products adapted to their clientele of seniors through these means.

Regarding social networks, they are categorically rejected by seniors interviewed. While they are used to launch viral marketing campaigns, this does not seem pertinent to seniors and the tourism industry considering the results of our exploratory study. A first step would be to sensitize seniors to their existence and to their usefulness as community tools (widgets, RSS, Wikis) so seniors may profit from them.

As well, the Web 2.0 allows seniors today to easily access sites with other Net users and participate in the exchange of information hence simplifying online research and purchasing. Person to person communication, once limited to a core entourage, now encompasses a community of Web users. Horizontal communication has increased due to forums, acting as a counterweight to vertical company-consumer communication. Seniors have accepted and adopted this form of communication with confidence by a large majority. Organizations that work in the tourism industry must take this into account by noting the information being exchanged and offering a similar medium on their own Web sites in order to "regain" the confidence of consumers. However, the issue of distinctiveness, as demonstrated by seniors in Canada, must be must be addressed in a future study.

We observe that seniors categorically make purchases on the Internet without seeking assistance or contacting a salesperson (they no longer visit a retail outlet in person). We are definitely in the "e-buyer" era where research is conducted *online* to actually buy *online*, particularly in the area of tourism, according to TNS-Sofres (2010).

Finally, Organizations must integrate in their communication strategy the important growth of the Web 2.0. The possibility that the Net user can consult a company site and leave a message reflects a desire by an increasingly large number of senior Net users. However, the organisation must ensure that its integrity is completely irreproachable in order to limit the risk of any negative effects on its image. This is the challenge that commercial or public organizations must meet to fully profit from the advantages offered by the Web 2.0 (Chui, Mille & Roberts, 2009).

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How to Manage French Thermalism Specificities?

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Abstract

Although each *curist* (hydrothermal patient) spends an average of 500 €, for 18 days of intensive *cure* (treatment), *Thermalism* is in France one billion € of turnover. Famous since ancient Greco-Roman, treatments through Thermalism attracts today some 500 000 followers. Presently, French Social Security takes in charge an important rate (65%) of the expenditure incurred by the medically prescribed thermalism treatments, which certainly has encouraged its development. Despite being regarded by some people as old-fashioned and whose target consumers are elderly, thermalism attract each year 17% new *thermal curists,* many of whom are young adults. Teens and children also benefit from new technologies and therapeutic thermalism. The *hydrothermal patients* spend annually around one billion € in French *Thermalism*: a financial manna that France is willing to protect at all costs, especially in the current context of economic and financial crisis and economic, labor and thermal globalization.

Keywords: thermalism, thermal cure, French thermal springs, management of thermalism, thermalism turnover, Social Security, tourism, SPA

1. Introduction

In France, the thermalism has a long historical tradition and is well established in the thermal cities and thermal regions (Duhot & Fontan, 1963; Jamot, 1998). Famous from Greco-Roman antiquity, the millenarian thermal baths (Jaltel, 2003) evolved constantly and French thermal cures presently attract around 500 000 followers.

The French Thermalism is performed in 118 Thermal Centers (ThC). Although each curist spends an average of 500 €, French Thermalism represents one billion euros of turnover and in this way, this economic sector constitutes a real financial manna. French thermalism contributed to the creation and maintenance of 100 000 direct, indirect and induced jobs, to the economic and tourism development, and thus, to the reputation of various thermal regions (Anido Freire, 2012a).

Considered by some people as old-fashioned and whose target consumer is the elderly, however thermal cures attract every year 17% of new thermal curists, many of whom are young adults. Teens and children patients also benefit from the new techniques and therapies of thermal waters (Armand et al., 1991; Jaltel, 2011).

The sedative and curative powers of thermal treatments, that were formerly ignored or rejected/denied by doctors, are presently recognized not only by thermal doctors but also by generalists, specialists and surgeons, which note the improvement that such cures bring to their patients.

Moreover, since 1947 the French Social Security (SS) recognizes the validity of thermalism treatments and agrees to take in charge a high percentage (65%) of the cost of thermal treatments, prescribed by physicians to their patients. Of course, the curist assumes the costs of accommodation and restaurant.

The aim of this paper is to present the specificities of French Thermalism that differentiate it (Weisz, 2002) from other European thermal practices (Germany, Italy, Spain, Romania) and from the Anglo-Saxon thermal waters (UK, U.S.) or SPA activities. All stakeholders of the French Thermalism, including ministerial authorities and French SS, are unanimous on the need to preserve and develop these medical thermal treatments in the future.

Having reviewed the Thermalism terminology (section 2) and different types of cures that can be made with natural thermal springs we present the French Thermalism sector (section 3), the thermal cities, the thermalism evolution (section 4) and positive effects on local and regional finances (section 5). These economic effects are the result of a appropriate management to this sector (section 6), which is further supported by the network of

tourism stakeholders (section 7). After a general discussion of the French thermalism sector and a SWOT analysis (section 8), we propose a series of possible strategic guidelines (section 9).

The French Thermalism sector emerges strengthened from the economic and financial crisis, and fulfill all the conditions (economic, managerial, communication and marketing strategies) to continue to be competitive in the market for European thermal waters and to evolve positively in the future (section 10).

2. Rectifying and Clarifying the Terminology

The Thermalism can be considered as an activity in the sector of Health Tourism (Direction du Tourisme, 2010; Anido Freire, 2012b).

Thermal therapy, which is also known in France under the name **crenotherapy** (Greek krênê = water source), designates therapeutic techniques performed with the use of thermal or hydromineral waters (springs), and other materials containing thermal mineralizing principles and trace elements exerting its healing effects on the human body. Since the early nineteenth century, arise the terms "**thermal cure**" or simply "**cure**" – from a semantic extension and absolute building, i.e. without explicit its complement - and "**curist**", to describe the treatment performed in a **thermal center** (station/resort) and the person doing it.

We therefore propose the following definitions of Thermalism and Thermal Tourism.

Thermalism is the set of activities concerning the organization, the adaptation and constant renewal of Thermal Centers (ThC), specially constructed for therapeutic uses, as well as to land management and respect for the environment around them.

The ThC professionally exploit the virtues of the thermal, mineral and natural waters and the subsoil, they manage the health personnel performing cures and the hotel services staff, as well as the attendance and monitoring of curists.

In Europe, **Thermal Tourism** (TT) gathers all the tourist activities centered around the existence of one or more mineral thermal springs and ThC, located in a city or a region of a given country, and whose fame is the result of its undisputed beneficial actions on health and / or wellbeing of the human being, as known since Roman times.

It is worth noting three facts: first, that in France Tourism, and therefore Thermal Tourism, is subordinated to the Ministry of the Economy, Finance and Industry, through the Department of Tourism (Jacob, 2010), which integrates the General Directorate for Competitiveness, Industry and Services (DGCIS).

Second, due to the various agreements signed with the Ministry of Health (Fenina, Le Garrec & Koubi, 2010a) and the National Social Security Fund, the Thermalism is also subordinated to the Ministry of Health and its activities appears in the statistics of this Ministry.

Third, in France (French activities nomenclature = NAF) it is established a clear and net differentiation between:

• The **Thermalism** or **Crenotherapy** (NAF 93.0 K and after 2008, NAF 96.04 Z) includes all medical and paramedical treatments, internal (thermal water intake) or external (showers, baths, massages), using only the thermal waters and its derivatives (mud, peloid, loam, gases) in various therapeutic techniques. It is a therapy in which the change of environment, of climate and lifestyle routine, create ideal conditions (calmness and relaxing) to satisfy the curist's expectations (European proposal, 2010a).

• The **Thalassotherapy** (from the Greek Thalassa = sea) uses the beneficial effects of sea or ocean water and other elements of the marine environment (sand, salt, algae), under medical supervision and with preventive and / or curative goals.

• The SPA (word or acronym that arises in English-speaking countries around the 1980s), which is used in beauty salons, aesthetic and fitness centers, often urban and high-end (Delomenie, 2000). In fact, SPA is a "beauty care" ("soins de Beauté" NAF 93.0 E and since 2008, NAF 96.02 B) and not a "medical or paramedical" treatment as they are made in the ThC, despite the use of some similar materials (bathrooms with whirlpools in bathtubs or jacuzzis, water jets, massage, etc.). SPA owners began to use improperly the term "SPA centers", even though many of them are installed in city centers, in hotels and camping, to create consumer confusion by offering a service that uses as raw material the tap water rather than naturally thermal water. We believe that the SPA should be called "aqualudism".

3. Specificities of French Thermalism

(a) Thermalism in France (Weisz, 2002; Roques, 2003; Syndicat National des Médecins Thermaux [SNMTh], 2007) is a Medical Thermalism (MTh) and contrary to what happens in most of the other countries which is a free thermalism (in self-service and "a la carte"), the cure must:

- necessarily respect duration of 3 successive weeks, with 18 days of cure required to be approved by the ThC and the SS (Conseil National des Exploitants Thermaux [CNETh], 2010c);

- have the same duration for all curists, regardless of the pathologies they have;

- be prescribed by the "referring physician" (equivalent to the former "family doctor") during a medical visit: without this prior prescription, the ThC will not accept to perform the cures and the SS will reject to pay 65% of the total amount of the cure (CNETh, 2010c), the remaining 35% being on charge of curists;

- receive the "agreement of the SS" ("entente préalable SS");

- be carried out in one of the establishments listed on the official list of the SS and that are the only ones authorized to dispense thermal treatments;

- be controlled by doctors specializing in thermal hydrotherapy (SNMTh, 2007);

- be performed by a professional, specialized in thermal techniques or hydrotherapy;

- be associated with complementary therapies delivered by physiotherapists ("kinésithérapeute") graduated by an official institution, and specialized in Rheumatology, Phlebology, etc.

- be associated with optional treatments with local thermal mud and peloids having proven healing powers;

- be supplemented by the daily practice of physiotherapy, adequate to the specific pathology and practiced in local thermal water pool.

(b) Although done in a collective place (ThC), to which come curists with similar health problems or identical pathologies, the French thermal cure is practiced individually and personalized.

The ThC makes available to curists the physical infrastructures and the adequate professional staff to realize the treatments and a pleasant and appropriate environment for their wellness.

On arrival at ThC, each curist receives a detailed planning of his cure plan respecting the directives established by the hydrotherapist doctor who examined him: type and number of treatments, swimming pool, bathtub and temperature of the thermal water, cabin number, name of the masseur or physiotherapist, duration of each stage, rest time lapses, etc.

(c) In addition to a complete thermal cure, the curist receives:

- a parallel health education with practical recommendations to respect during the interval between two periods of cures: normally the curist is advised to make an annual thermal cure;

- a culinary education aiming the advantage of the complementarities of good nutrition for good health.

(d) The hydrothermal doctor makes an initial control (weight, measurements, interrogation, cardiovascular, venous, respiratory, skin, etc.), other in the middle and the last one at the end of the cure and sends a report to the referring physician who regularly follows the patient.

(e) For greater benefits, ThC propose the possibility of associating the thermal cure with a dietary cure (CNETh, 2008) and a physical / sportive cure (hiking, cycling, other sports).

(f) The ThC play a dual role: they are centers that perform thermal treatments and hotels specialized in thermalism: hotel receptionists plan schedules, the frequency and the chain of sessions (stages of treatment, treatment sessions), from the protocol prescribed by the doctor hydrotherapist.

This managerial practice reflects seriousness and allows control the successful completion of each stage of the treatment.

(g) The buildings of ThC have architectures adapted to the therapeutic purposes, that is, cabins, swimming pools, baths, relaxation rooms and spaces of conviviality (TV, newspapers, coffee, croissants) which favor and encourage dialogue and exchanges between curists.

(h) To comply with the conditions of hygiene, the THC:

- make daily chemical checks of the quality of water, peloids, etc.;

- put, at the service of curists, peignoirs, towels needed for cures (changed several times a day) and plastic overshoes.

(i) The communication techniques of French ThC translate a policy of transparency and deontology: for the curist can check the veracity of the information he is invited to visit the natural thermal water sources and the plant where the 100% natural, local and organic peloid is prepared and conditioned (environment friendly /

sustainable development).

(j) Finally, to link the physical to the psychological wellbeing (equilibrium), the ThC with the Regional Delegation of Tourism, suggested sightseeing and cultural visits, dining, celebrations, including intellectual and intergenerational gatherings.

Figure 1. The 9 most important French thermal regions (out of 15)

Description: Aquitaine, Languedoc-Roussillon, Rhône-Alpes; Midi-Pyrénées and Auvergne; Poitou-Charente, Limousin, Provence Alpes Côte d'Azur (PACA) and Lorraine. The first five regions account for 70% of curists and the 8 located in the south, account for 90%.

Figure 2. Main French thermal towns (Mosset & Victor, 2011)

4. The Thermalism Sector in France and Its Evolution

France has 1 200 natural mineral water sources, representing 20% of European thermal water capital. Currently, France has 118 thermal establishments (also called Thermal Centers; Fenina, Le Garrec & Koubi, 2010b; CNETh, 2010a) receiving annually 500 000 curists for whom the French Social Security (SS) takes in charge a percentage of cost of the cure ("cure conventionnée" by the SS). In France, 70% of thermal waters are concentrated in five regions (CNETh, 2006b, 2010b): Aquitaine, Auvergne, Languedoc-Roussillon, Midi-Pyrénées and Rhône-Alpes (Figures 1 and 2).

Because the cure requires the presence of the curist in the Thermal Center during 18 days of medically supervised thermal treatment, Thermalism in France represents 9 million of treatment days per year and consequently, 9 million days in an essentially collective accommodation (hotel, pension, apartments, campsites, "*gîte*s").

From the 1950s until 1990, the attendance at the French ThC went from 250 000 to 600 000, stabilized between 1990 and 1995 and then declined and re-stabilized around 500 000 (Figure 3). In 2010, the demand for thermal cures increased by 3.7%: curists increased from 487 000 (2009) to 505 000 (2010).
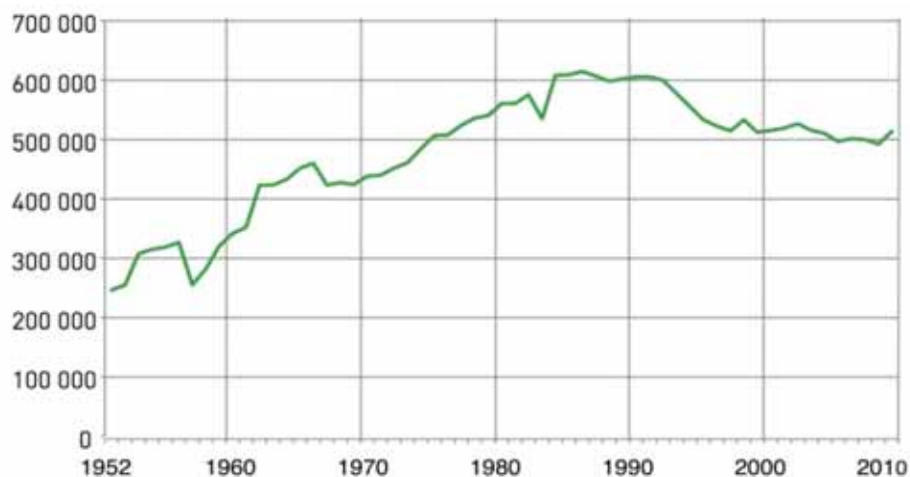
Figure 3. Evolution of the number of French thermal curists

Source: CNETh and Jamot, 1988.

The increase of 3.7% in 2010 (Figure 3) is due in part to an increase in the number of obese and diabetic in France and around the world and an awareness of physicians towards consumers through advertising campaigns on the need to change eating habits:

- "Eat less salt, less sugar and less fat and move!" ("*Mangez moins de sel, moins de sucre, moins gras et bougez!*")

- "Eat at least five fruits and vegetables per day" ("*Mangez au moins cinq fruits et légumes par jour.*")

Similarly, in 2011 the CNETh ("Conseil National des Exploitants Thermaux" = National Council of Thermal Operators) noticed that general practitioners and specialist physicians had advised more easily their patients to make a thermal cure. Perhaps the campaign *thermal medicine, effective for a long time / always* ("*La médecine thermale, efficace pour longtemps*") sensitized both doctors and patients. In fact, before, there were only the patients who asked their usual generalist ("médecin référent") to prescribe a thermal cure.

It is indisputable that the bustle of modern life, especially in large cities, the workload and responsibilities, the women's double day (working in the company + housework and parenting), added to the stress resulting from the situation of the global economic, financial and labor crisis and the constant threat of dismissals and unemployment, create ideal conditions to trigger the onset or to aggravate the binomials stress / depression, stress / infarct, bulimia / cachexia or obesity / diabetes already existing.

Concomitant to the prolongation of life, thanks to the constant progress of medicine and drugs, the number of third-and fourth age increases steadily, as well as various pathologies typical of elderly. At the same time, despite numerous campaigns against the use and abuse of tobacco, inveterate smoking did not decline in France, as in other Western societies, and it is noticed that young people start smoking earlier and earlier and that now

the teenage girls are those that smoke more than teenage boys.

The three main indications of thermal cures in France are: Rheumatology (75%), Phlebology and respiratory diseases (25%). Obviously, an inveterate smoking aggravates these latter (CNETh, 2008).

5. Economic Benefits of Thermalism

Since 2007, the French thermalism generated 300 million euros/year for thermal cures regardless of the amounts generated by housing curists (Fenina, Le Garrec & Koubi, 2010a). Considering all these activities, the total volume generated by French thermalism is around one billion euros per year (CNETh, 2010) and has contributed to create 100 000 direct, indirect and induced jobs, either permanent or seasonal, of which 50% are linked to the hotel and restaurant sector (Association Nationale des Maires de Communes Thermales [ANMThC], 2010).

In certain regions of France, the thermalism can represent up to 25% of global tourism benefits generated by domestic tourism. The collection of the tax for tourist stay (between 0.5 and 1% of the cost of the overnight stay), that also the curists pay, benefits the local communities and is reused in the development of tourism infrastructure in the region.

The thermal cures are scheduled in the morning from 6:30 to 13:00 to enable curists take advantage of the afternoon to discover the local scenic beauties and the natural, cultural, architectural and gastronomic richness of the city and the region. The thermalism is therefore inseparable from the tourism and the economy of the region because is a source of financial revenue.

6. Management of French Thermalism

The French Thermalism has an experience of over 150 years of operation and management. At present, ThC are managed by a director who has a manager experience acquired in a business company or in a ministry. Leaving aside the hotel component that resembles any other hotel management, from the thermal point of view, in each ThC there is a head nurse, graduated in hydrothermal techniques, which manages the thermal staff (physiotherapists, masseurs, therapist technicians). Often, the staff has a versatile training and occupies several positions in the week (a turnover to avoid monotony and fatigue). The management practiced in the ThC is human, vertical (bottom-up and top-down) and horizontal, with frequent daily exchanges between different staff members and between the staff and the manager, with respect to the performance of the devices used as well as with any problems identified by curists. This type of management allows almost immediate reactivity, which translates a competence of quality and safety of the provided services.

In most ThC, the cures are dispensed in the morning, which allows for greater financial returns and also for thermal infrastructures and staff profitability, as well as a higher rate of hotel and thermal occupancy. Moreover, in the morning, after a refreshing sleep, the body is most receptive to such cures and the results are more beneficial. As the cure is effected in a hotel specialized in thermal cures (ThC), curists feel free because they receives treatment "in ambulatory" and, contrary to what happens in a hospital, curists do not feel as an inpatient but has a freedom of movement for the afternoon and night.

But, despite this labor intensity, thermal therapists provide personalized service to curist. Each curist is hosted in a single cabin by the therapist who was officially assigned by the ThC, and receives cures of massage, of mud, a shower of turpentine (rheumatology and phlebology cures) or other substance, or soothing essences (which varies depending on the pathology) and/or a whirlpool.

Only two treatments are carried out in groups:

- the "walking path" ("parcours de marche" for rheumatology and phlebology) made in a thermal pool is performed in mini-groups of 3-6 people controlled by a qualified thermal therapist and

- water gymnastics, also made in thermal pool, in groups of 20 curists, under the responsibility of a qualified teacher.

The concentration of thermal therapies in the morning, allows the ThC to have all the afternoon available for necessary cleaning and repairs (cabins, pools, bathtubs) and for washing and ironing hundreds of bathrobes and towels used daily in the morning cures.

7. Stakeholders of French Thermalism

Because the French ThC depends directly on a hot spring, they are intimately linked to a city and a region. The resources of the soil and subsoil and the exploitation of aquifers (distribution networks of thermal waters) depend administratively of municipalities ("*mairies*"), the County Councils ("*Conseils Départementaux*") and the Regional Councils ("*Conseils Régionaux*").

These public stakeholders have therefore the right to regularly monitor the technical and therapeutic functioning, and the ethical and financial transparency of ThC. Also, they can give grants to improve the quality of ThC and their environment. For its part, the Ministry of Health and the SS, supervise the quality of therapeutic services and provide the official certification to the ThC that fulfill regulatory requirements.

The fact that ThC are implanted in coastal or inland regions, generally premountainous, and have varied and pleasant landscapes, gradually it was created an interaction between the actors of Tourism and Thermalism. Thus, both sectors gain mutual benefits. Private stakeholders directly involved in the relationship between thermalism and tourism are: restaurants, shops, transport, banking, insurance, casinos, parks of exhibitions, cinemas, theaters and museums.

The tour guides play an important role in the French thermal regions. Visits and conferences, organized under the aegis of the local tourism organization, are not limited to natural and cultural domain but include, in their programs, visits closely linked to the history and evolution of the local thermalism, as well as the thermal architectural heritage.

Indeed, the buildings of several French ThC date back to the early twentieth century and are masterpieces of Art Nouveau and Art Deco. Thus, the curist of the morning becomes a tourist in the afternoon. In this way, the curist/tourist, having pleasant experiences and being in love with the region, will become an assiduous curist and he will become loyal curist to a particular ThC (Anido Freire, 2012a).

8. Discussion

For a better diagnosis of the current situation of French Thermalism and be able to better plan its future evolution, we developed the following SWOT matrix. Some of the already deduced weaknesses of this SWOT analysis have had a response from ThC. However, there are other threats that require more creative effort of ThC to overcome them.

• Although the average cost of a thermal cure is high (between 1 000 and 1 200 €) and that the current global crisis is aggravated since 2007, the activity of the French ThC knew an increasing number of curists and therefore of its turnover. In 2009 the turnover of the "Chaîne Thermale du Soleil" was €100 million.

But as prices rise faster and intensely than salaries and pensions, the purchasing power of French people gradually decreases.

To compensate for this loss of purchasing power and not have to give up a thermal cure necessary for good health, curists have decided to save some unnecessary expenses of accommodation in a 3 * or 4 * hotel, by choosing a much cheaper accommodation (hotels 1 * or 2 *; campsites) but away from ThC. The reaction of the managers of the ThC was immediate: now, they offer to transport freely the curists who are not staying at the ThC, allowing them to receive their cure, and then ensuring their loyalty.

• Moreover, the professionals of thermalism are directly or indirectly confronted to an increased competition created by the multiplication and trivialization of SPA and by the invasion of practices of "low-cost" promotions like "weekend", "last minute", "discovery", etc., in the tourism sector in general (agencies and transportation companies, hotels, restaurants).

Faced with this situation, the heads of ThC are proposing two solutions:

- the same offers, but at lower price, for the convinced thermalism followers, by reducing costs on most items (accommodation, catering, cost of professional labor), but with the risk of lowering the quality of services,

- and new offers in response to new demands and to conquer new customers, be inspired by the techniques of low-cost, and proposing for example, a "week-end of discovery" of the benefits of thermal waters for wellness, alone , in duo or in family.

• In France, more than 90% of the turnover of the ThC, is generated by the activities regulated by social organizations. Indeed, providers or operators of French Thermalism depend heavily on social organizations (SS, Mutual Health insurances) responsible for setting the reimbursement rate of thermal treatments to patients.

• The thermal cures represent only 0.15% of the general expenses of health (CNETh, 2010) and 0.3% of total reimbursements of the French SS.

However, in the present economic crisis context, there are many people who think that the reimbursement of thermal treatments is unjust when other sectors (rubrics) of Public Health are very deficient (no reimbursement of medicines used to treat many serious diseases, poor reimbursement for eyeglasses, of dental and hearing prosthesis). In late 2012, the Ministry of Public Health think renegotiate the percentage of participation in the

cost of thermal cures perhaps by reducing it by half. In this case, the number of curists would decrease in France. We believe that the SS should keep in mind that thermal treatments constitute cost savings in consultations, medications and additional treatments of pathologies often successfully treated in the ThC (CNETh, 2006a, 2006c, 2012).

Table 1. SWOT matrix of French Thermalism

Strengths	Weakness
Treatment:	Need of renovation and modernization of most French thermal centers.
- naturally associated with medical supervision	
- external (non-invasive) without secondary effects	
- performed by health professionals in specialized Thermal Centers	50% of curists choose for an accommodation different of a hotel (camping, tourist residences).
Proven benefits of thermal treatments: 50% reduction of necessary medicines and lasting sense of wellbeing.	Low rate of high-end hotel occupancy.
Accommodation in the Thermal Center or nearby.	Imbalance of the geographical coverage of the thermal centers: greater concentration on the coast than inland.
Development of the economy and of the local tourism.	
Opportunities	**Threats**
Possibility of exploring and exploiting new thermal sources.	Risk:
	- of purchase of the thermal centers by foreign capital or large hotel groups which impose a radical change of objectives;
Emergence of new medical and thermal hotel structures gathered under a quality brand and ensuring a panoply of modern and attractive services.	- of confusion of curists, between the various water-based treatments: thermalism, thalassotherapy, balneotherapy, SPA.
Building projects of new hotels (3 * and 4 *) strategically implanted.	Need to satisfy consumer demands (curist): higher service quality and lower price.
Increase of the number of potential customers of third and fourth age due to increased life expectancy.	
	National and international competition from other Thermal Centers (Europe, North Africa).
Diversification of the curist clientele.	Preference of curists, for the thermal centers near the coast.
Development of new cures for preventive or curative treatments for other disorders, pathologies and addictions.	Abusive and illegal Competition from the multiplication of services defined as SPA (hotel chains, campsites).

9. Proposals for Possible Strategic Guidelines

Given the above analysis we can establish the following strategic proposals for maintenance and future development of French Thermalism.

(a) Develop "classical / traditional" thermalism (thermal cure with financial participation by the SS) by:

- medical diversification using thermal waters (Ebrard, 2007) for example to treat fibromyalgia, Altzeimer disease, Parkinson's disease, cerebrovascular accident (CVA), multiple sclerosis (MS), traumatic and post CVA rehabilitation, treatment of various disabling sequelae, treatment of different mental disorders (Dubois, Boulangé & Lôo, 2000);

- stricter European regulations on the quality of thermal services and facilities.

(b) Develop a luxury thermalism and attract foreign and European curists with high purchasing power.

(c) Reintroduce the education and specialization of Thermal, Hydrological and Climatic Medicine in the French Faculties of Medicine.

(d) Harmonize the content of programs with a view to obtaining a European Diploma of Technical Thermal Therapist would allow greater mobility of qualified personnel within the EU (European proposal, 2010a, 2010b).

(e) Increase and diversify the range of infrastructure, equipment and service offerings and related tourism activities for curists and accompanying persons, to attract new clients/patients and develop loyalty (Tabone, Dunand, Auzanneau & Lamerain, 2009) of the regular curists.

(f) Promote a mix marketing oriented toward intergenerational thermalism (Roques, 2003) for hereditary diseases or familial predisposition factors, which may be accompanied by a development of tourism related activities for the benefit of the whole family.

(g) Improve techniques and communication strategies:

- to allow the Thermalism to do not be considered as a "treatment exclusively for the elderly."

- to give a more adequate, modern and real image of traditional thermal techniques whose effectiveness is demonstrated by numerous scientific publications (Queneau et al., 2001; Roques-Latrille, 2006).

(h) Encourage research on the therapeutic techniques used by the thermalism and the benefits to individual health and Public Health, conducted by university institutions related to thermalism and official agencies (Public Health Ministry and Ministry of Environment and Spatial Territory).

(i) Develop and encourage technical innovations of water treatment, preparation and packing of mud, water transportation, pipelines, heating from geothermal energy, development of renewable energies (solar, geothermal), respecting the principles of sustainable development of each thermal region.

(j) Because the French ThC accommodate 500 000 curists per year, the exploitation of natural sources of French thermal waters are optimized to the maximum but only for 9.5 months. Diversification of offers (Salles, 2003) would ensure full employment rate of ThC throughout the year, including the winter quarter.

(k) One should not forget the respect of the environment and the planet, in a strict context of ethics and sustainable development. The extraction and professional use of thermal waters should be equivalent to the capacity of hydro-system renewal to prevent aquifer reservoir depletion.

(l) The Thermalism sector in full activity is a powerful ally of ecology, because imposes the respect of the principles of sustainable development since it prevents that, in a security perimeter, fertilizers, insecticides, industrial pesticides that irreversibly contaminate the ground water and ancient springs, could be used in an improper and unnecessary way.

10. Conclusions

• With the present extension of life expectancy (the French population is gaining a year of life every four years) and active aging (OMS/WHO, 2002) and growing longevity (in France, it is expected not only an increase in the total number of centenarians, but also a development of a greater longevity, nowadays with an average of 110 years), thermal therapeutic needs (demand) will increase in the coming decades.

Therefore, the offers should follow the same growth, if the ThC intend to successfully respond to such demands (Ebrard, 2007). Concomitantly, the number of trained, qualified and then contracted geriatricians in the ThC should also increase.

• It is expected that in the coming years, there is a greater number of thermal centers specializing in child and adolescent pathologies (Armand et al., 1991), and also in some of the so-called "orphan diseases" that are accompanied by satellites disabling disorders, often extremely painful, for which laboratories do not want to spend money because they know in advance that there will be "no profitable".

• Despite the positive results, French ThC should continue to consider the expectations of customers and their evolution over time if they want to keep curists and win new customers. It also should not lose sight their diversification: besides subsidized cures and free cures, they will need to promote offers of short programs of prevention (obesity, diabetes, smoking, alcoholism, drug addiction, dehydration, loss of muscle mass and autonomy drive, memory loss and dependency of the elderly).

Taking into account the foregoing, we believe that the French thermalism has conditions to develop further in the short, medium and long term given the current policy of renewal and development of new ThC, the constant commitment of specialization of thermal physicians, therapist technicians, as well as links maintenance and development with the various stakeholders of tourism sector.

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Union Renewal and Business Strategies

Strategic Codetermination of Works Councils and the Campaign "Better Not Cheaper" of the German Metalworkers' Union

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Abstract

The trade union campaign "Better not cheaper" of the German metalworkers' union IG Metall is one of the most famous attempts of union revitalization in Germany and at the same time a new approach of unions to influence business strategies. Focusing on the activation of works councils, the aim of the campaign is to cope with the problem of disorganized decentralization of collective bargaining by developing concepts for a renewal of business strategies in the firms. The paper is based on a research project recently finished. In the project 16 case studies of plants which have been part of the campaign have been made and a survey among union locals was conducted. The paper analyzes the effects of the campaign on works councils' codetermination, on labor relations and on business strategies. The author concludes that the results of the campaign have been mixed up to now. On the one hand, the campaign has proven to be successful in activating the works councils to challenge management concepts, to enhance competencies and resources and, most important, to develop new forms of expert participation of employees. On the other hand, the scope of strategic codetermination and of the renewal of business concepts has been rather narrow, and membership effects for the union have been only sporadic and indirect. Therefore, the campaign should provide strategic competencies for the works councils more systematically, and the fight for new business strategies should go hand in hand with membership campaigns in the plants.

Keywords: union renewal, works councils, campaigning, strategic codetermination, high-road strategies, globalization, expert participation

1. Introduction

What are the prospects of unions and other actors of collective labour like works councils to preserve or regain organizational power in an environment of globalisation and financialization? What can unions do, and are there good practices already developed? And what do these practices mean for the business strategies of companies?

In the last 15 or 20 years answers to this question had a focus mainly on developments in the United States or in the UK that have been characterized by the notion of 'union organizing'. The reorientation of unions in terms of membership and collective bargaining strategies in these countries seemed to be so profound and promising that organizing has become a new core paradigm of a good union practice in dealing with problems of membership decline and in regaining influence in industrial relations systems. Organizing was largely identified with union revitalisation and was regarded as an instrument for the unions to win members and influence (Bronfenbrenner, Friedman, Hurd, Oswald, & Seeber, 1998). However, an open debate has been and still is whether good practices of collective labour developed in one country can easily been transferred to another country with different actors and institutional features. Moreover, maybe other practices have developed in other countries that do not fit easily into the patterns defined paradigmatically as a good practice. Another open question largely neglected refers to the consequences of union strategies on business strategies. In the US-context, hostile reactions of employers seem to be frequent, and unions have good reasons to anticipate these reactions in their strategies. However, in countries with cooperative traditions of labour relations, employers' reactions are quite less clear and it may make sense for the unions to try to combine revitalization strategies with more cooperative approaches concerning employers. So the balance of revitalisation, conflict and cooperation can be of very different kind in different institutional settings.

This article tries to analyse such an attempt to develop a good practice of revitalisation of collective labour by referring to the most prominent union campaign in the last years implemented in Germany, the campaign "Better not cheaper" by the German metalworkers' union. Being a revitalization campaign in its origin, the campaign at the same time has several characteristics which are rather singular compared to campaigns known from US unions. First, it is focused mainly on the works councils and their role in the labor relations of the firms. According to the campaign, works councils are to be activated to develop and negotiate alternative business strategies. Works councils are to be enabled to argue in business matters competently and strategically with their employers. The basic idea is that codetermination of works councils should deal not only with the social consequences of business strategies, but also with the business strategies themselves in order to safeguard employment and to prevent the employers from derogations of collective bargaining norms or the opting out of collective bargaining agreements. The activation of works councils both includes improved services developed by the union to support works councils in economic action and rank-and-file participation of employees in developing alternative strategies.

Second, the campaign deals with business strategies and tries to define an ideal of good business strategies which are confronted with bad business strategies. "Better" strategies in the sense of the campaign are high-road-concepts focussing on innovation and high-quality production. The activation of works councils should go hand in hand with an activation of the comparative institutional advantages the German coordinated market economy still can offer from the point of view of the union. These business strategies are to be developed by the works councils as alternatives in case employers favour strategies of relocation, outsourcing and cost-cutting. Negotiating business strategies is the cooperative core of the campaign. In doing this, conflict is not ruled out; however, it would be obviously impossible to change business strategies against the will of management. So dealing with business strategies means that works councils have to strive for a new consensus with the employers.

How effective is the campaign in revitalising the union? Does the union succeed in activating the works councils? And in how far business strategies are affected by that? These are the questions to be tackled in this paper. My analysis is based on an empirical project I have been conducting in recent years. It was financed by the Hans-Böckler-Foundation of the German Trade Union Federation. After reflecting literature debates and outlining the project's methodological approach, I will give a short overview of the campaign and its historical backgrounds before going into the details of the empirical findings.

2. Union Revitalization, Works Councils and Business Strategies

Like in many countries, also in Germany characterizations of current trends in industrial relations have become rather sceptical. Many of them are contributing to what might be called a swan song for the former dual system of German industrial relations composed of collective bargaining on the industry level and codetermination by works councils on the company level. There are good reasons to argue that the dual system is in a state of erosion (Hassel, 1998) or at least segmentation between union and non union sectors, accompanied by a simultaneous process of fragmentation of labour standards that has the potential to undermine the shrinking core of the industrial relations system through increasing wage competition (Bosch, Haipeter, Latniak, & Lehndorff, 2007).

However, there are some voices that argue that German industrial relations went through a phase of revitalization in the course of the financial crises of 2009/2010 (Müller-Jentsch, 2010). And unions did indeed contribute to the development of economic stimulus packages by the government and therefore to political decision making. Moreover, collective agreements were negotiated that contained many instruments designed to help the companies to cope with the crisis, while works councils played an important role in the organization of short-time working and, more general, working-time reductions at plant level. Thus coordination at plant, industry and state level seems to be back on the agenda. At the same time, however, the long-term trends mentioned above are continued. This is why these voices have remained in the minority, and for good reasons.

Also the current debates on works councils display much ambivalence. Works councils play a crucial role in German industrial relations, because over the long term they have become the main institution of employee representation at plant level (Kotthoff, 1998). Works councils have developed strong relationships with unions, forming what Streeck (1979) called a "contradictory unity". Within this mutual relationship, unions have developed responsibility for training, consultancy and other forms of support for works councils (among them the support provided by the collective bargaining agreements they negotiate, on which the works councils can build at plant level). For their part, works councils have become responsible for organizing and monitoring the implementation of collective agreements and for the recruitment of union members at plant level. The last point led Schmidt and Trinczek (1999) to speak of a structural asymmetry in the relationship between works councils

and unions in favour of works councils, since works councils can exist without unions more easily than unions without works councils. At the same time works councils stand in a close relationship to the companies and have an intermediary position towards them, given their obligation according to the Works Constitution Act (WCA) to keep labor peace in the companies and to take into account the economic interests of their firms. This is why many of them, albeit in different forms and intensity, have developed a cooperative stance towards the employers (Kotthoff, 1994).

There are at least two aspects of the current development of works councils that give rise to a certain ambivalence of interpretation. First, in the mid-1990s, the concept of co-management was developed to describe the growing demands and opportunities for works councils to co-determine the introduction of new forms of work organisation, such as teamwork (Müller-Jentsch, 1995). This definition of co-management was challenged by Kotthoff, who argued that it stemmed in fact from a growing recognition of economic constraints and involved works councils in organizing workforce downsizing (Kotthoff, 1994) rather than influencing the reorganization of work (Kotthoff, 1995). After the turn of the century, Kotthoff's defensive interpretation of co-determination became more accepted, culminating in the equalization of co-management and the negotiation of employment pacts at plant level (Rehder, 2003). Moreover, concession bargaining was regarded as a threat to the power of works councils because of the problems of legitimacy it created. Whereas Kotthoff (1998) in the 1990s assumed that works councils had a mandate from employees to negotiate concessions with management as a part of a long-term deal designed to safeguard jobs, Rehder (2006) has suggested that works councils might lose their "output legitimacy" as they negotiate successive employment pacts. Growing legitimacy problems, she argues, weaken works councils' organizational powers because of internal conflicts and problems in mobilizing workers in disputes with management.

A second, albeit less intensively discussed ambivalence of interpretation is the role of works councils in union revitalization. Works councils have been regarded as a cause of union conservatism in the development of revitalization strategies. Two reasons are often advanced to explain this (Baccaro, Hamann, & Turner, 2003; Frege & Kelly, 2004). The first is that, in the past, membership recruitment was organized mainly by works councils and therefore was not part of unions' core business. And even if unions were to try to implement some forms of organizing strategies along the lines developed by unions in the Anglo-Saxon countries, they would still have to deal with the works councils on the issue of membership recruitment. Second, as intermediary actors, it is argued, works councils favour a social partnership approach that impedes the development of organizing strategies based on a conflictual and confrontational stance towards management. The idea that works councils operate as co-managers, negotiating employment pacts with management, seems to fit perfectly with this line of argument.

However, as Behrens (2009) has shown, the relationship between unions and works councils is complex and difficult to capture with the analytical categories deployed in the Anglo-Saxon debate on revitalization. Behrens argues that the service model, which has been widely regarded as a conservative counterpart to organizing models, may very well contribute to union revitalization in the German context. Effective codetermination by works councils largely relies on the services the works councils are offered by the unions. Moreover, good services have proven to be rather important in enabling works councils to fulfil the task of membership recruitment. Conversely, works councils can be regarded as essential to union revitalization; without works councils' support, unions will neither become stronger players in mobilizing for collective bargaining nor be successful in recruiting new members, to mention just two possible dimensions of revitalization.

Furthermore, it might well be asked what social partnership really means in the German context. There are good reasons why social partnership should be defined broadly as reflecting a basic consensus about the institutions of collective bargaining and codetermination in which the social partners are willing to make compromises in conflicts and to agree a more or less symmetrical distribution of organizational power, thereby making departure from the consensus costly for either side (Kädtler, 2009; similar: Turner, 1998). Such an interpretation would leave the social actors ample room for strategic manoeuvre and would by no means exclude conflict-oriented strategies by the works councils also aimed at membership recruitment.

Finally, it is far from certain what it means for the works councils to act as an intermediary actor. Of course they are an intermediary institution in the sense that they have to take into account by law the economic situation of their company or plant when deciding on action. However, there is a second sense of intermediation which is problematic to generalize (as in Müller-Jentsch, 1985). Here, intermediation denotes the definition and aggregation of labour's interests and the selection of those interests that can be negotiated easily with the other side. This kind of intermediation can be called corporatist because works councils are expected to act as the custodians of private interests (Streeck & Schmitter, 1984). However, the institutional framework within which

works councils operate does not preclude the kind of strategies, based on rank-and-file participation, that have been adopted by unions in the English-speaking world and that have been discussed – albeit also critically (Hickey, Kuruvilla, & Lakhani, 2010) − as important elements in union revitalisation. It is a matter of strategic choice for works councils whether to operate as corporate actors or to develop various forms of rank-and-file participation. There is little doubt that works councils' traditional strategies have been and still are corporatist in style (Kotthoff, 1994). However, this does not mean that no changes are possible or even under way.

Thus the relationship between works councils and union revitalization is far from being set in stone; moreover, the works councils can be regarded as one of the main problems the unions face in attempts at revitalization. It is no accident that they became the main focus of the famous "Better not Cheaper" campaign launched by the German metalworkers' union. As Turner (2008) has argued convincingly, two very different forms of union revitalisation can be observed in Germany, initiated by different unions and taking place in very different sectors of the German economy. One is the organizing campaigns launched by the service sector union Ver.di in a number of retail companies, while the other is the new strategy of collective bargaining and works council activation adopted by the metalworkers' union IG Metall. Works councils play a decisive role in both strategies, because they are the institution through which the unions gain entry to individual plants and establishments. Campaigns in the retail sector have sought to build institutions like works councils and collective bargaining agreements from scratch in an environment hostile to unions, whereas the initiatives in the metalworking industries were aimed at revitalising institutions in what remains of the coordinated core of the German industrial relations systems. Not surprisingly, these approaches differ markedly in terms of the instruments used by the unions. In the retail sector, the union has tried to organize campaigns designed to attract the attention of the public and build coalitions with other social movements. In the metalworking industry, on the other hand, the union's goal is to activate the works councils that already exist.

IG Metall's "Better not Cheaper" campaign, which was developed and launched in North-Rhine Westphalia, the biggest of the collective bargaining regions in the metalworking industry, is usually regarded as the most important development in union revitalisation in the heartlands of the "German export machine". Thus Turner states that the campaign, together with membership campaigns timed to coincide with plant- level disputes on collective bargaining norms, offers an "unexpected promise for institutional revitalization" of industrial relations in Germany (Turner, 2008). What stands out is an empirical test of the high hopes that have been expressed about the "Better not Cheaper" campaign. Has the campaign really helped to activate works councils in situations in which they are on the defensive in the face of relocation threats and employment pacts? In how far have they proven to be able to negotiate new business strategies? And finally, is the activation of works councils contributing to the revitalisation of the union in the industry?

3. Methods

The analysis of the "Better not Cheaper" campaign is based on three methodological pillars. The first one is a survey among IG Metall's local union offices (*Verwaltungsstellen*) in North-Rhine Westphalia. In the survey, the heads of the offices were asked about the spread of the campaign among the plants for which they are responsible, about the background to the "better" practices adopted in the plants, about the topics that have been dealt with in the course of the "better" strategies and about the interactions between works councils and the union administration. Of the 43 local union offices in North Rhine-Westphalia, 19 responded, giving a return rate of about 44%. It is difficult to say whether the other offices did not respond because they simply ignored our request to fill in the questionnaire, because there were no examples of practical applications of the campaign in these offices or because they were not sympathetic to the campaign (which is possible because the units are rather autonomous in the way they support and coordinate works councils). However, the fact that some of our case studies were located in union offices that did not respond to our survey makes the first interpretation more likely, i.e. we did not get a response because the heads of the offices did not have time to deal with the questionnaire. However, the other possibilities cannot be completely excluded.

The second methodological pillar of the study is case study analysis. We carried out case studies in a total of 16 different plants. The main criterion governing the selection of our case study sample was the information provided by the union and approved by the works councils that the works councils had developed new strategies that could be defined as "better" strategies in the sense of the campaign. By focusing on these cases, we were trying to ascertain what patterns of codetermination emerge alongside "better" practices and what conditions have to be met before works councils are able to develop these patterns.

Other selection criteria were to include plants of different size and of different ownership structures in order to be able to analyse the influence of these structural factors on codetermination practices. Consequently, our sample includes a broad range of industries, plant sizes and ownership structures (Table 1); the individual cases

have been anonymised, with reference being made only to the main products produced. It has been surprising to observe that the influence of these factors has been marginal at best. No systematic differences could be found between works councils in plants of different sizes or ownership structure. The reason is that management strategy appears to be rather similar in all cases, driven by the globalization of production and the financialization of decision-making on products, investments or employment. I will return to this point later. Our sample did not include any of the large OEM plants in the automotive industry. It can be assumed that they would have made a difference, since the automotive works councils are usually regarded as the vanguard of the works council movement, being better endowed in material, intellectual and strategic resources than other works councils (Bergmann, 2001). Moreover, they have long experience of dealing with globalized company structures and internal competition between production sites (Haipeter, 2006). Some of the experts we interviewed referred explicitly to the automotive works councils as models for the kind of activation that was intended in the "Better not Cheaper" campaign.

Table 1. Case study sample

	Industry	Number of employees at site (company if different)	Ownership structure
Power train	Mechanical engineering (power transmission)	400 (*690*)	Hedge fund
Miner	Mechanical engineering (mining)	70 (*1,100*)	Corporation
Sealer	Automotive supplier (Sealing)	340 (*43,000*)	Corporation
Electronics	Electronic industry (household appliances)	1,800 (*10,000*)	Family-owned
Energy	Plant construction	600 (*30,000*)	Corporation
Gear	Mechanical engineering (power transmission)	2,400 (*6,700*)	Corporation
Cooler	Automotive supplier (radiator grills)	200 (*700*)	Management buyout
Shiner	Lights/medical technology	1,300 (*4,700*)	Headquarters of limited company
Motor	Automotive supplier (engines)	2,600 (*5,000*)	Corporation
Truck	Automotive supplier (Interior)	100	Hedge fund
Plough	Mechanical engineering (agricultural machinery)	750	Family-owned
Switcher	Switcher	450 (Site 1), 200 (Site 2)	Corporation
Closer	Automotive supplier (Latches)	1,100	Hedge fund
Steel	Cold rolling	190	Corporation
Cement	Plant construction	300	Hedge fund
Supplier	Automotive supplier (lights and electronics)	5,000 (Site 1), 1,000 (Site 2) (*10,000*)	Family-owned

The case studies consist of interviews with the chairmen of the works councils, the union's plant coordinators, other works councillors and, in some cases, HR managers, shop stewards and consultants commissioned by the works councils in the course of the "better" processes. Originally it was intended to carry out four intensive and 12 short case studies based only on interviews with one works council and one coordinator; in the course of the research, however, it became clear it would be useful to add other interviews, such as those with consultants, even in some of the short case studies (Table 2).

Table 2. Case study interviews

	Works council chairman	Union coordinator	Other works councils	Management	Shop stewards	Consultants
Power Train	1	1	3	1	3	
Miner	1	1				
Sealer	1	1	1			1
Electronics	1	1				
Energy	1	1	1			1
Gear	1	2				
Cooler	1	1	1	2		
Shiner	1	1			4	1
Motor	1	1	1			
Truck	1	1	1	1		
Plow	1	1			4	
Switcher	1	1				1
Closer	1	1				
Steel	1	1	1			
Cement	1	1	1			
Supplier	1	1				

Finally, in addition to the survey and the case studies, we conducted a number of non-standardized interviews with experts from all levels of the union administration. We spoke with the vice-chairman of IG Metall, Detlef Wetzel, who developed and implemented the campaign in North-Rhine Westphalia between 2004 and 2008 when he was the union's chairman of the collective bargaining region, with a union expert organizing the campaign for union headquarters, with several experts from the North-Rhine Westphalia region who are coordinating and supporting the campaign today, with union-oriented business consultants and with members of IG Metall's further training institutions.

4. The Background: Disorganization of Collective Bargaining in the Metalworking Industry

The fact that institutions of labor relations still exist in the manufacturing sector does not mean that the needs for union revitalization are less severe than in the service sector. On the contrary, globalization and growing imbalances of power in favour of employers have hollowed out the institutions of industrial relations to a large degree. Although the institutional features of the "coordinated market economy" (Hall & Soskice, 2001), such as collective agreements and codetermination, have proved to be rather stable, the substance of negotiations has changed (Dörre & Brinkmann, 2005). Employers nowadays can demand concessions and unions and works councils can hardly avoid negotiating them.

The problems became more serious for IG Metall in the first years of the new century, accompanied by a massive campaign the employers and their associations, headed by the umbrella organization of the industry, Gesamtmetall, were launching, stressing the problems of Germany as a high-cost location and, from 2004 onwards, demanding increased working time without pay compensation. Germany was titled world champion of leisure time, and the union was accused of wanting to make labour regulation too inflexible. In their view, therefore, individual plants should be given the possibility of derogating from collective agreements.

However, derogations from collective agreements, both formal and informal, were already a more or less common practice at that time; and this was the by far the biggest problem the union was facing (See Haipeter, 2011a). Derogations allow employers to downgrade collectively agreed norms on wages and/or working times. They are usually accompanied by some counter-concessions offered by the employers, such as a temporary safeguarding of jobs and/or promises of investment (For a classification of derogations see Lehndorff & Haipeter, 2011). At that time, the union had no control over the content of these formal and informal derogations or over the number of agreements concluded (Haipeter, 2009). Times changed when the employers' associations and the government forced IG Metall in 2003 and 2004 to negotiate a standardized and more extended derogation clause to be included in the collective agreements. This was duly achieved with the 2004 Pforzheim Agreement, which legalised derogations if they safeguarded jobs and increased the competitiveness of plants and companies. This agreement was supported by union modernisers in the hope that it would strengthen the union's control over derogations. For the time being, however, the reality was rather different. Instead of gaining control, the union found itself increasingly on the defensive, attacked by more and more companies demanding working time extensions and wage concessions. The Pforzheim Agreement seems to have aggravated the situation. Constructed as an instrument of organized decentralization (Traxler, 1995), the Pforzheim Agreement turned into a gateway for the disorganization (Doellgast & Greer, 2007) of collective bargaining.

However, the crisis also increased the pressure within the union to find new solutions for the problems of disorganized decentralization. The fact that the crisis of collective bargaining had become evident – and could no longer be ignored as it had been before the Pforzheim Agreement − made it easier for the modernizers' camp at headquarters and in the regions to develop and put into practice new solutions that would otherwise have been rejected by powerful actors within the union. In the crisis situation, the positive returns from routines that had been remarkably successful in the past seemed to have disappeared; consequently, building on these routines no longer seemed to be a promising strategy.

In retrospect, it is clear that IG Metall developed two new strategies to cope with the crisis of disorganized decentralization. The first one was the implementation of new processes for dealing with derogations from collective agreements. They included new requirements for information flows between the union's different organizational levels, the inclusion of local and/or regional union officials in negotiations with management and rank-and-file participation in plant level negotiations. The effects of the new processes have been analyzed elsewhere (Haipeter, 2011b). In brief, it can be said that by redefining responsibilities and increasing the transparency of plant-level negotiations, IG Metall was able to coordinate and to re-organize decentralization in a rather effective way, which was surprising given the severity of the problems.

The second strategy for dealing with the crisis of disorganization was the activation of works councils in order to develop alternative concepts to downsizing, outsourcing or relocation. The origins of the strategy lay in the

"Better not Cheaper" campaign that IG Metall started at the end of 2004 in North-Rhine Westphalia. Although the campaign was initially regional in character, it has developed into a national campaign supported by union headquarters. When the former head of the district, Detlef Wetzel, became vice-chairman of the union in 2008, resources were redistributed at IG Metall's headquarters and a new department of work and innovation was created to take responsibility for the activation of works councils with a view to enabling them to deal with economic and innovation issues. To date, the department has focused on three main areas of activity: coordination of a "crisis intervention" task force that organizes consultancy for works councils in plants in crisis; the development of an instrument for works councils to assess their plants' economic situation; and, finally, the development of plans to cope with the new lean production systems that are currently being implemented in many companies throughout the metalworking sector. Although the expansion of the campaign to national level is beyond the scope of this paper, it can be assumed that the types of action initiated or supported by the national campaign are rather similar to those associated with the regional campaign analyzed here.

5. The "Better Not Cheaper" Campaign

To speak about a well-planned campaign from the beginning would be to ignore the facts, for the campaign in its first phase was little more than a slogan that was easy to remember, open to different interpretations and effective in political discourse as a counter-argument against the employers' cost-cutting rhetoric. The idea was as simple as it was convincing: employers have to be able to compete successfully, but in order to do so they have to think about more than just cutting costs. What the union was suggesting was that employers should make use of employees' expertise and of companies' long-term innovative potential and actively promote both new forms of production that make full use of workers' skills and new and innovative products of high quality. All these aspects had already been highlighted in Hall and Soskice's analysis of the comparative institutional advantages of the German coordinated market economy (Hall & Soskice, 2001). In challenging the strategic prerogatives of management, the "Better not Cheaper" campaign is regarded by its creators as a "maximum union demand in capitalism", as Detlef Wetzel characterized it in an interview. And this is why it soon became clear that the central target of the campaign was to be the works councils which, in the German institutional framework, are the only actors that are at least potentially able to play such a role in the plants.

This was a rather ambitious programme for works councils. Although their legal status is ensured by the WCA, the legislation does not explicitly enable them to engage in negotiations on strategic decisions regarding work and company organization, products or markets. Clause 92a, which was incorporated into the Act in the course of the WCA reform of 2001, allows works councils to make proposals to safeguard jobs and obliges management to consult with the works councils about the proposals. However, management is at liberty to reject the works councils' proposals with impunity, since the works councils have no means at their disposal of applying sanctions. One of the campaign messages was that works councils should become more active than the WCA requires and allows them to be. To be more precise, they were to become *strategic* by influencing management decisions rather than simply dealing with the aftermath of such decisions. And for the bulk of works councils in plants − apart from works councils in the large automotive companies mentioned above −, strategic codetermination posed a real challenge which required support from outside, because otherwise the campaign would have failed in those plants where it was most needed.

Thus, it soon became clear that the campaign would have to rely on a material infrastructure if it was to produce real effects in the plants. This infrastructure was developed in the form of projects financed largely by the regional and federal governments. In these projects, some of which have already finished while others are still running, several initiatives and instruments were developed by the union and the other members in the "Better not Cheaper" project team, which was (and still is) composed of union officials and external members, including consultants and academics.

The activities included numerous workshops for works councils dealing with topics chosen by the works councils, such as globalization, outsourcing or new production systems; industry reports analysing developments in sub-sectors such as the machine tool or agricultural machinery industries were produced; individual cases were investigated by the union, by union- oriented consultants and by academics; a network of union-oriented consultants was created; and industry networks of works councils and mutual support of works councils by works councils were promoted. Another important point was the identification of good practice examples right from the start of the campaign. The examples were presented at workshops by the works councils in question and on the campaign's Internet pages. They had the key function of showing how works councils' "Better not Cheaper" practices could work and how they were already working in some plants. It seems not too far-fetched to say that the time was right for just such a campaign: it was both a response on the manifold challenges confronting IG Metall and a continuation of strategies that had already been implemented in some plants, where

works councils had been able to develop approaches similar to that adopted in the campaign. These works councils had been regarded by IG Metall as "beacons" guiding other works councils willing to go down a similar route. Two of these "beacons" were cases in our sample, whereas the other cases were inspired by the campaign in one way or another.

6. The Spread of the Campaign in the Plants

To get reliable information about the spread and practice of codetermination, we asked the local union offices in our survey how many works councils – not single works councils, but committees in plants – had developed a codetermination practice linked to the "Better not Cheaper" campaign in their offices. Of the 43 local union offices in North-Rhine Westphalia, 19 responded. Taken together, in these 19 offices "Better not Cheaper" played a role in 137 plants. Compared to the plants that are members of the employers' associations and therefore covered by collective bargaining agreements in the district of North-Rhine Westphalia, the number of "Better not Cheaper" cases in the 19 union offices represented about 10% of all the works council committees in the North-Rhine Westphalia district. If these figures are projected for all the administrative units in North-Rhine Westphalia, they would suggest that some 20% of plants belonging to the employers' associations were involved in the campaign. However, for the reasons given above this figure cannot be taken for granted because of the bias that may result from differences in the union offices' strategic approaches and ignorance of our survey on the part of officials.

The "Better not Cheaper" strategies emerged out of situations in which the union and works councils were on the defensive, which tends to confirm the pessimistic redefinition of co-management cited above: derogations (40% of cases), local alliances for jobs (19%), threats to close plants or dismiss employees (27%) and rationalization (12%) were the motives indicated by union officials. The main objectives being pursued by the union and the works councils were prevention of off-shoring or outsourcing, increased investment and stronger codetermination and rank-and-file participation (Figure 1).
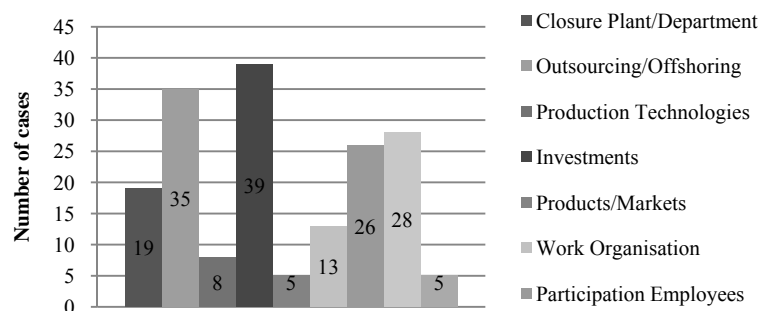
Figure 1. Negotiation objectives of works councils/unions

7. "Better Not Cheaper" - a Strategic Approach to Codetermination

What does it mean for codetermination when works councils act in line with the "Better not Cheaper" campaign? What does the campaign look like in practice? I will try to tackle these questions based on the case study analysis introduced above. Table 3 gives an initial overview of the results of the case study. In the rows of the table are listed the central issues in the cases, which will be explained and analyzed in the following sections. The "problem/motive" column lists the reasons given by the works councils to explain why they were forced to develop a new strategic approach to codetermination. "Works council strategy" denotes the ways works councils reacted, either by challenging management's business plans or plans of restructuring and reorganization, developing concepts of their own and/or by promoting and controlling the implementation of new plans. The "resources" column lists the resources works councils were able to use in developing new strategies, such as reorganizing the work in the committees, further training or advice provided union-oriented consultants. "Mode of interaction" denotes the ways plans are negotiated with management. I identify two types of strategy, which I describe as "dancing" and "boxing" strategies. These epithets will be explained below. "Employee participation" describes the ways employees participated in the development of new plans. Finally, the "organizational effects union" row provides an overview of the recruitment effects for the union that are attributed to the works councils' new practices. I put the term derogation in brackets in those cases, where recruitment effects took place but where the works councils attributed them to the fight against cost-reduction strategies in the course of

disputes about derogations; in some cases, the fight against such strategies went hand in hand with the fight for new business plans, while in other cases it was an unrelated episode. However, the central difference between them is that in the case of derogations recruitment is regarded as an effect of rank-and-file participation in the form of membership voting in disputes, for example, whereas in the other case recruitment is interpreted as an effect of employees' participation as experts in the development of new organization and business plans. I will come back to this differentiation later on.

Table 3. Results of the case study analysis

	Problem /motive	Works council strategy	Resources	Mode of interaction	Employee participation	Organisational effects union
Power Train	Crisis, Dismissals	Challenge, Promotion, Controlling	Consultancy, Training	Dancing	Information, Proposals	None
Miner	Modernization Plan Management	Companion, Controlling	Industry Network W.C.	Dancing led by Management	Information	None
Sealer	Relocation, Dismissals	Plan	Consultancy	Local Dancing	Workshops, Assemblies	Some Entries (*Derogation*)
Electro-nics	Crisis, Outsourcing, Dismissals	Challenge	Consultancy, Training	Dancing Episode	Experts (selective)	None
Energy	Outsourcing, Dismissals	Plan, Controlling	Consultancy, Training	Boxing	Experts (selective), Mobilization Conflict	Reputation Blue Collars
Gear	Outsourcing, Concessions	Plan, Promotion	Training	Dancing	Information	None
Cooler	Crisis, Pressure Value Chain	Challenge, Companion, Controlling	Consultancy	Boxing	Workshops, Surveys	Some Entries (*Derogation*)
Shiner	Joint Modernization Plan	Plan, Promotion	Consultancy	Dancing	Workshops, Surveys	Some Entries (*Derogation*)
Motor	Relocation, Dismissals, Concessions	Plan, Controlling	Activation Resources	Boxing Episode	Experts (selective)	Reputation Blue Collars
Truck	Relocation, Dismissals, Crisis	Plan, Promotion	Consultancy; Activation Resources	Dancing	Experts (selective and not selective)	Density White Collars 15 to 85% (*with Derogation*)
Plow	Outsourcing, Concessions	Plan, Promotion	Activation Resources	Dancing	Experts and Survey	Some Entries
Switcher	Restructuring Company	Challenge, Companion	Consultancy	Dancing	Information	Some Entries (*Derogation*)
Closer	Crisis, Relocation, Concessions	Companion	No changes	Dancing led by Management	Information	None
Steel	Dismissals, Concessions	Challenge, Companion	Consultancy	Boxing	Experts	None
Cement	Outsourcing, Dismissals	Plan, Controlling	Consultancy, Training	Boxing	Experts, Mobilization Conflict	White Collars above 40%
Supplier	Crisis, Outsourcing	Challenge, Promotion, Controlling	Consultancy, Training	Dancing	Workshops, Round Tables, Experts	White Collars 5 to 25% (*Derogation*)

First of all, the finding of the survey that "Better not Cheaper" strategies tend to be developed when works councils are on the defensive is confirmed by the results of the case study analysis. In all 16 cases except two (Miner and Shiner), management had threatened employment or labour standards or both by making moves to outsource or relocate production and by declaring a crisis situation. The term "crisis" here does not usually mean

that companies, plants or departments were in the red but that they had not met expected rates of return. Globalization and financialization (in the sense that the interpretation schemes and norms of the financial market and financial measures are used as instruments by management [Froud, Johal, Leaver, & Williams, 2006]) were being used by management to legitimise demands for downsizing, relocation or outsourcing of activities and, therefore, of employment. This occurred regardless of plant size or ownership structure.

How did the works councils react? The core and common denominator of the "better" strategies in our sample is the fact that management strategies were challenged by the works councils. Of course, challenging management is nothing really new for works councils. On the one hand, this is what works councils usually do in negotiations by pointing to negative social or employment effects. However, they rarely ask whether management strategies are actually likely to produce the economic results they promise or whether there are other strategies that might promise better results. On the other hand, there are individual cases in the metalworking industry where works councils have acted in line with the "better" practices analyzed here. Examples are the works councils of the large automotive plants, already mentioned above, which were confronted with relocation and outsourcing threats earlier than other works councils and were able to draw on material and personnel resources far superior to those of "normal" works councils in smaller plants. Other examples can be found in the context of policies for the improvement of regional structures; in some regions, innovation networks have developed, with IG Metall playing an important role in support of works councils seeking to develop innovative alternative plans (Dörre & Röttger, 2006). However, what is common to these examples is that they remained isolated cases and did not address the problem of disorganized collective bargaining. The "Better not Cheaper" campaign is the first attempt to activate works councils systematically and across a whole bargaining region – and later on nationwide − as a response to the threats of disorganization described above.

However, challenging management strategies because of the economic effects they may have can be regarded as a new form of codetermination, since it is found systematically throughout the cases. The decisive point for works councils in challenging management strategies is whether or not they had developed alternative business plans. Some of the works councils we analyzed had alternatives, some had not. The decisive point is to use management's economic frame of reference in calling its strategies into question. In couching their challenges in these terms, the works councils make it impossible for management to ignore these questions or dismiss them as ideological. And this is what makes works councils strategic in the sense that they try to influence management decisions from the beginning in order not to be confronted with the employment or social consequences of decisions that can no longer be influenced.

An example of this practice is a company producing electronic household appliances (Electronics). Some years ago, management and the works councils agreed on a social compensation plan that includes the outsourcing of a component production unit. However, outsourcing proved to be difficult because no other reliable suppliers could be found. In this situation, the head of the works council attended a union workshop on outsourcing and was informed that he could get external consultancy if he wanted to. This marked a turning point for the works council, enabling him to call into question the agreement on outsourcing and to propose that the economic effects of alternative plans be examined. Management agreed to set up a work group composed of experts from different departments and led by academic consultants paid by the union. Finally, the expert group agreed on the economic superiority of in-house production for most of the components in question. Today, component production is an important element of a newly organized and rapidly expanding business unit.

In other cases in our sample works councils went a step further by developing alternative product strategies and negotiating them with management. One example is a company producing car engines (Motor). The works council was confronted with a management demand to derogate from the collective bargaining agreement by extending working times without pay compensation. It criticised management for having been too reluctant to invest and innovate. This, rather than labour costs, was the real problem the company was facing in the eyes of the works councils. As a consequence, the works councils at the company's German plants came together and tried to develop a common strategy for the company's future, drawing on analyses they had developed at their sites with the help of experts from different departments and different layers of management. The resulting plan, described as a "proactive production strategy", was subsequently the object of negotiations with the company. It was eventually agreed that the collectively agreed norms would be respected, that no dismissals would take place and that investments would be made to modernise products and production technologies.

What are the types of innovations dealt with in the case studies in the course of the "Better not cheaper" process? According to Kinkel, Lay and Wengel (2004) four types of innovation can be distinguished: product innovations, process innovations in the form of new production technologies, service innovations in the sense of new kinds of services accompanying the product and organizational innovations. Among the 48 initiatives of innovation in the

case studies organizational innovations are dominating, ranging from new wage systems to de-centralization and process orientation of the organization, teamwork, continuous improvement and productivity programs up to extended co-management rights for the works councils (which can also be regarded as an organizational improvement because they give the works councils the legitimacy to codetermine issues of organizational change).
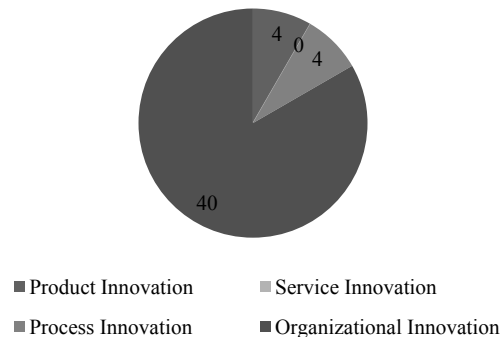
Figure 2. Number and types of innovation in the case studies

However it has to be said that the measures often have not defined coherent and encompassing business plans. In many cases, developing a "better" alternative to management strategies focused on improvements in work organization, either by enhancing the efficiency of a given organization or by implementing new forms of work organization based on teamwork. Strategies related to new products or business fields were rather rare. And in none of the cases works councils called into question the premises of management strategies regarding the financial targets of the companies which in many of the cases have been defined with implicit or explicit reference to the expectations of the financial markets. Challenging management strategies did not mean challenging financialization of companies.

8. Competences for Strategic Codetermination and Patterns of Negotiation

Challenging management strategies and, particularly, developing alternatives required the works councils to acquire or develop economic expertise. "You have to know how to interpret the data given by management if you want to counter their demand not to pay the Christmas bonus", one of the works councillors said. To adopt management's frame of reference means to be able to reconstruct and assess management's motives and strategies. "You have to understand the reasons why they do this and that. And this is the precondition for you to think about alternatives", another works councillor said. For developing alternatives, two more kinds of competence are of importance. The first is knowledge of the organization. Works councils have to know how the organization works if they want to confront management with alternative strategies for organizing work or the plant as a whole. Works councils normally have few problems in doing this because they usually know much better how the organization works than the managers, who change jobs frequently and in many cases leave a plant again before they can get an impression of how things are done. The second kind is strategic competency in market and business developments, of the sort required by the works councils of the automotive company that tried to develop strategies for products and markets the company should focus on.

How can the works councils acquire the competences they need? In our case studies the works councils developed three strategies. The first was to activate the competences they already had for solving a particular problem. This was what the works councils of Plough and Motor did. The second strategy was to attend seminars on special problems in order to acquire knowledge that could be activated in the works councils. This was the approach taken by Electronics' works council. The third strategy was to engage a union-oriented consultant. This was the dominant solution in our sample. Eleven of the 16 works councils we analyzed made use of the expertise of consultants, in most cases in combination with one of the other two strategies. However, the consultants were important in two respects: first, to interpret the data and figures presented by management and second, to develop alternative strategies together with the works councils and to show that in-house production could be as economically effective as outsourcing or off-shoring. At Trucks, for example, a consultant was present in the plant for ten full days, analyzing each department separately and holding workshops and discussions with employees. On the basis of the information thus gathered, he developed a new organizational scheme for the

plant, building on integrated platforms of specialists rather than separate departments.

Consultancy was important for the works councils in another respect, namely in improving their power position vis-à-vis management. "The consultants helped us to be on a par with management" was a statement many works councillors made. Consultants were important in this respect for two reasons, first because of the high quality of alternatives the works councils were able to develop with the support of the consultancies, and second because of the high reputation the consultants have in the eyes of the management. In general it can be stated that strategic codetermination enhanced works councils' reputation with management. There is no case to be found in our sample where a works council was weaker at the end of the process than it had been at the beginning. This has a lot to do with the more active role the works councils are playing in labour relations because of strategic codetermination. To challenge management in its frame of reference also means to discover a new policy arena that used to be a management prerogative.

This new level of activity on the part of works councils is best described using the terminology of boxing and dancing presented by Huzzard (2004). Boxing and dancing can be interpreted as two different forms of strategic codetermination. Works councils that adopt a 'dancing' strategy are seeking to develop common projects with management based on trust relationships, while those that adopt a 'boxing' strategy are engaged with management in a fight for alternative strategies. In both strategies, works councils are actively seeking to shape management strategies, and in both cases a new consensus with management has to be achieved in order to be able to influence management strategies successfully. In our sample of cases, predominantly dancing strategies are more common than predominantly boxing strategies. In 10 of the 16 cases, works councils were 'dancing' with management. In two of these cases, Miner and Shiner, management was taking the lead on the dance floor. In these cases, the works councils agreed with management's goals and was simply trying to improve management strategies with respect to employees' working conditions. In the other cases, management and works councils jointly defined the direction the dancing was to take. In a plant producing foam sealing for cars (Sealer), dancing was a local phenomena. Here, management and works councils were forming a local coalition with the aim of saving the plant and to safeguarding jobs. The works council proposed innovations and tried to convince management of the value of the "Better not Cheaper" approach. It was the works councils who were the dominant partner on the dance floor, so to speak. In other cases, like the producer of gear components (Gear), the dancing stagnated. In this situation, management was kept on the dance floor by works council threats to swap the dance floor for the boxing ring. As the Gear works councillor said: "you have to show at least temporarily that you are willing to fight and that the employees are standing behind you, this is a precondition for talking together in a rational way." At a plant producing energy systems (Energy) the works council would have liked to dance, but could not find any willing partners on the management side. Several invitations to the dance were sent to management but no replies were received, mainly because of high management turnover. So counter-analysis and the development of alternative strategies were used by the works council to improve its position in the ring while negotiating agreements. One works councillor said: "I think it is important for countervailing power to go into business details, to defend what you have, yes, but also to do more than this."

The choice of strategies by the works councils depends mainly on the state of labor relations when the "Better not Cheaper" approach is first adopted. If management and works councils had previously reached agreement on their common interests and enshrined them in a social partnership, works councils tended to choose the dancing option. Conversely, if no feeling of commonalities and trust relationships existed previously, they usually opted for the boxing strategy. In two cases (Electronics and Tucks), dancing options were chosen by the works councils, despite being unable to build on relations of trust and social partnership; in these cases, the dancing was a mere interlude, without any lasting impact. Thus labour relations in the firms in our sample did not undergo any permanent changes. However, what did happen in most cases was that the existing systems of labour relations were activated in the "better"-process because the works councils started to play a more active – or rather strategic – role and management had to react to this.

9. Representation and Participation

Changes induced by the "Better not Cheaper" campaign were not limited to works councils' codetermination strategies and labour relations but can also be observed in the relationship between works councils and employees. Rank-and-file participation is what has to be analysed here. As mentioned above, works councils have traditionally been intermediate actors, developing strategies and negotiating with management in a representative way, defining strategies for employees and not with them and negotiating with management behind closed doors as representatives of a common employee interest. This was also the usual way of dealing with participatory forms of work organization, such as semi-autonomous teamwork, in the 1980s and early 1990s, when companies were experimenting with new production systems (Schumann, Baethge-Kinsky,

Kuhlmann, Kurz, & Neumann, 1994) and works councils became co-managers. Works councils launched pilot projects with management without making much effort to take account of employees' interests or experience.

This style of interest management by works councils reaches its limits in processes linked to the 'Better not Cheaper' campaign. The main reason is that works councils and consultants became aware that the participation of employees, as experts in work and organization, was indispensable for challenging management strategies and developing alternative strategies. This is why in many of our cases works councils and consultants – and mostly the consultants had the more active part in doing this – developed new forms of professional employee participation. Employees as experts participated in two ways, by taking part either in surveys of larger groups of employees focusing on several problems or in smaller groups of employees, selected for their expertise, that were set up to provide a detailed solution to a particular problem. Selective participation was usually organized as a series of workshops, as at the producer of foam sealing (Sealer). Here the members of the works council, the consultant, construction engineers, a technician, an account manager and a worker tried to uncover potential for rationalization in a certain production area that was designated for outsourcing by management. The workshop was rather successful. Within a few hours the group was able to devise a plan for increasing productivity in a way not believed by management in advance. In the end, the area was not outsourced as management had planned. The consultant said that "we, the consultants, cannot perform magic – but the employees can. The employees know a lot of things, in most cases they do not really know what they know and what they are able to do. This was a very good case for showing what potential the works councils are able to develop together with the employees."

Moreover, works councils and consultants who have developed new modes of rank-and-file participation felt they enjoyed a considerable level of legitimacy among employees. This finding is confirmed by a contrasting case in our sample, where the works council remained a representative actor in the intermediary sense. Thus, at Plough a new continuous shift system was agreed between management and works council that had been developed without employee participation and was not liked by the employees. In the end, a lack of participation led to criticism and a loss of legitimacy for the works council.

10. "Better Not Cheaper" and Union Revitalization

Works councils are strengthened in the course of the "Better not Cheaper" campaign by developing proactive forms of codetermination, challenging management on its own terms and mobilising support from consultants and, especially, employees via rank-and-file participation. But what about the union? Has the revitalization of works councils also paved the way for a process of union renewal at the IG Metall? And how are both developments linked?

There is no simple answer to this question. First of all, it is important to distinguish between two dimensions of the "Better not Cheaper" campaign that correspond to two different forms of employee participation. One dimension of the campaign, the "fight against cheaper", is the dimension that is dominant in disputes concerning derogations. As explained above, participation by union members in negotiations on derogations has become the norm in IG Metall today. Members can vote at meetings on whether negotiations should take place or if an agreement should be accepted or not; they can also vote on the composition of collective bargaining committees (and can also sit on such committees). The second dimension of the "Better not Cheaper" campaign is what might be called the "fight for better". This fight usually goes hand in hand with employee participation in challenging management and developing alternative strategies. Here employees are participating as experts in work and organization. Of course the two forms of participation often go hand in hand. Thus, in the case of a producer of energy systems (Energy), the works council was able to prevent the outsourcing of a department by presenting a counter-strategy, in which it was able to demonstrate the strategic relevance of the department for the plant; and the counter-strategy was developed by experts from different departments, a consultant and the works council itself. Based on the counter strategy the works council was also able to mobilise the predominantly white-collar employees for a labour dispute and to make the union more attractive to employees.

However, it makes sense to distinguish between the two forms of participation analytically, because in other cases the relation between them is less direct and because both forms of participation have rather different effects on union renewal. What can be said for certain is that rank-and-file participation is the crucial factor for union renewal in the "Better not Cheaper" campaign. However, the effects differ depending on the form of participation. Participation based on the 'fight against cheaper' has proved to be much more effective for the union, at least in the short run. In most of the cases where the union was able to increase its membership base, new members joined the union in the course of negotiations on derogations (Haipeter, 2011b).

An impressive example of membership recruitment in the course of a 'fight against cheaper' is the case of an

automotive component supplier (Supplier). Management wanted to negotiate derogations from the collective agreement for the administration centre, which is organized as an affiliated company. At the first employee meeting on the matter, the responsible union official told the employees that he would not negotiate an agreement for a company with a union density of 5%; only 50 of the approximately 1,000 employees were union members at that time. Both this announcement and the prospect of taking part in the negotiations on the derogation encouraged 200 employees to become union members. Union density increased to about 25% in the course of the dispute.

The 'fight for better' does not offer similar membership gains. Here a strengthening of the union as a result of rank-and-file participation takes place – if at all – much more indirectly and over the long term. A precondition for positive organizing effects is that the works councils stress the role of the union in the development of "better" strategies. Thus, "better not cheaper" has to be combined with a membership campaign. In the case of the producer of household appliances (Electronics) where participation took the form of a workshop for employee experts whose objective was to reassess the outsourcing decision made in the social plan, the works council did not draw an explicit line between these activities and the union (although in this case the consultancy by academic experts was financed by the union), and in the end no effects on the organizational power of the union could be observed. On the contrary, in the case of the producer of energy systems (Energy), the works council underlined the role of IG Metall and tried to mobilise the workers for labour disputes by saying that this was an industrial action organized by IG Metall. In the course of the mobilization some of the non-organized employees joined the union − although the union density was already fairly high, with more than 80% of the blue-collar and more than 40% of the white-collar employees unionised.

To sum up, the 'fight for better' did not produce significant density effects. However, this does not mean that the 'fight for better' cannot contribute to the renewal of union power in the plants. Two points are important in this respect. The first point is that rank-and-file participation by workers as experts has to be be combined with a membership campaign, with campaign leaders making it clear that the development of "better" strategies is based on the union's support and the initiative and that the implementation of alternative strategies depends on the union's organizational power in the plant. If the union is weak, management has little incentive to negotiate with the works council, because its strength is also based to a large extent on union power.

The second point is that participation in "better" strategies can pave the way for new membership groups, especially white-collar employees. The precondition is that the works councils make the offer to participate as experts in the 'fight for better' not only to their traditional constituency of skilled blue-collar workers but also to white-collar workers, who have been so difficult to organize for the union up to now. Energy (which is a white-collar plant mainly) and Trucks are the two examples in our sample where works councils tried to do this, and in both cases union density among the white-collar workers was increased. 'Fighting for better' gives white-collar employees a chance to bring their expert knowledge, whether it be technical or commercial, to bear on the development of alternative strategies for workers in their struggle with management. In this way, collectivist attitudes and awareness of common interests with other workers can be strengthened in a group of employees that has usually be regarded as being interested more in the success of the company and in individual careers than in the support of unions or works councils (and rather the latter than the former, already in Kudera, Ruff, & Schmidt, 1983; Weber-Menges, 2004). In this respect, union membership could be a final step in a process of reorientation that starts with being asked to provide expertise by a works council fighting for "better" strategies but without it being necessary to deny being a union member.

11. Concluding Remarks

Looking at the "Better not Cheaper" campaign and its significance for the development of codetermination, union revitalization and business strategies, six concluding remarks can be made. First, the campaign was rather effective in diffusing a practice of strategic codetermination among works councils that had existed previously only in some large automotive plants. The campaign succeeded in attracting works councils from the "normal world" of codetermination in plant sizes of between 200 and 2000 employees. It was precisely in these plants that works councils were increasingly being pressed by management to make concessions and increasingly being made aware that globalization and financialization had increased management's room for manoeuvre at their expense by downsizing, relocation or outsourcing of employment. The diffusion of the campaign was facilitated by the fact that the campaign slogan was memorable and left room for interpretation so that it could be used in various ways against the employers' offensive.

Second, works councils developed a new style of codetermination based on challenging management decisions in economic terms. By developing strategic codetermination, works councils are entering management's frame

of reference and discovering a new arena of conflict. This form of codetermination can be labelled "strategic" because it is focused on management strategies and the development of strategic alternatives. On the one hand, it builds on more traditional forms of codetermination in its political focus on the safeguarding of jobs and preservation of the labour standards set out in collective agreements. On the other hand, it is new in the sense that it represents for the first time a systematic attempt by works councils to move away from coping with the social effects of management decisions, such as relocation and outsourcing, in favour of influencing management decisions and developing alternatives that, in economic and business terms, are as good as or superior to management's proposals. However, neither the 'boxing' nor the 'dancing' approach to challenging management calls social partnership into question. Rather, it represents an activation of social partnership in the sense that the social partners are becoming more active and that management strategy is becoming a new arena for interaction and negotiation – or politics − based on social partnership.

Third, strategic codetermination requires works councils to acquire or develop economic, organizational and strategic competences, which they have demonstrated they are able to do. They have reorganized their committees, coordinated and taken part in further training measures on topics such as globalization or innovation strategies and, perhaps most importantly of all, organized support from external consultants who have helped them to assess management plans and proposals and to develop alternatives. The activation of competences is another important element of strategic codetermination, because the works councils have started to deal with their resources in a strategic manner.

The activation of competences, and this is the fourth point to stress, depends largely on the union and the service structure the union put in place in the course of the campaign. Works councils obtained valuable inputs from the seminars the union organized during the campaign on issues such as globalisation, new production systems or innovation strategies. Furthermore, the union organized a network of union-oriented consultants on whom the works councils could call, availing themselves of financial support from the union if needed (in some cases the employers were liable under the terms of the WCA to pay for the consultants). The lessons learnt in the course of the campaign can be regarded as further proof of Behrens' hypothesis that, in the German institutional context, the service model is vitally important for the unions and their revitalization. However, the campaign not only built on traditional forms of union support but also created new ones, such as seminars on topics chosen by the works councils themselves, the establishment of networks of consultants, etc.

Fifth, strategic codetermination goes hand in hand with a new relationship between works councils and employees. In the context of the "Better not Cheaper" campaign, works councils started to call on employees' expertise in order to develop alternative to management strategies. A close relationship with the workforce is the works councils' main advantage in the competition of business strategies. By exploiting that relationship, the works councils were able to improve their power position in labour relations. Failure to make use of this advantage could well endanger their position, since they would be running the risk of promoting innovations that do not reflect the interests of the workforce. Expert participation signals a fundamental change in dealing with employees' interests by works councils and unions. Unlike the traditional form of intermediate collective action, strategies are no longer defined from above, and negotiations no longer take place behind closed doors (Weitbrecht, 1969). Rank-and-file participation has enabled the works councils to develop alternatives to management strategies and to strengthen their legitimacy and their organizational power.

Sixth, the activation of works councils can be regarded as an important element of union revitalization because the more active and effective works councils are, the more attractive they are to employees and the stronger they are in disputes with management about relocation or outsourcing. However, regarding union revitalization in the sense of membership recruitment the campaign has been proven to be much less successful. Thus the positive expectations formulated in the literature are not fully borne out by the empirical evidence. The campaign is contributing to union revitalization by strengthening the works councils, not by attracting members, and it makes sense to distinguish at least between these two indicators of revitalization. So the union should convince the works councils to put more emphasis on membership campaigns and to combine them with the fight for new business concepts. However, by treating employees as experts in work and organization, new linkages can be established between the union and groups of workers, such as white-collar employees, who have not traditionally been very union-oriented.

Finally, in many cases the "better" alternatives and solutions have been a good deal away from coherent business plans. They were focusing on improvements in work organization, either by enhancing the efficiency of a given organization or by implementing new forms of work organization based on teamwork. And in this respect the new solutions and measures have proven to be economically superior, mainly because rank-and-file participation was organized more effectively than management would have been able to do it. However, strategies related to

new products or business fields were rather rare. And in none of the cases analyzed here works councils called into question the premises of business strategies regarding the financial orientations of management. It seems to be an open question whether such a piecemeal approach will be enough to put into practice the idea of innovative quality production based on qualification and participation of employees which is forming the intellectual core of the "Better not cheaper" campaign. There are good reasons to argue that it will be difficult to activate and to innovate the production model of coordinated capitalism under the conditions of financialized capitalism, and that long term "better" strategies also would require long term financial orientations of management. However, the fact that this aspect of "better" strategies has not taken up yet by the works councils does not mean that it will not be taken up in the future. The experiences made in the campaign suggest that it will depend largely on the union's strategy whether this will happen or not.

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Establishing the Adoption of Electronic Word-of-Mouth through Consumers' Perceived Credibility

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Abstract

In an online environment, consumers never touch the product and depend on electronic word-of-mouth (eWOM) to help them making purchase decision. The eWOM becomes one of the most influential channels of communication in the marketplace. This study aims to determine the importance of perceived credibility in an online consumer's decision-making process. In this empirical study, we verify that a consumer's perceived eWOM credibility positively influences his or her adoption of eWOM. We also found that source credibility, eWOM quantity, and eWOM quality significantly affect a consumer's perceived eWOM credibility.

Keywords: electronic word-of-mouth (eWOM), credibility

1. Introduction

Word-of-mouth (WOM) is one of the most influential channels of communication in the marketplace. The Internet provides numerous venues for consumers to share their views and experiences, and electronic WOM (eWOM) spreads at an unprecedented speed and at a much lower cost than traditional WOM (Li & Zhan, 2011). Compared to general marketing communication tools, WOM is perceived to be more trustworthy and more relevant, and can reduce consumer resistance significantly because it originates from the experiences of other consumers (Bickart & Schindler, 2001). With the popularization of the Internet, eWOM has begun to offer the promise of an emerging advertising discipline (Plummer, 2007).

How WOM changes consumer attitude toward purchasing decisions is worthy of investigation. WOM adoption is considered an effective measure for consumers' acceptance of communicator opinions (Li & Zhan, 2011). Adoption refers to WOM persuasiveness, in addition to the degree that consumers are likely to rely on WOM in purchasing decisions (Duhan et al., 1997). Previous studies have also attempted to determine the factors that contribute to consumer WOM adoption because it is difficult to verify the authenticity and source of WOM, especially in an online environment (Cheung et al., 2009; McKnight & Kacmar, 2006).

Trust is considered a vital factor affecting online consumer activities, such as the acceptance of others' advices (McKnight et al., 2002). Information credibility is an underlying dimension of trust, which is more appropriate for evaluating WOM communication; a consumer who believes online information to be credible has no reason to forego adoption (Cheung et al., 2009; Sallam & Wahid, 2012). Compared with other attitude dimensions, how people construct online WOM credibility would be a significant topic for understanding the process of eWOM usage.

Studies on the impact of eWOM communication can be classified into two levels: market-level analysis and individual-level analysis (Lee & Lee, 2009). At the market level of analysis, researchers have focused on market-level parameters such as product sales. Studies of this type have used objective panel data including the rating stars of a review, total number of reviews, the content length of each review, and the review content quality. At the individual level of analysis, researchers have postulated that eWOM is a process of personal influence in which communication between an eWOM sender and a receiver can change the receiver's attitude and purchasing decision.

Generally, elaboration likelihood model (ELM) provides a theoretical explanation of the message-processing route of a person's perception (Park et al., 2007). The ELM posits that people who are willing and able to process a message are more likely to process persuasive attempts by using the central route. In other words, they

are more likely to generate their own thoughts in relation to arguments. However, people who lack motivation or ability are more likely to process information by using peripheral routes, or mental shortcuts, by focusing on non-content cues. Consumer involvement is associated with the motivation to process information, and expertise is associated with the ability to process information; these two factors are considered to represent consumer experience.

The objective of this study is to determine the factors that influence a consumer's perceived eWOM credibility and the importance of credibility in affecting a consumer's adoption of eWOM, including purchase intention. Theoretically, this study provides a viewpoint to clarify the impact of eWOM adoption in the purchase decision-making process and the important predictors of eWOM adoption. In practical terms, this study offers evidence that eWOM plays a significant role in consumer decision making. Thus, firms should not only focus on advisement creation, but also pay attention to consumer opinions.

2. Literature Review and Research Hypotheses

2.1 Credibility and eWOM Adoption

Wathen and Burkell (2002) indicated that source credibility is a key factor in assisting a consumer to judge online information. The first task for an online consumer is to rate the credibility of the medium itself, based on its surface characteristics. If a Web site presents a reliable interface, is well-designed, and has effective visuals, it attracts the consumer to remain on the site and continue using it. The second task involves rating the source regarding the message content because source credibility is fairly consistent with trustworthiness and expertise. The third aspect of the process involves assessing the interaction of the message presentation and the content with the consumer's cognitive state. This is determined from the consumer's experience and acknowledgment.

In an online environment, consumers rarely touch the product or recognize the eWOM sender. Source credibility is a vital predictor in the early stage when a consumer is choosing a Web site, and it contributes to the perceived credibility of messages on the site (Dabholkar, 2006; Dou et al., 2012). Consumer-perceived credibility of eWOM is defined as the extent to which one perceives a recommendation or review as believable, true, or factual (Cheung et al., 2009). Awad and Ragowsky (2008) suggested that perceived credibility is a prime determinant in a consumer's decision-making process, and reduces uncertainty in both social and business interactions. Therefore, we provide the following hypothesis:

H1: Higher source credibility positively affects the perceived credibility of eWOM in consumers.

Adopting eWOM is a psychological action that affects online consumers through social norms in an online environment. Sussman and Siegel (2003) indicated that a consumer who perceives a review to be credible has more confidence in adopting eWOM and using it to make purchase decisions. Perceived eWOM credibility refers to the judgments made by a message recipient concerning the believability of online reviews (Hong and Park, 2012). Researchers have also provided empirical evidence that if consumers perceive higher eWOM credibility, the likelihood of eWOM adoption rises (Cheung et al., 2009, Fan & Miao, 2012, Lee & Koo, 2012). We therefore formulate the following hypothesis:

H2: Higher perceived eWOM credibility in consumers positively affects their adoption of eWOM.

2.2 eWOM Quantity and eWOM Quality

When a consumer searches for online reviews, the quantity of eWOM makes the reviews more observable (Cheung & Thadani, 2010); that is, the volume of eWOM represents the popularity of a product. Reading numerous reviews by others could reduce consumer anxiety when making a purchase decision because consumers reason that many others have also purchased the product (Chatterjee, 2001). Some empirical studies (Park et al., 2007; Sher & Lee 2009) provided evidence that eWOM quantity positively influences the consumer-perceived credibility of eWOM. Therefore, we propose the following hypothesis:

H3: A higher quantity of eWOM positively affects the perceived eWOM credibility of consumers.

The quality of eWOM is another vital factor that is usually discussed with quantity. Once the eWOM on the site gains consumer attention, consumers begin to judge whether the review is worth reading. Information quality was proven early as a significant predictor of the success of an information system (DeLone & McLean, 1992). Consumers care about the correctness and usefulness of eWOM, and good content quality increases their willingness to trust eWOM (Awad & Ragowsky, 2008). Park, Lee, and Ham (2007) indicated that high-quality and the quantity of eWOM enhance persuasiveness. Therefore, we propose the following hypothesis:

H4: Higher-quality eWOM positively affects perceived eWOM credibility in consumers.

2.3 Elaboration Likelihood Model

The ELM explains why people prefer to refer to others' opinions when making a purchase decision (Park et al., 2007; Li, 2012). People who are willing and able to process a message are more likely to process persuasive attempts using the central route. Otherwise, people who lack motivation or ability are more likely to process information using peripheral routes to consult the advice of others. In the ELM, involvement is associated with the motivation to process information, and expertise is associated with the ability to process information (Petty et al., 1983).

Park and Kim (2008) found that customers with high expertise are able to evaluate information according to experience and knowledge. Similarly, Bansal and Voyer (2000) indicated that consumers with higher expertise have more confidence in making purchase decisions and refer less to others' opinions. Therefore, we predicted that customer expertise affects the perceived credibility of eWOM, and proposed the following hypothesis:

H5: Higher expertise in customers negatively affects their perceived eWOM credibility.

Another issue with the ELM is involvement. Celsi and Olson (1988) indicated that involvement can be situational or enduring. Situational involvement is a temporary elevation of relevance regarding the objective product during the purchase decision-making process. We used situational involvement as a predictor in this study. Consumers with higher involvement have more motivation to understand products and are more likely to read others' opinions to gather more information. Therefore, we proposed the following hypothesis:

H6: Higher involvement of consumers positively affects their perceived eWOM credibility.

Figure 1 shows the research model used in this study.
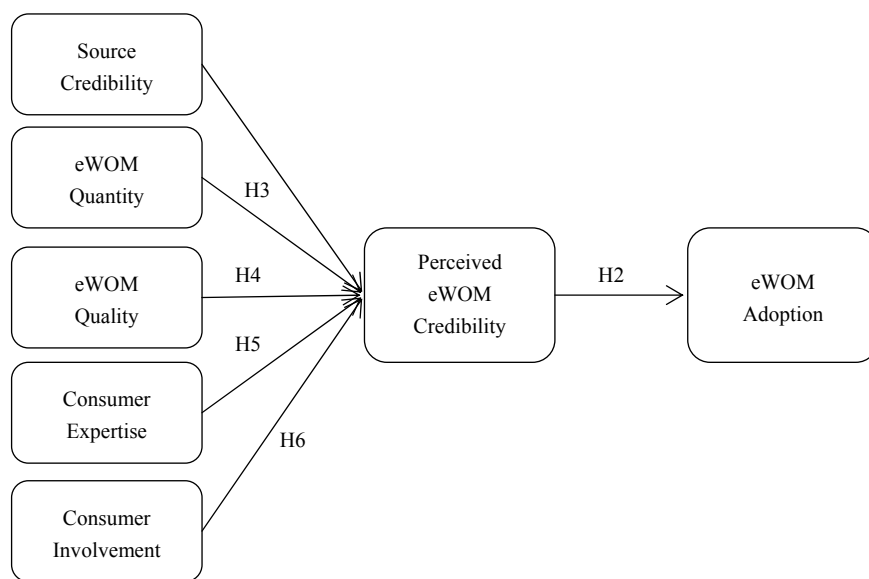
Figure 1. Research model

3. Research Method

Park and Lee (2009) indicated that eWOM has more impact on experience goods than search goods. This is because consumers cannot usually judge the attributes of an experience good before they purchase and use it (Huang et al., 2009). Additionally, consumers only gather information from product images and descriptions, especially in an online environment. Therefore, consumers must be aware of product reviews written by other consumers. For this study, we selected cosmetic products as an instrument to examine how eWOM influences a consumer's decision-making process.

We conducted an experiment that manipulates eWOM quantity and quality, thus resulting in a 2×2 (high quality vs. low quality, high quantity vs. low quantity) factorial designs. We defined high-quantity eWOM as eight reviews and low-quantity eWOM as four reviews, in accordance with the suggestion made by Park and Kim (2008). High-quality eWOM was defined as the provision of a pragmatic description about product attributes, whereas low-quality eWOM was defined as providing more emotional descriptions.

An initial structured questionnaire was developed based on a review of the relevant literature. We adopted

eWOM-quantity items from Park, Lee, and Ham (2007), eWOM-quality items from Park and Kim (2008), source credibility and consumer expertise from Gefen and Straub (2004), consumer involvement from Premazzi et al. (2010), and perceived eWOM credibility and eWOM adoption from Cheung et al. (2009). All items were measured on a 5-point scale.

Subjects were randomly assigned to treatment conditions. Forty-six online shoppers participated in the pretest. Confirmatory factor analysis (CFA) was performed to establish reliability and validity. Cronbach's α of the indicators ranged from 0.821 to 0.917, which is higher than the acceptance reliability coefficient level of 0.7 suggested by Nunnally (1978). Therefore, the questions used for this study were reliable. Regarding validity, the factor loadings belonging to each construct after analysis showed the standardized beta coefficients exceeding the required convergent validity score of 0.5.

A total of 443 responses were collected, of which 435 were usable; 134 were in paper form, written by college and graduate students, and the remaining 301 were submitted by online users. The survey was posted on public cosmetic-related forums of a bulletin board system (BBS; telent://ptt.cc) and forwarded using Facebook to collect the experiences of eWOM users. Cronbach's α of the indicators ranged from 0.827 to 0.963, and the factor loadings belonging to each construct showed significant standardized beta coefficients that were over 0.6. Table 1 shows the descriptive statistics, Table 2 shows the discriminant validity of this study, and Table 3 shows the CFA results.

Table 1. Sample characteristics

	Gender	
	Frequency	Percentage
Male	156	35.9
Female	279	64.1
Total	435	100
	Age	
	Frequency	Percentage
Below 20	34	7.8
21-30	367	84.4
31-40	30	6.9
41-50	3	0.7
51-60	1	0.2
61 and over	0	0.0
Total	435	100

Table 2. Discriminate validity

	AVE	CR	Source Credibility (1)	eWOM Quantity (2)	eWOM Quality (3)	Consumer Expertise (4)	Consumer Involvement (5)	Perceived eWOM Credibility (6)	eWOM Adoption (7)
(1)	0.566	0.886	0.753						
(2)	0.852	0.920	0.438	0.923					
(3)	0.614	0.905	0.535	0.570	0.783				
(4)	0.819	0.948	0.466	0.238	0.201	0.905			
(5)	0.843	0.970	0.340	0.238	0.176	0.768	0.918		
(6)	0.819	0.931	0.583	0.543	0.695	0.273	0.245	0.905	
(7)	0.682	0.915	0.546	0.593	0.716	0.282	0.293	0.681	0.826
Mean	N/A	N/A	3.125	3.368	3.578	3.407	3.806	3.337	3.812
S.D.	N/A	N/A	0.928	0.845	0.845	0.963	0.827	0.889	0.884

4. Results

4.1 Manipulation Checks

The subject responses on the two items that were designed to check consumer perceptions of eWOM quantity were averaged. ANOVA was conducted, which indicated the presence of the main effect of review quantity [$F(1, 433) = 5.202$, $p < .05$]. Subjects in the eight-review condition perceived the review quantity to be greater, compared to subjects in the four-review condition (M = 3.90 and 3.72). Thus, the review quantity was

manipulated successfully.

Subject responses to the manipulation checks on review quality were also examined. These were averaged for ANOVA. The results showed that subjects in the high-quality review condition had a greater perception of review quality than those in the low-quality review condition [$F(1, 433) = 10.826$, $p < .001$, M = 3.675 and 3.473]. Therefore, the review quality was also successfully manipulated. Table 4 shows the ANOVA test of this study.

Table 3. CFA results

Variables	Items	Factor loadings	Mean	S.D.	Cronbach's α
Source credibility	sc1	0.672	3.368	0.623	0.845
	sc2	0.800			
	sc3	0.830			
	sc4	0.660			
	sc5	0.812			
	sc6	0.724			
eWOM quantity	qa1	0.928	3.806	0.826	0.827
	qa2	0.919			
eWOM quality	qu1	0.734	3.578	0.644	0.874
	qu2	0.800			
	qu3	0.753			
	qu4	0.759			
	qu5	0.794			
	qu6	0.854			
Consumer expertise	ex1	0.901	3.125	1.067	0.928
	ex2	0.850			
	ex3	0.920			
	ex4	0.946			
Consumer involvement	iv1	0.912	3.407	1.041	0.963
	iv2	0.931			
	iv3	0.932			
	iv4	0.941			
	iv5	0.890			
	iv6	0.901			
Perceived eWOM credibility	pec1	0.902	3.337	0.705	0.889
	pec2	0.897			
	pec3	0.915			
eWOM adoption	ad1	0.828	3.812	0.671	0.884
	ad2	0.752			
	ad3	0.837			
	ad4	0.881			
	ad5	0.872			

Table 4. ANOVA test

Depend variable	Source	DF	Sum of squares	Mean squares	F ratio	F probability
eWOM Quantity	Between	1	3.512	3.512	5.202	0.023*
	Within	433	292.323	0.675		
	Total	434	295.836			
eWOM Quality	Between	1	4.931	4.931	10.826	0.001**
	Within	433	175.618	0.406		
	Total	434	180.009			

4.2 Hypothesis Testing

We used smartPLS for structure equation modeling (SEM) analysis. The full model (n = 435) is shown in Fig. 2.

The research model shows that source credibility (β = 0.26, *p* < .000), eWOM quantity (β = 0.16, *p* < .001), and eWOM quality (β = 0.46, *p* < .000) all have a significant influence on consumer-perceived eWOM credibility, supporting H1, H3, and H4. Perceived eWOM credibility was shown to have a significant positive effect on eWOM adoption (β = 0.68, *p* < .000), supporting H2. Finally, consumer expertise and involvement do not have a significant effect on consumer-perceived eWOM credibility (β = -0.02, *p* < .343; β = -0.05, *p* < .996); thus, H5 and H6 were not supported.
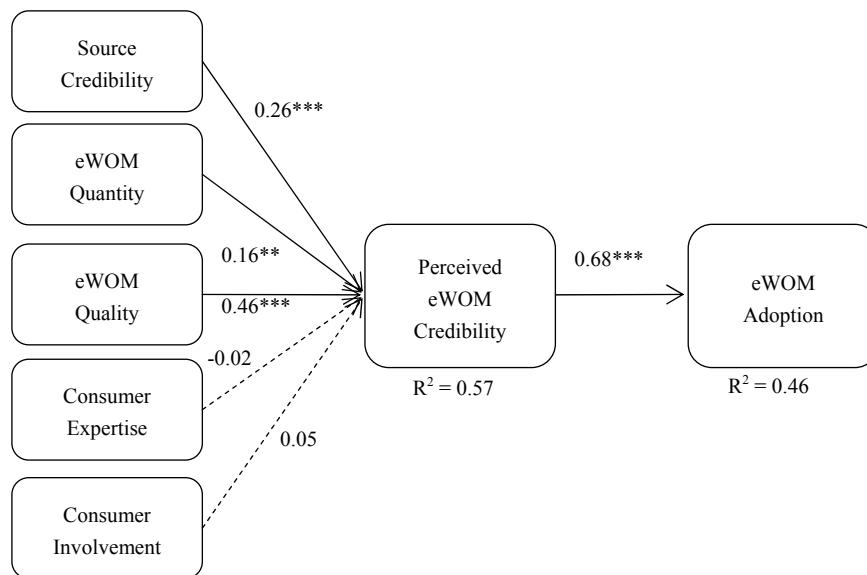
Figure 2. Hypothesis testing

Notes: n=435; * *p* < .05, ** *p* < .01, *** *p* < .001.

5. Conclusion

For this study, we focused on how perceived eWOM credibility in consumers influenced their eWOM adoption and the predictive factors of perceived eWOM credibility. Perceived eWOM credibility significantly affects eWOM adoption in consumers (β = 0.68, R^2 = 0.46). Consumer adoption of eWOM represents how eWOM changes their attitude toward products, and may help them make purchase decisions. The survey results showed that constructing consumer credibility in an online environment is the most important aspect. Trust and credibility have generally been discussed in electronic commerce research, and are thought to be indispensable for predicting the activity of online consumers (Gefen & Straub, 2004; Awad & Ragowsky, 2008; Cheung et al., 2009; Fan & Miao, 2012).

The quality of eWOM is the most significant factor, positively affecting the perceived credibility of consumers (β = 0.46, *p* < .001). Reviews that are pragmatic and persuasive, with a sufficient number of argumentative points based on factual information about the product, increase consumer confidence in referring to eWOM. In addition, in an online environment, consumers difficultly confirm the origin of the eWOM and the identity of the source. Source credibility measures the trustworthiness of the eWOM source, including the reviewer's expertise and the reputation of the vendor. This research provides evidence that source credibility also positively influences the perceived credibility of consumers (β = 0.26, *p* < .001).

The quantity of eWOM has a positive influence on the perceived credibility of consumers (β = 0.16, *p* < .01). The number of reviews is attracting consumer attention, and the consistency of numerous eWOM enhances eWOM reliability. Finally, although consumer expertise and involvement have no significant effect on perceived eWOM credibility, but the previous study offered a sight that consumer expertise reduces their perceived credibility of eWOM because they prefer making decisions on their own, and consumers who have higher involvement are willing to consider discussions and adopt others' opinions (Fan & Miao, 2012). Some researchers have suggested that a consumer's involvement might be a moderator of perceived eWOM credibility (Park et al., 2007; Petty et al., 1983).

Our results have implications for the nature of eWOM credibility building. The decision-making process of consumers is influenced by the information content received. This study shows that specific aspects of informational influence, such as source credibility, eWOM quality, and eWOM quantity, can be highly influential

on consumers' perceived eWOM credibility. A high level of eWOM credibility enhances a consumer's desire for eWOM adoption regarding the online recommendation, and attracts repeat visits to other consumers' recommendations. Furthermore, eWOM credibility also raises the overall value of the reviews provided, which benefits consumers who refer to the reviews. This study presents a model that provides firms which concerns online consumer reviews with strong instructional insight. We sought to determine the perceived credibility of consumers to make eWOM messages more useful. If the eWOM message is effective in a consumer's purchase decision-making process, then firms should focus more on maintaining their reputation and satisfying consumers.

6. Limitation

The main limitation of this study is that, although five factors were selected as the predictors of consumers' perceived eWOM credibility, only three were shown to have a significant influence. This might be because consumers usually notice the information content more, and ignore normative attributes. Cheung et al. (2009) indicated that a consumer's perceived credibility is influenced by informational and normative factors. Other possible factors that help construct perceived eWOM credibility and eWOM adoption exist, such as recommendation consistency and recommendation rating.

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Value Relevance of Conditional Conservatism and the Role of Disclosure: Empirical Evidence from Iran

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Abstract

This study examines the effect of conditional conservatism on value relevance of accounting variables. This study shows that conservatism decreases value relevance of earnings. More importantly, the evidence, indicate that the strength of the relation is conditional upon the firm's disclosure, being the strongest for firms with high disclosure level and the weakest for firms with low disclosure level. In order to measure the conditional conservatism, C-Score from Khan and Watts have been used. Also measurement of disclosure quality has been done by TSE corporate disclosure scores. Based on a sample of Iran listed entities, between 2004 and 2011, this study posits conservative procedure mapping into reduced value relevance and this manner being the strongest for the firms with high conservatism and low disclosure.

1. Introduction

Conservatism has had a historic role in choosing and applying principles and accounting procedures. Many researchers believed that financial reporting goes to conservatism and speed of this movement has fluctuated in response to financial condition. With this trend, many studies are considered conservative bias in reporting and influence on value relevance. The extant literature on value relevance has consistently found that the value relevance of earnings has been decreasing over time (Francis & Schipper, 1999; Lev & Zarowin, 1999). Appealing to the empirical literatures, there are different views about association between conservatism and value relevance. Many studies have posited conservative as a reason for the decrease in value relevance. This study stated that conservatism has inverse relation with earnings value relevance and believed that increasing accounting conservatism is one reason for the decline in the value relevance of accounting earnings over time (Lev & Zarowin, 1999). In opposed approach, have stressed the role of conservatism in accounting for the purposes of valuation and contracting and believed that conservatism provides more reliable contracting and valuation by improving reliability and verifiability of information. This suggests that increasing conservatism should enhance rather than value relevance (Watts, 2003). According to signaling role of conservatism and disclosure, there are two information policies that chosen by management to present relevant information to market. Conservative is one of this strategies that defined by accounting practices. Furthermore, investigating the effect of disclosures on the relation between accounting conservatism and the value relevance of accounting information is essential. The study of this interplay is important because voluntary disclosures and accounting conservatism can provide value relevant information that has not yet been captured.

2. Conceptual Framework and Research Background

In examining value relevance of conservative and non conservative accounting and their relation whether disclosure policies and conservatism have an association, different level of disclosure and information environment can be the main reason of this relation. Importantly, strength of this relation is conditional upon the firm's information environment and being the strongest for firms with low information asymmetry and the weakest for firms with high information asymmetry. Underlying this prediction is the supposition that conservatism and disclosure represent jointly-determined strategies which form a part of the overall reporting strategy of the firm (Artiach & Clarkson, 2011). In developing our theoretical perspective, we draw on insights following from the models of Gietzmann and Trombetta (2003) and Bagnoli and Watts (2005), which offer a signaling role for conservative accounting policy choice. Gietzmann and Trombetta (2003) envisage a role for

both the adoption of conservative accounting policies and voluntary disclosure within their model. They concluded that the economic implications of either accounting policy choice or voluntary disclosure cannot be meaningfully studied in isolation but rather each has the potential to influence and additionally, that an investigation of the economic benefits of accounting policy choice must control for the disclosure strategy of firms.

2.1 Conservatism and Value Relevance in Different Disclosure Level

Basu (1997) defined conservatism as the tendency to require a higher verification standard to recognize good news as gains than to recognize bad news as losses. There are two types of conservatism in accounting literature. Conditional, or ex post, conservatism refers to a system of reporting whereby the understatement of accounting value occurs in response to economic events. Unconditional, or ex ante conservatism, refers to a system of reporting whereby the understatement of accounting value occurs independent of economic events (e.g., Beaver & Ryan, 2000). Value relevance is the degree to which accounting earnings summarize information impounded in market prices (Mary, Barth, William, Beaver & Landsman, 2005). Relevant Literature shows that direction of relation between value relevance and conservatism is not clear. It is generally agreed upon that the greater the value relevance of earnings, the more useful it is for market participants when making investment decisions (Mary et al., 1996). Many researchers argue that there is a tradeoff between conservatism and value relevance (Balachandran & Mohanram, 2006; Brown, He, & Teitel, 2006). Givoly and Hayn (2000) found that the level of earnings conservatism has increased from 1956 to1998. Moreover, Lev and Zarowin (1999) have recorded a decrease in the value relevance of reported income over the same period (1977-1996), indicating that more conservatism is associated with less value relevance. Presuming a tradeoff exists, researcher has argued that increasing conservatism is a possible reason for decreasing value relevance (Lev & Zarowin, 1999).

In contrast, Watts (2003) argues that conservatism was a reaction for many years despite criticism. He believes that while the demand for conservative accounting is often attributed to contracting, conservatism may also lead to more relevant information. Balachndran and Mohanram (2004) stated that one reason for conservative accounting is that less conservative accounting approaches have the potential for errors in measurement and correspondingly have reduced reliability. Since conservatism favors more objective measures and less estimation, conservative accounting policies may lead to accounting numbers that are likely to be more reliable. If information becomes sufficiently unreliable, the usefulness of that information for decisions (i.e. relevance) could be limited and hence relevancy could actually increase with conservatism. They find that the value relevance of accounting has declined only for firms with the least conservative accounting and changed insignificantly for firms with the most conservative accounting. Further tests indicate that the decline in value relevance cannot be attributed to alternate definitions of conservatism based on the asymmetric timeliness of earnings. Recently, Balachandran and Mohanram (2010) examined the association between conservatism and the value relevance of accounting information over the 1975 through 2004 period. They find no evidence that firms with increasing conservatism exhibit greater declines in value relevance. Based on these results, it is implausible that increasing conservatism drives the decline in value relevance.

If only studies posited a relation between conservatism and value relevance, but also there is no consensus about the direction and strength of this relation. If there is an association between conditional conservatism and increasing level of disclosure, such differences can be justified. The use of conditional conservatism and increasing disclosure level, as two relevance signaling devices, can improve relevant information of accounting figures. In order to take advantage of reduced information asymmetry and internal information about the company, management uses several information strategies. Managers are aware of the information about the company's future earnings and she can choose conservative and / or disclosure as a means of signaling policy. Voluntary disclosure involved in reducing the risk of any conservative accounting system, the benefits of voluntary disclosure will not increase (Gigler & Hummer, 2001). Healy and Palepu (2001) examined Manager's motivation to expand voluntary disclosures and the effects of disclosures on equity market value. However, they did not address the question of whether the market responds to disclosures in different accounting regime. Investigating the effect of accounting conservatism on the relation between disclosure level and the value relevance of accounting information is worthy. More directly, our reasoning is base on Gietzmann and Trombetta (2003) that investigate trade-off between voluntary disclosure and signaling through the firm's choice of conservative accounting policy to disclosure private information about firm value. They concluded that the value relevance of either accounting policy adoption or voluntary disclosure cannot be meaningfully studied separately. Any study of the value relevance of accounting needs to control for the voluntary disclosure strategy of the firm. Therefore any study of the link between value relevance and conservatism should control for differences in disclosure policy. Unlike other study, Gietzmann and Trombetta (2003), presented a model that conservatism and voluntary

disclosure are used as an effective mechanism for transfer of confidential data. They argued that the selection of any of these policies will impose costs (contractors and agency costs) affecting companies, the accounting policy is conservatively advantage signaling. If the cost is large enough, only companies with profitable economic future, select conservative accounting policies. In fact, they found that companies select conservative accounting policy under cost effective manner and also contain a message about profitable future. In contrast, it is possible that some companies realize conservative accounting policies with high costs and through the voluntary disclosure should inform their future (Richardson, Sloan, Soliman & Tuna, 2005).

In another approach, conditional conservatism strength the financial performance of contracts and it is a tool to increase the quality of accounting information (Ball & Shivakumar, 2005). Firms with high disclosure quality are expected to exposure more reliable information about losses and other adverse events. Information with low credibility has ability to manipulate and has less utility. In other words, conservatism reduces information asymmetry and can be effectively managed by selective disclosure policy. (Lafond & Watts, 2008). Cano-Rodriguez (2010) argued that unconditional conservatism stems from the pressures of tax, legal and may reduce the value of the company's reported financial information. It is expected that firms with lower disclosure quality, exercise greater unconditional conservatism. Management Reputation, stock price and future financial statements are affected by financial statements or contracts based on accounting items (Lafond & Watts, 2008). Therefore, companies have different motives for conditional and unconditional conservatism. As a result, given management incentives and constraints on earnings management, unconditional conservatism can have different effects on the quality of reporting. Management may have an opportunistic incentive to overstate assets and gain against of understating value of the debt and costs and therefore increases their wealth or shows better financial conditions regarding company. Watts (2003) stated that Conservative is known as a management tool for preventing opportunistic behavior. Several studies argue that voluntary disclosure affect firm value based on signaling theory. Voluntary disclosures in the annual report send signals to the market and these signals are expected to increase a firm's net present value and stock market value (Gordon, Loeb & Sohail, 2010). Timely financial reporting can be a reliable source to present relevance information and explaining management's strategies and internal information and reduce information asymmetry between management and investors. This disclosure has many consequences in form of decrease: information asymmetry, uncertainty regarding future cash flow, loss of major clients and increase in creditors' interests due to high default risk (Wruck, 1990; Whitaker, 1999).

3. Hypothesis Development

Due to differences in corporate disclosure level and financial reporting among firms, this research aims to investigate the role of disclosure level in value relevance of conservatism field. The study of disclosure is important from information policy perspective. Expanded disclosure can be important in making changes in information asymmetry and therefore affect on choosing other information policy such as conservative procedure. Since managers have discretion in how businesses deal with the event and have a choice of accounting procedures, conservatism and disclosure are mechanisms that enable managers to communicate their personal information to investors. Purpose of this study is answer to this problem how managers use accounting conservatism or/and disclosure as a factor to decrease information asymmetry and what the role of increasing disclosure level in variation of conservative accounting relevancy. Given the theoretical framework and research background, the following hypotheses are proposed:

H_1: *conditional conservatism has a significant effect on* accounting *disclosure*.

H_2: *value relevance of high and low conservative firms varies and this difference, increases after* considering *different level of disclosure level*.

4. Research Design

The first step of this study is to examine the relation between accounting disclosure and conditional conservatism and explore impact of conservatism on disclosure level. After determining how conservative affect on disclosure levels, the sample firms are divided based on this interchange. In the other words, to examine the H_2 and explore variation in value relevance of conservative earning after controlling for disclosure level, at the second step, we investigate the variation in value relevance of earnings in different levels of conservatism. Thus, companies are divided into two groups with high and low conservatism firms. For this classification, sample firms sort by conservatism score and three top and bottom deciles are selected. In the third step, cause of relation between disclosure and conservatism, high and low conservative firms are examined in environments with different disclosure level (i.e. high/low conservatism and low/high disclosure). Also for this classification, sample firms sort by conservatism/disclosure interchange and three top and bottom deciles were selected and value relevance

of this two groups are examined. Therefore, the value relevance of high and low conservative accounting variables are calculated after controlling for changing in level of disclosure levels that was provided by companies. In this study, the sample collection starts with the entire population all companies from TSE during the 2004 to 2010. After deleting firm observation with missing data and negative book value, there are 903 firm-year observations available from the TSE Database.

Model1 was presented to examine H1 which is the effect of conditional conservatism on disclosure levels. This model included some controlling variables that influence on disclosure levels. This controlling variables are return on assets (ROA) as a measure of company performance, market value to book value (MVBV) as a measure of firm growth, size (SIZE) and leverage (LEV) as follows (Lang & Lundholm, 1993, 1996):

$$DisQ_{it} = a_1 + a_2 CONS_{it} + a_3 ROA_{i,t} + a_4 MVBV_{i,t} + a_5 SIZE_{i,t} + a_6 LEV_{i,t} + e_{i,t} \tag{1}$$

In this model:

$DisQ_{it}$: Score of corporate accounting disclosure.

$CONS_{it}$: Measure of conditional conservatism (C-SCORE).

$ROA_{i,t}$: Earnings before extraordinary items Adjusted by total assets.

$MVBV_{i,t}$: The market value of corporate equity divided by book value of equity.

$LEV_{i,t}$: Total debt divided by total equity market value of the company.

$SIZE_{i,t}$: Natural logarithm of total market value at the end of the year.

$e_{i,t}$: Model error.

4.1 Conditional Conservatism Measurement

Khan and Watts (2009) developed a measure of conditional conservatism by extending the model of Basu (1997). They introduced a measure of conservatism with cross Sectional regression coefficients were extracted from Basu's model, as a function of the specific characteristics of the company and replaced these coefficients in the Basu's regression. In result, they able to resolve some of the weak points of the Busu's model and provided a firm specific measure of conditional conservatism. Their annual cross-sectional model was presented as follow:

$$X_i = \beta_1 + \beta_2 D_i + R_i(\delta_1 + \delta_2 SIZE_i + \delta_3 MB_i + \delta_4 LEV_i) + R_i D_i(\mu_1 + \mu_2 SIZE_i + \mu_3 MB_i + \mu_4 LEV_i) \tag{2}$$
$$+ (\lambda_1 DSIZE_i + \lambda_2 D_i MB_i + \lambda_3 LEV_i + \lambda_4 SIZE_i + \lambda_5 MB_i + \lambda_6 LEV_i) + e_i$$

In this model, X equal to earnings, R equal to return (measuring news), SIZE is Market value, M / B is Company's market value to book value, LEV is Market value of debt and D is a dummy variable equal to 1 when R<0 and equal to 0 otherwise, and e is the residual. In order to calculate the coefficients, the first model was calculated for each year and then extracts the coefficients of this model. Conservatism score (c-score) measure incremental timeliness for bad news over good news or conservatism. (Khan & Watss, 2009). Mean Coefficients from Estimation Regressions are presented in below:

$$C\_score = \mu_1 + \mu_2 SIZE_i + \mu_3 MB_i + \mu_4 LEV_i \tag{3}$$
$$\mu_1 = 0/023 \ \mu_2 = -0/0012 \ \mu_3 = 0/0022 \ \mu_4 = 0/019$$
$$C - SCORE = (0/023) - (0/0012)Size_i + (0/0022)MB_i + (0.019) Lev_i$$

4.2 Disclosure Quality Measurement

Two basic approaches for measuring disclosure quality have evolved within the academic literature. The first involves direct disclosure scoring by the researcher based on a self-developed disclosure index (e.g. Wiseman, 1982; Botosan, 1997). The second involves the use of external rating of disclosure such as those published in the Association for Investment Management and Research (AIMR) reports. Examples of studies using the AIMR ratings include Lang and Lundholm (1993, 1996) and Botosan and Plumlee (2002). Tehran stock exchange (TSE) publishes disclosure score like those published in AIMR. Base on reliability and timeliness of disclosed information, TSE issues disclosure quality score (DISQ) of listed firms. This score are published annually and summarized as a score and are assigned to each firm. Advantages of these criteria included: application of objective indicators to measure the timeliness and reliability criteria relied to prevent strains from personal judgments, subjective interpretations and researcher able to compare the verifiability in the future study. This study, similar to Karami, Hajiazimi and Attaran, (2012) is based on the second approach. Subjective judgment by researcher's disclosure index could be named as a disadvantage of the first approach. As such, the index may not fully reflect the views of relevant user groups such as investors, creditors or financial analysts (Artiach & Clarkson, 2011). In DISQ, one of the fundamental attributes of relevance is timeliness, an influencing factor on

firm's score to wit forecast of return on stock, quarterly financial statements, portfolio condition, dividend payout schedule and etc. reliability points to standard deviation of financial forecasts and the difference between actual results and budget statements sent to TSE. The Public releasing, availability of disclosure reports for all kind of investors and using objective factors to measure this score are main incentives for doing this study in Iran.

4.3 Value Relevance Measurement

Typically, value relevance measured as the adjusted R^2 of regressions with stock price as the dependent variable and book value and earnings as independent variables (Francis & Schipper, 1999; Lev & Zarowin, 1999). Alternatively, value relevance has also been measured as the adjusted R^2 of regressions with returns as the dependent variable and level of earnings and change in earnings as independent variable. Finally, value relevance has also been measured as the stock returns that could be earned from perfect foresight of accounting information (Francis & Schipper, 1999). To investigate H2, similar to Easton and Harris (1991), we use the second approach and examine adjusted R^2 of regression with annual stock return on scaled earnings and changes in earnings whit following regression:

$$RET_{it} = \alpha_1 + \alpha_1 EARN_{it} + \alpha_2 \Delta EARN_{it} + \varepsilon_{it} \qquad (4)$$

Where RET is annual stock return, EARN is annual earnings before extraordinary items divided beginning market value of equity, ΔEARN is change in EARN (annual earnings before extraordinary items divided beginning market value of equity), i and t are firm and year, respectively. In order to investigate the changes in the value relevance of earnings conservatism in different levels of disclosure and information environment, companies were divided into two groups with high and low conservatism firms. For this classification, sample firms sort by conservatism score and three top and bottom deciles were selected. After that value relevance (adjusted R^2) of accounting information, is measured. Prior studies provided intuitive R^2 comparisons, the lack of test statistics places limitations on assessing the strength of the findings. Therefore, we use the Cramer Z-test to test for the difference in the adjusted R square (e.g. Francis & Schipper, 1999).

5. Empirical Results

5.1 Descriptive Statistics

Table 1, shows the descriptive statistics of study's variables. In this table, Panel 1-A, shows full sample statistics. As previously mentioned, full sample was divided to four groups: high conservative (HCONSE), low conservative (LCONSE), high conservative and low disclosure (HCONS/LDISQ), low conservative and high disclosure (LCONSE/ HDISQ). Table 1-B presents the descriptive statistics and difference of means analysis for these groups. From table 1-A, mean disclosure score is 55 for full sample and 50 (59) for the HCOSE (LCONS) sample. Meanwhile, mean deflated earnings are 0.19 for the full sample and 0.18 (0.19) for the HCOSE (LCONS) sample. As table 1-B shows, stock returns, deflated earnings and disclosure score are significantly greater for the LCONS group than HCOSE group. Meanwhile, mean deflated earnings and stock returns are significantly greater for the LCONS group than LCONSE, HDISQ group.

Table 1. Descriptive statistics

Panel 1-A: Full sample

	Mean	Max	Min	Std. Dev.
disclosure score:				
DISQ	54/66	98/00	-8/00	23/07
conditional conservatism :				
CSCORE	0/0013	0/0160	-0/0016	0.0024
value relevance:				
RET	23/29	-71/18	334/93	51/81
EARN	0/19	-0/69	1/22	0/15
ΔEARN	0/03	-0/92	0/96	0/15
Control variables				
LEV	0/72	6/54	0/10	0/55
SIZE	13/07	16/75	9/78	1/27
MB	2/99	45/64	0/27	3/89
ROA	0/14	0/63	-0/17	0/12

Panel 1-B: Sub samples

RE	Mean	Max	Min	Std/ Dev	sig
HCONS	20/16	51/12	-71/18	334/93	0/00
LCONS	26/39	52/35	-67/96	256/46	
HCONS ,LDISQ	14/37	50/36	-71/18	334/93	0/07
LCONS/ Low DISQ	16/83	51/11	-67/96	205/09	
EARN					
HCONS	0.18	0/16	-0/69	1/22	0/00
LCONS	0/19	0/14	-0/22	0/94	
HCONS /LDISQ	0/15	0/16	-0/69	0/62	0/06
LCONS/ Low DISQ	0/18	0/15	-0/03	0/94	
ΔEARN					
HCONS	0/02	0/17	-0/92	0/96	0/70
LCONS	0/04	0/14	-0/8	0/74	
HCONS/LDISQ	0/02	0/17	-0/92	0/52	0/14
LCONS/Low DISQ	0/04	0/16	-0/8	0/63	
DISQ					
HCONS	50	22	-8	97	0/00
LCONS	59	23	0	98	
HCONS/LDISQ	34/84	13/76	-8	56/78	0/00
LCONS/LDISQ	36/38	13/85	0	57	
LEV					
HCONS	0.71	0/11	0/33	0/98	0/00
LCONS	0/52	0/14	0/1	0/87	
HCONS/LDISQ	0/72	0/11	0/38	0/98	0/00
LCONS/LDISQ	0/54	0/13	0/15	0/87	
SIZE					
HCONS	13/12	1/24	9/84	16/61	0/02
LCONS	13/06	1/25	9/78	16/75	
HCONS/LDISQ	13/04	1/28	9/84	16/61	0/00
LCONS/LDISQ	13/14	1/33	9/78	16/14	
ROA					
HCOSE	0/09	0/09	-0/17	0/58	0/00
LCONS	0/2	0/12	-0/13	0/63	
HCONS/LDISQ	0/08	0/1	-0/17	0/58	0/01
LCONS/LDISQ	0/21	0/1	-0/13	0/57	
MB					
HCONS	2/98	5/21	0/27	45/64	0/87
LCONS	3/01	1/75	0/59	10/64	
HCONS/LDISQ	2/87	4/95	0/27	45/64	0/92
LCONS/HDISQ	3/12	1/89	0/59	10/64	

Notes: ***, ** and * indicate statistical significance at the 1%, 5% and 10% level (two-tailed) respectively.

5.2 Relation between Conditional Conservatism and Disclosure Score

Table 2 shows the relation between conditional conservatism and disclosure score (models 3). This table shows the a_2 coefficient from CONS, is significant at 99% confidence. These results show, as expected, conditional conservatism (measuring by C-Score), has a negative influence on disclosure score. On the other words, conservative accounting and disclosure are substitutive information policies. Meanwhile, Conservative practices in financial statements strains disclosure quality and management are less willing to provide high disclosure level. The key results emerge from Model 3, consistent with prior research (Gigler & Hummer, 2001; Artiach & Clarkson, 2010), is substitutability of conservatism and disclosure. According to this relation, sample firms were divided to high conservative/low disclosure and low conservative/high disclosure firms and then value relevance of each group was examined.

Table 2. Relation between conservatism and disclosure

$DisQ_{it} = a_1 + a_2CONS_{i,t} + a_3ROA_{i,t} + a_4MVBV_{i,t} + a_5SIZE_{i,t} + a_6LEV_{i,t} + e_{i,t}$		
Variable	Coefficient	Prob
Intercept	43/13	0/00
t-Statistic	(-5/89)***	
CONS	-962/46	0/00
t-Statistic	(-3/42)***	
ROA	4/21	0/00
t-Statistic	(3/81)***	
MB	0/47	0/05
t-Statistic	(1/99)*	
SIZE	-0/82	0/11
t-Statistic	(-1/59)	
LEV	-1/55	0/18
t-Statistic	(-1/33)	
Adjusted R-squared		29%

Notes: ***, ** and * indicate statistical significance at the 1%, 5% and 10% level (two-tailed) respectively.

5.3 Value Relevance Test

Table 3 presents results from value relevance tests. In this study value relevance test is base on Easton and Harris (1991) framework, in which returns is a function of both earnings levels and earnings changes. Also, table 3 presents the slope coefficients, related t-statistics in parentheses and the Cramer Z-test for adjusted R^2 comparing between HCONS with LCONS groups and HCONS/LDISQ with LCONS/HDISQ groups. According to pooled GLS results, the F-tests are highly significant in all models. The coefficient of two independent variables (EARN, ΔEARN) have different significant levels in the HCONS, LCONS and LCONS/HDISQ groups. Meanwhile, EARN is significant only in HCONS/LDISQ firms. The results of regressions and Cramer Z-test show that adjusted R^2 significantly ($p<0/05$) higher in LCONS firms (24%) than HCONS firms (14%). This means that the accounting information is more associated with the prices in firms with low conservatism procedure. In addition, the explanatory power manifested in adjusted R^2 in firms with conservative accounting procedure and weak disclosure (11%) significantly ($p<0/01$) lower than low conservative and high disclosure firms (28%). These suggests that conservative procedure followed by low disclosure quality, decrease explanatory power of stock returns by accounting figures reflected in the financial statements.

Table 3. Value relevance results

$RET_{it} = \alpha_1 + \alpha_1EARN_{it} + \alpha_2\Delta EARN_{it} + \varepsilon_{it}$					
subsample	α1	α1	α2	F-statistic	Adjusted R-squared
HCONS	3/42	88/92	44/28	38/70	14%
t. statistics	(0/98)	(5/40)***	(2/74)***		
LCONS	-3/32	145/04	33/63	50/04	24%
t. statistics	(-0/75)	(7/90)***	(1/87)*		
Cramer Z-test (probability)					(0/04)**
HCONS/LDISQ	3/13	66/16	52/92	16/50	11%
t-statistics	(0/73)	(3/01)***	(2/56)**		
LCONS/HDISQ	-0/48	165/18	-6/23	34/41	28%
t. statistics	(-0/07)	(6/18)***	(-0/22)		
Cramer Z-test (probability)					(0/00)***

Notes: ***, ** and * indicate statistical significance at the 1%, 5% and 10% level (two-tailed) respectively.

6. Conclusion

Given the economic consequences of reducing information asymmetry in the capital market, in form of selection and presentation of accounting data, this study examines the effect of conditional conservative accounting on value relevance and the role of disclosure levels. The sample used consists of a sample of Iranian firms listed on the TSE over the period 2004–2011. The models of Khan and Watts (2009) and Easton and Harris (1991) are used to assess the level of conservatism in financial reporting and the value relevance of earnings respectively.

Meanwhile TSE disclosure quality score is used for measuring the disclosure levels of firms. After exploring effect of conservatism on disclosure level, sample firms base on their level of Conservatism and disclosure score are classified to three portfolios. The results of GLS regression in the first model shows a significant negative relation between conditional conservatism and disclosure. In other words, the conservative strains in the financial statements, reducing the incentives to provide high level of disclosure to the market participant. These findings suggest that conservative accounting systems reduce benefits of providing timely information (in the form of risk sharing) and thus reduce the tendency of managers to provide timely information. Importantly, as predicted, value relevance of accounting conservatism in should examine by the influence of conservative accounting on disclosure levels. Based on the conceptual framework and prior literature, this study states that the strength of this relation is conditional upon the firm's information environment, and disclosure level. In the first step, we explore that high conservative procedure mapping into reduced value relevance of accounting variables. However, in the second step, this study posits that this manner being the strongest for firms with high conservatism and low disclosure (high information asymmetry). These findings posit that conservative procedures cause to decline in disclosing high level of information (publishing timely and reliable information) which that decrease value relevance of accounting variables. There are some limitations of the study. The sample includes only Tehran listed firms. Therefore, the findings might not be valid for other firms. Meanwhile, since using TSE disclosure score as a measurement of disclosure level revealed by companies, this survey has some constraints in practice. Not only disclosure level can be measured by different approach but also using other methods can be obtained different results in other countries.

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The Factors Effecting Employee Commitment to Change in Public Sector: Evidence from Yemen

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Abstract

This study attempted to investigate the moderating effect of organizational culture between the leadership style and normative commitment to change. The study relied on the data collected from 371 employees of Yemeni public sector. The finding of this study shows that organizational culture plays an important role of moderating the relationship between leadership style either transformational or transactional and normative commitment to change. Furthermore, the results light out that the transformational leadership is positively related with normative commitment to change. In the same line, transactional leadership is found to be not only positively related with normative commitment to change but also as stronger effect on it. This study was carried out with numerous limitations as example is cross sectional was conducted in this study and this could not figure out the effect pre and after change, thus longitude study is highly recommend in order to look in deep and compare the result. Not only this but also there may conduce in another sector and industry, it may come out with different light. With believing of different culture and its effect, future study can be conducted in different research context. This research has figured out the weakness of empirical study in change management literatures by connecting the leadership style, and organizational culture, and how they are associated to employee normative commitment to change. In the same way, it has provided a guideline for the public sectors in general and particularly in Yemen context on how to successfully implement change phenomena as well as how to get effective and efficient leadership with change management.

Keywords: leadership, commitment to change, change management, organizational culture, Yemen

1. Introduction

Change is a phenomenon that individuals and organizations face on a daily basis (Battilana, Gilmartin, Sengul, Pache, & Alexander, 2010). Organizations have to respond quickly to the global forces since they are immersed in a virtual tempest of change regardless of their nature of business (Burke, 2002; Lo, Ramayah, de Run, & Voon, 2009; Westover, 2010). This is because organizations need to strive to adapt to the ever increasing challenges of both their domestic and global markets (Herold, Fedor, Caldwell, & Liu, 2008; Martins, 2008) Consequently, in order to respond to demands placed on them by their external environments and complex value chain activities, a variety of changes in any organization should take place such as process reengineering, continuous improvements, restructuring, downsizing and rightsizing, merger and acquisition (H. Ahmad, Francis, & Zairi, 2007; Kavanagh & Ashkanasy, 2006; Martins, 2008). (Herold, Fedor, & Caldwell, 2007) pointed out that, leadership and organizational change are very important elements of study for researchers and practitioners. This study presents the significance of combining these two areas of study. This view is supported by (Bernard M. Bass, 1985; B.M. Bass & Riggio, 2006; Battilana, et al., 2010; John P. Kotter, 1995). Notably, one of the many reasons why change efforts failed have been argued to lies in humans and their inadequate or lack of commitment to change (Elias, 2009). The current researcher observes that when there is commitment from people in the organization, the change is more likely to happen smoothly. This view is supported by studies such as (Shum, Bove, & Seigyoung, 2008) and (Svensen, Neset, & Eriksen, 2007). (Elias, 2009) stressed that failure of the change mostly came from the human aspect. Furthermore, (John P. Meyer, Srinivas, Lal, & Topolnytsky, 2007) and (Conway & Monks, 2008) argued that no organization can impose change if its employees are not showing acceptance of the change. In line with this, we observe that change will not be effective and valid if employees are not involved in the effort and the successful change would not be possible without people

changing themselves. It is believed that organizational change is a challenge that all organizations encounter. Therefore, the study further states that while change can be managed externally, it would only be implemented when employees accept the change internally and this is supported by some recent studies such as (John P. Meyer, et al., 2007), (Conway & Monks, 2008), (Howarth & Rafferty, 2009) and (Lo, Ramayah, & Run, 2010). It is valuable of this study to verify if leadership theory and commitment to change are applicable in the public sector in least developed country particularly in Yemen. With aforementioned purpose, the questions that are to be highlight in this study are: (1) Is there a significant relationship between leadership style such as transformational and transactional leadership and employee normative commitment to change? (2) Is organizational culture significantly moderating the relationship between leadership style (transformational and transactional) and normative commitment to change?

2. Background of Public Sector Reform in Yemen

Nowadays, the rapidly change has driven the organizations to reform regardless of nature of their business, be it is public or private. Thus, Yemen public sector has realized the impertinence of change management, and the government has started its first step by early 1990 especially after north and south Yemen reunited. Along the way, many challenges have raised from time to time. Because of the civil war which occurred in 1993, the train of change has been stopped for a couple of years. Consequently, the government has resumed the change phenomena of organization by doing restructuring, reform, rightsizing, reengineering, merger and acquisition, downsizing, decentralization, new technology system and new machine. In sum of that, in the early 1997, the Yemeni government lunched the biggest phenomena of change namely Financial and administrative reform with the supporting from The World Bank. Financial and Accounting Management Information System (AFMIS) is one result of that change and it has been dealt as a sample target of this study. It was launched in 2007, and had been implemented in four ministries as the first stage followed by all public sectors as a final stage. The main objective of this change was to enhance efficiency and effectiveness of public sector as well as to reduce the huge number of corruption, which lead to deliver such good service to the public and to the country. Although this was a great effort to be done from government side, but it was not sufficient to pick up the public sector organization to be effective and efficient as well, because the government has not paid adequate attention to the key factor of successful change which are the people.

The employees of public sector in Yemeni organization were getting low income with high job dissatisfaction, a low empowerment, low job justice, involvement, readiness of change, and insecurity that is lead to not fulfill their needs, that is really harm supporting the change and development process not only among the followers but also among the leaders as well. In addition, the corruption was widespread among the organizations and Yemen government was considered as one of the highly corrupted in the world. This also added as serious barrier to change and development. Aforementioned, one of the critical factors of failure to change is the people support. In line with this (Ahmad & Gelaidan, 2011) indicted that many barriers has faced the change and development of Yemeni organization and conclude that of people, whether the leaders or the followers support. Due to that, this study is response the emergence call to find out how leadership can enhance the normative commitment to change and how the organizational culture can enhance the relationship between the leadership style and employee's normative commitment to change.

3. Literature Review and Theoretical Framework

(John P. Meyer, et al., 2007) indicated that the organizations have to respond quickly to the call of changing environmental forces in order to be survive and thrive in rapidly change current market. (John P. Kotter, 1995) indicated that organizational change is ultimately the people process and with climate being the people's perception of the organization, transformational leadership style may be the most effective leadership style in times of change which suggests that the transformational leadership style may finally be of more value in helping leaders lead organizational change by enhancing the commitment to change among the employees. Therefore, in the context of organizational change, there is a disagreement over which model can be in use in the organizational change as various researchers have discussed organizational change in a variety of aspects and found many approaches and finally, researchers came out with two main approaches toward organizational change, rarely the planned change approach and the emergent change approach (Burnes, 2004). Planned change initiative can solve problems faced by organizations which arise from the consequence of dissatisfaction with the status quo. (Argyris & Schon, 1978) pointed out that planned change essentially leads to minor surface change such as leaving organizational assumptions, values and beliefs which are unidentified. Therefore, this model has been used by a number of researchers to help practitioners make successful implementation of the change. (Argyris & Schon, 1978) found out that radical change model is used to change organisational style when culture change is essential. However, the incremental change model only focuses on developing the existing system and

continues within the current business model. Both models have the tendency to unfreeze current behaviour, change current behaviour and refreeze new behaviour. The current researcher refers to the planned change approach because it is in accordance with the research setting. In this context, (J. P. Kotter, 1996) suggests that in order to make a successful change some preliminary conditions should be satisfied. For example, high commitment from the employee and the leader is required to enhance the change. Moreover, he stated: "Producing change is about 80 percent leadership build up direction, aligning, motivating and inspiring people and about 20 percent management (planning, budgeting, organizing, and problem solving)".

3.1 Employee Commitment to Change

Employee commitment to change is defined as "a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative" (Herscovitch & Meyer, 2002). (Porter, Steers, Mowday, & Boulian, 1974) declared that, commitment could be classified into three factors as (i) a strong belief and acceptance of the organization's goals and values, (ii) a willingness to exert considerable effort on behalf of the organization and (iii) a definite desire to keep organizational membership. Further research on these components has shown that any one of the three components is sufficient to produce the desired behaviour (J.P. Meyer & Allen, 1997; J. P Meyer & Herscovitch, 2001). While there are relatively few studies employing (Herscovitch & Meyer, 2002) construct of commitment to change, such as (Cunningham, 2006), Conway and Monks (2008), Herold et al. (2008) and (Parish, Cadwallader, & Busch, 2008). However, (Herscovitch & Meyer, 2002) conducted three studies to validate a model of commitment that is specific to organizational change. They defined commitment to change as aforementioned a force (mindset) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative (Herscovitch & Meyer, 2002). The findings of their studies established that the measure of commitment to change was actually referring to the three-component model and each of the three components was distinguishable from the other and from the components of organizational commitment. In further work, (Herscovitch & Meyer, 2002) has developed an instrument specifically designed to measure commitment to organizational change. Even though, there are three component of employee's commitment to change is three which are affective, continues and normative, only normative commitment to change will be discussed in depth because it is the main concern of this study.

Normative commitment to change is considered as an "ought to" which senses the obligation to provide support for the change (J. P Meyer & Herscovitch, 2001). This sort of commitment deals with the obligation an individual feels to be committed to a course of action. An individual with high normative commitment will feel that he/she ought to be committed. Meyer and Allen (1991) proposed that normative commitment develops through socialization and internalization of norms, or when an individual receives benefits and feels a need to reciprocate. Additionally, this type of organizational commitment to change is important particularly in this context. Cunningham (2006) conducted researches in United States by examining the relationship among commitment to change, coping with change and turnover intentions. Data were collected from 299 employees of 10 organizations undergoing significant organizational change. He found that normative commitment to change had a direct impact on turnover intentions. Meanwhile, (Herscovitch & Meyer, 2002) found validity evidence for a three-component model of commitment to change, as well as support for the linkage between commitment to change and subsequent behaviors associated with supporting change. However, (Cunningham, 2006) indicated that, despite the noted importance of commitment to organizational change, little research systematically attempting to measure the construct, its antecedents, and its outcomes were minimum. Thus, this study attempts to examine the leadership style effect which is considered as one of the most important factors that can affect the employee commitment to change. (Parish, et al., 2008) examined the antecedents and the consequence of the employee commitment to change. They found that all antecedents (fit with vision, employee manager relationship quality, job motivation and role autonomy) influence commitment to change. They recommended further research in this field adding other antecedents to commitment to change which could include like, organizational culture, and/or leadership style. With respect to the previous study, the ambiguity of the gap between the leadership style and commitment to change and organizational culture still existed. Therefore, this study attempts to respond to the call by examining the relationship between the leadership style and employee commitment to change without neglecting the effect of the organizational culture, which is plays an important role in moderating the relationship among the leadership style and employee commitment (Yiing & Ahmad, 2009).

3.2 Transformational Leadership

Transformational leadership is the style of leadership that leads to positive change by always being energetic, enthusiastic and encouraging followers to look for new ways to achieve their objectives. (Bernard M. Bass,

1985) original conceptualization of transformational leadership has its basis on the interaction of the three factors of charisma, individualized consideration and intellectual stimulation (Bycio, Hackett, & Allen, 1995) ever since then, these factors have gradually changed (B. M. Bass & Avolio, 1994) to idealized influence, inspirational motivation, intellectual stimulation and individualized consideration; all represent the effectiveness of transformational leadership. (Ismail, Mohamad, Mohamed, Rafiuddin, & Zhen, 2010) examined the relationship between transformational and transactional leadership styles and individual outcomes (i.e., perceptions of justice and trust in the leaders), the result based on 118 employees who have worked in a United States subsidiary firm in East Malaysia. The authors found that transformational leadership is an important predictor of procedural justice whereas transactional leadership is an important predictor of distributive justice, and both leadership styles are important predictors of trust in the leaders.However, transformational leaders greatly influence all aspects of the organizational cultures they operate in, an indication of their expected influence on employees' commitment to change. It is suggested that regardless of the commitment target (e.g. organization, career, occupation and organizational change) basic processes are involved in the development of affective, continuance and normative commitment (J. P Meyer & Herscovitch, 2001). Normative commitment is developed when individuals receive benefits that make them need to reciprocate. If these techniques of commitment formation are applicable to the context of organizational change, it is reasonable to be expecting transformational leadership to have positive effects on normative commitment to change. Following research hypotheses is tested:

3.3 Transactional Leadership

Transactional leadership style conveys a functional, practical leader-follower relationship that is important to facilitate the exchange of valued resources or satisfying needs. (Burns, 1978) explains that these transactional leader-follower relationships are based on cost-benefit concerns whereby leaders concentrate on brokering transactions comprising of mutual promises and rewards. This type of leadership style is mainly concerned with the exchange of one thing for another in a relationship where an individual's needs are met in the form of reward on the condition that the work objectives provided by the leader are successfully achieved. (Bruce J. Avolio & Bass, 2002) suggested that contingent reward is reasonably effective, though not as effective as the transformational components in motivating others to achieve higher performance levels. They also argued that management by exception tends to be ineffective, but in some situations, it may be suitable. In relation to employee response to change initiatives, a study of leadership effect on Total Quality Management (TQM), behaviours and policies suggested that management by exception leadership behaviours are likely to result in hesitation on the part of the followers to take risks associated with change efforts or other improvement initiatives (Sosik & Dionne, 1997). Obviously, transactional leadership has significant relationship with normative employee commitment to change.

3.4 Organizational Culture

Organizational culture is generally seen as a set of key values, assumptions, understandings, and norms that is shared by members of an organization and taught to new members as correct (Hofstede, 2005). Member of an organization are always concerned with what the organization actually needs and wants from them in order to be effective members of the organization. (Martin, 2002) defined that, culture is a way of learning everyday life in the organization and he recommended three traditions of organizational culture which are: (i) the integration perspective which assumes that people in the culture share a common set of values or a common set of norms. This statement may come out in the mission, logo and uniform; (ii) the perspective of differentiation which takes into account the fact that organizations contain people who come from different social and ethnic backgrounds and subcultures may exist; and (iii) the third tradition is the fragmentation perspective. Thus, understanding organizational culture is very crucial in order to implement any change smoothly and therefore, this study seeks to establish the essential role that organizational culture plays in the relationship between the leadership style and employee commitment to change. There is evidence in past literatures that organizational culture is directly linked to employee attitudes and behaviour and it is important in order to ensure the success of organizational change (K. Vestal, Fralicx, & Spreier, 1997). To add on this to explanation, (Ahmad & Gelaidan, 2011) found that organizational culture moderated the relationship between the leadership style and employee commitment to change particularly affective commitment to change , and they highly recommend to moderated the relation with the other two of commitment to change continues and normative. Another study conducted in Taiwan has a similar result whereby (Silverthorne, 2004) found that organizations dominated by the bureaucratic organizational culture showed the lowest level of organizational commitment, the innovative culture reflected a middle level of commitment and the supportive culture showed the highest level of organizational commitment. According to (John P. Meyer, Stanley, Herscovitch, & Topolnytsky, 2002) developing a supportive work environment and gaining employee commitment early in the change process given a better chance to gaining

long-term commitment during the change. Therefore, understanding the relationship between culture and employee behaviour plays a crucial role in developing effective interventions in order to guide change processes. Studies have also shown that making large-scale change permanent in the long term is very difficult (Huq & Martin, 2001; Narine & Persaud, 2003) and this can only be done by ensuring that the desired behaviours are consistent with the culture of the organization (Narine & Persaud, 2003; Neuhauser, 1999). Thus, resistance to change can occur when the proposed change is seen to be inconsistent with current cultural norms and beliefs (K. W. Vestal & Fralicx, 1997).

3.5 Hypotheses and the Research Model

Based on the earlier literature, the model of this research was devised (see figure 1). Three hypotheses were proposed. (H1) proposed the relationship between transformational and employee normative commitment to change. (H2) proposed the relationship between transactional and employee normative commitment to change. Finally, (H3) proposed the moderating effect of organizational culture between transformational leadership and normative commitment to change. (H4) proposed the moderating effect of organizational culture between transactional leadership and normative commitment to change.
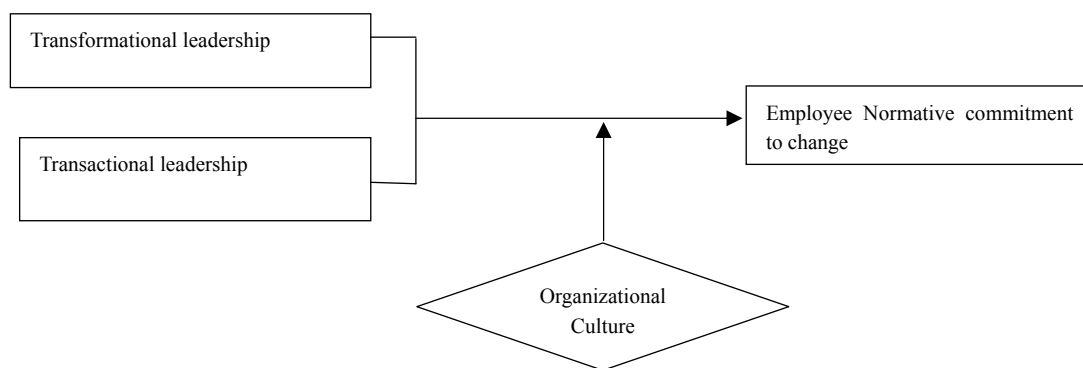
Figure 1. The research model

H1: There is a significant relationship between transformational leadership and employee's normative commitment to change.

H2: There is a significant relationship between transactional leadership and employee's normative commitment to change.

H3: Organizational culture moderates the relationship between transformational leadership and employee commitment to change such as normative commitment to change.

H4: Organizational culture moderates the relationship between transactional leadership and employee commitment to change such as normative commitment to change.

4. Method

4.1 Respondent's Profiles

Respondent's profiles describe the demographic profiles including ministry, tenureship, gender, age, and education level (see Table 1). Most of the respondents were from the Ministry of Finance and Ministry of Public Work and Highway (51.2%), with tenureship between 6-10 years (32%), with majority of respondents were males 289 (77.9%) and age between 40-49 (32.9&), and were the vast majority being Bachelor's degree holder 212 (57.1%).

4.2 Population and Sample Size

The study was conducted to examine the relationship between the leadership style and employee normative commitment to change as well as to examine the moderating effect of organizational culture in Yemen public sector context. The population of the study was the employees in Yemen's public sector. Due to the large number of employees, the expertise in statistic have provide clear elaboration and stated what the accurate sample size for each number of population, such as (Krejcie & Morgan, 1970) recommended for more than one million population, the accurate sample size is 384 which have been used in this study. The researcher have followed this recommendation, and distributed duplicated the recommended sample size (786) due to the poor culture research and avoiding low respond rate. Even thought, the responded rate was 51% and 402 questionnaire collected back.

Out of 402 responded 20 were have missing value and about 11 were outlier which deducted by using mahalanobis technique. In that case, the valid number is 371 which used for further analysis.

Table 1. Respondents' profile

Demographic		Frequency	Percent (%)
Ministry	Ministry of Finance	95	25.6
	Ministry of Public work and Highway	95	25.6
	Ministry of Public Health and Population	92	24.8
	Ministry of Education	89	24.0
Tenureship	1-5 years	76	20.5
	6-10 years	122	32.9
	11-15 years	95	25.6
	16 above	78	21.0
Gender	Male	289	77.9
	Female	82	22.1
Age	20-29 years	53	14.3
	30-39 years	121	32.6
	40-49 years	122	32.9
	50 above	75	20.2
Education Level	Doctoral	7	1.9
	Master	23	6.2
	Bachelor Degree	212	57.1
	Diploma	68	18.3
	High Secondary	55	14.8
	Others	6	1.6
Total		371	100.0

4.3 Sampling Procedure

Stratified sample random technique was used in this study. Questionnaires were distributed hand to hand to the target employees from the ministries of Yemen's public sector namely Ministry of Finance, Ministry of Education, Ministry of Health and Ministry of Public Work and Highway which they are undergoing change. Their participation in the study was voluntary and confidentially treated as promised only for academic purpose. Furthermore, Participants were given surveys contain two sector firstly the responded profile section following by variable section which proposed to examined the level the participator agreement or vs versus about the normative commitment to change, leadership style and the organizational culture.

4.4 Measurement

The survey was developed based on previous studies (B.J. Avolio & Bass, 2004; Glaser, Zamanou, & Hacker, 1987; Herscovitch & Meyer, 2002; Schrodt, 2002). Table 5 summarizes the reliability test of the measures. The Cronbach's Alphas of the measures were all comfortably above the lower limit of acceptability (α >.50), hence, all the measures were highly reliable (Cavana, Delahaye, & Sekaran, 2001; Sekaran, 2009).

Table 2. Summary of variables measurement

Variable	Number of items	Coefficient Alpha	Authors
Normative commitment to change	6	.93	Herscovitch and Meyer (2002)
Transformational leadership	20	.91	Bass, B.M. and Avolio, B.J. (2004)
Transactional leadership	12	.88	Bass, B.M. and Avolio, B.J. (2004)
Organizational culture	35	.95	Glaser, Zamanou and Hacker (1987)

The questionnaire contained five-point Likert scales, which anchored at "1"= Strongly Disagree to "5"=Strongly Agree, specific to measure the "employee commitment to change" and "organisational culture". Whereas, "1"=Not at All, '2"=Once in a While, "3"=Sometimes, "4"=Fairly Often, "5'=Frequently if not Always, were used for the "leadership style". Table 2 shows the measurements of each variable in the questionnaire.

4.5 Factor Analysis

The factor analysis was based on principal component analysis (PCA) with Varimax rotation for all components. The Kaiser-Meyer-Olkin Measures of Sampling Adequacy value of 0.927 exceeded the recommended value of

0.50 as a practically significant loading factor(Hair, Black, Babin, Anderson, & Tatham, 2010). Bartlett's Test of Sphericity was also highly significant (chi square = 18519.163, p= .00). Even though all the items were loaded clearly with an acceptable range, one item did not meet the requirements (18) and has been excluded for the further analysis.

Table 3. KMO and Bartlett's test

Eigenvalue	12.271
% of variance	33.240
Cronbach's Alpha (α)	.967
Kaiser-Meyer-Olkin Measures of Sampling Adequacy	0.927
Bartlett's Test of Sphericity: Approx Chi-Square	18519.163
df	2211
Sig	.00

This factor captured 33.24 percent of the total variance in the items. The reliability (Cronbach's Alpha) for these factors was .967, which indicates high reliability.

4.6 Data Analysis

This study conducted data analysis and hypotheses testing using several statistical tools and methods which were employed from SPSS software, which include Descriptive statistics (frequency, means, standard deviations, reliability, and inter correlations). Factor and reliability analyses to test the goodness of measures, descriptive statistics to describe the characteristic of respondents, correlation analysis to describe the inter correlation among the variables, and to measure the significant of linear bivariate between the variables (Coakes, 2005). In addition, hierarchical multiple regression analysis was used to achieve the objective with testing the hypothesis.

5. Finding

5.1 Descriptive Analysis

Descriptive statistics, coefficient alpha reliabilities and correlations for the variables used in the current study were shown in table 4. All scale reliabilities exceeded the 0.70 value recommended by (Hair, et al., 2010).

The results indicated that there was a significant and positive correlations between the transformational leadership and normative commitment to change variables (r =.540**). Following by transactional leadership was a significant and positive correlated with normative commitment to change variables (r =.577**). Finally, organizational culture was also a significant and positive correlated with normative commitment to change variables (r =.765**), which this indicated that organizational culture is quasi moderated the relationship between the variable.

Table 4. Means, standard deviations, reliability coefficients, and correlations

Variables	Mean	Std deviation	Alpha	1	2	3
Normative	3.350	0.820	.927			
Transformational	3.883	0.464	.901	.540**		
Transactional	3.883	0.464	.877	.577**	.614**	
Organizational culture	3.595	0.546	.953	.765**	.652**	.724**

Note: ** Correlation is significant at the 0.01 level (2-tailed).

Table 4 presents the summary of the relationships between the variables. In general, the table shows that there were significant and positive relationships between transformational, transactional leadership, organizational culture, and normative commitment to change, and the range was 0.540 to 0.765, which indicate moderated to moderately high correlation.

5.2 Testing of Hypotheses

The first order in table 5 model 1 illustrates the relationship between the independent variables transformational and transactional leadership and employee normative commitment to change. The beta value of transformational leadership was .298, and the beta value of transactional leadership was .395 with R square .338. which that indicate that transformational leadership and transactional leadership were significant related to normative commitment to change with concern of transactional leadership shows that it has greater effect on normative

commitment to change rather than transformational leadership. In this step these factors explain about 39 percent of variance of employee normative commitment to change.

Table 5. Summary of hierarchical regression analysis

Variables	Step 1	Step 2	Step 3
	ß	ß	ß
Transformational Leadership	.298	.064	-.007
Transactional Leadership	.395	.030	-.128
Organizational Culture		.702	.456
Transformational Leadership *Organizational Culture			.146
Transactional Leadership *Organizational Culture			.293
R square	.388	.589	.591
Adjusted R square	.385	.585	.585
R square changed	.388	.200	.002
F	116.892	175.168	105.291
F Change	116.892	178.779	.784
Std. Error of the Estimate	.64265	.52770	.52801
Durbin-Watson	1.813		

Notes: ß= Beta coefficient; IV=Transformational and transactional leadership; MV=organizational Culture; DV=Employee Normative commitment to change.

Continuously, the second step the beta value of transformational leadership was .064 and transactional leadership at .030 and the moderating variable organizational culture was .702. This finding indicated that the moderating variable is significantly related to the normative commitment to change with R^2 .589. Furthermore, it can be conclude that with including the moderating variable in the relation the independent variables can have greater effect on dependent variable and can explain 59 percent of the variance.

Finally, the third step, the finding shows the R^2 change of interaction effect was .002, which means the moderating effect of organizational culture between the leadership style and employee normative commitment to change was small based on the (Cohen, 1988), at R^2 change = .002 small, .15 medium, and .35 large. Therefore, it can be concluding that the transformational and transactional leadership were significantly related to normative commitment to change and organizational culture was quasi moderated this relation. In sum of that, all hypotheses H1-H4 were confirmed, and the following figures for more illustrated about the moderating effect.
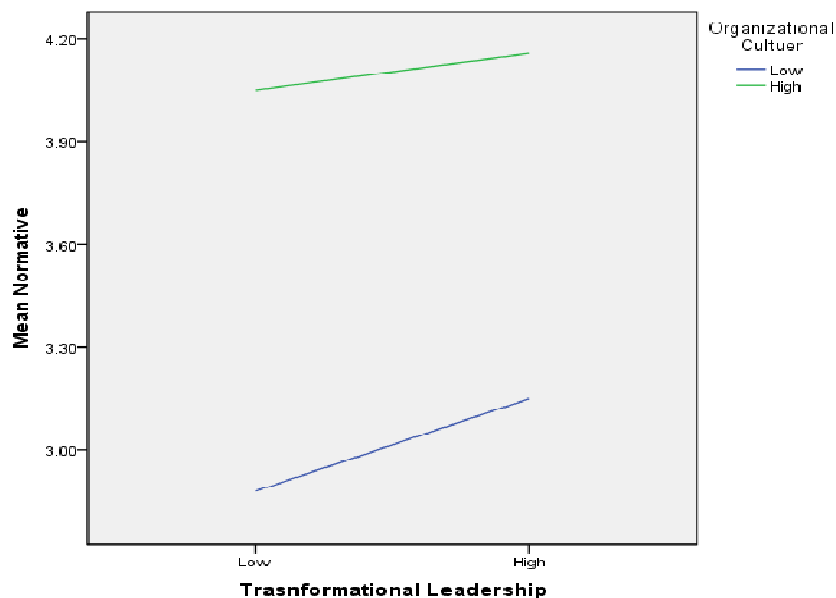

Figure 2. Moderating effect of organizational culture between transformational leadership and normative commitment to change
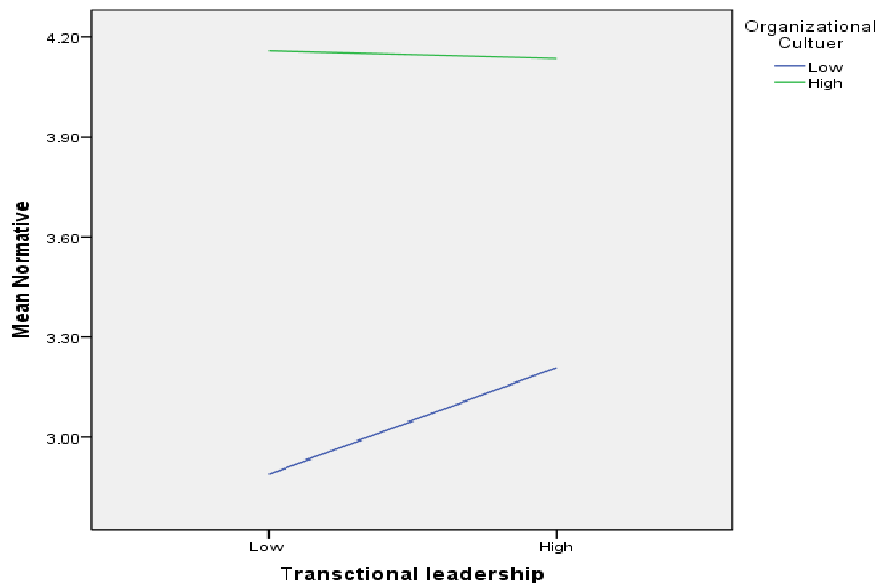
Figure 3. Moderating effect of organizational culture between transactional leadership and normative commitment to change

6. Discussion

The main objective of this study was to examine the moderating effect of organizational culture between the leadership style namely transformational and transactional and employee normative commitment to change. The finding shows that transformational leadership has positive significant relationship with normative commitment to change. It is clear that transformational leadership is one of the key factors of enhancing the normative commitment to change especially in the context of this study. Without neglecting the importance of organizational culture in term of moderated this relation. Furthermore, the finding of this study was confirmed the hypotheses which stated as there is a significant relationship between transformational leadership and normative commitment to change and organizational culture is significantly moderated the relationship between transformational leadership and employee normative commitment to change. Based on this unique finding the Yemeni employees deal positively with change, once they have good and effective leader without forgotten the motivation factor. Thus, the leader behavior is an essential factor among Yemeni subordinators. In this regard, transformational leadership organizational culture style were enhanced the normative commitment among employee, and it was in line with previous studies such as (Herold, et al., 2008), (Lo, et al., 2010), and (Yu, Leithwood, & Jantzi, 2002) who viewed transformational leadership as having a positive relationship with employee commitment to change. In addition, the Yemeni public sector organizations should train leaders how to delegate authority with a focus on the individual consideration as well as other factors of transformational leadership if they are looking for employees to become more effectively.

The finding also shows that transactional leadership has positive and significant relationship with employee normative commitment to change and considered as a crucial predictor in term of enhancing the Yemeni employee's normative commitment to change. This empirical finding has confirmed the hypothesized relationship and is consistent with findings of previous studies such as (Lo, et al., 2009), (Vecchio, Justin, & Pearce, 2008), (Marmaya, Hitam, Torsiman, & Balakrishnan, 2011). The Yemeni employee was highly responsive to transactional leadership behavior because they prefer to work with clear vision especially with reward and motivation base. The Bass's model theory clarified on the earlier stage that transactional leadership is based on exchange task and reward between leader and subordinates. Thus, the Yemeni subordinates since they are not satisfy and lack of commitment, they willingness to work with an obvious approach rather than ambiguity and preoccupied of reward system.

In term of the moderating effect of organizational culture, although a considerable number of researchers have argued that there is a constant interplay between organizational culture and leadership, there are limited empirical studies examining the relation between leadership and culture as well as their joint effect on important organizational outcomes (Schimmoeller, 2010; Trice & Beyer, 1993; Yiing & Ahmad, 2009). However, (Yiing & Ahmad, 2009) studied the moderating effect of organizational culture on the relationship between leadership

style and organizational commitment, and they found that organizational culture played an important role of moderating the effect among these two constructs. Other researchers have also indicated that harmonious combination of appropriate leadership behaviors with certain types of organizational cultures could positively influence employees' performance (Hickman & Silva, 1984; Ogbonna & Harris, 2002). Similarly under these streams of researchers are (Lok & Crawford, 2004) that studied the effect of different leadership behaviors on organizational commitment as a contingent upon organizational culture. Therefore, the empirical finding shows that organizational culture is moderated the relationship between the transformational and transactional leadership style and normative commitment to change in Yemeni context. This leads to the importance of the organizational culture among Yemeni employees and shows the importance of organizational culture beside the leadership style in term of enhancing the normative commitment to change. Therefore, understanding the culture is very crucial factor of successfully implement any change.

7. Conclusions, Limitations and Future Research

7.1 Summary of Finding

As organization struggle to be developed, there is a pressure which requires then to understand the factors that may directly or indirectly affect people behaviors' in organizations. However, this study was concerned with two important issues in the field of organizational change, leadership and employee normative commitment to change as well as organizational culture. The literature revealed that both subjects were considered as major contributors to the success of any change. In addition, the findings of this study indicated that transformational and transactional leadership styles were significant and positively related to the employee normative commitment to change. Additionally, the findings showed that the organizational culture was moderated the relationship between the leadership style and employee's normative commitment to change.

7.2 Limitation and Directions for Future Research

Based on the researcher's observations, this study is considered the first study to examine the relationship between leadership style and employee commitment to change with organizational culture as a moderating variable. It has a number of inherent limitations. Firstly, data collection was done cross-sectional; therefore, future study may look into a longitudinal study in order to expand the findings that are the pre- and post-changes. Secondly, this study concerns on public sector. Thus, future study may concerns in other sectors. It is good to look into another critical factor that may enhance the employee commitment to change such as, motivation, training, job satisfaction, job justice, empowerment, readiness of change, change involvement as well awareness of the value of the change and might another leadership style. Last but not least, this study concern only on normative commitment to change whereas commitment to change has three dimensions which is affective, continuous, and normative, so it is interesting to study all dimensions of employee commitment to change as well as to examine them with the dimensions of transformational and transactional leadership since this study also concern only on construct.

7.3 Implication and Conclusion

The findings of this study have practical implications for public sector organizations. The study found several statistically significant relationships with practical applications. Public sector organizations that are interested in implementing change must be concerned with leadership style and organizational culture as well as with normative commitment to organizational change. To increase the probability of normative commitment to change in public sector organizations, transactional leadership is considered a better predictor than is transformational leadership, because employees feel slightly less obligated to support a change initiated by this type of leadership style. Finally, this study provides a guideline for the public sector in Yemen to achieve effective and efficient leadership and normative commitment to change, which can lead to successful change implementation. Finally, with intend to have better performance and high commitment to change in public sector in Yemen; it is requiring having motivation and rewarding system. Without doubt, absence of motivation and appropriate and effective leader, will definitely lead to lack of commitment to change, and efficacy and efficiency among the subordinates. In conclude that, leadership style and employee commitment change is still vague and need further attention as well as organizational culture.

Acknowledgments

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The Antecedents of Effectiveness Interactive Advertising in the Social Media

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Abstract

The aim of this article is to find out the effectiveness of the interactive advertising in the contact of social media and also the attitude of consumer towards the interactive advertising. A descriptive research was conducted to address the research objective. The survey research was undertaken among the tertiary students (majoring in mass communication with multimedia background, batch January to April 2012) who study in one of the private universities in Kuala Lumpur, Malaysia. The adopted sampling method was convenience sampling. There were 149 usable questionnaires which were analysed with the Statistical Package for Social Science Software version 17. The study found out that the advertising effectiveness of traditional and interactive advertising should be measured in a different way, or in another word, part of the traditional measures could be used, but the new measures should be add-on. Since the inherent limitation of the cross sectional method, it is suggested to increase the sampling selection and adoption of other factors for the future research.

Keywords: effectiveness of interactive advertising, attitude toward advertising, attitude toward advertised brand, purchase intention, time of exposure to advertisement

1. Introduction

For more than a decade, the advancement of information and communication technologies has made the interaction between customer and advertiser to be more easier and faster (Pavlou & Steward, 2000; Lavrakas, 2010). The trend of advertising has changed together with the growth of information and communication technologies throughout the centuries, from the red-and-white striped pole, to the "sandwich men", to television (Petley, 2002). With the emerging of the World Wide Web (Web), social media has stood up and become a platform for a new form of interactive advertising (Li, 2011; Liu, 2003). Studies found out that there is a growing trend in the interactive advertising industry; and the marketer, academicians, and professionals are paying close attention to the effectiveness of interactive advertising (Yang, 1996; Digital Direction, 2011; Peltier, Schibrowsky & Schultz, 2003).

Many advertisers are using different types of interactive technology to introduce and broadcast their offerings, and it is the time where the effectiveness of Internet advertising needs to be measured (Pavlou & Stewart, 2000; Lavrakas, 2010). Thus, the measurement of the advertising effectiveness that used in the traditional advertising might or might not be useful to measure the 'new advertising' (ie., interactive advertising) (Li & Leckenby, 2004; Pavlou & Stewart, 2000; Yang, 1996; Dreze & Zufrydn, 1998). To gather more understanding on the effectiveness of interactive advertising, the study will first start off with the literature review of integrated marketing communication (IMC), followed by advertising, interactive advertising, interactivity, and lastly the determinants of the effectiveness of interactive advertising.

2. Literature Review

2.1 Integrated Marketing Communication (IMC)

According to Kitchen and Burgmann (2010), although the first publication of Integrated Marketing Communication (IMC) was done by Schultz, Tannenbaum, and Lauterborn in 1993; but yet the study was first conducted by Caywood, Schultz, and Wang at the end of the 1980s, and gained widespread of attention and interest among the academics and practitioners worldwide (Kliatchko, 2005). Back in the 1980s, the concept of

IMC was unrecognized, embryonic, and emergent, which many see each promotional tool as separate and distinct, and this phenomenon had driven into the 1990s (Kitchen & Pelsmacker, 2004; Kitchen, Brignell, Li & Jones, 2004).

In the early 1997, IMC development had turned most clients and agencies away from singular element of the promotional mix and was seen as the 'way forward' (Kitchen & Pelsmacker, 2004). The advertising agencies which were led by the American Association of Advertising Agencies had tried to name this concept as the 'new advertising', 'relationship marketing', 'integrated marketing', 'integrated communications', and so on (Thorson & Moore, 1996; Kliatchko, as cited in Kliatchko, 2005), but regardless of the name given to the IMC, this new approach had brought an irreversible prevailing tendency among academic and industry practitioners to the business and marketing communications planning (Kliatchko, 2005). Thus, IMC is never a new concept and was more than a fad (Thorson & Moore, 1996).

In the last decade of 20th century, IMC is the major communications development and many had proclaimed it to be the key competitive advantage of marketing because IMC helps to increase communications impact, create more effective and creative ideas, provide greater communication reliability, and improve the client return on communication investment (Kitchen & Pelsmacker, 2004). Kitchen and Burgmann (2010) further explain that by using IMC, it does not reflect that organization should only work with one message, but rather, an integrated approach could provide encouragement of working under multiple targets and achieve integration of different brands, communication messages, and functions within one company. Furthermore, Chitty, Barker, Valos and Shimp (2011) feel that IMC is about delivering relevant brand messages to the target customers, with the aim of direct influence of buying behaviour and building profitable relationship with various forms of marcom. Through the IMC, the marketplace has shift away from the traditional focus on mass communication, and firms from the business and communication industry agree that IMC plays an important part to their work (Stanaland, Webster & Taylor, 2009).

According to Kitchen and Burgmann (2010), delivering messages to consumers by using available promotional mix elements is one of the key for successful organizations during the mid-20th century. In the late-20th and early 21st century, there are getting more multiplication of media channels, hence, the integration and coordination of different messages in portraying a single and unique image to the public has turn out to be more important and difficult to achieve. Producing greater results through IMC by using multiple communication tools is strongly suggested by Shimp (2010). With the advancement of information and communications technology, the concept of interactive advertising as parts of the IMC has getting closely monitored and evaluated by the academicians and practitioners because Duncan (2005, p. 1) mentions that "IMC is an ongoing, interactive process" and interactive in the mode of "two-way communication". Thus, the following content will critically evaluate the concepts of interactivity and interactive advertising in detail.

2.2 Interactivity

Raman and Leckenby (as cited in Yang, 1996, p.3) refer interactivity as the interaction between senders (advertiser) and receivers (customer) in the communication process. Karimova (2011, p.1) argues that interactivity is an important element for all types of advertising regardless of traditional or 'new media' such as Internet. Shrum, Lowrey and Liu (2009) further argue that interactivity is a structural characteristic or perception that embedded in the different entities in which the interactivity by itself is a multi-dimensional construct. Two-way communication and control are often used as the sub-dimensions of interactivity (Liu, 2003). Two-way communication means the information flows between both parties. With this dimension, it has distinguished the Internet advertising from traditional mass media, as traditional way could only present one way communication from advertiser to the audience (Shrum, Lowrey, & Liu, 2009).

Interactivity can be taken place between human-human, human-message, and human-machine (Liu & Shrum, 2002). The first dyad refers to interpersonal communication perspective, such as word-of-mouth. The second dyad refers to the traditional advertising where advertisers deliver messages to the consumers. The last dyad refers to the interaction of consumers with the technology and technical aspect of medium.

According to Shrum, Lowrey and Liu (2009), the interactivity nature of advertising is created via Internet media. In contrasting to the traditional mass media, interactive media (online media) allows the consumers to engage in the advertising process by selecting the preferred information and building two-way communication with advertisers. Besides, Pavlou and Steward (2000) mention that interactivity is not the characteristic of the medium, but yet the characteristic of the consumer. Hence, what make it new are the speed, scope, and scale of interactivity that provided by the latest information and communication technologies.

2.3 Interactive Advertising

Interactive Advertising Bureau (IAB) (n.d.) defines interactive advertising as "all forms of online, wireless and interactive television advertising, including banners, sponsorships, e-mail, keyword searches, referrals, slotting fees, classified ads and interactive television commercials" (Interactive Advertising Bureau, 2012, p. 14). Based on the Digital Direction (2011) statement, digital advertising is part of the interactive advertising. Digital advertising consists of four major categories (Digital direction, 2011):

1) Internet advertising – consists of various types of messages online, including paid search, display ads, video ads, classifieds, and sponsorships.

2) Mobile advertising - this type of advertising involves the delivery of promotional messages through wireless devices, mainly mobile phone and PDAS, in the forms of text messages (SMS), mobile media messaging (MMS), video and television through mobile devices, advertising within the downloadable application, and mobile web.

3) Digital outdoor advertising – includes digital bill boards, interactive 3D displays, and captive video networks, which mainly used in places like malls, clubs, office buildings, roads and so on.

4) In-game advertising – this type of advertising refers to promotional messages in which delivered through computer and video games.

Karimova (2011) argues that the concept of 'interactive' advertising is commonly adopted in the advertising business because the power of new interactive media in easing the transmission of advertising messages. Cutler (as cited in Pavlou & Stewart, 2000) argues that the new interactive media can serve as a platform to provide rapidly advertise, complete a sale, and collect payment. Hence, the internet, mobile devices, and interactive kiosk are considered as interactive mediums that provide possibility of interactive communication with messages. There are four major components in the interactive media, including two way communication system, the response control in the communication process, the communication relationship and the adoption of database technology (Peltier, Schibrowsky & Schultz, 2003).

With the increasing popularity of interactive media, advertiser and marketing professional are paying more attention to the interactive advertising and the use of interactive media (Yang, 1996; Digital Direction, 2011; Peltier, Schibrowsky & Schultz, 2003). Based on IAB Internet Advertising Revenue Report 2008, it mentions that digital video advertising is one of the fastest growing segments of interactive advertising (Brown & Logic, 2008). In addition, the President and CEO of the IAB, Randall Rothenberg mentions that there is an on-going secular shift from traditional media to online media because the marketers had recognized the effectiveness of interactive advertising in influencing consumers and delivering measurable results (IAB, 2009).

With the establishment of the National Information Infrastructure (NII) and the Global Information Infrastructure (GII), the popularity of Internet throughout the wired globe has turned interactive advertising globally. Therefore, the global users can simply get-in-touch with the interactive advertising on Internet via relevant computer hardware and software (Yang, 1996).

In the past, the traditional advertising was an approach to the consumers, but interactive advertising indicates how consumers deal with the advertising (Pavlou & Steward, 2000). According to Yang (1996), the differences between the traditional advertising and interactive advertising are that the consumer can choose the desired and the need of advertising information that presented to them. In addition, interactive advertising could also help to increase the consumer's decisions making process, customers' involvement, customers' satisfaction and customer's trust toward the information delivered by the interactive media (Pavlou & Steward, 2000).

Despite of the above advantages of using interactive advertising, an understanding towards the effects of interactive advertising and designing appropriate measurements to evaluate the advertising effectiveness in an interactive context are crucial (Palvou & Steward, 2000). According to Li and Leckenby (2004), the issue of internet advertising had become part of the question about the effectiveness of interactive advertising, and it should be examined in a similar fashion as traditional advertising. Consequently, the following content will evaluate the effectiveness of interactive advertising and its associated determinants.

2.4 Effectiveness of Interactive Advertising

Li and Leckenby (2004) argue that regardless of the medium or message characteristics, the effectiveness of interactive advertising should be judged in the perspective of an overall philosophy model of advertising effectiveness. Pavlou and Stewart (2000) mention that both traditional and interactive advertising have the same objectives of advertising, and hence the effectiveness of both would remain relevant. Furthermore, Yang (1996)

asserts that if there are no significant effects of interactivity on advertising effectiveness based on the traditional measures, it may attribute to the invalidity of traditional measures. Hence, new measures are needed in order to better fit the new advertising environment (Yang, 1997). In the study of Yang (1996), four measures were used to evaluate the effectiveness of advertising: (1) attitude towards advertising (Aad); (2) attitude towards the advertised brand (Ab); (3) purchase intention; and (4) time of exposure to advertisements.

However, there is another school of thought in the literature argues that the effectiveness of internet advertising should not be compared in mirroring to the traditional advertising. Third party companies, such as Netcount and I/PRO, propose a series of web-specific measures such as click-through rates, ad transfers, reach and frequency to measure the effectiveness on Web in comparing with the standard media (Dreze & Zufrydn, 1998). Dreze and Zufryden (1998) use reach, frequency, and gross rating points (GRP) to measure the effectiveness of interactive advertising. The world global marketing and advertising research company, Nielsen, measures the online advertising effectiveness by using the brand favourability, message equity, brand consideration, purchase propensity, the effectiveness of creative execution, place impact, and frequency of exposure (The Nielson Company, 2009).

In 2008, the Interactive Advertising Bureau (IAB) has conducted a study of the predominant methodologies to test the effectiveness of Internet advertising (Lavrakas, 2010). Even though there is no outcome mentioned in Lavrakas study, but the variables that used in the questionnaire to measure the effectiveness of internet advertisements are as below (Lavrakas, 2010):

1) Dependent Variables – brand awareness; brand exposure; brand image; future propensity to purchase brand; and actual brand purchases.

2) Independent Variables – demographics; lifestyle and other psychographics (Internet usage per week, use of a shared or non-shared computer; past purchasing behaviour; other attitudes about the domain of products or services into which the brand falls).

On top of that, Lavrakas (2010, p. 27) also provides a few variables that could be added in testing the effectiveness of internet advertising as below:

1) Dependent variables – purchase intention; trust in the brand; site visit experience; and interactivity.

2) Independent variables – the number of times a consumer surfed the website in which the advertising campaign is being conducted; how many time a person delete cookies on the computer; ethnicity; educational attainment; home renter status; presence of non-adult children in the home.

According to Pavlou and Stewart (2000), there are two types of measurement for the effectiveness of advertising. The first type of measurement primarily focuses on the media choice, information search, and information processing. Whereas the second type of measurement is focusing on the effects of consumer in using interactive media, such as brand awareness, product recall, attitude towards the product, and product choice. For the purpose of evaluating the effectiveness of interactive advertising in the perspective of social media, this study will look into the measures towards the effectiveness of interactive advertising that proposed by Yang (1996) as below.

2.4.1 Attitude toward Advertising (Aad)

Kotler and Keller (2006) describe an attitude as a person that endures the favourability evaluations, emotional feelings, and action tendencies toward some objects or ideas. MacKenzie and Lutz (1989) define attitude toward advertising (Aad) as the tendency to reply in either a favourable or unfavourable manner towards a specific advertising during the exposure. The positive Aad is referred to the favourable evaluation and the consumer willingness towards the advertisement, or in another word, the consumer is more likely to be persuaded by the advertisement (Saadeghvaziri & Seyedjavadain, 2011; Hwang, Yoon & Park, 2011).

Over the last few decades, Aad has always been studied whenever it links to advertising as it has been considered as an efficient indicator for measuring the effectiveness of advertising (Yoo, Kim & Stout, 2004) and the impact of Aad on the advertising effectiveness is significant (Mehta & Purvis, 1995).

Saadeghvaziri and Seyedjavadain (2011) mention that the respondents' Aad will be different due to different cultural background. There are studies show that the respondents from Eastern (Chinese) and the Middle Eastern (Iranians) held positive attitudes toward interactive advertising, whereas the Western (Americans) is in an opposite way (Ferle & Lee, 2008; Saadeghvaziri & Seyedjavadain, 2011).

Wang (2011) mentions that interactive ads tend to generate stronger Aad as comparing to the traditional ads but Yang (1996) mentions that one's Aad is not contributed by the interactive advertising. If that person is lack of interest in shopping the virtual stores, he/she would not spend time on Internet and search for the information.

Thus, respondents would react either positively or negatively to the particular advertisement that appears to them.

2.4.2 Attitude toward Advertised Brand (Ab)

Attitude toward advertised brand (Ab) is defined as a tendency to reply in either a favourable or unfavourable manner towards the specific brand after the exposure of advertising on that person (Phelps & Hoy, 1996).

According to Baker (2001), consumer's attitude toward advertised brand would change in three circumstances: (1) changes in the information environment - it depends on the accessibility of positive brand information and the time of advertising exposure; (2) changes in consumer's motivation, opportunity, or ability - consumer would have judgement on the brand at a first judgment occasion and based on global prior judgement; and (3) changes in the evaluation process - this involve when there are undergoing choice process. Therefore, the study of Jeon and Beatty (2002) indicates that different countries and ads type would have a significant impact on Ab.

Advertisement plays an important role in building positive Ab because consumer would first get-in-touch with the advertisement, and then build up emotional feeling of favourable or unfavourable manner towards the advertised brand which leads to further purchase. With interactive ads, the motion graphics, sound, and animation would engage readers and create favourable Ab. Lee (1995) states that there is a significant influence between consumers' response and brand advertising. Furthermore, a positive Ab will not only lead to the brand itself, but also for future brand extension (Lee, 1995).

2.4.3 Purchase Intention (PI)

Purchase intention (PI) is referred to as the intention to either purchase or reject a product (Haugtvedi, Machleit & Yalch, 2005) and it is also one of the main criteria used to measure the effectiveness of advertising and to anticipate a consumer's response (Haugtvedi, Machleit & Yalch, 2005).

Through the study that tested by using Adobe Content Viewer (static ads) and iPad (interactive ads), Wang (2011) discovers that the generation Y consumers are more likely to interact with the ad and obtain a higher purchase intention. Besides, the way how an advertisement being presented and on which type of website being used would effect on the consumer purchase intention (Olney et al., as cited in Yang, 1996; PWC, 2012). Furthermore, Grigorovici and Constantin (2004) mention that one's purchase intention will be different based on the type of product being advertised as well as one's involvement towards the product. In addition, Yang (1996) also argues that the purchase intention of the consumers may be much depended on their interests to shop virtual stores. Through the Yang (1996) study, the findings indicate that the conveniences, time saving, and innovativeness of online shopping would play a role in affecting consumer's purchase intention. Not only that, the environmental influences (e.g. culture, family, and social class), presence of alternative products, and individual differences (e.g. education, attitudes, and lifestyle) may as well play a part in affecting one's purchase intention.

2.4.4 Time of Exposure to Advertisement

Nowadays many advertising agencies measure consumer behaviour towards advertising by determining their time spend on the advertisement. The effectiveness of advertising can be evaluated based on the sizable of the audience that expose to the advertisement, the targeted audience segments and the audiences' knowledge and behaviour after the exposure of the advertisement (Yang, 1996).

Contrasting with traditional advertising, interactive advertising does not control over the exposure time and the frequency that consumer being exposed to the interactive advertisement. That is the reason why the firm has no idea whether the consumer has clicked on the advertisement, or was it has been seen by the same consumer for times (Yang, 1996). Thus, the time of exposure to advertisement is often being used to measure the advertising effectiveness by looking at how long a consumer spends looking at an advertisement, and the number of times the particular website being surfed during the period of advertising campaign (Olney et al., as cited in Yang, 1996; Lavrakas, 2010). Yang (1996) discovers that consumer spends more exposure time in viewing the non-interactive advertisements because consumer does not have much choice but to look at the advertisement at a controlled pace and shows a keen interest towards the products advertised.

2.5 Conceptual Framework

The conceptual framework for this research was developed based on the extant literature review in the area of the effectiveness of advertising and interactive advertising.
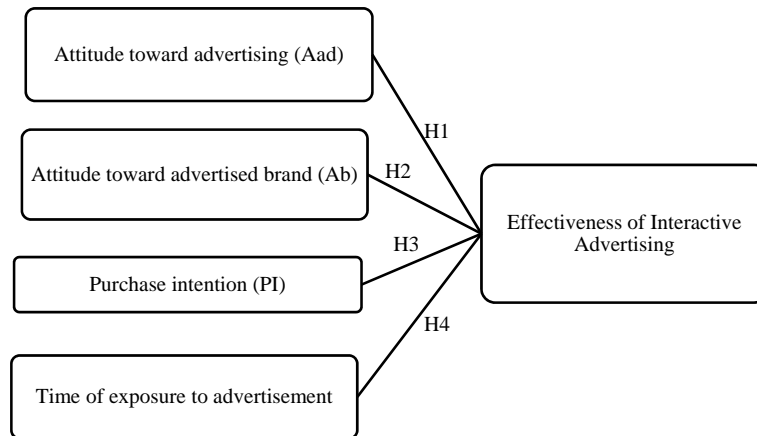
Figure 1. The proposed conceptual framework for this study

2.6 Hypotheses

Based on the proposed conceptual framework, four tested hypotheses are listed as follow:

H1: The attitude toward advertising is positively related to the effectiveness of interactive advertising.

H2: The attitude toward advertised brand is positively related to the effectiveness of interactive advertising.

H3: The purchase intention is positively related to the effectiveness of interactive advertising.

H4: The time of exposure to advertisement is positively related to the effectiveness of interactive advertising.

3. Research Methodology and Design

3.1 Research Design

A research design is a blueprint to conduct a research project (Malhotra, 2010). Descriptive research is adopted in this research to test the hypothesized relationship (Malhotra, 2010). In order to meet the requirements of a conclusive research design, the data collection for this study will be based on survey method because this method could accommodate large sample size, the response rate is higher, and be able to reach the units specified in the sample effectively and efficiently (Malhotra, 2010). The study will be based on primary data collection and a cross-sectional study will be carried out.

3.2 Questionnaire Design

Questionnaire survey was adopted as a survey instrument in the study. The content of questionnaire is separated into two sections. The first section (Section A) is the basic demographic survey which consists of five questions of nominal and ordinal data in measuring respondent's profiling such as gender, age, nationality, education level, and monthly income.

The second section (Section B) of the questionnaire elaborates the tested constructs in the study. The items for the dependent variable ('effectiveness of interactive advertising') were adapted from Martin, Bhimy and Agee (2002). The items that measure the independent variable ('attitude towards the advertisement') were adopted from Friman (2010). Whereas, the items that measure the other independent variables ('attitude towards the advertised brand' and 'purchase intention') were gathered from Wu, Wei and Chen (2008). All the items that measure the above mentioned four tested constructs were evaluated by five –point likert scale, ranging from strongly disagree to strongly agree. In addition, items that measure the construct 'time of exposure to advertisements' were adapted from Fleming, Thorson and Atkin (2004) in which the tested items were evaluated by 5-point likert scale, ranging from one, just one, a few, some, to many. For the purpose of ensuring error free in designing the questionnaire, a pilot test was conducted among 30 university students with multimedia background by using convenience sampling. Based on the feedbacks received from the pilot test, the questionnaires were improved and finalised.

3.3 Sampling and Administration of Survey

In this study, the target for the respondents will be tertiary students (majoring in mass communication with multimedia background, batch January to April 2012) who study in one of the private universities in Kuala

Lumpur, Malaysia. According to Han and Ocker (2002), there are various worthwhile to target university students: (1) Computer dependence - More than 90 percent of students are Internet user and among them 30 percent are computer dependent; (2) Computer access availability - in year 2012, almost all universities throughout Malaysia is provided with the Internet access (Minges & Gray, 2002). The chances for them to access interactive advertising via social media are very high; and (3) Potential lifetime members and future money maker - companies often target tertiary students by providing discount hoping that when they graduate and build their career, they will still continuously using the brand by turning them to become lifetime and brand-loyal customers. On top of that, based on the survey of the Nielsen Company Malaysia in 2011, the statistic indicates that the highest Internet usage of age group in Malaysia is between the age group of 20-24. In Malaysia, it is estimated that about 25% of the total population with the age group of 18-24 is in higher education (Mukherje, 2010).

In this study, the non-probability sampling techniques were selected to conduct the survey, and in particularly by using convenience sampling. The reason for selecting non-probability sampling techniques is that the author could not manage to obtain the name list of all university students who major in mass communication (herein refer to sampling frame). As for the convenience sampling, it was chosen because: (1) the respondents (students) were presented at the venue on that particular time slot, before and after classes were conducted; and (2) they are qualified to be the target population. All of the respondents were requested to voluntary fill up the questionnaire based on their knowledge on multimedia, recent contact with the online advertisement and their attitude towards the interactive advertisement.

Malhotra (2010, p. 374) refers sample size as "the number of elements to be included in the study". A large sample size is required for such a descriptive survey. Yang (1996; 1997) selects 108 respondents in his study to test the effectiveness of advertising. Malhotra (2010) suggests that sample size for the study of advertising, the minimum should be 150 and the typical range is around 200 to 300. Whereas, Sekaran (2003) suggests that sample size which are larger than 30 and less than 300 are normally applicable for most research, and recommends the sample size should be 10 times the number of variables in the study. Thus, the sample size that set for this research was 160.

According to Siniscalco and Auriat (2005), the standardized questionnaires are often collected by asking people questions through interview and/or by self-administrated questionnaires. Self-administrated survey method was adopted in this survey. Since all of the respondents were accommodated with multimedia knowledge and background, the survey was conducted in the classroom and multimedia laboratories where respondents could return the questionnaire right after they have completed in answering the questionnaires. A cover page was included in the questionnaire and the ethical guidelines were informed to the respondents during the survey administration.

The total number of questionnaires distributed in the self-administrated survey was 160 sets. Based on the collected questionnaires, 3 sets of questionnaire were considered error and unusable because they were incomplete or have double answers and the other 8 sets of questionnaires were not returned. Assumption was made that the respondents were either reluctant to collaborate or did not want to answer the questionnaire seriously. As a result, only 149 valid sets of questionnaires (93.13%) were left and then used for further analysis in this research by using SPSS software version 20. Descriptive analysis, scale measurement analysis and inferential analysis were carried in the data analysis for this research.

4. Research Results

4.1 Respondents' Demographic Profiles

Based on this survey, there were 44.3 percent of male respondents (66 male respondents) and 55.7 percent (83 female respondents) of the female respondents. The age distribution of the respondents between the age of 20-25 years old (61.1 percent) scored the highest respondent's age group, followed by between the age less than 20 years old (18.8 percent), age between 26-30 years old (12.8 percent), age between 31-25 years old (6 percent), age between 36-40 years old (0.7 percent) and the lowest score of the respondent's age group is age more than 40 years old (0.7 percent).

4.2 Reliability Test

In the general rule of thumb, the value of Cronbach's alpha of more than 0.70 is considered acceptable and good while measure the reliability of the items within the construct (Cavana et al., 2001), and this value will be used to ensure the stability and consistency for the adopted instruments.

Table 1. Reliability test of variables

Variables	Composite Reliability
Attitude toward Advertising	0.824
Attitude toward Advertised Brand	0.865
Purchase Intention	0.884
Time of Exposure to Advertisement	0.864
Effectiveness of Interactive Advertising	0.845

According to the result of reliability test that was shown in Table 1, the Cronbach's Alpha value for the constructs ranged from the lowest of 0.824 to 0.884. As a conclusion, the results has shown that all constructs used in this research had exceeded the preferable scores of 0.70 and this means that the measurements scales of the constructs were stable and consistent in measuring the constructs (Cavana et al., 2001).

4.3 Validity Test

Exploratory factor analysis was carried out in this research to verify the validity of the tested constructs in the conceptual framework (Cavana et al., 2001). The details of the factor analysis can be found in Table 2. From the output, it has shown that the factor analysis was appropriate because the value of Kaiser-Meyer-Olkin (KMO) was 0.848 (between 0.5 and 1.0) and the statistical test for Bartlett test of sphericity was significant (p=0.000; d.f.=120) for all the correlations within a correlation matrix (at least for some of the constructs). Based on the principal components analysis and VARIMAX procedure in orthogonal rotation, the results also showed that the Eigenvalues for all the constructs were greater than 1.0, ranging from the lowest 1.019 (Attitude toward Advertised Brand) to the highest of 6.142 (Effectiveness of Interactive Advertising). In terms of convergent validity, the factor loadings for all the items within a construct were more than 0.50. Discriminant validity indicated that all items were allocated according to the different constructs. Therefore, the items were not overlapping and they supported the respective constructs.

Table 2. Factors identified by the principal components factor analysis

Factor's Name	Variable	Factor Loading	Eigen-value	Percentage of Variance Explained	Cronbach's Reliability Coefficients
Attitude toward Advertising (Aad)	I like online advertising.	0.759	1.767	15.543	0.824
	Online advertising helps me keep up-to-date about products and services that I am interested in.	0.802			
	Online advertising is disturbing [R].	0.759			
Attitude toward Advertised Brand (Ab)	After viewing online advertisements, I am more in love with the advertised brand.	0.800	1.019	15.185	0.865
	After viewing online advertisement, I developed preference for the brand in the advertisement.	0.787			
	After viewing online advertisement, my impression for the product brand is strengthened.	0.885			
Purchase Intention	After viewing the online advertisement, I am willing to try using the product.	0.873	2.363	15.648	0.884
		0.789			
	After viewing the online advertisement, I become interested in making a purchase.				
		0.854			
	After viewing the online advertisement, I will purchase the brand being advertised.				
Time of Exposure to Advertisement	In a typical week, about how many banner(s) appeared in the online advertisement do you see?	0.853	1.173	15.336	0.864
	In a typical week, about how many online advertisements do you see?	0.883			
	About how many commercial advertisements appeared in online do you see in a typical week?	0.896			
Effectiveness of Interactive Advertising	I found that online advertising is interesting and informative.	0.716	6.142	16.181	0.845
	I found that online advertising is entertaining and fun to watch.	0.761			
	I could relate to the people in the advertisement who tried the product.	0.728			
	The host or celebrity in the advertisement made me feel the product was a good one.	0.809			

Notes: KMO Measure of Sampling Adequacy = 0.848; p = 0.000 (p<0.05); df = 120; Cumulative Percentage Rotation Sums of Squared Loadings = 77.894.

4.4 Inferential Analysis

4.4.1 Multiple Regression Analysis

The outcome of the multiple regression analysis for all the four hypotheses was presented in Table 3 as below. In related to the first hypothesis (H1), the p value of the 'attitude towards advertisement' (p=0.000) is less than the alpha value of 0.05. The value of unstandardized beta coefficient is 0.542. Thus, it shows that there is a positive relationship between 'attitude towards advertisement' and the 'effectiveness of interactive advertisement'. Therefore, hypothesis 1 is supported.

The result of the multiple regression analysis for the hypothesis 2, the p value of the 'attitude towards advertised brand' (p=0.158) is more than the alpha value of 0.05. The value of unstandardized beta coefficient is 0.149. Thus, it shows that there is no relationship between 'attitude towards advertised brand' and the 'effectiveness of interactive advertising'. Thus, hypothesis 2 is failed to be accepted.

The result of the multiple regression analysis for the hypothesis 3, the p value of the 'purchase intention' (p=0.046) is less than the alpha value of 0.05. The value of unstandardized beta coefficient is 0.200. Thus, it shows that there is a positive relationship between 'purchase intention' and the 'effectiveness of interactive advertising'. Thus, hypothesis 3 is supported.

The result of the multiple regression analysis for the hypothesis 4, the p value of the 'time of exposure to advertisement' (p=0.888) is more than the alpha value of 0.05. The value of unstandardized beta coefficient is 0.010. Thus, it shows that there is no relationship between 'time of exposure to advertisement' and the 'effectiveness of interactive advertising'. Thus, hypothesis 4 is failed to be accepted.

Table 3. The statistical output of multiple regression analysis for this research

Variables	Unstandardized Beta Coefficients	t-value	Significant
Attitude towards advertisement (H1)	0.542	4.512	0.000
Attitude towards advertised brand (H2)	0.149	1.420	0.158
Purchase Intention (H3)	0.200	2.008	0.046
Time of Exposure to advertisement (H4)	0.010	0.141	0.888

Notes: Dependent variable: Effectiveness of Interactive Advertising; R = 61.7 per cent; R Square = 38.1 per cent; Adjusted R Square = 36.4 per cent; F = 22.308; P = 0.0001 (p<0.05); Unstandardized Coefficient for Constant = 5.275.

As a conclusion, the values of unstandardized beta coefficient among the significant independent variables tested in the hypotheses ranged from the weakest relationship of 0.200 (between 'purchase intention' and 'effectiveness of interactive advertising') to the strongest relationship of 0.542 (between 'attitude towards advertisement' and 'effectiveness of interactive advertising'). It shows that attitude towards advertisement is the most powerful factor in affecting the effectiveness of interactive advertising.

5. Conclusion

5.1 Implications of the Research

The research outcomes and contributions have created theoretical and managerial implications to the various interested party.

From the theoretical perspective, firstly, the study has generated an empirical study for the effectiveness of interactive advertising. Secondly, the outcome of the results indicates that a positive relationship occurs between the attitude towards advertisement and purchase intention to the effectiveness of interactive advertising.

As for the managerial implication, the research outcomes could provide some understandings and opinions for the advertisers and companies on the measurement that they can consider when placing an interactive advertising. As the main objective for advertising is to increase the sales volume and brand image of a product or company, they should be aware of the attitude of consumer towards the interactive advertising and how would it affect the purchase intention.

5.2 Limitations of the Research

Even though the research outcomes provide some understandings to the researcher, these outcomes should be viewed with some limitations. The study's sample only consist of university students in Malaysia by using convenience sampling. Hence, the results from the study could not be generalized. Besides, the study concentrated on those respondents who have a background on mass communication with multimedia study, online experience and in-touch with online advertising before. As a result, the scope does not include those

potential respondents who do not have any online experience but yet have positive attitudes towards the online advertising.

5.3 Recommendations for Further Research

With the limitations of this research, several recommendations are proposed for further research on the effectiveness of interactive advertising. The further research may consider to use probability sampling technique and adopt a wider representation of target group such as IT professionals, marketers and advertisers. The study has included four factors to evaluate the effectiveness of interactive advertising in the contact of social media. On top of the measure that tested, future research could add-on other influential factors on the advertising effects, such as click-on, reach and frequency in the study.

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Impact of Macroeconomic Policies on the Ghana Stock Exchange: A Cointegration Analysis

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Abstract

The study examined the impact of fiscal and monetary policy actions on the stock market in Ghana. In pursuing this, the researchers probed the inter-temporal interaction between macroeconomic policies and stock market activities in Ghana and investigated the efficiency of the stock market with respect to fiscal and monetary policy information. It was found that, both from common correlation analysis to recent econometric modeling; indicate fiscal policy actions have significant effects on stock market activities and not the other way round. In addition, there is a unidirectional causal effect of fiscal policy actions on stock market activity. It was thus concluded that the fiscal policy actions do matter in the activities of the stock market. The study recommends that government must synchronize its fiscal policy actions with activities in the stock market among others.

Keywords: Ghana Stock Exchange, fiscal policy, monetary policy, inflation, cointegration

1. Introduction

There is substantial theoretical evidence from the Keynesian paradigm that fiscal or monetary policy actions cannot separately achieve desirable macroeconomic objectives. Hence a policy mix, where some suitable level of fiscal policy is accompanied by another suitable level of monetary policy, is emphasized. While there is equally irresistible empirical evidence about this Keynesian proposition, the inter-relations between fiscal and monetary policy actions and interest rates from the typical IS-LM framework suggest analysis of stock market activities cannot be completely independent of such policy influences. This is the case as changes in any of the fiscal or monetary policy instruments (like government spending, taxes and money supply) change market interest rates instantaneously in the framework and forces investors to evaluate their portfolio. It may be more appropriate to examine the influences of all these policies concurrently when analyzing stock market activity. Unfortunately, this has not been the case in the literature, at least for the developed world. Attempts at analyzing stock market activities considered fiscal policy actions separately from monetary policy actions for obvious reasons (one being the underlying theoretical literature). Relatively few studies have attempted to combine both policies to examine how such policy actions interact intertemporally with stock market activities. The evidence is not different for developing countries. For instance, no study could be found for the case of Ghana, where an attempt is made to analyze stock market activities intertemporally with fiscal and monetary policy actions.

However, such a focus is crucial both from a theoretical and an empirical point of view. From an empirical point of view, a policy mix builds investor confidence and motivates investor decisions. It is thus the purpose of this study to investigate the extent to which stock prices (or returns) incorporate all publicly available information on fiscal and monetary policy actions in Ghana.

This was done by using quarterly time series data between 1990 and 2010 and employing a cointegration and causality test procedures on the above stated relation.

1.1 Literature Review

The issue about whether government fiscal deficits have any effect on stock market activity has been a topical issue among financial economists. While some argued that fiscal policy actions have no effect on stock market

activity due to the efficiency of stock markets, others disagree, and insisted that fiscal deficits may affect stock market activity through changes in the rate of interest which triggers a portfolio revaluation by investors. The former view is referred to as the Ricardian equivalence proposition attributed to Barro (1974). The Ricardian equivalence view is supported by stock market efficiency (SME) hypothesis. In its semi strong form, the SME hypothesis contends that stock prices fully reflect all publicly available information (Fama, 1970; 1991; Davidson & Froyen, 1982).

Contrary to the Ricardian equivalence proportion and SME argument, Tobin (1969) and Blanchard (1981) among others found that fiscal policy actions do matter in relation to the stock market. In his general equilibrium approach, Tobin (1969) asserted that stock returns links the real and the financial sectors of the economy and depicted how budget deficits and the growth of money could have important effects on stock returns. Increases in taxes with government expenditure unchanged would lower asset returns (or prices) due to the fact that such a policy action may put off investors from investing more in the capital market (Laopodis, 2008). Moreover, government fiscal policy in relation to capital gains tax has some implication for the stock market. Investors will only pay capital gains taxes as they offload their shares to other prospective investors. Thus high capital gain taxes may discourage investors from actively trading their shares which may dampen the liquidity of the stock market.

Besides increases in government borrowing would lead to a rise in the short term interest rates. This may culminate in a decline in stock market activity due to lower expected returns. However, with respect to high interest rate, which threatens to crowd out the private sector culminating in a decline in investment and economic activity, the central bank may take action by increasing the money supply. Moreover, Blanchard (1981) argues that fiscal policy may be motivated by other economic and political considerations. Thus, certain fiscal policy measures may be unanticipated by economic agents and therefore can be described as a fiscal policy shocks which may affect stock market returns. Even when fiscal policy action is anticipated by economic agents, it may still have some effect on stock market activity due to lags in policy. Two main lags, the decision lag and the implementation lag may account for this development. The decision lags, refers to the time it takes policy makers to effect a change in policy in response to shocks while implementation lags constitute the time it takes for policy changes to be implemented.

There is some disagreement among financial economists on the neutrality of monetary policy on the stock market. Boudoukh, Richardson, and Whitelaw (1994) asserted that whether monetary policy affects the real economy, and whether its effects are quantitatively important, is an empirical question. In economic literature, the effect of monetary policy on stock market returns is analyzed from two main channels, namely through the money supply or the interest rate (prime rate). A change in the money supply for example may lead to changes in market interest rates which would trigger a portfolio readjustment by investors. This may be explained by the fact that, changes in the market interest rate affects the value of wealth – the sum discounted future cash flows (and /or dividends) – thereby compelling investors to evaluate their portfolio. Thus, monetary policy may impact on stock market activity through valuation of physical assets relative to their replacement cost (Tobin, 1969). In his seminal work entitled, "A General Equilibrium Approach To Monetary Theory" Tobin (1969) emphasized stock returns as an important link between the real and financial sides of the economy. In that model, Tobin depicted how stock returns may respond to changes in the monetary and fiscal policy variables of the model. Rozeff (1974) tested the efficient market hypothesis against what he termed the "predictive monetary portfolio model". Developed by Bruner (1961), Friedman (1961) and Friedman and Schwartz (1963), among others, the monetary portfolio model views money as any other asset in the portfolio of investors. Monetary policy shocks will then trigger substitution money and other assets in an attempt to restore their desired money holdings. But it is important to know that investors will respond with a lag, which would imply that money could help predict stock market returns. The findings from Rozeff's (1994) study showed that lagged money supply do not predict future movements in stock prices. However Rozeff argued that, publication lag must be accounted for to find out precisely the particular time that the money supply information is made available to investors. On the contrary his findings lend credence to the fact that stock returns are related to contemporaneous and future changes in the money supply. Rogaslki and Vinso (1997) improved Rozeff's (1974) study by synchronizing the money supply data and ensured that money supply data is generated at the same interval as stock return data by accounting for autocorrelation. The findings from their study indicated that there is a unilateral causality running from stock prices to money supply but not the other way round. Blanchard (1981) analyzed the interaction of output and policy actions on the stock market. He argued that the effect of a change either in current or anticipated policy is a discrete change in the stock market due to the change in the anticipated sequence of profits and real interest rates. According to him, the stock market is not the "cause" of the increase in output, no more than the increase

in output is the cause of the initial stock market change. They are both the results of changes in policy. Blanchard (1981) further argued that whether policies are anticipated or not is important; the announcement itself will usually lead to a change in anticipated profits and discount rates, leading to a change in the stock market. Under plausible assumptions, the announcement of an expansionary fiscal policy may have a perverse effect, decreasing output before the actual implementation of the policy.

2. Methodology

2.1 The Theoretical Framework

The discussion so far emphasized an inter-relation between fiscal and monetary policy actions and stock market activities through interest rates. The argument is that fiscal or monetary policy instruments (like government spending, taxes, money supply and interest rates) change market interest rates instantaneously and forces investors to evaluate their portfolio. Fiscal and monetary policy actions concurrently influence stock market activities.

This concern suggests one may have to employ a dynamic econometric model to examine the intertemporal interaction between macroeconomic policies and capital market activities.

Verbeek (2004) mentions that using a dynamic econometric model facilitates the investigation of dynamic interactions between variables in a special way that avoids the potential problems of spurious (nonsense) regression – a regression that produces a fairly high coefficient of determination, high auto-correlated residuals and highly significant coefficient estimates.

Following Laopodis (2008), the inter-relation between macroeconomic policies and capital market activities in Ghana is examined by using the following indicators respectively: General Government final Consumption expenditure (as a % of GDP), the average lending rate and the GSE all share index (with the rate of inflation and the excess return on the stock market as control variables). This is specified functionally

$$GSE = f(GOV, LR) \qquad (1)$$

Where *GSE* is the Ghana Stock Exchange (measuring stock market activities), *GOV* is General Government final Consumption Expenditure (measuring fiscal policy) and *LR* is the average Lending Interest Rate (measuring monetary policy). Taking logarithms of both sides of the equation, we have the following;

$$lnGSE_t = \beta_0 + \beta_1 lnGOV_t + ln\beta_2 LR_t + \varepsilon_t \qquad (2)$$

To estimate the above model, the study makes use of the Cointegration Technique due Johansen and Juselius (1990). The technique is essentially a maximum likelihood estimation procedure that allows one to test both for the short and long run relationship between variables. The starting point of the technique is the generation of a Vector Autoregressive Representation (VAR) of variables under consideration at a particular order and testing a hypothesis about the rank of a generated cointegrating equation. Various tests can be conducted to determine the optimal lag lengths and the number of cointegrating equation of the series under consideration. Later a parsimonious equation (representing the short run relationship of variables under investigation) could be estimated. Although Johansen's methodology is typically used in a setting where all variables in the system are I(1), having stationary variables in the system is theoretically not an issue and Johansen (1995) states that there is little need to pre-test the variables in the system to establish their order of integration. If a single variable is I(0) instead of I(1), this will reveal itself through a cointegrating vector whose space is spanned by the only stationary variable in a model.

To complement the above estimation, the Granger Causality test is implemented between the variables under investigation. Granger causality measures whether one thing happens before another thing and helps predict it - and nothing else. Thus if, for instance, one is measuring the causal link between X and Y, and X is established to be causing Y, then, changes in X happens first then followed by changes in Y. Hence, two conditions must be satisfied in this case: (1) X can help in predicting Y and the regression of X on Y has a big coefficient of determination. (2) Y cannot help in predicting X. The Granger causality test is preceded by the specification of a vector autoregressive model (VAR), where the appropriate lags, stability of the model and its specification must be satisfied. After this the causality test can be concluded.

2.2 The Econometric Technique

2.2.1 Stationarity Test

Studies involving time series analysis necessarily employ data from the past to quantify historical relationships, such that if the future happens to be like the past, then the historical relationship can be used to forecast the

future. But if the future happens to be essentially different from the past, then those historical relationships may not be reliable in forecasting the future. Hence it is fundamental that time series variables follow at least a stochastic process and are stationary. For the purposes of this study, the Augmented Dickey-fuller (ADF) test was employed to ascertain if the variables under consideration are stationary or not (have a unit root). Where the variables are found to contain unit roots, the study makes use of the logs followed by the respective number of differences of the variables, until the variable in question becomes stationary.

2.2.2 Testing for Lag Structure

One of the challenges in specifying an optimal lag length (ρ) for a model is that if it's chosen lag length is too small, it is possible the model may be mis-specified due to the omission of relevant variables and if too large, it is possible the number of degrees of freedom may be lost. In other words, a model with relatively large number of lags is most likely to produce residuals that approach the white noise process, but might not be parsimonious. On the other hand, a model with smaller lag lengths is more likely to be parsimonious, but might not produce residuals that are random enough to approach a white noise process. The above problem implies that there is the need to select an optimal lag length ρ. The Schwartz Bayesian information Criteria (SIC) and the Akaike information Criteria (AIC) are identified in literature as appropriate in selecting optimal lag lengths that produces errors that approach a white noise process, subject to the constraint that the smallest number of lag terms was selected for parsimony. These approaches will jointly be employed to determine the optimal lag length of variables for this study.

2.2.3 Diagnostic Tests

As Kramer et al. (1985) recommends, conventional regression output needs to be supplemented by a number of specification tests. A series of tests are performed to support this study. These include testing the residuals for normality, homoscedasticity, and autocorrelation. Also, a test was carried out on coefficient in various models for their significance. Lastly, models were taken through the Ramsey's Reset test, Normality test and Stability tests for parsimony.

2.3 Measurement of Variables and Their Expected Signs

2.3.1 The Ghana Stock Exchange (GSE) All-Share Index

The GSE All-Share index is the principal stock index for the Ghanaian Stock Exchange. This index is calculated from the values of each of the market's listings and measures the performance of portfolios in the market. Effective 4th January, 2011, the GSE has introduced a new method of calculating closing prices of equities on the market. The closing prices of listed equities are calculated using the volume weighted average price of each equity for every given trading day. There are two indexes: the GSE Composite Index (GSE-CI) and the GSE Financial Stocks Index

2.3.2 Fiscal Policy Indicator (GOV)

General Government final Consumption expenditure (as a % of GDP) is used as the indicator for fiscal policy. From the Keynesian paradigm, a fiscal expansion is in consonance with either an increase in government expenditure or a reduction in taxes. This makes the use of the General Government final Consumption expenditure (as a % of GDP) more appropriate to measure fiscal policy. It is expect to have a negative impact on stock market activities.

2.3.3 Monetary Policy Indicator (LR)

The average real lending rate is used as the basic monetary policy indicator given the current emphasis on inflation targeting by the Bank of Ghana. Though the appropriate interest rate should be the prime rate, its non availability for the entire duration under study and in quarterly series, motivated the use of the average real lending rate. This is, again, the rate at which financial institutions lend to their most credit worth investors or the rate at which they borrow from the central bank. It is expected that the average lending rate will have a negative relationship with the demand for credit.

2.3.4 Real Expected Rate of Inflation (INF)

The real expected rate of inflation is measured by the ratio of the consumer price index for two subsequent periods. The CPI is chosen since it is the best measure for adjusting payments to consumers when the intent is to allow consumers to purchase, at today's prices, a market basket of goods and services equivalent to the one that they could have purchased in an earlier period. It is also the best measure to use when one wants to translate retail sales and hourly or weekly earnings into real or inflation-free figures.

2.3.5 Excess Market Return

Excess market return is obtained by deducting the 3-month treasury bills rate from the GSE All-share index. It represents the yield spread between risk free and risky instruments. The higher the yield spread, the more investors are encouraged to invest in equities rather than in short term instruments such as the treasury bills. A positive relationship is expected between excess market returns and stock prices.

2.4 The Data

The study employed quarterly time series data for Ghana between 1990 and 2010. The datasets were obtained from the Ghana Statistical Service and the World Development Indicators CD Rom (Africa Edition). Data on the consumer price index and GDP were obtained from the Ghana Statistical Service; while that on the general Government final Consumption expenditure and the lending rate was obtained from the World Development Indicators CD Rom (Africa Edition). The GSE all-share index was obtained from the Ghana Stock Exchange. Since quarterly series are unavailable for some of the variables, disaggregated series were generated with E-Views (5.1).

3. Empirical Results and Discussion

3.1 Data Description

For estimation purposes, some of the variables were transformed by either taking the natural logs or expressing them as rates and ratios (i.e. in percentages). Given that quarterly time series data of some of these variables are unavailable, disaggregated estimates were obtained with the aid of an econometric software package (E-Views 5.1). The transformation and the new variables are described in Table 1.

Table 1. Transformed time series data

Time Series	Denotations	Units	Transformation Type
Stock Market Activity	GSE	Logs	Computed as log of the Ghana Stock Exchange-All Share Index
Monetary Policy Indicator	LR	%	Computed as the average of the Lending Interest Rate
Fiscal Policy Indicator	GOV	%	Computed as the General Government final consumption expenditure as a % of GDP
Excess Return on the Market	EMR	Ratio	The difference between the GSE-All Share Index and the average Lending Interest Rate
Inflation	INF	%	Computed as the ratio of current CPI and Previous CPI

Source: Data from Ghana Stock Exchange and Bank of Ghana.

3.2 A Formal Unit Root Test

To ascertain the stationarity status of the variables under investigation, the Augmented Dickey Fuller (ADF) test for unit roots is applied on the selected variables. This test ensured that variables enter the selected VAR model, developed in the previous section, in a non-explosive form and are robust.

Table 2. Results for unit root (ADF and DF-GLS)

Variable	ADF Statistics	
	Level	1st Difference
GSE	-1.1621(0.6854)	-4.3028(0.0000)
LR	-1.1704(0.6821)	-7.1902(0.0000)
GOV	-2.1799(0.2156)	-2.3524(0.0192)
EMR	-0.8384(0.8007)	-4.1126(0.0001)
INF	-7.0122	….

Source: Data from Ghana Stock Exchange and Bank of Ghana.

Note: P-values are in parenthesis.

The ADF test statistics are presented in Table 2. These test statistics are compared to the critical values from MacKinnon (1996) to conclude on the stationarity status of the series. As can be learned from the p-values, in Table 2, almost all variables selected for the estimation process were not stationary on their levels, with the exception of *INF* – which happened to be stationary on level. This suggests some sought of trending in the variables selected. A more formal test will be to plot the series to examine this trending.

3.3 Descriptive Statistics for Selected Variables

Table 3 contains some descriptive statistics for the indicators of fiscal policy, monetary policy and stock market activity. From the table it can be observed that the variable with the highest average is the indicator for monetary policy. This is followed by the indicator for fiscal policy and last, the indicator for stock market activity. It can also be observed that the indicator for stock market activity has the lowest standard deviation; with the indicator for fiscal policy and monetary policy following in an ascending order respectively. This confirms the above claim that the indicator for monetary policy has been exhibiting some intermittent swings. The correlations among the three indicators range from 0.01389 to 1.000 with the correlation between the indicator for fiscal policy and stock market activity being the highest (pairwise).

Table 3. Descriptive statistics for selected variables

	LGSE	GOV	LR
Mean	6.500204	12.31581	34.73531
Median	6.699419	12.12168	34.24500
Maximum	8.86013	17.50280	47.75000
Minimum	4.055257	7.82720	23.75000
Std.Dev.	1.43993	2.90367	6.98105
Skewness	-0.04952	0.00422	0.26771
Kurtosis	2.15509	1.96350	1.88845
Jarque-Bera	1.929807	2.73076	4.05924
Probability	0.38103	0.25528	0.13138
Sum	416.013	751.2645	2223.06
Sum square Dev.	130.6241	505.8789	3070.306

Source: Data from Ghana Stock Exchange and Bank of Ghana.

Fortunately, the correlation between the indicator for stock market activity and monetary policy is negative and weak. This suggests the numerous financial sector liberalization programs aimed at reversing the financial repressive state of the financial sector of Ghana has succeeded in an enabling macroeconomic environment for the financial market and particularly the capital market.

3.4 Cointegration Test for the Intertemporal

For a lag length of 2 (selected by Akaike Information Criteria – AIC), there was no evidence of a cointegrating relation between variables selected (See Table 4). Both the trace and the eigen values selected no cointegrating equations. Thus estimations were done without an error correction term.

Table 4. Cointegration test for the intertemporal

Data Trend	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	0	0	0	0	0
Max.Eig	0	0	0	0	0

Note: * Critical values based on MacKinnon-Haug-Michelis.

3.5 Vector Autoregression Estimates

Table 5 presents the results of the vector autoregressive estimates for the study, along with some regression diagnostics. The regression result indicates a mixed short run relationship between fiscal policy actions and stock market activity. Particularly, an increase in government spending immediately increases activities in the stock market, but in the next period this activities decline. On the other hand, monetary policy actions seem not to have any effects on stock market activity and there are no reciprocal interactions between the variables selected.

This result lends credence to the efficient market hypothesis in relation to monetary policy activities in Ghana and it is consistent with the findings by Darrat (1998) and Laopodis (2008). It thus appear fiscal policy actions have important implications for stock market activity in Ghana and not monetary policy actions. It is likely investors in the Ghanaian stock exchange are fully aware of the impact of macroeconomic policies on capital market activity and have fully incorporated this in the pricing of securities. Hence there is no incentive to outwit the market by doing any technical or fundamental analysis and concentrating on monetary policy. The relatively

young nature of the market cannot be ruled out. While on the average, the number of companies listed on the exchange has been increasing overtime, it still needs to meet certain yardsticks for the market to be comparable to other more advanced stock exchanges where monetary policy actions could easily spark portfolio re-allocations for investors.

Table 5. Vector autoregression estimates

	LGSE	GOV	LR
LGSE (-1)	1.167102**	-0.00453	3.146122
	-0.12345	-0.32325	-2.52207
	[9.45438]	[-0.01403]	[1.24744]
LGSE (-2)	-0.20043	0.105006	-3.10812
	-0.11624	-0.32325	-2.52207
	[-1.72429]	[0.34498]	[-1.30878]
GOV (-1)	0.144991**	1.82934**	-0.79636
	-0.03042	-0.07965	-0.62147
	[4.76649]	22.9661	[-1.28140]
GOV (-2)	-0.12366	-0.88201**	0.309748
	-0.02861	-0.07491	-0.58449
	[-4.32261]**	[-11.77360]	[0.52994]
LR (-1)	0.009248	-0.00832	0.773035
	-0.00696	-0.01824	-0.14229
	[1.32783]	[-0.45619]	[5.43290]
LR (-2)	-0.00027	-0.00832	-0.02633
	-0.00679	-0.01778	-0.13872
	[-0.03917]	[-0.47508]	[-0.18983]
C	-0.29446	0.57357	12.60116
	-0.25026	-0.65532	-5.11291
	[-1.17662]	[0.87525]	[2.46458]
INF	-0.0009	0.00307	0.07296**
	-0.00133	-0.00348	-0.02714
	[-0.67765]	[0.88349]	[2.68856]
EMR	1.61E-06	-3.62E-05	3.30E-05
	-2.50E-05	-6.60E-05	-0.00051
	[0.06441]	[-0.55222]	[0.06445]
R-Squared	0.993283	0.990646	0.895839
Adjusted R-Squared	0.992208	0.989149	0.879173
F-Statistic	924.169	661.9055	53.75331

Source: Data from Ghana Stock Exchange and Bank of Ghana.

3.6 Granger Causality Tests

To harmonize the findings in the previous section, a Granger causality test is conducted between the indicators for fiscal policy, monetary policy and stock market activity. The result for the Granger causality test is presented in Table 6.

Table 6. Granger causality tests

Pairwise Granger Causality Tests			
Null Hypothesis	Obs.	F-Statistic	Probability
GOV does not Granger cause LGSE	57	4.99861	0.00189
LGSE does not Granger cause GOV		0.87781	0.48426
LR does not Granger cause LGSE	60	0.54607	0.70266
LGSE does not Granger cause LR		1.68135	0.16869
LR does not Granger cause GOV	57	1.44485	0.23377
GOV does not Granger cause LR		2.14165	0.09002

Source: Data from Ghana Stock Exchange and Bank of Ghana.

The result suggests the fiscal policy actions (GOV) do granger cause stock market activity. More also, it was observed that the fiscal policy actions (GOV) does granger cause monetary policy actions (LR). Strangely, these variables were established to be insignificant in the previous section. One important conclusion from this section that complements results from the previous section is that fiscal policy actions are crucial for stock market activity in Ghana. Hence investors in the market should incorporate such actions in the pricing of securities to eliminate all inefficiencies in the market to build investor confidence.

4. Conclusion

The study examined the intertemporal interaction between fiscal policy, monetary policy and stock market activity in Ghana. This is in line with theoretical contention of the Keynesian economics that a policy mix of fiscal and monetary policy is the best in achieving macroeconomic objectives. Though this proposition is supported by a number of empirical evidences and sounds great, its interaction with interest rates suggest such policies may have a concurrent effect on stock market activities. This is the case as changes in any of the fiscal or monetary policy instruments (like government spending, taxes, money supply and interest rates) change market interest rates instantaneously and forces investors to evaluate their holdings. In that way, stock market activity is either enhanced or disrupted. Thus the study attempted to examine the intertemporal interaction between macroeconomic policies and capital market activity. To accomplish this, vector autoregressive model is developed and estimated. A Granger causality test is also conducted to complement the above estimations. Further, diagnostic tests were carried out to ensure all models satisfy the assumptions of the estimation techniques selected. The results, both from common correlation analysis to recent econometric modeling, indicate fiscal policy actions have significant effects on stock market activities and not the other way round. In addition, there is a unidirectional causal effect of fiscal policy actions on stock market activity. It was thus concluded that the fiscal policy actions do matter in the activities of stock market. Thus such actions should be incorporated in the pricing of securities in the market to eliminate all inefficiencies in the market and build investor confidence.

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Business Negotiation Culture in China
A Game Theoretic Approach

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Abstract

There are numerous researches on the relationship between culture and business activities. Based on the Chinese negotiating culture, this paper utilizes game theory modeling method to summarize the major style of negotiations between Chinese businessmen and foreign businessmen. First, this paper analyzes the impact of culture on business negotiations, including priorities issues, negotiation strategy and negotiating style. Second, the paper puts forward the concept of "acculturation" in the analysis of cultural adaptability of Chinese businessmen, and it also clarifies the general as well as the potential reasons for the low acculturation for Chinese businessmen. Etiquettes for general business communications in China are also discussed in detail. In theoretical part, the paper analyzes negotiating sytle of Chinese businessmen with cultural characteristics. Due to the strategic feature of this model, a specific game theoretical model is built, and then a specific example of Chinese and foreign business price negotiations is used to show the applicability of the model. Finally, the article states the conclusions and direction for further research.

Keywords: business negotiaton, cross-culture negotiation, game theory, China

1. Culture Influence on Business Negotiation

Cultural values can be constituted on the basis of commercial negotiators' interests, so cultural differences generated by value preference may lead to cultural obstacles. The expectations of negotiators from different cultures may be inconsistent to each other's preferences, which can make them misunderstand each other's reasoning. Negotiators may try to persuade the other party to accept their own condition under pre-determined cultural understanding, while the distribution results are usually not ideal. The negotiators should seek trade-offs between differences and choice, and this is precisely the basis of integration on any agreement, which is the optimal choice when there are cultural differences between the two sides. They tend to come to a mutually satisfactory solution on the basis of maintaining their traditional culture preference.

People's negotiation behavior is generally strategic, and these strategies may be based on the culture. Culture makes social norms evolve gradually and the functional specification may institutionalize to promote social interaction within the same culture. When most people are using these norms, social interactions are more efficient. The research shows that a series of acts can be used when negotiators involve in confrontation and motivation strategy, among which cultural behavior of negotiators is one of the deciding factors. People from different cultures have different preferences facing the confrontation and use distinctive direct business language. Some cultures adapt to the negotiations by face-to-face communication, and cannot accustom to meet in the collective memories in a dispute or face-to-face confrontation. The relative importance of negotiators' own interests, other parties' interests and collective interests may be different in different cultures.

Tang and Lv (2009) points outs that the essence of business negotiation is a presentation of human relationship, so the habits, language arts and psychological demand has to be based on the specific culture. Mao and Xiao (2009) discuss the cultural resources of business negotiation and try to make strategies for the difference of thinking methods. There are also many game-theoretic studies of negotiations. For example, Asher et al (2001), Hashida (1996) focus on the conversation of two persons with perfect information. Parikh (2001, 2006) put more efforts on the information strategies of human interaction. However, these literatures determine the players' utility functions arbitrarily; their interactions are supposed to be mutually full understanding of each other. And they only analyze the simple example of one-short utterance and do not have cultural implications in the model.

General speaking, they do not take full use of the game theory.

Application of game theory in conversation analysis (Asher et al., 2001; Parikh, 2006; van Rooij, 2006) involves a variety of different types of communication. The signaling model and other modified versions establish game theoretic models generally based on use single language interaction discourse, that is, a single dialogue. While in business negotiations, multiple interactions in communication accompanied with non-verbal information and show the dynamic and holistic characteristics. Pragmatic behavior is the combination of the discourse with paralinguistic features and context in a certain background and cultural factors are important elements of a context. Contextualization is formed through the process of negotiation, understanding and exclusion of the communicator in certain context. Communicative activities make contextual elements relevant, so the retention modification and cancellation of these elements can only be accomplished in a specific discourse.

Negotiating style is the magnanimity and general mode that demonstrated by the negotiators in the process of business negotiations, which is mainly reflected in behavior, manners, and ways control of the negotiation in the process, and negotiating style has deep cultural imprint. Culture not only determines the ethic code of the negotiators, but also affects the negotiator's way of thinking, personality and behavior. So the negotiators from different cultural backgrounds may form completely different style of negotiation, which has a direct impact on communication method, contacts and relations, and even negotiating structure during the negotiation process.

According to cultural differences, negotiating style can basically be divided into two types: Oriental negotiating style and Occidental negotiating style. From the point of view on the basic elements, there are significant differences in the concept of time, willingness to take risks, communication process, understanding, ethics and the rule of law. Different cultures have different view on what is time, what is its impact on negotiations and other issues. Compared with the Chinese culture, American culture pays special attention to the time, and time is regarded as a valuable resource. So business negotiations are focused on the theme, from a task to another task. In cross-cultural business negotiation, the differences in concept of time may lead to misunderstandings. Some cultures tend to cultivate a bureaucratic, conservative negotiating style, while some other culture encourages entrepreneurial negotiators, who are willing to take action and risks even under incomplete information. Position of taking adventure in specific culture may have significant impact on the content of the negotiations and its results. In risk-taking culture, negotiators are willing to reach an agreement as soon as possible, and to seize the opportunity as much as possible in the negotiations. In risk-adverse culture, negotiatiors tend to gather more information before making any decision and take a wait-and-see attitude. Though communications in the negotiation process mainly rely on verbal communication, non-verbal communication should not be ignored. Therefore, negotiators must also be concerned about the body language and action language in different cultures, and try to understand their communication habits. Differences in the etiquette is even more obvious, for example, Chinese people are not used to directly call out the name of others, but usually add a appropriate title (Mr., president, manager, professor, etc.), while directly calling each other names is very common in the culture of many other countries.

2. Basic Knowledge for Business Negotiation with Chinese

2.1 Acculturation in China

China has become increasingly important in frequent business transaction with other parts of the world, and Chinese businessmen encounter more and more cross-cultural problems in business negotiation. Depending on the degree of adaptation, acculturation can be classified as low acculturation, medium acculturation, and high acculturation. The low acculturation mainly refers to the situation that businessmen know less about each other's culture and language, so they use their mother tongue and traditional negotiating styles in the negotiations. They mainly rely on the translators in negotiations and stick to their own culture identity. In medium acculturation, businessmen both use their own traditional culture and also take into account each other's culture in the negotiations, and they are able to use each other's language fluently, and understand some nonverbal customs. They have a tolerant attitude towards cultural differences in negotiations, and cultural adaptation does not include changes in values and thinking. Businessmen of high acculturation tend to use other's culture and negotiating style in the negotiations, and they deliberately conduct the negotiations comprehensively in other's culture, so no local culture and way of thinking can be detached.

Chinese businessmen are quite different in the degree of cultural adaptation in cross-cultural business negotiation. In general, however, Chinese businessmen tend to be lower acculturation in business negotiations. It is difficult for them to fully adapt to the Western style negotiation and Western culture. The survey shows that there are some inadequacies for Chinese businessmen in cultural adaptation in the following aspects. (a) use of language. More than 69% of the businessmen may not negotiate intensive with foreign partners with a foreign

language, and they are unskilled in technical terms and slang of negotiations and 48% of them rely mainly on translator in the negotiations. (b) Non-verbal communication. 87% of the businessmen do not understand the indication or body language for foreigners. (c) Values. 62% of the businessmen do not understand values of the West, and even less for the cultural practices. (d) Ways of thinking in negotiations, 51% of the merchant cannot accept direct Western culture, such as arguments based only on the facts and non-emotional style negotiations. (e) Negotiation strategy. 63% of the businessmen in the decision-making require a collective discussion, so it is difficult for them to make a personal decision.

Relatively low acculturation of Chinese businessmen is contributed to some deeper reasons, which includes the concept of "face" in China, the plot of Chinese language and cultural threat. In the Chinese business culture, "face" means the merchant's reputation and status, which has become a symbol of social value. "Face" reflects many aspects of social life, such as personal wealth, intelligence, appearance, status and the relationship of others, and sometimes face is more important for some people's personal life. Face can be earned, lost, and given away, but many Western businessmen are hard to understand. For example, if China CEOs make mistakes in business negotiations, Western businessmen may stressed that error face to face and this makes CEOs lose "face" in front of his subordinates, so Chinese CEOs would be certainly unhappy. From the point of view of language, English has become the dominant language of international business negotiations. Due to their language level, the Chinese businessmen tend to avoid using English. English may not express their true viewpoints and English may also affect their own communicative thinking. Chinese merchants are less likely to spend a lot of effort learning English, so they tend to turn to business translators. Cultural development is an inevitable invasion of the local culture. The current generation of businessmen in China is more loyal to their traditional culture and is consciousness against the erosion of alien culture.

2.2 Basic Etiquette in China

Etiquette culture in China has a long history, and the Chinese family education has always put emphasis on the learning and development of children's etiquette. Chinese culture generally following a few basic principles. (a) Principle of orders. In social interaction and social life, Chinese people pay attention to a certain order in social activities, in which people are all agree and social norms constrain the behavior of everyone. (b) Principle of appropriateness. Chinese people advocates a mind of "middle way", which means everything can neither be insufficient nor excessive. Chinese called it the "reasonable manner" not too humble or too arrogant, but it is more difficult to find a balance between these two. (c) Principle of morals. Etiquette and morality are used to regulate the relationship among the members of society and codes of conduct in social relations. Etiquette emphasis on behavior, while moral emphasis on personality and value cultivation. Chinese people rely more on interpersonal ethics to regulate and maintenance activities in social life and are relatively weak in the concept of law compared to Western culture. (d) Principle of humility. Humility stems from politely refuse in China and Chinese would not rushed out for the interests in other's person's face. Chinese culture cherish mutual respect in interpersonal relationships, so the traditional Chinese saying goes: "Step back and open the sky".

2.3 Cultural Characters of Business Negotiation in China

Chinese-style negotiations are based on the inheritance of traditional Chinese culture and learning from the West negotiation culture, which is generally regarded as the persuasive mode. The core of Chinese-style negotiations is to convince the other side from the psychological view, and to pay more attention to the process of negotiations, that is, focus on strategies instead of tactics in negotiations. Therefore, the application of strategy is an important feature of the Chinese negotiation culture. Application of game theory in the research of negotiation strategy reflects the formalized characteristics of Chinese negotiation culture. Traditional Chinese culture has a long history in the application of strategy, and many classic works focus only on the philosophy and principles, not for detailed and specific application areas. Negotiators are offered the guidance on the principles and concepts, but not detailed tactics. China's negotiators not only look forward to the outcome of negotiations, but also pay more attention to the process of negotiation. China negotiators are not necessarily strictly in accordance with the specified procedure of negotiations, while they always arrange some leisure activities, in order to understand each other to establish their own negotiating strategy at the same time. Similarly, harmonious and friendly relations between negotiators may promote the process of negotiation. For Chinese businessmen, result of negotiations is important for sure. However, if the negotiation process is not pleasant, it may affect the results of negotiation. For example, for the previously mentioned face problems, if foreign partner makes Chinese negotiators embarrassed or their face is threatened in the negotiations, though it is not an intentional move, it will make a tremendous loss to the negotiations.

In addition, another important principle is that the Chinese businessmen would adhere to the principles as well as

be flexible in the negotiations. In China, the higher authority people tend to express their thoughts and ideas in a a more tactful and moderate way. They rarely refuse or deny to others in face, while they often smile and accompanied by a meaningful "nod". But "nod" does not necessarily mean the promise and agreement on the final decision; they may be reserved about immediate signature. This behavior cannot be regarded as fraud, so negotiator's "nod" does indicate that he is able to understand what you think, and to encourage the speaker continue to express the ideas, and at this time it does not mean that he agreed to follow each other's views and take action by your advice.

3. General Game Theoretical Model of Negotiation

The game theoretical model is built based on the constructed communication process, which include the internal representation of the game information. The important feature is the cultural identity of the communicator, which can be divided into background information and context information, respectively K_b and K_s. Communication model M_b contains a combination of the four factors (N, K, ϕ, G), where N is the set of the negotiators, so $n \geq 1$, K is communication context, ϕ is the set of sentences, $i \geq 1$, G is the corresponding function term: $G : \phi \rightarrow K$, which means is context K_i is assigned to the discourse ϕ_i, compared to the initial context K_0. Considering cultural factors, K_b means negotiators in the communication of their own language has culture consensus, K_s means that negotiators have communicative intention for information exchange on discussion theme. Bilateral exchanges are competed by means of the following procedure: The basic function of G is to assign discourse to achieve context updates by context K. If C is based on their own beliefs of discourse ψ_c, and F also communicate based on their cultural interpretation ψ_f, differences in cultural background may lead to mistakes in signal passing, which make decoding very difficult. Communicative act has been completed, but the communicative content and function may deviate in the process of communication, that is, communication process is the belief update of H. From the point of view on dynamic information, negotiation activities begin with the initial context K_0 and this initial context is closely related with the general cultural background of the negotiators. Context updates after the start of the negotiations becomes $K \oplus \phi$ and sequential discourse (ψ_{cn}, ψ_{fn}), in which $(c, h \in N, n \geq 1)$. ψ_{cn} updates K_0 to be new context K_1, and ψ_{fn} updates K_1 to be K_2. Two negotiating parties reach the result agreed by both sides with joint efforts in the communication process, which is also the operation process of a psychological model and evolving process of a recognition model. This interactive process can be used in the following business negotiations for price bargaining. As an example, the communicative model M_b will be explored.

C1: The price of the product has increased for two dollars, but we still make the original quotation unchanged.

F1: Thanks. I also know the increase of price, and I think it is a normal fluctuation. Your original price has exceeded the market price already. Even if you keep that price, we cannot accept it.

C2: When we offered the price, we made it very clear that if there's any change on the market our quotation will follow. But what happened now is that the market price has gone up and our quotation has not changed. This means our price has actually decreased, right?

F2: True, But compared with the real market price, your quotation is still too high.

C3: If you really insist on your price, it'll be very difficult to proceed with our talk.

F3: Let's not rush to the conclusion yet. Even if my price can change for some degree, the different between us is too great.

C4: No matter how great the different is, you'll have to move. And we can move together, okay? You are not expecting me to make a move alone.

F4: (Thinking about this proposal for a while) All right then, I'll add 50 cents.

The extensive game is used to describe the above contents of negotiations. The game tree of this negotiation process shows that Chinese businessman C and foreign businessman F may have better choice in this round of price negotiations. Negotiations proceed smoothly to achieve the purpose of negotiation, and every dialogue is the subgame perfect in the game, to achieve a balanced result in the sequential condition. Equilibrium path is the realization path in the game tree, including reaction when participants deviate from the path. The subgame perfect equilibrium needs to reach the conditions of all possible paths, including the main path of the negotiations and all subgame branch paths. On each conversion point, businessmen have to optimize their behavior and to consider the possible consequences of the hidden meaning of their own discourse, so they are sequentially rational. However, communication process can be divided into two sub-processes: characterized process and expression process. From the point of view of characterized process, C is converted into language, which is correlated with the amount of controlled information and cultural habits. But this process is generally

implied and difficult to observe. The expression process is to convert language and ideas into sound information, so this process is often observed. Cultural factors have a significant impact on these two processes.
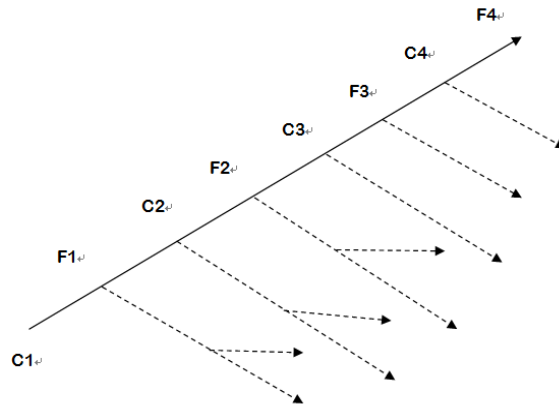

Figure 1. The game tree of a negotiation in price bargaining

Description: Dotted line and arrow paths mean other possible ways negotiators may choose.

In the above example of business negotiations, two sides both hold certain information on price, but they exchanges ideas on the level implied meaning. The subgame perfect equilibrium path in this game is backwards induction. The players choose the optimal action at each node from the terminal node and proceed backwards to the root of the game tree. In this general model, the paper does not quantify the utility function of C and F, nor discusses other options at other node. These two tasks are more complex, which will not be discussed in this paper. However, such talks is very common in business negotiations between Chinese and foreign businessmen, which is a specific description of the culture in Chinese business negotiations. Firstly, C states their reasonable quotations are based on recent market price increases, and F also knows the information of prices and responds that it is a reasonable market price fluctuation. Then C begins to emphasize that his quotation is reasonable, stating that his offer is fixed and market prices are rising, which is the equivalent of a disguised price cuts. F puts forwards that the offer is already very high, regardless of the market price. In the third round, C tries to control the change of context. If the other party does not show flexibility, negotiations may not proceed. In such a situation, F shows certain looseness. Finally, C inspires awareness and positive emotions of the other party. Eventually, F choose to make concessions, which contributed to the agreement of two sides in accept the way. Basically, the above process can be expressed as:
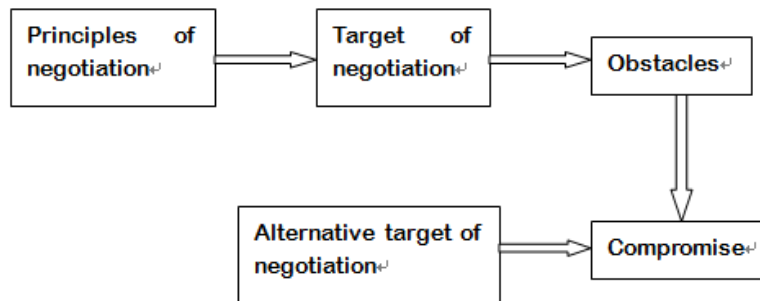
Figure 2. The persuasive negotiating style in Chinese culture

The game model M_n is based on a three-factor sub-game set. Π is a the communicative set, and in this paper $\Pi = [1, 2]$, which represents two persons' dialogue. If $n = 1$, it refers to monologue of the communicator. The present model defines a two-person model, and n is an arbitrary natural number. Considering the characteristics of negotiating behavior and the simplicity for calculation, this communicative negotiation model set n to two. Collection of behavior can be defined as $\Omega = I * Q$, and I represents the set of illocutionary forces and Q represents of declarative sentences. Meaning of I is the description of act itself, while from the philosophical point of view, Q is the effective behavior under description, and it is the finite set of huge numbers. The set of strategies can be defined as $\Omega_i = \Omega_m$, which $\forall i \in N$, m is the number of moves in the games. Utility function

can be defined as Uc and Uf, and $Ui : \Omega i \times \Omega m \to \Box \ (i, m \in N, i \neq m)$. Utility function may be propositional or a functional. In sequential game, information is obviously imperfect and incomplete, which is the basis for negotiators to optimize their own actions at every node, and they are Bayesian rational. Communicative set itself contains many elements, while this model is considering cross-cultural negotiations of the two persons. The game tree in this model based on the fact that each player has to move one after another and action in Ω is possible at every turn. The information set contains only one node (perfect information). Q is a limited round of dialogue, and the actual dialogue has the characteristics of short-term memory. Q includes not only the correct sentence but also wrong sentence. If s is a false expression, then it is defined as telling a lie.

Using the above definition, the sequential conversation can be restated as C1: offering → F1: explaining → C2: answering → F2: stating → C3: threatening → F3: rebounding → C4: requesting → F4: accepting. The basis of the dialogue is subgame perfect interaction along the equilibrium development path, C, F can reach the optimal utility:

$$U_c^n(\text{offering, answering, threatening, requesting})$$
$$+U_f^n(\text{explaining, stating, responding, accepting}) \tag{1}$$
$$\geq U_c^n(\zeta_c, \zeta_f) + U_f^n(\zeta_c, \zeta_f)$$

In which, $\forall \zeta_c \in \Omega_c, \forall \zeta_f \in \Omega_f$, $C, F \in N$, ζ_c, ζ_f refer to other possible actions that C and F may take in current situation. The actions of C and F based on their strategy and the response is associated with cultural factors.

Sequential equilibrium path is related with the sequence of action. The negotiators should first consider the expected utility of their actions. Then observe each other's actions to update their own point of view and optimize the actions. Correctly decoding each other's words is the prerequisite of the formulation of this strategy, and discourse decoding and cultural identity are related. In general game model, we generally assign a real number to represent the action and calculate the payoff generated by payment and consistency of both parties from the payment.

In the above model, the sequential equilibrium of the game and its path associated with the sequence of actions of negotiating party are used to calculate the expected payoff of the action, while follower also needs to update their own beliefs based on the actions optimize action of the former. Firstly, the communicative game proceeds under the state of asymmetric information, with the nature of limited information between the two sides. Negotiators are from different cultural backgrounds, so their communication bound to be bounded rational. So the business negotiation is a process of asymmetric coordination. Secondly, coordination is the focus of the negotiation language and cultural barriers make some understanding of discourse fail to restore the true value, while it is only a reasonable approximation of the intention of s. Finally, the payments of the coordinated action have a different understanding for the communicators. Their utility function is generally not a consensus, with the function depending on the quality and quantity of information, as well as the way of the action.

The model should be more practical under the constraints of node selection, which profoundly related to the cultural patterns of select groups on each node. Static analysis may not fully reflect the negotiation process, so part of the scene dialogue can be simulated by the computer program. The main difference between computer programming analysis and game theory is reflected in the utility function. Behavior can be defined for determined status of the operation each time, and each node of the game tree represents its location in the game, so the computer program is a manifestation of the theoretical game model. The direct usage of Computer programming in conversation analysis is very difficult, because the dynamic process of dialogue is affected by cultural factors. However, the Bayesian game and signaling game can be successfully applied in an imperfect information game.

4. Conclusion and Discussion

It is worth noting that contemporary Chinese negotiation culture has integrated the traditional "deductive" thinking style in China, and it also gradually absorbs "inductive" feature of Western negotiating culture, which form the brand new "Chinese business negotiation style". On the major issues, negotiators tend to take the "deductive" style, which is a step-by-step negotiation; on the minor issues, flexible "inductive" style is applied, which are straightforward and quick in problem-solving. The negotiation style of Chinese businessmen can be summarized as persuasive negotiation style and its main mode is to convince people with psychological forces. The main mode can be: analysis, implication passion, orientation and control. The intent of this negotiation style is: firstly, negotiators analyze the specific business environment and situation, and point out each other's situation with possible gains and losses, which can motivate positive emotions and make the partner agree with

their point of view in the negotiators. Then, this will control the direction of negotiation on certain issue and control the psychological intention of the other side, which eventually make the other side agree on a certain kind of negotiated solution. That is why the Chinese businessmen tend to focus on the psychological advice or intangible capacity in negotiation.

This paper also analyzes the generally applicable style between Chinese and foreigners in business negotiations, and portrays possible negotiation strategies in game theory under imperfect information. Game model and computer programming are both feasible ways in research. Utility functions in the model are left open, which is a very important advantage. Different utility function can be derived from different dialogue model, which provides analytic framework and foundation for analysis of the cross-cultural negotiations. The structure of analysis is relatively complete, reflecting the complete equilibrium path and game tree, which includes the whole process from the opening statement to the ending statement. This general description of the model can be applied to negotiations between different cultures, and the theoretical framework of game theory can be used in different disciplines, including game theory, microeconomics, game programming, artificial intelligence, and pragmatics as well as discourse analysis. The model analyzes a series of negotiation process with interactive nature, rather than a single round of dialogue analysis. In order to improve its accuracy, the model must be considered as a whole, because a single dialogue may produce more or less cost in negotiations, and the payment of two sides in the understanding of dialogue depends on their utility function, the entire dialogue game as well as other factors. The model also focuses the conversation in turn, which obviously has some limitations. The negotiations may possibly contain a lot of overlaps and intervenes, so the game tree in the model needs reconsideration. Further analysis can extend to the specific negotiation style and explore optimal results of negotiation. In addition, artificial intelligence methods with computer simulations utilized in negotiations is also a direction of this study. In-depth analysis may also collect additional corpus, which can be summed to consistent results for negotiations.

Acknowledgments

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Investigating Effective Factors on Development of Iran's Caviar Exports

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Abstract

The purpose of this paper is to explore effective factors on development of Iran's caviar exports. The survey information is collected from books and journals. Assumptions checked base on data collected from a questionnaire. Data is analyzed with SPSS software and One-sample t-test method. Sample consists of 50 experts and exporters of caviar that chooses with random sampling. we find that familiarity of the Exporters with exports principles, Introducing nutritive and treatment value of caviar to the goal markets, foreign investment absorption, Proper processing and high quality of caviar, Diversification in the packaging capacity of caviar based on consumer's purchasing power and Having good political relations with other countries increase export caviar but Producing farmed caviar by other country decrease Iran's caviar exports. This paper will provide important factors that will essentially help to develop export of Iran's caviar and create a good condition for this industry.

Keywords: caviar, Sturgeon, processing caviar, competitiveness, exports

1. Introduction

Economic development is one of the important goals of each society in the world and economic growth is one of the basic factors in order to gain this goal. Many factors cause economic growth but in economic studies export are the most efficient tool to achieve economic growth (Francis et al., 2007). Researchers and the diplomats of Iran found out the importance of exports as an important and efficient strategy for economic development. In this regard, the government's economic reform programs are developed and implemented. Iran's Economic sensitivity to changes in oil world markets and fragility in the face of foreign pressure has led to consider diversification in exports by the government and emphasize on Non-oil export development strategy. In Iran Non-oil, products are produce in a variety of goods including agricultural, Industrial products, minerals and handicrafts (Mojaver, 2009). Among of non-oil Products, agriculture goods is a significant factor in economic development and growth. Dependence of agriculture production to the internal sources such as human and natural sources makes agriculture sector more important. Agricultural products of Iran are exporter in a variety of goods including nuts, raisins, saffron, dates, cotton, skins and caviar (Dashti et al., 2010). Caviar as a luxury and expensive commodity has an important place in the export products of Iran and has high economic value. Having 2700 kilometers sea border in the north and south of the country and wide facilities and resources, are the advantages of Iran in producing caviar. Appropriate depth and good temperature of the Caspian Sea are causes growing the best caviar fishes at the south of Caspian Sea and its coast.

Investigating the trend of Iran's caviar production and its exports show decreasing exports of this product in recent years, But Iran's experience in the production of caviar, Iranian caviar quality and high prices in global markets has caused adding value of this export product. Therefore, investigate effective factors on development of Iran's caviar exports are necessary and can improve its position in the export sector. However, unfortunately up to now, no operational research has been taken in this regard and lack of information has been felt in this area. This study will attempt to identify and analysis these factors and finally presents strategies for increasing the exports of this product.

2. Caviar and Its Value in Nutritive and Treatment

Caviar is sturgeon eggs that are not fertilized. Caviar is a delicious breakfast and is used separately or mixed with other foods. Most of people eat it with egg yolk or small onions, and others eat it with the aromatic vegetables with small pieces of bread and butter. Root of Caviar word is Persian and means *ovipositor*. Caviar word is common English and Persian. In Russia, the products obtained from fish eggs are called *Ikra* and *Ikura*, is the Japanese term used for caviar. Fishing and processing caviar in Iran has a long history, so that Ancient Persians in 3000 BC was familiar with the nutritional value of caviar and they processed and used it (Sternin & Dore, 1993).

Caviar is a nutritious food and Full of useful materials for growth and human health. Caviar consumption can recover the person lost energy in major surgery and infectious diseases (Sternin & Dore, 1993). Caviar consumption can also reduce the effects of anesthesia of surgery and is useful in the treatment of rickets (Bledsoe et al., 2003). Natural Caviar has 16 to 39 percent protein (Murad & Rasco, 2005). These are high quality and variety of proteins including 73 types of proteins such as phenylalanine, valine, tryptophan, methionine, leucine, lysine, and threonine. These proteins are essential and the human body cannot manufacture them (Keyvanshokooh & Vaziri, 2008). Caviar is rich in vitamins A, D, B_1, B_2, B_{12}, C, E and consumption of it facilitates Metabolism and helps to produce amino acids, fats and carbohydrates and facilitates Growth and recovery of body's cells (Bledsoe et al., 2003). Caviar also has essential minerals for body such as iron, phosphorus, potassium, sulfur, calcium, magnesium, zinc, Manganese, lead, cadmium and copper (Wang et al., 2008).

Another useful compound of the caviar is unsaturated fat. Unlike Saturated fats, consumption of unsaturated fat is useful for the body and is necessary for body growth and health. Lack of unsaturated fat in the body can cause serious complications such as skin, gastrointestinal, neurological disorders and brain dysfunction. The highest amounts of caviar unsaturated fats makes up omega-3. This combination is essential for the functioning of the body and prevents the increase of blood cholesterol and cardiovascular disease. Omega-3 also increases calcium absorption and facilitates Calcium Sediment in bone tissue and As a result, helps prevent osteoporosis. This material is effective in the treatment of depression, dry eye, obstructing blood vessels and reduces the incidence of breast, ovarian, prostate and gastrointestinal cancers (Badiani, 2002).

However, due to decreased production of natural caviar, farmed caviar consumption has increased but this kind of caviar has less nutritional value. Research has shown that the amount of protein, calories and fatty acids in farmed caviars are less (Gessner et al., 2002). Moreover, extract of caviar from Sturgeon requires them to reach maturity, which includes long time (12-8 years); also the high cost of farmed these fishes, has led to use regular fish eggs such as salmon fish and lumpfish to produce farmed caviar by producing countries. Using these kinds of fishes reduces produced caviar quality. Also due to the use of chemical colors and flavors in producing this type of caviar its consumption is harmful to the body (Sternin & Dore, 1993).

3. Sturgeons

One of the most valuable aquatic species is caviar fishes. This fishes that are called fish Dice and fish cartilaginous are from fish family of Sturgeons, which their Origin and background refers back to about 150 million years ago. Until the past few centuries, sturgeon were scattered around of the world but nowadays, their generation has decreased and its fishing and processing has been limited to the Caspian Sea (Pikitch et al., 2005). Among the 27 species of sturgeon, five major species live in the Caspian Sea included: Huso hus fish, Acipenser Gueldenstaedtii percicus, Acipenser Gueldenstaedtii Colchicus, Acipenser Nudiventris fish and Acipense rstellatus fish the extracted caviar of these fishes is original caviar and Among these, Beluga caviar which extracted from Huso Hus fish has the best quality and the highest price (Altuga & Bayrakb, 2003).

3.1 Huso Hus Fish

Russian name of this fish is Beluga But due to its large size and face similarity to the elephant this fish is known as elephant fish in Iran. This fish is the only carnivorous fish in its group and is the biggest fish in the Caspian Sea, which has the best quality of caviar extract. The fish stature is about a half feet to over four meters and weigh of typical size of these fish is between 40 to 300 kg but some samples with 1400 kg weight and age of 100 years were caught. This species spawning time is once in every two or three years and adult age is between 16 and 18. Number of Huso hus fish egg varies depending on the size of fish and normally are between 150000 to 2500000. The fish eggs have a diameter between 3.6 to 4 mm and are the world's most expensive caviar (Aghbaie & Falahati, 2008).

3.2 Acipenser Gueldenstaedtii Percicus

Another name for this species is ghar- boroon and this Turkish name means the black nose. This species is also known as the Iranian sturgeon. Acipenser percicus fish is bigger than Acipenser gueldenstaedtii fish. Its darker color and White spots on its back differentiate it from Acipenser gueldenstaedtii fish. Extracted caviar from Acipenser percicus fish has lower quality than Huso hus fish. Acipenser percicus fish weight is about 60-130 kg. Its normal length is 1 m but observed over 2 m. spawning time of this fish is in ages of 12 to 14. The number of fish eggs is between 70 to 800 thousand eggs and their size is between 1.5 to 3 mm. Eggs of this fish have golden brown color (Kohneshari & Nakami, 1996).

3.3 Acipenser Gueldenstaedtii Colchicus

Chalbash is another name of this fish. It is among the species that found throughout the Caspian Sea. Extracted Caviar from this fish is also called a Golden and is ranked third in terms of value. Its adult age is between 12 to 16 years. The numbers of its eggs are between 70 to 800 thousand eggs, which sizes are between 1/5 to 3 mm. These fishes length are 1 to 2 meters and their weigh are 60 to 100 kg (Eshternin & Doreh, 1993).

3.4 Acipenser Nudiventris Fish

This fish also called Ship fish. Usually these fishes are migratory fish that they come to Iran beaches due to spawn. They spawn in the catchment area of rivers of the Caspian Sea. Ship fish lifetime is equivalent to 30 years. Its adult age is between 10 to 14 years. Number of Acipenser Nudiventris fish eggs is between 200,000 to 1.3 million and its diameter is between 1.5 to 1.75 mm. Extracted caviar of this fish doesn't have high quality and is ranked fourth in terms of value (Eshternin & Doreh, 1993).

3.5 Acipense Stellatus Fish

This fish also called Sevruga. Extracted Caviar of this fish is the smallest and darkest one. Some experts believe that it is the most delicious caviar. Length of this fish is between 1 to 1.5 meters and its weight is lighter than other fishes. This Fish becomes maturity in age of 8 to 12 and its number of eggs is between 20 to 362 thousand units. This fish's eggs are tiny, and between 1.2 to 2.5 mm in diameter and have a dark gray color (Vosoghi & Behzadi, 1995).

Naturally, sturgeon fishes spawn once a year after reaching maturity. By increasing lifetime, the gap between periods of their spawning is increasing too. They lose their spawning and Fertility potential at old ages. In fact, one of the reasons of caviar scarcity and Exclusive is late puberty and long period between spawning and maturity (Bledsoe et al., 2003).

4. Processing of Caviar

Processing of caviar is the scientific technique that needs high creativity and skill. There are a variety of materials and different caviar processing ways to produce high quality and Market friendly products. Different methods of processing refer to different caviar processing techniques such as salting, temperature, humidity of Caviar and concentration of salt solution (Gessner et al., 2002).

Processing of Caviar begins with fishing and extracting eggs from fish abdomen. To consider on maturation of fish and ovarian maturation is important in fishing. Fishing immature fish and using immature eggs in caviar production leads to reduce quality and quantity of caviar production. In the past, extracting eggs from fishes were led fish to die. But today by using Caesarean method we can avoid it. In this method, eggs are extracted from fishes by doing surgery and fishes are thrown back to the sea when the recovery is complete. After extraction, the eggs are screened to remove scar tissue. Using good tools and experts in ovary screening will reduce eggs injuries and damages. Salting is next step in this process, which is too important. Salting effects on amount of slimy of internal egg liquid. This slimy is one of the most important superior indicators of Caviar quality. Salting method, salt Purity, and amount of used salt are factors, which determine slimy of caviar. Using Gross salt at this stage can cause the growth of fungi and other microorganisms that are resistant to salt in the caviar. The amount of salt used in caviar determine by maturation of eggs and period of salting. After salting, the excess moisture of eggs is gotten and the final product will be ready for packaging. Caviar's Moisture level is the determining factor in quality of the caviar. Getting excessive moisture causes drying of the caviar and sticking eggs to each other. High Moisture also causes accumulation of Latex at the bottom of the container and reducing Persistence of caviar (Johannesson, 2006).

Packaging is one of the important factors of producing food. Appropriate packaging will facilitate marketing and increase sales of caviar. Consideration to the target market in caviar packaging and the package shape and size will help to increase sales of caviar (Aghdaie, 2009). Now Iranian caviar is packaging in containers of 100, 200,

300, 600, 1800 gram. High price of caviar and high capacity of these packages causes price increasing and decreasing of sales. So considering low capacity packages and low sales price can increase caviar consuming between low-income people and increasing sales.

5. Exports

Export is the simplest and most common method for creating and developing foreign markets which Based on production volume and export policies, are done by one of two direct and indirect methods. In indirect methods, export is done without participation of producers and developing export companies of origin countries. The direct method is to sell the product directly to the importer or buyers in the foreign market and transactions are done by distributors and dependent agencies of the company (Kantapipat, 2009). Although indirect method is less costly and less risky but failure to control the market by producer causes fundamental problems such as sold through inappropriate sales channels and inadequate advertisements. Compared with the indirect method, direct export is more costly and risky but Due to the elimination of intermediates is more Profitable (Aghdaie, 2009).

Export trend in last century shows change position of Iran between caviar exporters. In the first half of the twentieth century due to lack of refrigerated transport industry, Iran could not export caviar and Iranian caviar was widely purchased and exported by the Soviet Union. The state of being fished and processed in the mid-twentieth century, and development of transportation industry and cooling industry, in these years Iran could obtain ability to export high quality caviar and entered to the world market As the second largest exporter of caviar after Russia (Eshternin & Doreh, 1993). After the Soviet collapse in 1990, Russia, Kazakhstan, Turkmenistan and Azerbaijan entered to the caviar export market and became known as the largest exporter of caviar after Iran. Nowadays Iran, Russia and Kazakhstan dominate on world caviar market, and Iran is known as the biggest exporter of natural caviar (Pikitch et al., 2005).

According to statistics data, the amount of caviar trade between 1998 and 2004 was about 1,324 tons, in which Iran with 465 tons, Russia with 138 tons, Kazakhstan with 95 tons and Azerbaijan to export 35 tons was known as the largest exporters of natural caviar. Versus Europe Union, the United States and Switzerland's was the largest caviar importers in the past year and 81% of the natural world's caviar is exported to these countries. Among the EU countries, Germany and France are allocated the highest volume of imported caviar and most of their imports were from Russia and Iran (www.traffic.org).
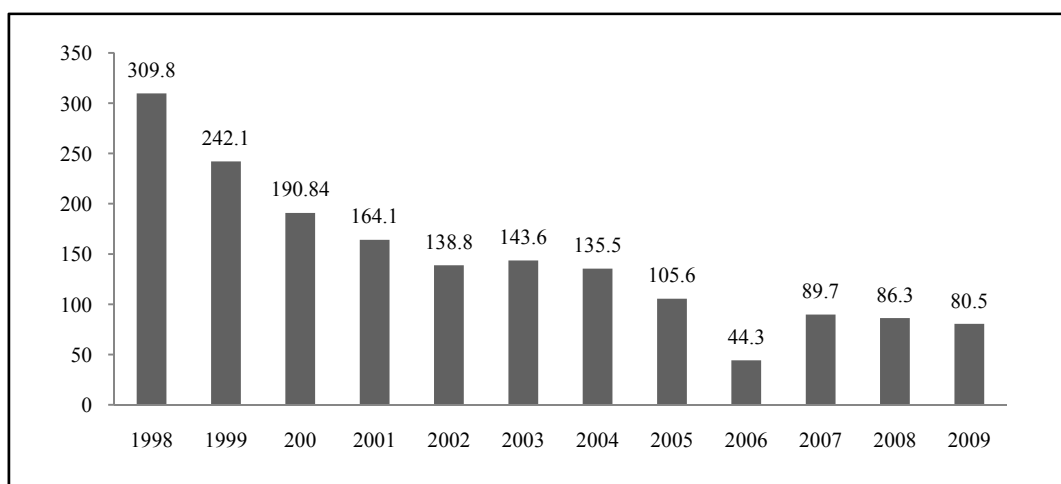
Figure 1. caviar's words export from 1998-2009

Source: www.cites.org.

By reducing Sturgeon, the rate of natural caviar trade is declined at international level. Amount of caviar production between 1998 and 2009 was 1730 tons that reached from 309.8 tons in 1998 to 80.5 tons in 2009 (Figure 1). Investigating export of caviar in recent years reflects unpleasant condition of this industry and reducing of caviar export. As shown in Figure 2, Iranian caviar exports decrease from 110 tons in 1998 to 1.8 tons in 2009. Germany, France, Italy, Japan, UAE, Luxembourg, Spain and Belgium are major importers. Among these countries Germany has been the largest importer of Iranian caviar in the past few years. The export method to these countries is through an auction (www.cites.org).
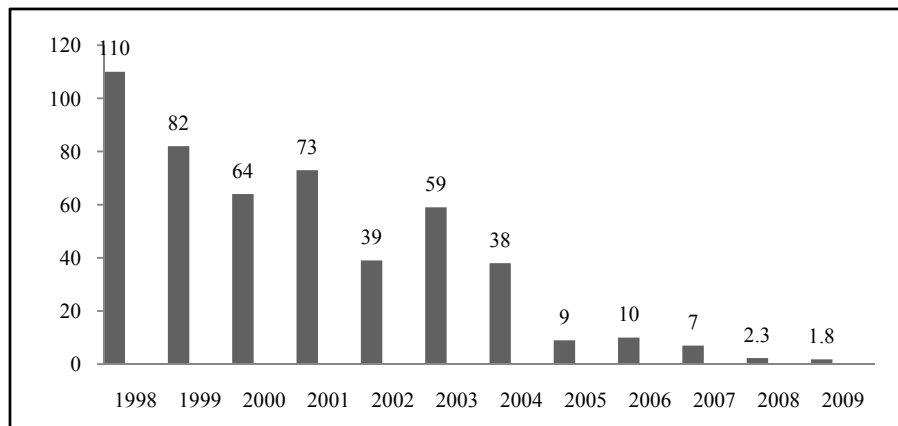
Figure 2. Iran's caviar export from 1998-2009

Source: www.cites.org.
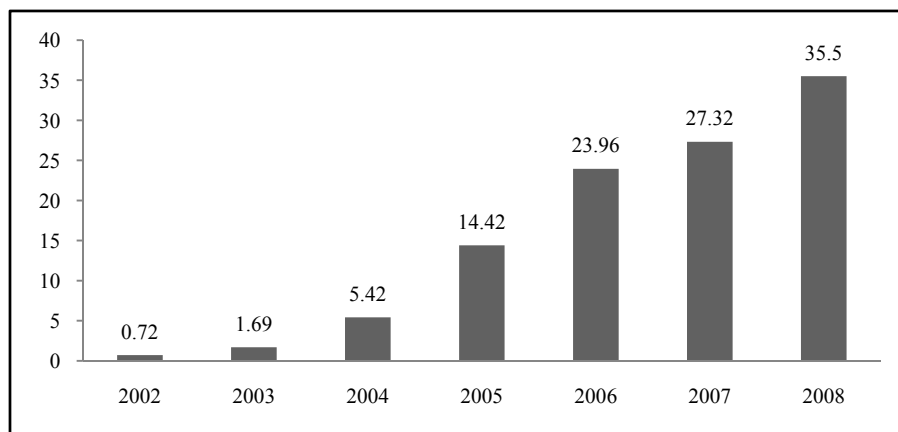
Figure 3. Farmed caviar's words export from 1998-2008

Source: www.cites.org.

The main reason of reducing the natural caviar export is decline of the Caspian sturgeon population. Overfishing, destruction of rivers, entering the municipal wastewater and agricultural pesticides to the Caspian Sea and increasing industrial pollution are the factors that have caused this decline. Therefore, in order to preserve the sturgeon population, CITES secretariat determines new laws regarding the quotas export of caviar and sturgeon fishing every year, and communicated to the Persian Gulf states (Raymakers, 2002). Refers to the popularity and quality of Iranian caviar and positive actions taken by Iran In the field of conservation and restoration of sturgeon stocks, Iran is allocated the largest export quota in the past few years to itself, so that, In 2006, the Secretariat has set export quotas only for Iran (www.cites.org).

Reducing of natural caviar exports, increasing demands for caviar and increasing caviar price create Suitable condition for production and export of farmed caviar. The first step in the production and export of this caviar has been taken by Russia and Germany (Williota et al., 2001). Nowadays, Germany, Russia, America, Italy, France and China produce farmed caviar for trade (Bledsoe et al., 2003). Statistics data also showed an increased export of farmed caviar in international markets that the production of 0.72 tons in 2002 reached to 35.5 tons in 2008 (Fig. 3).

6. Competitiveness

Common mean of competitiveness is ability to produce products with high competitive power in international markets (Cho et al., 2008). Traditional trade theorists believe that competitiveness of countries is for gaining appropriate capital, labor and natural resource. According to theory of absolute advantage of Adam Smith, countries export products that it can produce with less cost. David Ricardo believed that countries allocate their resources to the industries which have higher productivity in compared with other industries (Porter, 1990). Michael Porter's in 1990 published his book with title of "The Competitive Advantage of Nations" and

presented his Diamond of competitive advantage model. In this model, unlike traditional approaches, a set of conditions and factors affecting the competitiveness is considered. This model has two variables, internal and external variables. Internal variables include corporate strategy and structure, related and supporting industries, production conditions and demand conditions while external variables are government and chance (Cho et al., 2008).

Despite the comprehensiveness of porter's diamond model, this model has been criticized and reviewed by researchers. One of these reviews is the Double Diamond model (Rugman,1991), Contrary to Porter's diamond model, which focuses only on the domestic environment; Double diamond model includes international issues and is applicable in the global market (Rugman & D'Cruz, 1993), Another review of porter's model is nine factor model presented by Cho and Moon in 2000. They considered four other human variables in addition to Porter include: workers, policy makers, entrepreneurs and professionals, Although Porter's diamond model consider human variables; nine factor models also separates the physical variables from human factors and provides a clearer view of competitiveness. Government in Porter's diamond model is considered as an external variable While in the nine factors model as an internal variable that can affect the international competitiveness of industries.

Iran's caviar industry is an industry with a long history of export –oriented. The industry with the potential capacity of 500 tons of caviar in year has, the largest, most modern and most extensive network of production and supply and includes proliferation center, fishing, processing, sale and researching centers. Caviar industry is directly managed by government and the mother specialized agricultural company has responsibility for fishing, processing, sale and export of caviar. Having 40 Fishing centers, 30 processing centers, and 6 proliferation and release centers, This Company manages fishing and processing operation in Gillan, Mazandaran, and Golestan provinces. Now the government is trying to increase the participation of the private sector in the caviar industry and to attract foreign investment. Having Appropriate Depth and water temperature in Iran's coast, Iran has prominent position in fishing and farming sturgeon in a thousand kilometers of coastline of Caspian Sea. Iran's caviar industry is also benefiting from the expertise, professional workers, laboratories, research centers, and good technology, which create a competitive advantage in producing caviar for Iran. Iran also is known for having the best caviar in the world and has high strength in competitiveness.

The economic value of caviar has caused natural caviar producing countries try to create new markets and increase sales and lead fierce competition among them. Now the Iran, Russia, Kazakhstan, Azerbaijan and Turkmenistan are the world's producers of natural caviar. The competition between Iran and Russia for access to Europe and America markets is strong. High Quality of Iran caviar has led America, Germany, and UK to import largest amount of natural caviar from Iran and that Iran's competitors are trying to increase their share of the market in these countries. Reduced supply of natural caviar and its high price have caused increase of farmed caviar in the markets. Now Germany, America, France and China are the main producers of farmed caviar. Although farmed caviar as competitor of natural caviar causes Fluctuations In caviar markets, but Iran caviar preserves its position in global markets.

Another important point in the competitiveness is governments' role. Because governments' intervene in the political, economic and social affairs known as a major force influences industry in competitiveness. Economic relation, political agreements and cooperation between Caspian Sea basin countries are important factors than can help to improve industry of caviar.

7. Research Background

Shyam and his colleagues (2004) examined effect of globalization on export performance of Indian fisheries. The survey results show that globalization reduces the volatility and competitiveness of producers and exports of fishery products. The results also showed that microbial and bacterial contamination, and quality problems will reduce its exports

Kagawa and Bailey research (2006) studied the relationship between the importer companies of shrimp in Japan and its exporters in Thailand and Vietnam. The research results showed that the financial, technical, information and equipment assistance between the countries have many advantages for them and bring stability to the market, reduce sudden changes in market and increase quality and exports of products.

Boughanmi and his colleagues (2007) due to identify key variables affecting export performance and aim to Oman's fisheries export have done research in this country. The survey results showed that Recognition of market and cultures, customs and tastes of consumers is beneficial for exporters to utilize good situations. This study also showed that the product quality, product variety, the top management experience and familiarity with export procedures could improve the performance of export companies.

In a study done by Husseini and his colleagues (2008), comparative advantage of Iranian caviar has been studied between 2000 and 2005 and export target markets of Iranian caviar have been prioritized by screening and numerical Taxonomy methods. The research results showed that in all these years Iran has comparative advantage in exports of caviar. Also the process of screening introduced Japan, South Korea, Oman, France, Norway and the numerical taxonomic process introduced Sweden, Germany, South Korea, England and Cyprus, as the best option to export caviar.

Yu and his colleagues (2008) examined shrimp exporters performance that exports to American market between 1991 and 2007. The survey results showed that during this period, competition among exporters has increased and small exporters increased their level of expertise and knowledge to enhance their competitiveness. These results also showed that exporters have changed their export Structure and focused on products that have a competitive advantage.

Allison and his colleagues (2009) examined the impact of climate change on national economy in fishing industry. The results showed that in countries where the fishing was main source of food, employment and exports, climate change might have a negative impact on their economies. Also, having more ability to adapt with climate change cause less negative influence their economies so they can have stronger economic.

Papavassiliou (2009) examined distribution system of fishery products in Greece in his research. The survey results showed that transportation and maintenance method was not suitable. High production costs, poor quality, inappropriate pricing and improper payments terms have reduced products sale. This survey also showed that marketing elements of distribution is effective in competitiveness and managements' Attitudes and companies' properties affect these marketing elements of companies.

Shinoj and his colleagues (2009) have examined fishery products exports in India. Their research results showed that health and quality regulations and technical barriers of trade have reduced the country's exports. The lack of adequate infrastructure and lack of processing, packaging and products grading equipments reduce production ability and cause difficulty for fishery products exports.

Marta and Ferre (2009) reviewed the effect of export-oriented aquaculture on development of developing countries in their research. The survey results showed that the aquaculture industry is a beneficial business and is useful for economy of countries. Aquaculture industry on one hand, increase exports and economic growth of countries and on the other hand, improve quality of people life by increasing the food safety of people.

8. Methodology

Because we try to resolve one practical problem in the real field, this research is an Applied Research. Also because research examines the characteristics of a population base on sampling of individuals and tries to Analysis and processing the data for the judge about population this research is a descriptive-cognition research. The survey information is collected from books and journals and assumptions checked base on data collected from a questionnaire. Questionnaire designed by researchers that have 25 questions with five selective choices, between the most and the least. The statistical sample of research includes fifty experts and exporters of caviar in companies' producer and exporter in Gillan and mazandaran province. Random sampling method was used and 90 questionnaires were distributed. SPSS software and One-sample t-test has been used for analyze data.

9. Hypothesizes and Finding

In this section we try to test hypothesizes by presumption statistics method (t test). Results are shown in Table 1.

9.1 First Hypothesis

H_1: *Familiarity of the Exporters with exports principles is effective on development of Iran's caviar exports.*

As shown in Table 1, significant level (0.0007) is less than 0.01, so with the possibility of 99%, the hypothesis is accepted. Using inefficient method of exports and lack of knowledge regarding modern methods cause reduction in share of Iran's caviar export market, therefore increase awareness and knowledge of Exporters about Advanced methods of receiving and payment of money, Customs regulations, shipping procedures, economic variables affecting on export and new rules and procedures in export and marketing Can help to increase exports of caviar. Training classes, Print books and Magazines in the field of export, employ of educated people in Export Corporation, hold seminars and conferences in the field of export, introduction successful corporation, and Cooperation of export corporations with universities and scientific organization helps to Familiarity of the Exporters with new knowledge and exports principles.

Table 1. Results of T test

variable	T	Min	Df	Sig
Familiarity with exports principles	1.892	3.25	50	0.0007
Introducing nutritive and treatment value	0.826	3.97	50	0.0004
Foreign investment	0.669	3.95	50	0.0051
Diversification in the packaging capacity	0.746	3.95	50	0.0002
Proper processing and high quality	0.005	3.35	50	0.0058
good political relations	2.525	3.61	50	0.0032
Producing farmed caviar	2.581	3.12	50	0.07

9.2 Second Hypothesis

H₂: *Introducing nutritive and treatment value of caviar to the goal markets is effective on development of Iran's caviar exports.*

As shown in Table, Base on analysis of data, with the possibility of 99%, this hypothesis is accepted (sign= $0.0004 \le .01$).

One of the most important factors that majority of the people are considering in food products is their nutritional and beneficial values for their health. Considering to the high nutritional and treatment value of caviar, Increase public awareness about the nutritional value and health benefits of that can be used to create tend to consume in people and increase sale, Also market's awareness from superior nutritional and health value of natural caviar compare to farmed caviar can help to strengthen the position of Iran in global markets. Producers and Exporters can Show benefits of caviar by publicity, Magazines and packs tag and increase public awareness.

9.3 Third Hypothesis

H₃: *Foreign investment absorption is effective on development of Iran's caviar exports.*

As shown in Table 1, significant level (0.0051) is less than 0.01, so with the possibility of 99%, this hypothesis is accepted.

Due to the special position of Iran's caviar production, foreign investors are interested to invest in this industry. Foreign investment is one of the best solutions for financing the projects related to the caviar industry and can helps regarding entering the new technology and science for increasing the fishes and production, Familiarity with foreign markets and expands exports. Therefore, protecting investors, Creating security and investment opportunities and conditions for foreign companies, can motivate them to increase investment in Iran.

9.4 Fourth Hypothesis

H₄: *Diversification in the packaging capacity of caviar based on consumer's purchasing power is effective on development of Iran's caviar exports.*

Because significant level (0.0002) is less than 0.01, with the possibility of 99%, this hypothesis will accept (Table, 1). One of the characteristic of Iranian caviar is the price of that, which is high. World economic crisis in recent years has reduced people's income and reduced buying caviar, therefore packed caviar in containers with high capacity caused the price of caviar high and only restaurants, hotels, wealthy people can afford to buy, so we lost many people of market who can be our customers and also like to eat this tonic food. As regards to this, that is impossible to consumed too much caviar in a meal because of high calorie and nutritional value and also cannot keep it for long time, so it seems the best way for increasing the sale and covering majority of market's people is to sale that also in multi-Grammy Pack. Packaging and export of caviar in small Pack restrain jobbery of some competitors. Export of caviar in big pack some competitors are encouraged to re-packaging of Iran's caviar and export that with own name.

9.5 Fifth Hypothesis

H₅: *Proper processing and high quality of caviar is effective on development of Iran's caviar exports.*

About the fifth hypotheses, as shown in Table 1, significant level (0.0058) is less than 0.01, so with the possibility of 99%, the hypothesis is accepted. Quality is one of the most important factors in the purchase and exports of food products. Caviar production of high quality, so that the flavor, color, smell and shelf life be appropriate can make satisfy the consumers, Gain export health certificates, and increase exports. Using high quality raw materials, employing skilled personnel and appropriate processing methods can help improve the quality of the caviar production.

9.6 Sixth Hypothesis

H₆: *Having good political relations with other countries is effective on development of Iran's caviar exports.*

Because significant level (0.0032) is less than 0.01, with the possibility of 99%, this hypothesis will accept (Table, 1). Having good political relations with other countries at the international level is one of the most important factor for progress and economic growth in today's world, regarding this mater although Iran always trying to have good relation with other countries, around of the world but unfortunately still is under UN economic sanctions and many companies cannot establish trade relations with Iran, so we hope Iran's political authorities can solve this problem and make appropriate condition for the export of this especial product. Formal and informal Political agreements diplomats of Iran and collaboration with other country and international organization create Provides fertile ground for business, research and financial collaboration Iranian corporation with other country. Also being good political relations with other countries increase security investment in the Iran and cause to absorb of foreign investment.

9.7 Seventh Hypothesis

H₇: *Producing farmed caviar by other country has positive effect on development of Iran's caviar exports.*

Because significant level (0.07) is not less than 0.05, with the possibility of 95%, this hypothesis will rejected (Table, 1). In the past decade, several countries have turned to producing and exporting farmed caviars, among them some countries have been able to produce cheap caviar from ordinary fishes that are not inherently Sturgeon and Increase their share in the global market. At present, cheap prices of farmed caviar, Inability of consumers to recognize the natural caviar and unfamiliarity of them with the benefits of natural caviar are challenges facing natural caviar.

10. Conclusion

Caviar is one of the major export products of Iran and has Thriving market in developed country, Preliminary analysis showed that the export of Iranian caviar in the past decade have greatly reduced, in This study was an attempt to discovered factors that can increase exports of caviar and remained hidden from the view of those involved in this industry and then examined them, The results confirmed all of the hypothesis and showed, Diversification in the packaging capacity, good political relations, processing and quality of caviar, familiarity of the Exporters with exports principles, introducing nutritive and treatment value of caviar, and foreign investment absorption will increase the export but producing farmed caviar decrease export's volume. Base these result we can say that effort and close relation the government, producers and exporters together help to development of caviar exports. Government should facilitate export Laws, deducts as much as possible taxes, and give Donations to producers and exporters. Producer should use modern technology and methods in Fishing, farming and processing in order to increase the quality and health of products, reduce the final cost and produce according to customer's income, need and interest. In addition, exporters should try to find new knowledge and useful method in marketing and export. In this regard, other factors such as, Poor action of region's countries to combat smuggling and illegal fishing, construction of bridges and dams on the rivers near the spawning areas of Sturgeon and the Caspian Sea pollution are also reducing the sturgeon stocks. Cooperation of countries to remove above problems and protect the ecosystem of the Caspian Sea assists to increase Sturgeon population and fishing. Finally, producing farmed caviar from Sturgeon is a good solution for increase product of Iran's caviar and Reduce the threat Farmed caviar exports by other countries. enough resources and good condition for produce high quality farmed caviar, Name and reputation of Iran in produce caviar, new knowledge and technology in produce of hybrid sturgeon with Low maturity are strength point that Iran has them and their use can help Iran to produce high quality caviar with cast and time less than other country and Increase Iran's share in the global market.

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Influence of Organizational Climate on Job Satisfaction in Bosnia and Herzegovina Companies

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Abstract

The aim of this paper is to analyze the importance and impact intensity of different dimensions of organizational climate in terms of satisfaction, and thus employee motivation and performance in companies across Bosnia and Herzegovina (BiH). A particular challenge in this paper was to investigate whether there are differences in the importance of certain dimensions of organizational culture for job satisfaction of male and/or female participants, as well as differences in relation to the position in the organizational hierarchy. This paper examines the hypothesis that employees on the top of the organizational hierarchy have a more positive opinion about the organization. Organizations that take steps to monitor and control the organizational climate directly or indirectly exert influence on the efficiency and productivity, as well as the capacity for innovation and job satisfaction, but also and other attitudes towards the work of its employees. The research on the effect of organizational climate on job satisfaction in BiH is essential, notably in terms of BiH's specific business enviroment which dwells in a transition period and under complicated political and economic systems.

Keywords: organizational climate, job satisfaction, motivation, employment, efficiency

1. Introduction

In today's turbulent and dynamic environment, the ultimate development and survival of a company depends on the knowledge, skills and capabilities of its employees; on the other hand, both depend even more on directing those skills and knowledge towards reaching company's goals. Only a satisfied employee will be dedicated to his/her work, demonstrate creativity and aim towards meeting the needs and wishes of company's customers. Thus, in today's times of fierce global competition, almost all companies seek the opportunity to increase staff commitment and direct them (the staff) towards achieving company's objectives. For company's managers, this means employing classical as well as motivational measures in the process of staff motivation.

Employee satisfaction and motivation represent the main principles of contemporary human resources management, since only through quality motivation systems can a company increase its competitive advantage and value. Previous concepts of motivation schemes are becoming insufficient and ineffective, and it is, therefore, indispensable to develop and introduce new ones; their elaboration and versatility will greatly contribute to employee satisfaction and increase their performance.

This study asks how organizational climate can contribute to the increase in employee satisfaction, motivation and work commitment. In searching for the answer to this question, the paper will examine the significance of workplace satisfaction and motivation for company success. Furthermore, the theoretical section of this work will draw upon the characteristics of the organizational climate and the results of present-day research on the effects of organizational climate and culture on company success. In the second part of the paper, key dimensions of the organizational climate form the basis for the empirical research on staff satisfaction in companies in Bosnia and Herzegovina. Finally, the study concludes with the analysis of basic theoretical and empirical researches, as well as recommendations for measuring, analyzing and managing the organizational climate with the aim of increasing employee satisfaction or creating a positive climate for higher motivation levels, which, in turn, contribute to sustainable competitive advantages of a company.

1.1 Organizational Climate and Culture as Intangible Motivation Strategies

The motivational system, as a system of factors which influence individual behavior in the workplace (but also

outside), includes development and application of various motivation strategies used to reach individual and business goals. Hence, we can talk about material compensation on one hand, and non-material stimulation on the other. Material compensation is a relatively complex system of different motivation forms directed at assuring and ameliorating employees' financial situation. On the other hand, non-material stimulation aims at meeting employees' needs; here the reasoning is that the more of employees' needs are met, the bigger their motivation will be. Thus, with the aim of creating comprehensive motivation systems, companies can opt for the organizational culture, job design, management style, employee inclusion, flexible working hours, awards, performance reviews, staff training, career development plans, just to name a few (Rahimić, 2010). "There are many similarities between organizational climate and culture although a number of researches have considered and rejected the proposition that they are synonymous. Yet, because the two variables share a number of overlapping attributes the distance between culture and climate is perhaps not so great as first thought" (McMurraym, 2003, p. 2). Therefore, this part of the paper will focus on the terminology of organizational culture and climate. Company culture is the basic system of values which explains behavioral norms, ways of thinking and employee performance on all levels (within a company). Company culture is based on common beliefs, which significantly influence the process of thinking and acting, as well as employees' feelings; it also shows what a typical company really is, and is used by management and their associates as a sort of a mental map. Although, there is no single definition of culture, the analysis of many different definitions demonstrates several similarities. For example, according to Kroeber *et al.* (1952, p. 155) culture is "the configuration of learned behaviour"; Pettigrew (1979, p. 574) "Culture is the system of such publicly and collectively accepted meanings operating for a given group at a given time" and according to Schein (1983, p. 14) "Organizational culture, then, is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration – a pattern of assumptions that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems". Armstrong (1990) outlines three basic elements of organizational culture, including: organizational values, organizational climate and management style. In simple terms, organizational climate can be considered as an integral part of the working milieu, which, in turn, is the consequence of organizational culture (manifestation of values, norms, opinions and beliefs, customs and rituals, language and symbols) (Buble, 2010, p. 208). "Climate is the sum of the effects of culture as perceived by the individual" (Gray, 2001, p. 105). "Organizational climate has been defined as employees´ perceptions of the events, practices, and procedures and the kinds of behaviors that are rewarded, supported and expected. Organizational climate therefore deals with the perceptions of employees regarding important work-related aspects of the organizations values. Organizational climate has been demonstrated to have a strong influence on individual and group behavior within an organization" (Wei & Morgan, 2004, p. 378).

Among the authors who defined organizational climate, there is no single agreement regarding its conceptual classification. Two basic approaches to the definition of organizational climate exist: the objective and the realist approach which argue that, objectively, climate exists as part of organizational reality, and that subjectively climate is defined according to individual perception of organization's members, which are, in turn, influenced by the effects of organization's characteristics and individuals. Previous research on organizational climate describes it as an objective characteristic of an organization (James & Jones, 1974, Forehand & Gilmer, 1964; …), while modern-day studies define it as a set of opinions, feelings and behaviors which characterize each company (Schneider & Hall, 1972; James & Sells, 1981; …). In this work, organizational climate is observed as a reflex on perception and descriptive believes about the organizational environment.

Organizational climate has a long history in the field of industrial and organizational psychology. It was in the 1920s, as part of the Human Relations movement, that programs for maintaining good interpersonal relationships and creating positive working climate were created. Organizational climate was first mentioned in 1939 (Lewin, Leppitt and White), while organizational climate is mentioned in Petigrew's article from 1979. Many scientists and consultants researched the concept of organizational culture, notably during the time of hardships, when companies confronted external crisis or made management errors. Since then, many scientists and consultants worked on the issue of organizational culture, but did so mainly during times of extreme crisis and management errors. Hence, during the economic crisis in the mid-1970s and the beginning of 1980s, many published works made a connection between the cultural aspects of a company and its success. During this period, Western companies were surmounted by ambitious Japanese competitors, who introduced new production methods. Moreover, their unusual company culture continued to set new productivity records. McKinsey consultants, Tom Peters and Robert Waterman, did an intensive research on Japanese challenges. During the 1970s, these researches resulted in the establishment of the so called "7-S Model". The central variables of the "7-S Model" were precisely the common values of two distinct company cultures (Peters & Waterman, 2000). The differences

between American and Japanese company cultures were also studied by an American management professor, William G. Ouchi. He published his research results in 1981, in a book entitled "Theory Z: How American Management Can Meet the Japanese Challenge?"

An important scientific contribution on the subject was also made by a Dutch scientist, Geert Hofstede. At the beginning of 1980s he published the results of his research conducted between 1967 and 1978 at the IBM. The research included 116.000 associates and managers on all levels. Hofstede showed that there are national and regional cultural groups which influence managers' behavior, as well as the entire process of company organization and management. According to Hofstede, the values that form the basis of a particular culture remain invisible and unknown. Organizational psychologist Edgar Schein of the Massachusetts Institute of Technology shares Hofstede's opinion. He divides company culture into three different levels: artifacts (i.e. visible processes and structure), values and understandings. In his works published between 2003 and 2006 he shows that company rituals, logos and trademarks are visible and easy to change. However, perceptions which form the basis of all values are invisible, hard to reach and difficult to change. At the beginning of 2000s, Schein's model was expanded by Sonja Sackmann, a Professor of organizational psychology from Munich. She went on by establishing additional categories: behavioral norms and values (accepted and demonstrated). It is exactly these behavioral norms, values and understandings that significantly determine the type of communication, problem solving, decision-making, conflict management, learning processes and motivation (Leitl & Sackmann, 2010). Taking into account the definition and characteristics of organizational climate, one can say that organizational climate, directly or indirectly, influences productivity, innovation and employee satisfaction.

1.2 The Significance of Organizational Climate and Culture for Company Success

Climate significantly influences organizational and psychological processes of communication, problem solving, learning, motivation, efficiency and productivity of an organization, as well as innovation and job satisfaction. Therefore, climate is becoming the focus of organizational experts, notably because of a growing number of empirical data that proves the fact that good organizational climate boosts productivity and efficiency and increases employee satisfaction. Numerous researches are trying to examine the relationship between organizational climate and company success. In 1973, Pritchard and Karisick proved that climate is connected to departmental success (within a company), as well as to employee satisfaction. Ekvall (1987) refers to his earlier research in which climate of a successful department was characterized by higher scores in the following dimensions: challenge, support of new ideas, freedom and dynamics, and trust/openness. Patterson *et al.* (2004) confirmed a positive correlation of several aspects (i.e. concern about employee's well-being) of climate and company productivity on a sample of 42 companies. Research studies conducted by Rose *et al.* (2002 and 2004) show a strong bond between organizational climate and employee reaction to commitment and organizational process, as well as their attitudes towards apsentism. Through her research, Heidi Bushel (2007) came to a conclusion that the organizational climate model by Hart *et al.* (1996) explains around 16% of one-day sick leaves and 10% of various other absences. Other studies support the relationship between organizational climate and many other factors, such as job satisfaction, health, creativity, innovation and change. Jaeger, Bedell and Mumford (2007) assessed the relationship between climate and creativity.

The failure of many re-engineering processes that occurred in the 1990s can be explained by company's insufficient organizational culture. Hence, numerous scientific researches were conducted, all with the purpose of confirming the relationship between company culture and success. In 1992, two Harvard professors, John Kotter and Jim Heskett presented the results of an 11 year annual comparison between more successful and less successful companies. They showed that firms with strong company culture (concentrated on buyers, business partners, management and owners) can increase their profits by 56%, while companies with weak company culture can augment their earnings only by 1 %. Furthermore, the research initiated by the Bundesministerium fuer Arbeit und Soziales (German Ministry of Labor and Social Issues) showed that a combination of cultural dimensions (identification, team orientation, career development support, fair employee relations and ability to reorganize) can explain up to 31% of company's financial success. Here, culture notably influences the process of hiring associates, innovation levels and subjective feelings of stress. The reasons for which highly qualified workers leave the company are also connected to company culture, up to 32% (Leitl & Sackmann, 2010, p. 39).

Regardless of research results, the top company management did not pay a lot of attention to this issue; in turn, decisions were made on the basis of quantitative indicators. Today, the situation is different. According to the research conducted in Germany in 2009, out of 157 managers, 45% stated that company culture is *very* important for success, while 24% said that it is extremely important for success. It is believed that these different views are

influenced by rapid economic crisis. Moreover, the data shows that company culture, despite financial and economic crisis, can be viewed as an essential (basic) success factor, and maybe even more so than before (Leitl & Sackmann, 2010, pp. 40-41). The significance of company culture will increase in the future. The increased importance of company culture rests on the fact that organizational cultures cannot be copied, because they are invisible and deeply imbedded into company's structure. Hence, the comparison between company's own culture and the culture of its competitors is difficult to make. When comparing two distinct company cultures, it is possible to use information such as: the operative way of workers' behavior, workplace equipment, stories and anecdotes about the company, etc. However, it is important to note that this process must be continuous. If results show that company culture of a certain firm is stronger and deeper in comparison to its competitors and field average, then this will indicate future flexible accommodation to changes on behalf of those competitors. It is only through positive measures that help shape knowledge and motivation that company culture contributes to its competitiveness.

Managers can influence organizational climate in short and medium terms, but only when climate changes in the long run does culture change as well (usually in the period of five years). Therefore, in the short and medium run (up to five years) management might deal with organizational climate (and indirectly also culture), which is, in fact, the main factor of efficiency. The work of the management is directly aimed at climate, and indirectly also at culture, because through influencing climate (which is closely linked to success and satisfaction), they can also influence culture.

2. Empirical Research on Organizational Climate and Job Satisfaction in Companies in Bosnia and Herzegovina

Organizational climate can be measured by a number of objective and subjective indicators. Previous research on organizational climate describes it as an objective characteristic of an organization, while modern-day studies define it as a set of opinions, feelings and behaviors which characterize each company. The distinction between objective and subjective measures is mirrored in the two theoretical approaches to the definition of organizational climate (Ekvall, 1987). In this work, organizational climate is observed as a reflex on perception and descriptive believes on organizational environment (ambiance). The purpose of this study was to analyze the significance and the intensity of various dimensions of organizational climate on job satisfaction and employee motivation. Through data analysis, this work examines the hypothesis that employees on the top of the organizational hierarchy have a more positive opinion about the organization. Employee opinion could be considered a significant guideline to company managers in Bosnia and Herzegovina, notably in the process of decision-making and strategic planning, but most importantly during changes in business policies and creation of future plans in regards to human resource management.

2.1 Sample Group

This research encompassed 111 employees from production oriented companies and different industrial sectors: food, textile, wood and machine industries. These industries are traditional and typical for Bosnia and Herzegovina. The research was conducted through surveys, using random sampling method. In the first part of the survey, the examinees provided some general data on gender, age, education level and their position within the company, while the second part of the survey dealt with different dimensions of organizational climate (statements which describe different situations in the organization – events, conduct, rules, relations). The third part of the questionnaire examined employee satisfaction in terms of the existing motivational factors in their respective companies. The answers were ranked on a scale from 1 to 5, with a higher number denoting a higher level of agreement with a certain statement.

The sample group is dominated by males (75%), which can be explained by looking at companies' activities and the field in which they operate (industrial). Women were represented by only 39.20%, which indicates lower female presence in the organizational structure. More specifically, in the food industry there were 35.40% females, while they were represented by 68.8% in the textile, 13.53% in the wood and 16.77% in the machine industries. Moreover, high unemployment rates among women in Bosnia and Herzegovina is a significant problem and a topic of many discussions, roundtables and NGO activities (Statistical Yearbook, 2011, pp. 108-112). When looking at education levels, the highest number of employees are skilled workers (44%) and highly-skilled/secondary education workers (35%), followed by employees with university degrees or two years of secondary education (10%), and lastly semi-skilled workers (1%). The highest number of examinees is employed in the production sector (87%), followed by administration (11%) and management (2%). The sample group is heterogeneous according to education levels (see Table 1). The following table also shows the examinees' position in the organizational hierarchy.

Table 1. Educational level and examinees' position in organization

Educational Level	Percentage	Position held within the company	Percentage
Semi-skilled and 2 years of secondary education	11%	Production worker	87%
Skilled worker	44%	Administration	11%
Highly-skilled worker and secondary education	35%	Management	2%
University education	10%		

Source: Authors' calculation.

Age structure is the following: 1% up to 20 years, 38% between 21 and 30 years, 19% of employees aged between 31 and 40 years. A significant number of employees, or more precisely 34% are between 42-50 years of age while 51 years and over was represented 8% of associate-respondents.

2.2 Key Characteristics of the Organizational Climate of Companies in Bosnia and Herzegovina

The intention was to measure the organizational climate according to 24 criteria, or, more precisely, 24 statements. The basis for defining the criteria of this study lies in a specific way of looking at the organizational culture, which represents a reflection on the perception and descriptive beliefs of the employees regarding the atmosphere in their companies. In testing the organizational climate, the following categories were taken into consideration: perception on the quality of work, products and services, sense of belonging to the organization, structural organization, way of management, company's presence and awareness about its existence, company's aims and visions, communication and information, interpersonal relations, employee qualifications, possibilities for additional education, awards and motivation. For every answer (statement) we counted the average and standard deviation, which shows single answers that depart from the average. The lower the standard deviation the more similar answers were recorded among the examinees (more homogenous answers).

Table 2. Descriptive statistics for the analyzed dimensions and derived constructs

No	Dimension	Average	Stand. dev.
1.	I feel responsible for the quality of my work	4.712	0.706
2.	My department has a clear set of standards and quality goals	4.229	1.094
3.	I am aware of the fact that changes in the organization are important	4.153	1.105
4.	I am ready to take the risk of introducing my own initiatives and innovations	4.084	1.175
5.	Our organization has relatively high expectations in regards to work success	3.936	1.219
6.	Good work results are readily noticed and awarded	2.883	3.204
7.	Outside of work, I speak positively of my organization	3.811	1.311
8.	In case my salary was lowered due to business problems, I would not leave the organization	3.398	1.472
9.	The organization offers good training which I need to successfully complete my tasks	3.306	1.256
10.	The training system is good	3.135	1.338
11.	We cooperate very well in our organization	3.523	1.174
12.	I help other people	4.477	0.903
13.	I accept my organization's goals as if they were my own	4.382	0.938
14.	Policies and goals of my organization are clear to me	3.706	1.328
15.	I have a clear picture of what is expected of me	4.367	1.094
16.	My tasks and responsibilities are clearly defined	4.139	1.063
17.	My seniors discuss my performance with me	2.972	1.494
18.	My seniors accept argumented objections regarding their work	2.727	1.387
19.	The organization adequately forwards information	3.315	1.307
20.	I feel responsible for providing information in a timely manner, but also receiving it	3.955	1.176
21.	Career advancement criteria is clear to me	3.227	1.463
22.	I have equal opportunities for advancement on all levels	2.881	1.419
23.	Underperformance and weak results are reprimanded	3.455	1.482
24.	Employees who have more responsibilities are awarded more often	2.216	1.391
	Organizational climate	3.652	0.830

Source: Authors' calculation.

The highest average grade was given to the statement that affirms the responsibility of employees for the quality of their work (4.712). The clarity of company's goals is also notable – "I have a clear picture of what is expected of me" – (4.367). An important factor in reaching company's objectives is certainly mirrored in the statement

that employees accept their company's standards as their own (4.367), that they have clear expectations of their work (4.367), as well as that their department has a clear set of standards and quality goals (4.229).

Statements which relate to work results and "employee-manager" relations are especially alarming. The statement "good work results are readily noticed and awarded" received a low grade of 2.883. However, the standard deviation of 3.204 shows that there are significant deviations in employees' opinions. The lowest average grades were given to the following statements: I discuss my performance with my seniors (2.727), I have equal opportunities for advancement on all levels (2.881), and employees who have more responsibilities are awarded more often (2.216).

In order to review the methods and group affinity of the above statements, a factor analysis was conducted. The adequacy of using factor analysis was verified through the use of sample correlation matrix (Table 3). Considering the fact that in the correlation matrix each dimension is emphasized by at least one coefficient which is higher than 0.3, the use of factor analysis is justified. The method of factor analysis which is used represents the analysis main components.

Table 3. Model with extracted factors – with rotation

Component	Total	% Variants	Cumulative %
1	6.309	26.286	26.286
2	6.003	25.012	51.298
3	1.679	6.997	58.296
4	1.605	6.690	64.985

Source: Authors' calculation.

The achieved solution explained 64.985% of the overall variability. This is acceptable, since the bottom border of acceptance cumulates to 50-60% of the variance explained by the resulting factors. In the rotated solution, four factors satisfy both criteria: the inherent value and the percentage of the overall variant. The first factor explains 26.29% of the overall variability between variants, the second factor justifies 25.01%, the third one clarifies 7.0 %, and lastly the fourth one accounts for 6.69% of the overall variant (Table 4).

Table 4. Overview of the four identified groups of factors

1st group of factors: Individual responsibility for the quality of work performance, support for change, and acceptance and goal reaching	2nd group of factors: Job qualifications, career advancement and conversation about work efficiency
- I feel responsible for the quality of my work. - My department has a clear set of standards and quality goals. - I am aware of the fact that changes in the organization are important. - I am ready to take the risk of introducing my own initiatives and innovations. - Our organization has relatively high expectations in regards to work success. - I help other people. - I accept my organization's goals as if they were my own. - Policies and goals of my organization are clear to me. - I have a clear picture of what is expected of me. - My tasks and responsibilities are clearly defined. - I feel responsible for providing information in a timely manner, but also receiving it.	- The organization offers good training which I need to successfully complete my tasks. - The training system is good. - We cooperate very well in our organization. - My seniors discuss my performance with me. - My seniors accept argumented objections regarding their work. - The organization adequately forwards information. - Career advancement criteria is clear to me. - I have equal opportunities for advancement on all levels. - Employees who have more responsibilities are awarded more often.
3rd group of factors: Loyalty	4th group of factors: Factors of compliments and positive attitudes
- In case my salary was lowered due to business problems, I would not leave the organization - Underperformance and weak results are reprimanded	- Good work results are readily noticed and awarded - Outside of my workplace, I speak positively of my organization

Source: Authors' calculation.

It is obvious that the factor analysis is a very useful multivariational statistical technique used to effectively extract information from large databases, or when analyzing multiple factors. Also, this technique demonstrates

interesting relations, which might not be obvious from analyzing raw data or even the correlation matrix.

Alongside the analysis of key characteristics of the organizational climate, a special challenge was to evaluate the opinions of different categories of examinees, or better their vision of the work environment. In order to test the differences between median values of male and female opinion, the Mann-Whitney test was used, since the distribution of the analyzed variable does not meet the "normality" condition. The value of "P", together with appropriate statistical tests, is considered statistically important or significant if it is lower than 0.05, since tests are done with first level mistakes of 5%, or 95% significance. In this case, the hypothesis that the observed sample or groups are statistically significantly different is accepted.

When comparing the answers given by males and females, there is a significant difference only in relevance only to the statement: "policies and goals of my organization are clear to me" (z (Note 1) =-2.325, p=0.02>0.05). According to this dimension, the male population gave an average grade of 3.83, while females marked it significantly lower, with only 2.7. This grade creates a need for an additional question that could be researched in the future, and that is the participation of female population in decision-making and goal-setting procedures, as well as career advancement and development opportunities offered to them.

Unlike the similar results given by males and females, the views on organizational climate are quite dispersed on different organizational levels.

Table 5. Overview of organizational climate at different organizational levels

Statistical parameters	N	Average	Stand. dev.	N	Average	Stand. dev.	N	Average	chi-squared (Note 2)	P Value
Organizational level	Production			Administration			Management			
The training system is good	95	**3.042**	1.352	12	**4.000**	0.739	1	**5.000**	7.564	0.023
My tasks and responsibilities are clearly defined	92	**4.207**	1.075	12	**3.583**	0.900	1	**4.000**	6.054	0.048
I discuss my performance with my seniors	92	**2.761**	1.448	12	**4.500**	0.798	1	**5.000**	16.915	0.000
My seniors accept argumented objections regarding their work	94	**2.521**	1.334	12	**4.167**	0.718	1	**5.000**	17.115	0.000
The organization adequately forwards information	95	**3.211**	1.352	12	**4.083**	0.669	1	**5.000**	6.471	0.039
I feel responsible for providing information in a timely manner, but also receiving it	94	**3.840**	1.212	12	**4.750**	0.452	1	**5.000**	7.940	0.019

Source: Authors' calculation.

Through the analysis of these data, a significant difference in marks given by production workers and management (administration and management) was noticed. Therefore, companies in Bosnia and Herzegovina also confirmed that organizational climate is graded differently, more precisely according to the level of organizational status. The higher the status of an employee in the organizational hierarchy, the more positive their opinion about the organization (3.5:4.3). This result confirms the initial hypothesis. The original dimensions in which there is a significant statistical difference between the grades given by different organizational levels are illustrated in table 2. (see no: 10, 16, 17, 18, 19 and 20). Out of 24 statements concerning organizational climate, six (6) demonstrate significant deviations in terms of opinions given by employees from different categories. According to Kruskal-Wallis non-parametric test, the value of „p" is lower than 0.05, which means that there is a significant difference in grades given by production workers, administration and management. All the other criteria (out of 24 total) received similar grades, and there are no considerable deviations. Therefore, it is obvious that the highest grades were given by those employed in the management, followed by administration workers, while the lowest grades were given by those employed in the production sector. It is interesting to note that production workers consider their work duties to be clearly defined. However, this is not the case with administration workers. This means that employees in the administrative sector do not have clear work guidelines, nor do they know what is expected of them. In the future, this could be a signal to company's management, which would certainly help in defining specific work tasks, notably in the process of workplace systematization and hiring.

When it comes to "employee-manager" relations, the lowest grade was given by production workers. The

statement "I discuss my performance with my seniors" received only 2.761 from production workers, 4.5 by administrative workers and an amazing 5.0 by management. Since only one examinee came from top management, the analysis of his grade is irrelevant, but it is interesting for the discussion. An even lower grade was given by production workers for the statement "My seniors accept argumented objections regarding their work" (2.521), while the administration graded this statement with 4.167. These grades demonstrate the existence of significant setbacks in the system of appraisal and assessment of employees, as the central activity of human resource management. The perceptions about the quality of communication also differ, based on the status in the organizational hierarchy. The average mark for the statement "the organization adequately forwards information" was 3.211 as graded by production workers, 4.083 by the administration and 5.0 by the management. This data shows that one-way, top-bottom communication is predominant. If we consider the fact that communication is the "bloodstream of every organization" and that in today's dynamic and unpredictable environment it is impossible "not to communicate", then we should give special attention to analyzing and improving communication in companies across Bosnia and Herzegovina. Training activities, as well as enhancement of communication skills of top management employees should be undertaken.

The goal of this research was to, aside from organizational climate, test the employee satisfaction. This study is just a part of a broader research, which alongside organizational climate also examined the levels of employee satisfaction. The following categories were measured: satisfaction with the co-workers, job security, workplace, working hours, senior management, training possibilities, status in the organizational hierarchy, management, workplace conditions, promotion possibilities and salary (Table 6).

Table 6. Descriptive statistics for the analyzed dimensions and derived constructs

No.	Dimension	Average	Stand. dev.
1.	I am satisfied with my co-workers	3.766	1.191
2.	I am satisfied with a secure workplace	4.207	1.184
3.	I am satisfied with the workplace	3.757	1.491
4.	I am satisfied with work hours	4.092	1.266
5.	I am satisfied with my seniors	3.405	1.404
6.	I am satisfied with qualification opportunities	3.450	1.319
7.	I am satisfied with my status in the organization	3.333	1.337
8.	I am satisfied with organization's management	3.275	1.433
9.	I am satisfied with work conditions (equipment, space, security measures)	4.118	1.269
10.	I am satisfied with advancement opportunities	2.937	1.509
11.	I am satisfied with my salary	2.582	1.323
	Employee satisfaction	3.538	1.029

Source: Authors' calculation.

The employees are concerned with job security (4.207), which is understandable considering high unemployment rates in Bosnia and Herzegovina, as well as recession. They are also satisfied with work conditions and working hours, while they are least satisfied with their salaries (2.582) and career advancement opportunities (2.937). The comparison between the average grade given to organizational climate (3.652) and employee satisfaction (3.538) was made using the non-parametric Wilcox ranking test. The value obtained was -1.745, with "p" value of 0,081 > 0,05. These results demonstrate that employees have a similar opinion of employee satisfaction and organizational climate.

We also analyzed the correlation between the examined dimensions. If we search for a relation between the average grade given to organizational climate and the average mark given to employee satisfaction, the correlation coefficient equals to 0.866 with a significant "p" value of 0.000, which means that there is a direct correlation between the examined statements. The statistical analysis of the data and the method of simple correlation both show the effect which the organizational climate has on employee satisfaction. The degree of influence is 0.866, which means that 86.6% of satisfaction level changes among all the employees are caused by changes in the organizational climate (employee perception of organizational climate dimensions). More precisely, organizational climate significantly influences employee satisfaction in companies across Bosnia and Herzegovina.

Taking into account the fact that satisfied and motivated employees are devoted to their jobs, and that they attain better results, as well as the data obtained through this research, one can come to a conclusion that organizational climate directly influences long-term company success. Therefore, the top management of companies in Bosnia

and Herzegovina should give a great deal of attention to various elements of organizational climate, as well as human resource management activities (starting from job and workplace design, to continuous education and training, career development, use of award systems and various non-material motivation strategies).

3. Conclusion

This paper presents a research on the relationship between organizational climate and job satisfaction where organizational climate was observed as a non-material motivational strategy. Organizational culture is considered a non-material motivational strategy in theory and practice, while organizational climate is considered as one of the three basic elements of organizational culture (or an outcome of organizational culture). Organizational climate intercedes work and interpersonal relations, and influences the processes of communication, problem solving, learning, motivation and efficiency. In this paper, organizational climate was measured according to 24 criteria (statements). A hypothesis which states that employees who are positioned higher in the company hierarchy have more positive opinions about the organization. The research was performed on a sample of 111 employees from production companies of different industrial branches: food, textile, wood and machine industry. On the basis of data analysis, it was concluded that opinions and ranking of organizational climate in companies across Bosnia and Herzegovina also vary according to the level held in the hierarchical structure. Those employed in the higher management of the organizational hierarchy have more positive opinions about the organization (3.5:4.3), which confirms our research hypothesis. A statistically significant difference in the grades given by employees from different organizational levels exists on six criteria (statements) in the organizational climate.

Through the method of factor analysis of the 24 criteria of organizational climate, four categories were defined. They explain 64.99% of the overall variability. The first category is dominated by individual responsibility for the quality of work performance, support for change, and acceptance and goal reaching. This category explains 26.29% of the overall differences in variables. The second factor, which refers to job qualifications, career advancement and conversation about work efficiency accounts for 25.012% of the overall variability. The third factor (loyalty) explains only 6.997% of the overall variability, while the lowest level of variability (6.69%) is accounted by the so called factors of compliments and positive attitudes.

Employee satisfaction was examined through 11 statements. It can be concluded that the employees are most satisfied with job security, while they are least happy with their salaries. It is obvious that top management attempts to avoid dismissing employees had motivational effects on BiH's business environment, which is characterized by high unemployment rates and recession. Lowering salaries and irregular payments had a negative effect on employee satisfaction. However, it can be concluded that job satisfaction is on a satisfactory level (3.538).

Through analyzing the correlation between organizational climate and job satisfaction, it was possible to conclude that organizational climate significantly influences job satisfaction, since the level of influence is 0.866. This means that 86.6% of all job satisfaction changes were influenced by changes in organizational climate.

Lastly, the correlation analysis clearly demonstrated that there is a significant direct relation between organizational climate and employee satisfaction, because the level of influence is 0.866. This means that 86.6% of all changes in job satisfaction were caused by changes in organizational climate, which implies that organizational climate significantly influences employee satisfaction in companies in Bosnia and Herzegovina. Resting on the fact that satisfied and motivated employees obtain better results, we can conclude that organizational climate directly influences company success. Therefore, in order for a company to survive and advance in the future, management of organizational climate, which stems from strong organizational culture where co-workers function according to the optimum of their abilities, is essential for contributing to the overall value of every organization.

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Notes

Note 1. According to Mann-Whitney's non-parametric test.

Note 2. According to Kruskal Wallis non-parametric test.

Assessing Rural Banks Effectiveness in Ghana

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Abstract

This study critically examines contemporary issues and lending activities to small scale farmers for agricultural production. The Agriculture sector is the mainstay of Ghana's economy and small scale farmers play a dominant role in the sector which explains why this study concentrates on this sector. A survey research was conducted using both structured and unstructured questionnaires. A total of 127 farmers, 18 key informants and 10 rural banks were interviewed. Descriptive and inferential statistics were used to analyse the effectiveness of rural banks. Allocations of the various loans (agriculture, cottage industry, trade and transport and others — social credit) in the rural banks' credit portfolio were significantly different among the four loans categories (ANOVA $p = 9.6E\text{-}29$). From the tukey-kramer procedure, there was a difference in average amount of loan disbursed between agriculture and trade, and between agriculture and social credit with Q-Statistics of 3.84. The means for trade and social credit were larger than that of agriculture and by implication agriculture is treated less favourably in rural banks credit schemes and portfolio. These findings lend credence to the claim that rural banks are not sticking to their core mandate of prioritising credit provision to rural agriculture and have strayed into other endeavours.

Keywords: rural banks, small-scale farmers, credit, collateral

1. Introduction

Access to Secure and reliable institutional and secure of institutional credit by small-scale Ghanaian farmers are constrained by a myriad of conditions such as collateral security, often in the form of landed property, and stable employment that must be guaranteed by the employer. Besides the commercial and development banks are not keenly interested in advancing credit facilities to the Rural small scale farmers for reasons associated with spiralling transaction cost, rising incidence of default rates and the high risk (Essel & Newsome, 2000).

These constraints situations have adversely affected agricultural activities in the rural areas of Ghana and have accelerated the worsening endemic poverty that is pervasive in these less privileged communities. To stem the gravity of these challenges, the concept, the concept of rural banking was introduced in 1976 by the Government of Ghana in partnership with the Bank of Ghana (BOG) as an alternative channel for providing financial intermediation at the rural levels (William and David, 2004). In pursuance of achieving the objectives of this concept, the rural banks (RBs) have devoted considerable amount of resources to the task of mobilising and allocating loanable funds as well as transforming and distributing risks and maturities by intermediating between rural savers and investors. While these efforts might have yielded positive results for some rural people and enterprises, it is uncertain whether or not RBs are serving the basic function for which they were established. This is because, there are significant anecdotal evidences to the fact that a high proportion of the RBs' loan portfolios are being diverted to salaried workers other than its intended beneficiaries — small-scale farmers. This unsubstantiated claim means there exists gaps in this area of study and this work seeks to find relevant answers to the question of whether rural banks have been effective in fulfilling their primary goal of providing credit to the rural farmer and whether evidence can be adduced to underpin the claim that the rural banks are releasing more credit to other economic endeavours to the detriment of rural agriculture.

2. The Study Area

This study was conducted in Ghana. Ghana is located on the west coast of Africa, bordering the Gulf of Guinea, and between Cote d'Ivoire and Togo. It also lies 800 degrees north and 200 degrees west of the equator. The country has a total land area of 239,460 square kilometres (CIA, 2005). Of this, agricultural land constitutes 57 percent and only 20 percent of the agricultural land is under cultivation (Seini, 2002). Ghana has a population of 24.4 million as at 2010. Further, 63 percent of the population live in rural areas and 37 percent live in urban areas (ISSER, 2004).

Rural poverty in Ghana is 52 percent and urban poverty is 23 percent with more than one-half of the population living in the rural savannah zones continue to wallow in abject poverty. Ghana is ranked 135th out of 187 countries in the 2011 Human Development Index (HDI) released by the United Nations Development Programme (UNDP). It is a low-income food-deficit country with a per capita income of less than US$340 per year (FAO, 2004). GDP for 2003 at current prices stands at US$44.44billion (Bank of Ghana, 2004).

3. Literature Review

3.1 Role of Financial Institutions on Agriculture Growth

Researchers (Seini, 2002; Desai, 1989; Mellor, 1976; Rosen, 1975) have suggested that availability of finance is necessary for the adoption and diffusion of innovative and productivity-raising technologies in agriculture and consequently for the stimulation of agricultural growth. It is further asserted that improved technologies in agriculture are almost always being associated with increased demand for working capital (e.g. pesticides) or fixed capital (e.g. tractor) or both and for this reason, availability of finance is central to agricultural total factor productivity. In view of the fact that incomes of most farmers in developing countries are low, static and dependent on the variability of weather, effective financial intermediation in farming communities is of utmost significance in the sense that farmers use credit facilities to withstand current shocks and to provide insurance against possible future shocks and thus reduce the need to liquidate their productive assets (FAO, 1994; Habibullah, 1982; Bauer, 1952). Another role of financial intermediation at the rural levels, with slight but important shift in emphasis, is the fact that institutional credit is deeply required by rural farmers because of an inelastic growth of informal lenders who serve as alternative source of finance in rural communities. The resources of informal lenders are inadequate thereby diminishing their capacity to provide long term finance necessary for investments in productive assets such as irrigation, market infrastructure, tractors and farm implements (Lele, 1989; Rosegrant & Siamwalla, 1988; Mellor, 1976). Moreover, development of small-scale farming systems is dependent, among other factors, on capital transfer (Kannapiran, 1994). While capital transfer in agriculture can be effected through saving mobilisation, the inadequate and unreliable nature of the deposit facilities which are being offered by the traditional lenders make the role of formal financial institutions relevant for the growth of agriculture (Desai, 1989; Von Pischke & Donald, 1976). From the foregoing propositions, it can be concluded that agricultural growth is contingent on the development of effective financial markets.

3.2 The Concept and Operations of Rural Banks in Ghana

Rural banks (RBs) are unit banks owned by members of the rural community through the purchase of shares and are licensed by the Bank of Ghana (BOG) to provide financial intermediations in the rural areas, (Steel & Andah, 2004). The RBs operate as commercial banks under the Ghanaian Banking Law 1989 (PNDCL 225), except that they cannot assume foreign exchange operations and the acceptance of valuable properties such as gold (Steel & Andah, 2004). Association of Rural Banks (1992) states the following as some of the aims of RBs:

(1) To facilitate rural savings mobilisation;

(2) To offer credit and other banking services to rural producers;

(3) To act as an instrument for rural development;

In pursuance of the above objectives, the BOG has identified agriculture as a critical factor and consequently; it has mandated that agricultural loans should represent at least 50 per cent of any RB's loan portfolio at any particular point in time adding that cottage industry, and trading and transport should have a maximum allocation of 30 per cent and 20 per cent respectively (BOG, 1985); see table 1. The BOG termed these mandatory sectoral allocations as direct production credit and any loan falling out of these sectors is termed social credit and should constitute a very minute fraction of RB loans.

Table 1. Mandatory sectorial allocation of rural bank loans portfolio [a]

Sector	Credit Allocation
Agriculture	A minimum of 50% of the Loan Portfolio
Cottage Industries [b]	Approximately 30% of the Loan Portfolio
Trade and Transport	A maximum of 20% of the Loan Portfolio

Notes: [a] Source: The Bank of Ghana's Operational Manual for Rural Banks (1985). [b] Examples of Cottage Industries are bricks and tiles, construction, furniture making, tailoring etc.

However, Essel and Newsome (2000) have demonstrated, using case-control methodology, that RB credit lending operations have failed to meet the BOG stipulations. It was revealed from their study that credit for direct production such as crop production, trading and fishing constituted only about 15 per cent of the total loan portfolio in their case study bank. In the light of this discovery, Essel and Newsome (2000) argued that the low concentration of direct production credit in the case-study bank's loan portfolio is a weak test of the effectiveness of RBs. This situation might have been arisen from a high default rate position of the small-scale farmers. For example, Steel and Andah (2004) have asserted that standard commercial loans made by RBs in the 1980s to direct production have resulted in portfolio performance problems. These problems, according to Steel and Andah (2004), became so serious to the extent that the RBs were grappling with the difficulty of depositors' withdrawal demands. By the early and mid 1990s, RBs had to undergo a number of changes so as to maintain public confidence and to expand their outreach, (BOG 1995). Following these changes, and the ardent desire to provide a more effective financial intermediation at the rural levels, RBs have now partnered with a number of Non Governmental Organisations (NGOs) who have developed expertise and capabilities in microfinance operations (Steel & Andah, 2004; Chord, 2000; Quainoo, 1997). In this connection RBs in Ghana are now offering four types of financial products: individuals' savings with credit; individual savings with group credit; individual and group savings with credit; and group savings with credit, (Chord, 2000). Loans of this nature are typically short-term (4-6month) and amortised weekly with annualised interest rate of between 48 and 60 per cent, *ibid*. This is accompanied by a mandatory advance saving of 20 per cent of the principal and which saving is retained as security against the loan in addition to group or individual surety, (Steel & Andah, 2004; Beinpuo, 2000). Consequently, RBs chalked much success in savings mobilisation and credit advances with Nsoatreman Rural Bank, for example, as at 1998, reporting a total of 25,587 depositors, 17,584 borrowers, 130 per cent operational self-sufficiency and portfolio in arrears under 4 per cent (See Steel & Andah, 2004). It might be emphasised that interest rates of 48 to 60 per cent is by no means an exorbitant rate. Yet, the smaller-scale borrowers' ability of servicing RB credit is an ample demonstration of their commitment to participating in the formal financial markets.

The successes of RBs in Ghana seem to seriously mask the banks' failures in terms of their obligation to give priority to direct agricultural producers. Given agricultural planting cycle, seasonality of agricultural products and the huge capital base required for investment in productive asserts, it would not be difficult to construe that loans of 4 to 6 months duration and which are amortised weekly are adverse to agricultural growth and can potentially exclude agriculture from the RBs' credit portfolio. It might be wrong to conclude, therefore, that large percentage of the Nsoatreman Rural Bank loans went to agriculture as prescribed by BOG. This view may attract support from Nissanke and Aryeetey (1998) report that, as at 1993, RB's credit extended to the agricultural sector stood at 27 per cent. Obviously such percentage is less than the 50 per cent minimum allocation prescribed by BOG. Moreover, there is an ample evidence of RBs in Ghana accumulating excess liquidity, (Steel & Andah, 2004; Beinpuo, 2000; Nissanke & Aryeetey, 1998). Excess liquidity refers to situations where banks voluntarily increase their holdings of liquid assets (e.g. treasury bills) on a large scale in response to a rise in perceived default risks. This practice does not only reflect RBs Managers' degree of risk aversion but also impede the flow of investible funds to direct production as noted by Essel and Newsome, (2000): *"…if the effectiveness of the Rural Bank program is to be improved, more credit must be shifted to direct producers who will invest in productive activities"* (emphasis mine).

An important innovation in the operations of RBs in Ghana is the application of group-based lending schemes in almost all their financial products, (See Beinpuo, 2000; Chord, 2000). This gives an indication that RBs are trying to reduce their transaction cost by replacing multiple small loans to individual by a large loan to a group. It also points to the direction of RB's trying RBs are trying to leverage social sanctions to enforce repayment and as well use groups to reduce the effects of adverse selection and moral hazard; as has been demonstrated by the Grameen Bank. Conceptually, group-based lending is shrouded with lots of disagreements although its importance is well recognised in various literatures. Whereas researchers (Huppi & Feder, 1990) maintain that

group-based lending is effective under situations where the groups are homogenous and jointly liable for defaults, Sadoulet and Carpenter (2001); and Sadoulet (1999) held contrary views and attributed group effectiveness and risk reduction to heterogeneity. These authors argued that heterogeneous groups matching allows group risk pooling and creates insurance avenues in areas without insurance markets. This view seems relevant in the context of Ghanaian RFMs which have no insurance facilities for rural dwellers. In addition, the spread of group loans across different groups of farmers (e.g. livestock producers and crop producers) may serve to protect against total default in case of adverse climatic conditions. Therefore, it is logical to side with Sadoulet and Carpenter (2001).

Experts have also asserted that, loan monitoring and repayment enforcement are fundamental to the operations of RBs, (Essel & Newsome, 2000). This may suggest that RBs place more emphasis on moral hazard. Should this be the case, then Aryeetey and Udry (1997) conclusion that commercial banks are more concerned with adverse selection than moral hazard leaves much to be desired.

Evidence exists in both contemporary and extant literature that, little research has been conducted on the effectiveness of Ghanaian RBs on agricultural growth at rural levels. Essel and Newsome (2000), for example, have analysed RB effectiveness in Ghana but their research focused largely on the effects of RB credit on rural development. More so, the sample size they chose was less than 1 per cent of the population, and what is more, their study did not have a wider geographical spread. Based on these shortcomings their conclusions may not give a true reflection of the effectiveness of RBs in Ghana. Against this backdrop, it remains uncertain on whether or not, it is uncertain whether or not RBs are fulfilling the basic functions for which they were created. An in-depth study of RB effectiveness is, therefore, appropriate in the growing body of work in development finance. In the light of these submissions, this study tries to overcome some of the methodological deficiencies in the Essel and Newsome (2000) study by increasing the sample size; choosing the appropriate sampling frame and expanding the coverage.

4. Research Design and Methodologies

To successfully carry out the research, the survey strategy was used. Patrick and Steve (2005) assert that a survey can be anything from a short paper and pencil feedback to an intensive one-to-one in-depth interview. Similarly, Saunders, Lewis and Theornhill (2000) proclaim that the survey strategy allows for the collection of large amount of data in a highly economic way from a sizeable population based on questionnaire.

The research used two populations: an aggregate of all Rural Banks (RBs) in Ghana and the collection of all small-scale farmers in Ghana. The aggregate of the population were as follows: ten (10) Rural Banks (RBs) which serves as a representation of each region in the study area and the collection of fifteen (15) small-scale farmers.

During the sampling stage, both probability and non-probability sampling methods were applied. The probability method employed in the study was simple random sampling via the lottery approach. The reason behind the choice of that methodology was to provide equal chances for the selection of RBs and the local farmers. The non-probability technique applied was the purposive sampling. With purposive sampling the sample is 'hand-picked for the research', (Denscombe, 2004). The sample is selected with a specific purpose in mind, and that purpose reflects the particular qualities of the people or events chosen and their relevance to the topic of the investigation.

To conduct the empirical investigation of RBs effectiveness, a descriptive research design together with inferential statistics was used. The research design was selected based on the nature of the study — a focus on breadth and depth. Descriptive research design seeks to portray an accurate profile of a situation, events or persons.

The study used both qualitative and quantitative research instruments. The quantitative design instrument used for this study was a questionnaire while the qualitative design instruments were key informants. Two types of questionnaire and interview schedules were designed to elicit information from the three samples. The first questionnaire was for the small-scale farmers. The second was for the RBs. The questionnaire consist mainly structured and open-ended questions.

5. Results of the Analysis

This section analyses and discusses the data elicited through the questionnaires and the interview schedules. In particular, it assesses the credit portfolio of RBs and its implications for agricultural financing, the constraints small-scale farmers encounter in their bid to access rural banks credit, and the effectiveness of rural banks in supporting small-scale farmers in Ghana.

5.1 Access to and Constraints of Rural Banks' Credit

Different sources of credit used by farmers as well as the constraints small-scale farmers face in their bid to access RBs credit were investigated. Table 2 provides the results of the empirical investigation.

Table 2. Access to RB credit and constrains therein

Rural Bank Credit	%	No. of Farmers
Source Of Credit		127
1. Rural Bank	20.00	127
2. Money Lenders	10.00	127
3. Friends and Family	39.00	127
4. Self-savings	23.00	127
5. Others	8.00	
Reasons for Failure to Secure RBs Credit Facilities		
1. Collateral Security	60.00	102
2. Average Deposit Required	20.00	102
3. Fixed Income Guarantees	12.00	102
4. Up to Date Farm Records	8.00	102

Source: Survey data, 2010.

From the data above, it can be observed that whereas nearly three-quarters of the respondents financed their agricultural operations through informal credit sources, a little over a quarter financed their farms operations through the formal credit sources. This may suggests the failure of the formal financial sector to satisfy the existing credit demand of the small-scale farmers and thus buttress the assertion that the bulk of rural credit to the agricultural sector comes from the informal source (IFAD, 2000).

It can be observed further that of those who relied on informal source to finance their farm operations, 39% relied on credit from family and friends, 10% on moneylenders and 23% on self-savings. A high figure of 39% of respondents relying on informal credit sources was found to rely on family and friends suggesting that farmers seek to avert the risk inherent in borrowing from the other sources by relying on close relatives.

Regarding the formal sources, 20% of respondents were found to finance their projects through RBs while only 8% relied on the other commercial and development banks. This finding contradicts that of Seini (2002) which stated that the Agricultural Development Bank of Ghana (ADB) is the main source of finance to the Ghanaian agricultural sector. This notwithstanding, the finding may imply an existence of segmentation in the credit market. Whereas ADB serves the needs of many commercial and cash crop farmers such as cocoa and coffee farmers, the RBs finance the activities of the "real" small-scale and low-income food crop farmers.

The research also revealed a number of reasons why small-scale farmers are not able to secure credit from RBs. Among the respondents were farmers who did not seek credit from the RBs, 60% blamed their inability to access RBs credit on the difficulties associated with the required collateral security, 20% cited the difficulties in meeting the required average deposit as their bane, 12% attributed their failure on constraints in providing evidence of fixed income that is guaranteed by an employer, and the remaining 8% had no need for RB credit.

It was also discovered from the research that farmers who accessed RBs credit met a number of banks' conditions as prerequisite. When the conditions were ranked, using a scale of 1 to 4 (1 being the easiest and 4 the most difficult), on the basis of the difficulties with which respondents satisfy them it was discovered that provision of collateral security was the most difficult condition to satisfy, while provision of up-to-date records was the easiest (see figure 1). Specifically, 48% of the respondents ranked collateral as the most difficult condition. This observation gives weight to the assertion of those farmers who blamed the requirement of collateral security as their main bottle-neck to access RB credit.

Information elicited from the RBs established that collateral security was the most important consideration of RBs in granting loans to farmers, while satisfying the condition of good record system was the least important consideration (see Table 3). When the conditions were ranked using a scale of 1 to 4 (1 being the least important consideration and 4 the most important consideration) on the basis of their importance as RBs consideration for granting loans to farmers, it became unfolded that 50% of the respondent RBs regard collateral security as the most important consideration for granting loans to farmers and thus gives further credence to the previous claims.
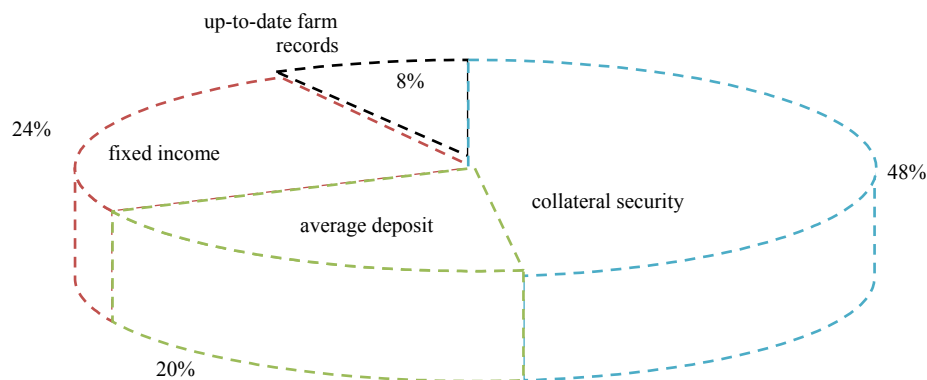
Figure 1. Rural bank credit recipients and their perception about loan conditions difficulties

Source: Survey data, 2010.

Table 3. Most important considerations of RBs in granting loans to farmers

Factors	%	No of Rural Banks
Collateral Security	50.0	10
Deposit Pattern/Average Deposit	25.0	10
Duration of Loan Facility	9.0	10
Size of Loan Facility	12.0	10
Good Records System	4.0	10

Source: Survey data, 2010.

Discussions with the key informants confirmed the importance of collateral security in RBs' lending policies. The key informants shed more light on the kind of security often accepted by the banks. Fixed assets with high commercial value such as land and building are often accepted.

One important observation that emerged from this study is the contrasting role collateral security plays in loan provision. Whilst collateral security constitutes the most formidable condition that small scale farmers grapple with, it is ironically the overarching condition considered by RB's in the exercise of granting loans. This finding squares with that of MOFA/ASIP which concluded in 1994 in its "Partner in Rural Agricultural Investment" that collateral security was one of the major factors constraining small-scale farmers' access to institutional credits.

Another poignant observation that emerged from these results is linked to the observation that 8% of those who did not use RB credit by virtue of the fact that they had no need for credit may have two important implications. First possible interpretation can be that, it may not necessarily mean the rural farmers do not need credit. It could be that the type of loans they require are nonexistent and thus imply that RBs do not serve the needs of farmers who want to undertake large scale commercial farming. Second, it provides an indication that the remaining 64% of respondents who are unable to access RBs' credit because of collateral security really need credit for direct production. This therefore suggests a huge unmet demand for RB credit by vast majority of rural small-scale farmers. This financing gap if not will only serve to compound the farmers' already precarious economic conditions. In addition, where the farmers are fortunate to have access to the RB credit, the facility will be rationed and this will impose constraints on their investment initiatives.

This study also finds that average deposit is also a major condition considered by RBs in granting loans to small-scale farmers. This condition might have been designed based on two major considerations. First, the strong desire on the part of the RB managers to design collateral substitutes in order to facilitate low-income borrowers' access to RB credit and thus reduce the need for heavy reliance on commercially valuable properties as collateral securities. The other factor might reflect the RB managers' belief in the assumptions which had been advocated by people like Bouman (1989) and Porter (1964) that poor and low-income people do not embark on savings; and in order to facilitate deposit mobilisation from those people, the formal finance providers must demand forced savings as a precondition to loans. Whichever of the factors holds true, the fact is unmistakable: the required deposit is a burden on the farmers because savings may be difficult to maintain over lean and hunger periods if farmers do not have other sources of income. In addition, the farmers may have a higher preference to hold their savings in physical productive assets. By implication for farmers to meet the deposit requirement of the RBs, they must liquidate or transform their physical productive assets into financial

forms. This transformation may expose the farmers to greater risk and difficulties in terms of acquiring farm implements and other production related assets during farming season. This may consequently affect the farmers' productive base. Once their productive base is adversely affected, it will ignite a vicious circle where the rural farmers' income takes a nose dive thereby disabling them from fending for their families. In this light, risk aversion and related risk insurance behaviour would undoubtedly affect the farmers' decision to save in financial forms especially the case in Ghana where interest rates on savings are far below the inflation rate. In order words, the farmers' inability to provide the required deposit could be attributed to their degree of risk aversion.

5.2 Credit Use, Loan Cycle and Loan Terms

Among the respondents who had used RBs' credit facilities, 40% of them used the loans to acquire raw materials such as seed stock and agro-chemicals, 20% used the loans for equipment, 16% used the loan to purchase sheep for rearing, 12% had diverted the loan to other uses, and 12% used the loan for the purchase of oxen to help in transporting goods to and from farms. Figure 2, presents the results of the findings.
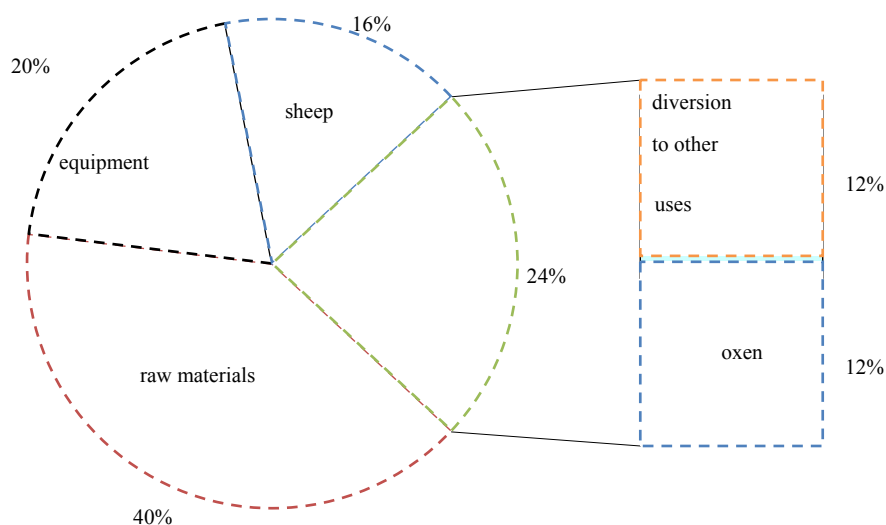
Figure 2. Uses of credit

Source: Survey data, 2010.

A number of observations were made regarding small-scale farmers diversion of loans for purposes other than those for which they were granted. This may suggests that some farmers abuse the RBs credit and may, somehow, confirm the argument that the mere fact that entrepreneurs cite finance as a constraint does not necessarily imply they are all good candidates for credit or would use credit productively (Von Pischke, 1991). Nevertheless, the situation may also reflect a laxity on the part of the RBs in the monitoring and supervision of their loans. For instance, an interview with some of the key informants revealed that most of the RBs are in the habit of relying on the agricultural Extension Officers to appraise and monitor agricultural loans. Obviously, this practice may result in lax monitoring and supervision since the Extension Officer may be confronted with a conflict of interest with particular reference to satisfying the needs of the bankers or the farmers. In favour of who, then, does the loyalty of the extension officers lie? The effectiveness of the process is, therefore, fraught with a serious doubt.

Interestingly, over 70% of the loan recipients used the facility for agricultural purposes. This suggests that the farmers really take farming seriously, and if given financial support they will invest it productively. This will no doubt have a trickledown effect on the farmer and farmer's families and consequently help in Putting a downward pressure on poverty.

The average credit cycle — that is, the number of times a particular borrower secured a credit — observed in the sample mean was 3.84 with a median of 3 and a standard deviation of 1.81(see Table 4). The small difference between the mean and the median coupled with a low standard deviation about the mean indicates that farmers get access repeatedly to loans from the RBs.

Table 4. Summary of loan cycle

Mean	3.84
Median	3.00
Maximum	9.00
Minimum	2.00
Standard Deviation	1.81
No.of Farmers	25.00

Source: Survey data, 2010.

This development might be attributed to RBs' ability to identify and institute proper screening and contract enforcement mechanisms. For instance, when respondents were asked if they had ever defaulted in their loan repayment, all the 25 respondents (100%) answered in the negative. The reasons provided for non defaults were as follows: (1) 56% said they fear reprisal from group members, (2) 32% said they want forthcoming loans, and (3) 12% said they have a moral obligation to repay. These findings sharply contrast those of Nissanke and Aryeetey (1995) who found that defaults in repayments were most acute among small agricultural loans in Ghana.

Recipients of RB credit were requested to specify the duration of their loans (loan terms). Average loan term observed in the sample was 5.04 months with a standard deviation of 1.43 months. These figures run contrary to what were observed from the bankers' responses. From the bankers' responses, the average loan term observed was 10.35 months with a standard deviation of 3.14 months. In the light of these observed differences, a *t*-test for difference between two means was performed to test whether or not the observed differences are significant. The results showed the differences to be significant. Table 5 provides the results of the *t*-Test.

On the surface, the observed differences cast doubt on the credibility of either the farmers or the bankers. However, this disparity could be due to the fact that where as the farmers might be reporting the duration between the period when the loan was received and the period they are required to repay, the bankers might be reporting periods that include delinquency time with a view to allowing for the collection of loans which would have otherwise been written off. For instance, Nissanke and Aryeetey (1995) reported that over 85 per cent of Bank Managers in Ghana do not believe that delinquency is a wilful act in agricultural loans and often the managers refinance most projects with a view that the projects would pay back when revived.

Table 5. A measure of the level of significance in the disparity between the information on loan terms

	Data
Hypothesized Difference	0
Level of Significance	0.05
Population 1 Sample (Rural Banks)	
Sample Size	10
Sample Mean	10.35
Sample Standard Deviation	3.14
Population 2 Sample (Small-scale Farmers)	
Sample Size	25
Sample Mean	10.35
Sample Standard Deviation	5.04

Source: Survey data, 2010.

Table 6. The t-Test on the disparity between the information on loan terms

Intermediate Calculations	
Population 1 Sample Degrees of Freedom	9
Population 2 Sample Degrees of Freedom	24
Total Degrees of Freedom	33
Pooled Variance	4.176182
Difference in Sample Means	5.31
t-Test Statistic	6.944497

Source: Survey data, 2010.

Table 7. The results of hypothesis test on the disparity between the information on loan terms

Two-Tailed Test	
Lower Critical Value	-2.03452
Upper Critical Value	2.034515
p-Value	6.17E-08
Reject the null hypothesis	

Source: Survey data, 2010.

5.3 Amount of Loans Disbursed to and Recovered from Agricultural Sector

The past five years' (2005-2010) empirical data for the amount of loans disbursed to and recovered from the agricultural sector by the sampled RBs when subjected to regression analysis, showed a positive relationship. Figure 3 presents the graph of a linear model. This result implies that as farmers repay their loan amounts in a timely fashion there is a possibility that more loans will be disbursed to them.

As to how much increases in disbursement farmers are likely to receive as they honour their loan obligations was an issue to be explored. Fortunately, a linear model which is underpinned by the equation, $y = 0.3045x + 16.851$ predicts an inelastic response. This equation holds that for each percentage increase in the independent variable (recovery rate); the fitted model predicts a less than percentage increase in the dependent variable (disbursement). That is to say that for every 100 per cent recovery RBs made from agricultural loans, holding other factors constant; there is the probability that RBs will increase its loans to agricultural sector by approximately 30 per cent.
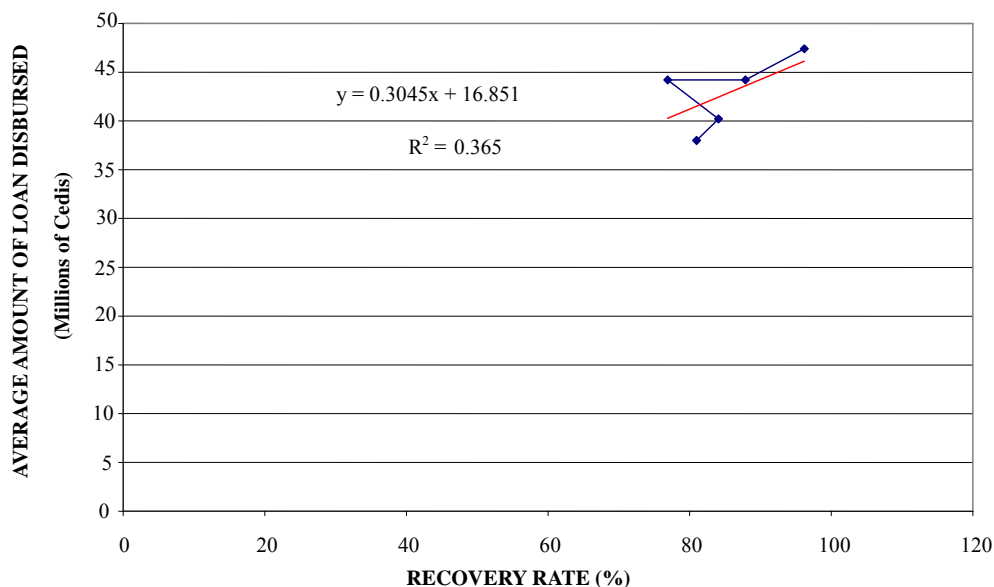
Figure 3. Relationship between amount of agricultural loans disbursed and amount recovered
Source: Survey data, 2010.

Since recovery rate had affected the amount of loans disbursed, a co-efficient of determination was calculated to determine how much does recovery rate influence disbursement. The calculated co-efficient of determination value of 0.365 imply that approximately 37 per cent of the factors that influence RBs' lending policies are attributable to loan recovery rate. One implication this analysis may present is that RBs' loans disbursed to the agricultural sector are determined largely by loans recovery rate although other factors may still weigh heavily. These factors include the perception on the part of RB bank managers that agriculture is a risky venture and loan conditions such as the provision of collaterals and average deposit will continue to reign.

5.4 Credit Portfolio and an Assessment of Rural Banks' Effectiveness in Ghana

This section examines RBs' loan portfolio and its implication on agricultural financing. It also assesses the effectiveness of RBs in Ghana.

Credit portfolio is the number and types of loans held by lenders at any particular point in time (Capiński & Zastawniak, 2003). The lending policies of financial service providers determine the type and number of persons or enterprises that come under the lenders' portfolio and also the percentage portfolio allocation each person or enterprise receives (Schmidt & Kropp, 1987). Portfolio characteristics such as loan terms and the cost of loan play a crucial role in lenders decision, (Nissanke & Aryeetey, 1995). Table 8 provides the credit portfolio and its underlying characteristics.

Table 8. Rural credit portfolio characteristics

	Mean	Median	Max	Min	Std.dev.	No. of Banks
LOAN CATEGORY						
Agriculture	7.3	7	11	5	1.55	10
Cottage Industry	7.3	8	15	3	3.99	10
Trading	38.3	37	44	32	3.75	10
Others	47.1	48	48	40	2.36	10
LOAN TERMS	10.35	9.5	24	4	3.14	10
INTEREST RATES	26.9	27	33	20	3.45	10

Source: Survey data, 2010.

5.5 Portfolio Composition and Allocation

It was observed that RBs credit portfolio is composed of agricultural, cottage industry, trade and transport, and social (others) loans. Each of these had a respective percentage allocation of 7.3%, 7.3%, 38.3%, and 47.1% (See Figure 4).
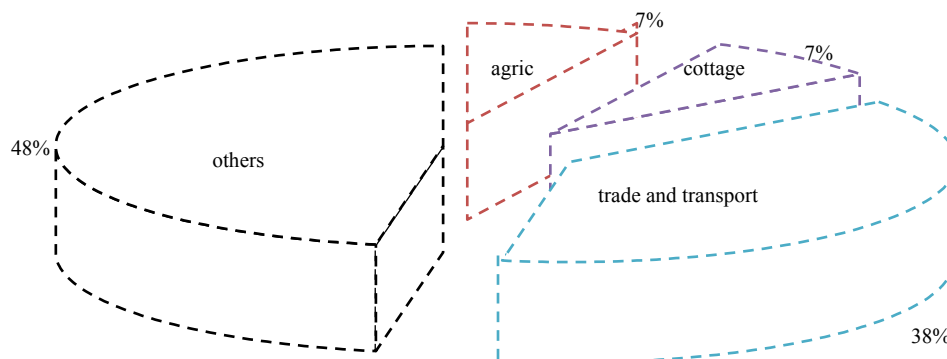
Figure 4. Rural bank credit portfolio

Source: Field data, 2010.

These results suggest that agricultural loans are given less priority in terms of the amount of loan disbursed. In addition, the close disparity in the mean and median of agricultural loans suggests a slight variation in the treatment of agricultural loans in RBs' credit portfolio. This generates that the practice is wide spread among the RBs throughout Ghana — a practice that contravenes BOG's stipulations which mandates a higher proportion of credit for agriculture.

However, it was uncertain whether the observed differences in the means of the constituents of the RBs' credit portfolio was so significant to merit a conclusion that the agricultural sector is treated less favourably by the RBs in Ghana.

In this regards, an analysis of variance (ANOVA) was performed to measure the level of significance of the differences in the means of the percentage allocation of the various portfolios. In other words, the first hypothesis of the study — that is, there is no significant difference in the treatment of RBs loans as far as the stipulations of BOG are concerned — was tested. Table 9 provides the results of the hypothesis test.

Table 9. Differences in the means of the percentage allocation of the various portfolios

ANOVA: Single Factor						
SUMMARY						
Groups	*Count*	*Sum*	*Average*	*Variance*		
Agric	10	73	7.3	2.677778	Agric	10
Cottage	10	73	7.3	14.45556		Cottage
Trading	10	383	38.3	12.9		
Others	10	471	47.1	7.433333	3.45	10
ANOVA						
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	12918.8	3	4306.267	459.7438	9.6E-29	2.866266
Within Groups	337.2	36	9.366667			
Total	13256	39				

Source: Survey data, 2010.

From Table 9 above, the F calculated (F) was observed to be 459.74 and the critical bound of F (*F critical*) was also observed to be 2.87. Since the F calculated is above the critical bound of F, the hypothesis is rejected. In addition, since the *P-value*, 9.6E-29, is far less than the level of significance, 0.05, the hypothesis is further rejected. There is therefore enough evidence to conclude that the four group means are not the same. That is to say, they differ more than would be expected by chance alone. However, it may be argued or possible that there were extreme differences in a few of the means chosen and which, if so, will provide a context for the rejection of the ANOVA results. To verify this, a *post hoc* test, using the Tukey-Kramer procedure, was performed to apply "corrections" to the sample in order to offset the effects of choosing the most extreme means; and to determine which of the means is significantly different from the other. Table 10 provides the results of the Tukey-Kramer procedure.

Table 10. Tukey-Kramer procedure

Group		Sample Mean		Sample Size
Agriculture 1		7.3		10
Cottage 2		7.3		10
Trade 3		38.3		10
Others (social) 4		47.1		10
Comparison	Absolute Difference	Std. Error of Difference	Critical Range	Results
Group 1 to Group 2	0	0.96781541	3.7164	Means are not different
Group 1 to Group 3	31	0.96781541	3.7164	Means are different
Group 1 to Group 4	39.8	0.96781541	3.7164	Means are different
Group 2 to Group 3	31	0.96781541	3.7164	Means are different
Group 2 to Group 4	39.8	0.96781541	3.7164	Means are different
Group 3 to Group 4	8.8	0.96781541	3.7164	Means are different
Other Data				
Level of significance	Numerator d.f.	Denominator d.f.	MSW	Q Statistic
0.05	4	36	9.366667	3.84

Source: Survey data, 2010.

From the Tukey-Kramer procedure, there is a difference in average amount of loan disbursed between agriculture and trade; and between agriculture and others (social credit). Since the means for trade and others are larger than the mean for agriculture, it implies that agriculture is treated less favourably in RBs credit portfolio.

In sum, these tests results (1) confirm the claim that RBs allocate a larger proportion of their loan portfolio to beneficiaries other than the small-scale farmers; (2) suggest that RBs violate the BOG's stipulations; and (3) suggest that RBs are not doing much to help the agricultural sector of Ghana. This observation confirms earlier research conducted by Essel and Newsome (2000) in Ghana. In their study, the researchers reported a shift in the focus of RBs lending approaches which were characterised by the banks' concentration on social credit at the expense of credit for agricultural purposes. This practice of RBs of depriving the agricultural sector of adequate finances will no doubt have a serious implication for agricultural growth in Ghana.

5.6 Testing for Rural Banks Effectiveness

One of the objectives of RBs in Ghana is to act as an instrument in stimulating rural economic growth. Since most rural economies depend on agriculture and also since economic growth is measured by a sustained increase in product (output), growth in agricultural output is used as a proxy to measure RBs' effectiveness in the light of their contribution to the agricultural sector. However, in view of the meagre levels at which the credits are given, the high interest rates as well as the short repayment terms, it is doubtful whether the difference in the output levels of the farmers who take the loans and that of those who do not is of any significance. Against this background, the second hypothesis of the study was constructed and which states that there is no significant difference between the output levels of farmers who use RB credit and those who do not. An increase in output was measured by Yes/No response. Using Fisher's Exact Test to compare the output levels between the two groups, a significant difference was found. Table 11, presents the results of the Fisher's test.

This result implies that farmers do experience significant increase in output when they have access to RB credit. This may be a result of short-term financing of working capital needs such as fertilizers and pesticides. However, this result should be cast in a proper light. Only a small fraction of the farmers in the sample were able to secure RBs' credit as a result of collateral security constraints.

Table 11. Comparison of the output levels between farmers who have access to rural bank credit (RBF) and farmers without access to rural bank credit (NRBF)

Fisher's Exact Test			
The two-sided P value is 0.0341, considered significant.			
The row/column association is statistically significant.			
Odds Ratio			
Odds ratio= 2.000			
95% Confidence Interval: 1.093 to 3.660			
(using the approximation of Woolf.)			
Data analyzed			
	RBF	NRBF	Total
YES	75	60	135
	(38%)	(30%)	(68%)
NO	25	40	65
	(13%)	(20%)	(33%)
Total	100	100	200
	(50%)	(50%)	(100%)

Source: survey data, 2010.

Considering this fact against the backdrop of the significant difference observed between the farmers who had access to the facility and those without the access; it might be construed that the more farmers are able to secure RB credit, the more are the chances that they will experience significant increase in output and thus justify the effectiveness of RBs. In other words, the effectiveness of RBs is undermined by their low outreach.

6. Conclusions

The study had the objective of assessing RBs effectiveness in Ghana and their impact on small-scale agriculture. A survey research was conducted using both structured and unstructured questionnaire. A total of 127 farmers, 18 key informants and 10 RBs were interviewed. The study combined both descriptive and inferential statistics in the analysis.

The results showed that farmers who accessed RBs credit experienced significant increases in output (yield). This implies that RBs are effective in stimulating agricultural production. However, the results showed further that a great number of small-scale farmers (over 60%) are still underserved by RBs as a result of the constraints posed by request for collateral security. That is to say that, RBs have lower outreach, which undermines their effectiveness. The results also revealed that the bulk of RBs credit is diverted to beneficiaries other than the small-scale farmers. This practice also serves to dilute the RBs effectiveness and further gives an indication that the RBs are not serving the basic function for which they were created.

Based on the above, this study concludes that RBs in Ghana are of little effectiveness as far as provision of credit to rural small scale farmers are concerned with its concomitant negative effect on agricultural growth.

For RBs credit to make a significant impact on agricultural growth, more attention should be given to medium and long-terms financing to the small scale rural farmer. The current practice of concentrating on meeting short-term working capital needs of rural farmers is at best a short term fix that cannot sustain agricultural expansion.. It is only medium and long-term financing that can lead to the necessary structural changes in agriculture such as the development of irrigation farming. This can be achieved by improving the supply of loanable funds to the agricultural sectors and by extension to the small-scale farmers. The BOG can facilitate this process by lowering the minimum reserve ratio required from RBs. The RBs on the other hand can assist by developing or adopting more innovative approaches to lending and these approaches should aim at: (1) increasing farmers' access to RB credit, (2) decreasing the attendant high transaction cost, and (3) minimising counterparty risk. The RBs might wish to adopt approaches such as group-based lending, nucleus-outgrower lending schemes and inventory credit programmes.

The nucleus-outgrower scheme like the group-based lending has the benefit of replacing multiple small loans to individual outgrowers by a lump sum to a group of outgrowers without the associated high cost of lending to the RBs. Also lending, most often, is in kind and thus reduces the problems of fungibility in agricultural loans. Moreover, outgrowers have a ready market for their produce and this is likely to reduce counterparty risk.

Animation can be incorporated into the group-based lending programmes. The animation should be aimed at not only to stimulate RB beneficiaries to their responsibilities of loan repayments, but also to train them in bookkeeping and enterprise management skills. This can be done in partnership with the Agricultural Extension Services of Ghana. The experience of Freedom of Hunger, an International NGOs, in this type of group loan schemes should be tapped.

The inventory credit programme is an innovation that combines credit with marketing to overcome the immediate post-harvest dip of producer prices. The programme should be provided with technical assistance in areas of post harvest technology, as some of the produce may be perishable. TechnoServe Incorporated, an International NGO, provides a leading role in this programme and the RBs can leverage their experiences.

The supply of loanable funds to agricultural sector can also be improved via more thorough deposit mobilisation strategies. Systematic understanding of normative social belief systems and effective marketing strategies such as sustaining of customer satisfaction and loyalty are relevant in this regard.

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The Evaluation of an Environmental Regime in Taiwan's Adhesive Tape Manufacturing Industry

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Abstract

Many governments set up different environmental regimes with respect to different industries. Taiwan's government uses the environmental standard regime to regulate the adhesive tape manufacturing industry and the emission tax regime to regulate the cement manufacturing industry. We here are interested about whether the environmental standard is the welfare-superior regime to Taiwan's adhesive tape manufacturing industry. Our study shows that the environmental standard may not be a welfare-superior regime to this industry. This result is different from Naito and Ogawa (2009) who consider the relation between the environmental regime and the privatization degree. We also conclude there is an environmental preference inconsistency between the patentee and the social planner when the innovator is a domestic firm.

1. Introduction

In a product's production process, many materials are emitted to the atmosphere directly or are an indirect threat to a human being's life. For reducing harmful ambient emissions, the effective way is either a market-based mechanism or a command and control tool. The Clean Air Act in the United States gives the Environmental Protection Agency (EPA) a mandate to implement market-based mechanisms, such as emissions taxes and trading programs. The command and control tool, such as the environmental standard, is used by Taiwan's Environmental Protection Administration (TEPA) to regulate the adhesive tape manufacturing industry, because this industry emits a pollutant and toxic material called Volatile Organic Compounds (VOCs) that damage a human's brain, liver, and central nervous system. With the passage of the 2010 Amendments to Taiwan's emissions regulations on the adhesive tape manufacturing industry, Taiwan's legislative Yuan gave the TEPA a mandate to regulate VOCs emissions in the adhesive tape manufacturing industry.

The market structure of Taiwan' adhesive tape manufacturing industry is an oligopoly. To help reduce VOCs emissions and manufacture an environmentally friendly product, Taiwan's Industrial Technology Research Institute (TITRI) announces environmentally friendly technologies on its website and licenses them to Taiwan's adhesive tape manufacturing firms. Taiwan's adhesive tape manufacturing firms also seek environmentally friendly technologies from foreign adhesive tape manufacturing firms, such as Minnesota Mining and Manufacturing Company (3M) and Japan Kikusui Tape Company. The motivation of this study is to examine whether Taiwan's emission regulation on the adhesive tape manufacturing industry creates high social welfare. We also care about the environmental policy's consistency between the patentee and the social planner. We find that Taiwan's emission regulation on this industry may not maximize Taiwan's social welfare. Moreover, there is an environmental preference inconsistency between the patentee and the social planner.

Based on Taiwan's adhesive tape manufacturing industry, we examine two kinds of environmental regimes, i.e., the emission tax regime and the environmental standard regime, in order to find the welfare-superior environmental regime. The previous literature only discusses the effect of one kind of environmental instrument, such Ebert (1992) examining the effect of emission abatement under an emission tax regime in different oligopoly models. Ebert (1998) also analyzes the effect of an environmental standard in a homogeneous Cournot oligopoly model. Katsoulacos and Xepapadeas (1995) investigate the effects of the emission tax regime when the number of firms is fixed or the firms are allowed to enter and exit the market freely. They conclude that the emission tax

regime creates an emission externality caused by over-internalization when firms are allowed to enter and exit the market freely. Kayalica and Lahiri (2005) discuss the optimal environmental policy when the foreign firm conducts direct investments, finding that the host government should adopt a (not) strict environmental standard when the number of foreign firms that directly invest is (not) fixed.

The other part of the literature that only considers the effect of one kind of environmental policies includes Bárcena-Ruiz and Garzó (2006), Beladi and Chao (2006), Kato (2006), Ohori (2006a; 2006b), and Wang and Wang (2009). Some previous studies also investigate which type of environmental regulation is desirable in terms of social welfare, such as Spulber (1985), Kiyono and Okuno-Fujiwara (2003), Lahiri and Ono (2007), Naito and Ogawa (2009), and Kato (2011). This paper is most similar with Naito and Ogawa (2009) in which they investigate the welfare-superior environmental regime. They conclude that the emission standard regime is better for social welfare than an emission tax regime no matter what the partial privatization degree is. Our paper investigates which environmental regime is better for social welfare when the firms enact a technology transfer behavior. We take Taiwan's adhesive tape manufacturing industry as an example to find the welfare-superior environmental regime.

The relation between the environmental instrument and the environmental protection effect is an important issue in the previous literature. Helfand (1991) uses the ratio of total emission divided by total output as an environmental standard. He believes that a strict environmental standard may cause the amount of emission to increase since firms can increase their output instead of decreasing their emission to reach a regulated environmental standard. Thus, the emission tax is a better environmental instrument than the environmental standard. Ulph (1996) examines the impact of the emission tax regime and the environmental standard regime on social welfare in an imperfectly competitive international trade market. He concludes that either the emission tax regime or the environmental standard regime can create higher social welfare, yet it depends on whether all countries' governments or a part of the governments adopt an emission abatement action. Spulber (1985) concludes that the emission tax regime is more efficient than the environmental standard regime on environmental protection when firms are allowed to enter and exit the market freely. Lahiri and Ono (2007) investigates the social welfare and the emission level between the emission tax regime and the environmental standard regime. They conclude that when the number of firms is fixed, social welfare in the environmental standard regime is higher than that in the emission tax regime, whereas the emission level in the environmental tax regime is lower than that in the environmental standard regime. However, the results above are inversed when firms are allowed to enter and exit the market freely and when the demand function is concave.

For a green production target, we not only can adopt an appropriate environmental instrument, but also use an emission abatement technology. The previous literature just focuses on the application of the environmental instrument, but ignores that the emission abatement technology transformation can also reach the environmental protection target. Generally speaking, the licensing method includes fixed fee, royalty rate, auction, etc. Kamien and Tauman (1984) are the first to discuss the issue of technology transformation. In their paper, the innovator that does not join the product's market competition is called the outside innovator whose mission is only to conduct research and development (R&D) and then to sell a new technology, such as Taiwan's Industry Technology Research Institution. Based on this line, Kamien and Tauman (1984, 1986), Katz and Shapiro (1986), Kamien et al. (1992), and Wang (1998) conclude that when an outside innovator licenses a non-drastic innovation, the optimal licensing mode is a fixed fee licensing contract. (Note 1)

The technology licensing issue has been extended into many various fields, such as when the technology licensing occurs in an open economy (Mukherjee, 2007; Chang, 2011), an innovator licenses a new technology about product quality (Li & Song, 2009), the technology licensing occurs in vertical market structure (Brocas, 2003; Matsushima, 2004; Buehler & Schmutzler, 2007), using the spatial competition model to discuss the technology licensing (Poddar & Sinha, 2004; Lin et al., 2012), and the technology licensing occurs when the number of licensee is extended to n firms, where $n \geq 3$ (Kamien & Tauman, 2002; Sen, 2005). A few technology licensing papers touch upon the environmental protection issue. To our best knowledge, Chang et al. (2009) is one paper about environmental technology licensing in which they investigate the optimal mode of environmental technology licensing in a homogeneous Cournot duopoly. They conclude that a high emission tax in the fixed-fee licensing contract may disrupt environmental technology licensing between licensor and licensee. More specifically, a large size of environmental technology innovation is not necessary to induce a maximized social welfare. Their model set-up is a closed economy, the licensor is an inside innovator, and the government's environmental policy only has the emission tax. However, the model set-up in our paper is an open economy, the licensor is an outside innovator, and the government has two environmental policies: the emission tax and the environmental standard. More specifically, the outside innovator can choose to license to one firm or

to license to two firms.

We use the concept of emission-equivalent to find the welfare-superior environmental regime. We also compare the environmental policy preference between the patentee and the social planner. We find that the environmental standard regime on Taiwan's adhesive tape manufacturing industry may not be a welfare-superior environmental regime. This finding is different from Naito and Ogawa (2009) who examine the relation between the environmental regime and the privatization degree. We also find there is environmental preference inconsistency between the patentee and the social planner when the innovator is a domestic firm.

The remainder of this paper is organized as follows: Section 2 is the model set-up. Section 3 shows the model solution. Section 4 demonstrates social welfare analysis. Section 5 is the model extension. The findings are concluded in Section 6.

2. Model Set-Up

Our model includes two domestic firms producing homogeneous production, a foreign innovator having an emission abatement technology (this assumption will be relaxed in Section 5) and a domestic government choosing an environmental regime for maximizing social welfare. The foreign firm is an outside innovator that does not make the product, and just licenses an emission abatement technology to domestic firms. We use a two-stage game to describe the decision-making of the domestic firms, the licensor, and the domestic government. In Stage 0, the domestic government chooses either an emission tax regime or an environmental standard regime to maximize social welfare. In Stage 1, the licensor chooses the optimal licensing proportion $\phi = \{0\}, \{1/2\}$, or $\{1\}$ to transfer an emission abatement technology by means of a fixed-fee licensing method for maximizing the licensing revenue. If there is a 2ϕ firm with an emission abatement technology, then there is a $2(1 - \phi)$ firm without an emission abatement technology. In Stage 2, two domestic firms conduct a homogeneous Cournot competition. We use backward induction to solve the sub-game perfect Nash equilibrium (SPNE). It is valuable to mention why we choose the fixed-fee as a licensing method. The reason is that the patentee in our paper is an outside innovator and Kamien and Tauman (1986) show that the outside patentee always prefers the fixed-fee licensing method.

We assume that each product creates $e > 0$ unit emission in a production process, and parameter e is normalized to 1 for a simplified analysis. An emission abatement technology reduces each unit emission from 1 to $1 - \varepsilon$, where $\varepsilon \in [0, 1]$ and the parameter ε is defined as the innovation size. We hereafter use the symbol "*" to label the variables in an environmental standard regime, and the variables without the symbol "*" stand for the case in an emission tax regime.

A regulated environmental standard z represents each unit product's maximum allowed emission amount. In other words, a small (large) parameter z means a (not) strict environmental standard. In an environmental standard regime, each unit product's emission abatement amount for a firm with an emission abatement technology is $(1 - \varepsilon) - z$; if a firm is without an emission abatement technology, then it has to reduce the emission amount from 1 to $1 - z$. We assume that the emission abatement cost of each unit product is θ. Thus, each unit product's emission abatement cost for the firm without (with) an emission abatement technology is $c_0^* = \theta(1 - z)$ ($c_1^* = \theta(1 - \varepsilon - z)$). Without changing the equilibrium result, we normalize parameter θ to be 1 and get $c_0^* = 1 - z$ and $c_1^* = 1 - \varepsilon - z$. In an emission tax regime, the government levies an emission tax rate t on each unit emission amount. Each unit emission cost for a firm without (with) an emission abatement technology is $c_0 = t$ ($c_1 = t(1 - \varepsilon)$). Since we focus on an environmental regime analysis, we ignore the firms' production cost.

3. Model Solution

This section shows the SPNE in Stage 1 and Stage 2 in the emission tax regime and the environmental standard regime.

3.1 The Emission Tax Regime

The product's demand function has a linear form, i.e., $p = a - bQ$, where the parameters p and Q are the product's market price and the product's quantity, respectively. The quantity $Q = \{2x_0\}, \{x_0' + x_1'\}$, or $\{2x_1\}$, where x_0 (x_1) is each firm's output when $\phi = 0$ (1), and x_0' and x_1' are respectively the non-licensee's output quantity and the licensee's output quantity when $\phi = 1/2$. The variable x_1^m (π_1^m) represents a monopoly output quantity (profit), which occurs when the innovation size is large enough and the patentee only licenses the emission abatement technology to only one firm, i.e., $\phi = 1/2$. Let $x_0' = 0$ and then we obtain the drastic innovation condition to be $\varepsilon > (a - t)/t$; on the contrary, a non-drastic innovation condition is $0 < \varepsilon < (a - t)/t$. The solutions in Stage 2 are arranged in Table 1.

Table 1. The results of Stage 2 under an emission tax regime

Innovation size		quantity	profit
$0 < \varepsilon < \dfrac{a-t}{t}$ (non-drastic innovation)	$\phi = 0$	$x_0 = \dfrac{a-t}{3b}$	$\pi_0 = \dfrac{(a-t)^2}{9b}$
	$\phi = 1/2$	$x_0' = \dfrac{a-t-t\varepsilon}{3b}$	$\pi_0' = \dfrac{(a-t-t\varepsilon)^2}{9b}$
		$x_1' = \dfrac{a-t+2t\varepsilon}{3b}$	$\pi_1' = \dfrac{(a-t+2t\varepsilon)^2}{9b}$
	$\phi = 1$	$x_1 = \dfrac{a-t+t\varepsilon}{3b}$	$\pi_1 = \dfrac{(a-t+t\varepsilon)^2}{9b}$
$\varepsilon > \dfrac{a-t}{t}$ (drastic innovation)		$x_1^m = \dfrac{a-t+t\varepsilon}{2b}$	$\pi_1^m = \dfrac{(a-t+t\varepsilon)^2}{4b}$

Through a competitive static analysis with respect to the results in Stage 2, we find $dx_0/dt < 0$ and $dx_0'/dt < 0$, which imply that a non-licensee's output quantity decreases when the emission tax rate increases. The result is caused by a cost increase. However, the impact of the emission tax rate on the licensees' output quantity is:

$$\frac{dx_1}{dt} = \frac{-(1-\varepsilon)}{3b} < 0 \tag{1a}$$

$$\frac{dx_1'}{dt} = \frac{-(1-2\varepsilon)}{3b} > 0, \text{ if } \varepsilon > 1/2 \tag{1b}$$

$$\frac{dx_1^m}{dt} = \frac{-(1-\varepsilon)}{2b} < 0 \tag{1c}$$

A specific result is in Equation (1b), showing that if only one firm is licensed and the innovation size is sufficiently large, then the licensee's output quantity increases when the emission tax rate increases. The result in Equation (1b) comes from the innovation size effect being larger than the cost increase effect.

We next examine the result in Stage 1 where the licensor decides the licensing proportion. Since the licensor's licensing revenue is defined as the difference between the licensee's profit with licensing and the licensee's profit without licensing, the licensing revenue for the patentee is represented in Table 2.

Table 2. Licensor's licensing revenue under an emission tax regime

Innovation size		Licensor's licensing revenue
$0 < \varepsilon < \dfrac{a-t}{t}$ (non-drastic innovation)	$\phi = 0$	$R_0 = 0$
	$\phi = 1/2$	$R_1' = \pi_1' - \pi_0 = \dfrac{4t\varepsilon(a-t+t\varepsilon)}{9b} > 0$
	$\phi = 1$	$R_1 = 2(\pi_1 - \pi_0) = 2[\dfrac{t\varepsilon(2a-2t+t\varepsilon)}{9b}] > 0$
$\varepsilon > \dfrac{a-t}{t}$ (drastic innovation)		$R_1^m = \pi_1^m - \pi_0 = \dfrac{(a-t+t\varepsilon)^2}{4b} - \dfrac{(a-t)^2}{9b} > 0$

Since the licensor's licensing revenue is positive, the licensor prefers to license; and the licensee's profit after accepting licensing will not worsen, and thus the licensee prefers to accept the offer. By a simple calculation for finding the solution in Stage 1, we obtain $R_1' - R_1 = 2(t\varepsilon)^2/(9b) > 0$, and R_1^m must be larger than R_1. The solution in Stage 1 is summarized as follows:

$$\phi = 1/2 \text{ for all } \varepsilon > 0 \tag{2}$$

3.2 The Environmental Standard Regime

In an environmental standard regime, the firms' output decision in Stage 2 is arranged in Table 3.

Table 3. The results of Stage 2 under an environmental standard regime

Innovation size		quantity	profit
0 < ε < a − (1 − z) (non-drastic innovation)	$\phi = 0$	$x_0^* = \dfrac{a - (1 - z)}{3b}$	$\pi_0^* = \dfrac{[a - (1 - z)]^2}{9b}$
	$\phi = 1/2$	$x_0'^* = \dfrac{a - (1 - z) - \varepsilon}{3b}$ $x_1'^* = \dfrac{a - (1 - z) + 2\varepsilon}{3b}$	$\pi_0'^* = \dfrac{[a - (1 - z) - \varepsilon]^2}{9b}$ $\pi_1'^* = \dfrac{[a - (1 - z) + 2\varepsilon]^2}{9b}$
	$\phi = 1$	$x_1^* = \dfrac{a - (1 - \varepsilon - z)}{3b}$	$\pi_1^* = \dfrac{[a - (1 - z) + \varepsilon]^2}{9b}$
ε > a − (1 − z) (drastic innovation)		$x_1^{m*} = \dfrac{a - (1 - \varepsilon - z)}{2b}$	$\pi_1^{m*} = \dfrac{[a - (1 - z) + \varepsilon]^2}{4b}$

Some results of comparative static analysis in Stage 2 are represented as follows:

$$\frac{dx_0^*}{dz} = \frac{dx_0'^*}{dz} = \frac{dx_1^*}{dz} = \frac{dx_1'^*}{dz} = \frac{1}{3b} > 0 \tag{3a}$$

$$\frac{dx_1^{m*}}{dz} = \frac{1}{2b} > 0 \tag{3b}$$

Equation (3) shows that the non-licensee's and the licensee's outputs decrease when the environmental standard becomes strict. However, it is valuable to notice that there is no innovation size effect on the licensee's output when the environmental standard does become strict. This result is very different with that in the emission tax regime.

We present Table 4 to show the results of the patentee's licensing revenue in the environmental standard regime.

Table 4. Licensor's licensing revenue under an environmental standard regime

Innovation size		Licensor's licensing revenue
0 < ε < a − (1 − z) (non-drastic innovation)	$\phi = 0$	$R_0^* = 0$
	$\phi = 1/2$	$R_1'^* = \pi_1'^* - \pi_0^* = \dfrac{4\varepsilon[a - (1 - z) + \varepsilon]}{9b} > 0$
	$\phi = 1$	$R_1^* = 2(\pi_1^* - \pi_0^*) = \dfrac{2\varepsilon[2a - 2(1 - z) + \varepsilon]}{9b} > 0$
ε > a − (1 − z) (drastic innovation)		$R_1^{m*} = \pi_1^{m*} - \pi_0^*$ $= \dfrac{[a - (1 - z) + \varepsilon]^2}{4b} - \dfrac{[a - (1 - z)]^2}{9b} > 0$

By a simple calculation, we get $R_1'^* - R_1^* = 2\varepsilon^2/(9b) > 0$, and R_1^{m*} must be larger than $R_1'^*$. The solution in Stage 1 is summarized as follows:

$$\phi^* = 1/2 \text{ for all } \varepsilon > 0 \tag{4}$$

3.3 An Emission-Equivalent Analysis

TEPA adopts the environmental standard regime to regulate VOCs emissions from Taiwan's adhesive tape manufacturing industry. We are interested in whether the environmental standard regime is a welfare-superior environmental regime. In order to examine this question, we use the concept of emission-equivalent, which means that the emission amount in the emission tax regime is the same as that in the environmental standard regime. Since we assume that one unit product creates one unit emission, the total emission amount is equal to the total output quantity. The emission-equivalent conditions in the two environmental regimes are shown in Table 5.

Table 5. The emission-equivalent conditions in the two environmental regimes

		Amount of emission under an emission tax rate regime	
		Non-drastic innovation $(E^{'} = x_0^{'} + x_1^{'})$	Drastic innovation $(E^{m} = x_1^{m})$
Amount of emission under an environmental standard regime	Non-drastic innovation $(E^{'*} = x_0^{'*} + x_1^{'*})$	$t = 1 - \dfrac{2}{2-\varepsilon}z$	–
	Drastic innovation $(E^{m*} = x_1^{m*})$	–	$t = 1 - \dfrac{1}{1-\varepsilon}z$

In Table 5 we find that the emission-equivalent condition in a non-drastic innovation situation is $t = 1 - [2/(2 - \varepsilon)]z$, and the emission-equivalent condition in a drastic innovation situation is $t = 1 - [1/(1 - \varepsilon)]z$. These two emission-equivalent conditions have the same characteristic in that they are not affected by the market size, i.e., the parameter a, and a strict environmental standard corresponds to a high environmental tax rate.

4. Social Welfare Analysis

In this section we first define the social welfare functions in two kinds of different environmental regimes and then use them to discuss the government's environmental policy.

4.1 Set-Up of the Social Welfare Function

In the emission tax regime, the social welfare function (SW) is composed of consumer surplus (CS), producer surplus (PS), emission tax revenue (T), and environmental damage (D), where $D^{'} > 0$ and $D^{''} > 0$ (Kayalica & Lahiri, 2005; Lahiri & Ono, 2007). The social welfare function is expressed as $SW = CS + PS + T - D$. The consumer surplus in a linear demand form can be formulated as $(1/2)bQ^2$. The producer surplus is formulated by the sum of the two firms' profits. The emission tax revenue is $T = tE$, where E is the total amount of emission and because of the assumption that one unit product creates one unit amount of emission, we have $E = Q$. The environmental damage is caused by the emission, and thus we have $D = (1/2)E^2$.

In the environmental standard regime, the social welfare function (SW^*) is composed of consumer surplus (CS^*), producer surplus (PS^*), and environmental damage (D^*). Hence, the social welfare function in the environmental standard regime is expressed as $SW^* = CS^* + PS^* - D^*$. According to the concept of emission-equivalent, we have $E = E^*$, $Q = Q^*$, $CS = CS^*$, $D = D^*$. Hence, the social welfare functions in these two environmental regimes can be rewritten as $SW = PS + T$, and $SW^* = PS^*$. By a comparison of the social welfare functions between the emission tax regime and the environmental standard regime, we find that although the social welfare function in the emission tax regime has an advantage on the tax revenue, the producer's surplus in the emission tax regime has a higher sensitivity than that in the environmental standard regime.

We next examine the social welfare difference between the emission tax regime and the environmental standard regime in a non-drastic innovation situation. The result is shown as follows:

$$\Delta SW^n = SW^n - SW^{n*} = (\pi_0^{'} + \pi_1^{'}) + t(x_0^{'} + x_1^{'}) - (\pi_0^{'*} + \pi_1^{'*})$$

$$= [(\pi_1^{'} - \pi_1^{'*}) + (\pi_0^{'} - \pi_0^{'*})] + t(x_0^{'} + x_1^{'})$$

$$= \frac{2\varepsilon^2 z(\varepsilon + z - 2)}{b(2-\varepsilon)^2} + \frac{(2a + \varepsilon + 2z - 2)(2 - \varepsilon - 2z)}{3b(2-\varepsilon)}$$

$$= \frac{6\varepsilon^2 z(\varepsilon + z - 2)}{3b(2-\varepsilon)^2} + \frac{(2 - \varepsilon - 2z)(2-\varepsilon)(2a + 2z + \varepsilon - 2)}{3b(2-\varepsilon)^2} \tag{5a}$$

where the superscript n represents a non-drastic innovation case. Similarly, the social welfare difference between the emission tax regime and the environmental standard regime in a drastic innovation situation is:

$$\Delta SW^d = SW^d - SW^{d*} = \pi_1^{m} + tx_1^{m} - \pi_1^{m*}$$

$$= \frac{[a - (1-\varepsilon - z)](1-\varepsilon - z)}{2b(1-\varepsilon)} \geq 0 \tag{5b}$$

where the superscript d represents a drastic innovation case.

4.2 The Government Policy

From Equation (5), we can examine the government's optimal environmental policy.

4.2.1 In a Non-Drastic Innovation Case

The parameters ε and z in Equation (5a) must satisfy the non-drastic innovation condition, i.e., $0 < \varepsilon < a - (1 - z)$, the condition for a non-negative output quantity, i.e., $a - (1 - z) - \varepsilon \geq 0$, the condition for a non-negative cost, i.e., $1 - \varepsilon - z \geq 0$, and the condition for a non-negative emission tax rate, i.e., $0 < \varepsilon < 2(1 - z)$. These conditions result in the terms $(\varepsilon + z - 2) < 0$, $(2 - \varepsilon - 2z) > 0$, and $(2a + 2z + \varepsilon - 2) > 0$ in Equation (5a). For satisfying all conditions above, we find the range of parameter a to be $a \in [(1 - z) + \varepsilon, \infty)$. We also see that the first term in Equation (5a) is negative and the second term in Equation (5a) is positive. This result tells us the firm's profit in the emission tax regime is always smaller than that in the environmental standard regime induced by an output distortion from the emission tax regime.

Equation (5a) also shows that when the market size is large, i.e., the parameter $a \to \infty$, it causes $\Delta SW^n > 0$; when the market size is small, i.e., the parameter $a \to (1 - z) + \varepsilon$, it causes $\Delta SW^n < 0$. The result implies that when the market size is large enough, social welfare in the emission tax regime is higher than that in the environmental standard regime. On the contrary, when the market size is small, the adoption of an environmental standard regime is superior to the adoption of an emission tax regime. This result is because the domestic licensee has to pay a large licensing fee to the foreign innovator when the market size is big. Since a higher licensing fee is paid to the foreign innovator, it will result in a greater loss on domestic social welfare. Hence, the adoption of an emission tax regime can maintain higher social welfare by keeping the emission tax revenue in the home country. Conversely, if the market size is small, then the foreign licensor receives a part of the licensing revenue. Moreover, there is no distortion on output quantity in the environmental standard regime. Hence, when the licensor is a foreign innovator, the environmental standard (emission tax) regime can create high social welfare in a small (large) market.

4.2.2 In a Drastic Innovation Case

Equation (5b) obviously shows that the social welfare difference must be positive since Equation (5b) needs to satisfy the condition of non-negative cost, i.e., $1 - \varepsilon - z \geq 0$, and the condition of non-negative output quantity, i.e., $a - (1 - \varepsilon - z) \geq 0$. This result tells us that the emission tax regime creates higher social welfare than that in the environmental standard regime when the innovation size is drastic. The intuition behind this result is that the licensee becomes a monopolist after getting the emission abatement technology and obtains the monopoly profit. However, the licensee will also be charged the full monopoly profit as the licensing fee by the foreign licensor. A high fixed licensing fee that the domestic licensee pays to the foreign licensor has a negative impact on domestic social welfare. Hence, the domestic government can create a lower fixed licensing fee by levying an emission tax on domestic firms. Since the stage when the domestic government decides the environmental regime is before the stage when the foreign licensor decides the amount of licensing fee, the domestic government has a first mover advantage to decide the optimal environmental regime for controlling the amount of licensing fee.

We now summarize the effects of the emission tax regime and the environmental standard regime as follows: when the innovator is a foreign firm, the target that the home country government sets as the emission tax rate is not only for increasing the licensee's competitive profit by differentiating the firms' marginal costs, but also for leaving more competitive profit in the home country through emission revenue. Hence, the foreign innovator's licensing revenue decreases. However, this effect does not exist in the environmental standard regime, because the environmental standard regime does not affect the firms' competitive behavior and the domestic government has no way to leave the firms' competitive profits by means of an environmental standard regime. Hence, the environmental standard regime results in a large domestic social welfare leakage. The proposition in this section is shown as follows.

Proposition 1 In a drastic innovation case, social welfare in the emission tax regime is always higher than that in the environmental standard regime. In a non-drastic innovation case, when the market size is large, the conclusion is the same as that in a drastic innovation case; when the market size is small, social welfare in the environmental standard regime is higher then that in the emission tax regime.

5. Model Extension: Patentee Is a Domestic Innovator

In this section we change the assumption that the patentee is a foreign innovator to another assumption that the patentee is a domestic innovator. This change induces that the domestic social welfare function must include the patentee's licensing revenue. Hence, in the emission tax regime the social welfare function (SS) is composed of consumer surplus, producer surplus, emission tax revenue, environmental damage, and the domestic innovator's licensing revenue. In the environmental standard regime, the social welfare function (SS^*) is composed of consumer surplus, producer surplus, environmental damage, and the domestic innovator's licensing revenue.

Following the analysis process in Section 4, we here respectively discuss the cases of non-drastic innovation and drastic innovation.

5.1 In a Non-Drastic Innovation Situation

Based on the concept of emission-equivalence, the social welfare difference between the emission tax regime and the environmental standard regime is:

$$\Delta SS^n = \Delta SW^n + (R' - R^*)$$
$$= \Delta SW^n + \frac{(4/3)\varepsilon z(-2a(2-\varepsilon) - 4z(1-\varepsilon) - \varepsilon(8-3\varepsilon) + 4)}{3b(2-\varepsilon)^2} \quad (6a)$$

We first concentrate on the innovator's environmental regime preference by examining its licensing revenue. By Equation (6a) we find that the larger market size is, the higher the licensing revenue is in the environmental standard regime. This result comes from the environmental standard regime not making an output distortion. The licensor can get more licensing revenue under the environmental standard regime. Hence, we conclude that when the market size is sufficiently large, the domestic innovator prefers the environmental standard regime to the emission tax regime.

We next concentrate on the social planner's environmental regime preference by comparing the social welfare difference in two environmental regimes. The comparative static result on the social welfare difference is:

$$\frac{d\Delta SS^n}{da} = \frac{2(2-\varepsilon)(2-\varepsilon-2z)}{3b(2-\varepsilon)^2} + \frac{(4/3)\varepsilon z(2\varepsilon-4)}{3b(2-\varepsilon)^2} \geq 0, \text{ if } \varepsilon \in [0, \frac{6(1-z)}{3+4z}] \quad (6b)$$

From Equation (6b), we find given a small innovation size, when the market size is large, social welfare in the emission tax regime is higher than that in the environmental standard regime. This result is very different from the result of the previous section in a non-drastic innovation case in which the optimal environmental policy is only affected by the market size. However, the result of this section shows the optimal environmental policy is not only affected by the market size, but also by the innovation size, because a small innovation size only creates small licensing revenue for a licensor. However, the emission tax policy mitigates the firm's market competition and increases the licensee's profit. Since the licensee's profit increases, the patentee can charge a high licensing fee from the licensee. The adoption of an emission tax regime causes high industrial profit, a high licensing fee, and then induces high social welfare. On the other hand, given a large market size with a large innovation size, social welfare in the environmental standard regime is higher than that in the emission tax regime, because a large innovation size weakens the firm's market competition and increases the licensee's profit. Hence, a large market size and a large innovation size create a large producer surplus and high social welfare if the social planner adopts an environmental standard regime.

5.2 In a Drastic Innovation Situation

The social welfare difference between the emission tax regime and the environmental standard regime in this section is:

$$\Delta SS^d = \Delta SW^d + (R^m - R^{m*})$$
$$= \Delta SW^d + \frac{2\varepsilon z[-a(1-\varepsilon) + (1-\varepsilon-z)]}{9b(1-\varepsilon)^2} \quad (6c)$$

The feasible solutions must satisfy the drastic innovation condition, i.e., $\varepsilon > a - (1 - z)$, the condition of non-negative cost, i.e., $1 - \varepsilon - z \geq 0$, and the condition of non-negative output, i.e., $a - (1 - \varepsilon - z) \geq 0$. Based on the drastic innovation condition and $\varepsilon \in [0, 1]$, we get the range of parameter a as $a \in [(1 - \varepsilon - z), 2]$.

We first examine the licensor's environmental regime preference by observing the second term in Equation (6c) and find that when the market size is large, the licensor prefers the environmental standard regime, since a large market size causes $R^m - R^{m*} < 0$; on the contrary, given a small market size, the licensor prefers the emission tax regime, since a small market size causes $R^m - R^{m*} > 0$. The intuition behind this result is that the emission tax regime has an output distortion effect, which is small (large) when the market size is small (large). The output distortion effect also impacts the licensor's licensing revenue. Hence, the licensor prefers the emission tax (environmental standard) regime when the market size is small (large). We conclude the licensor's licensing preference in Proposition 2.

Proposition 2 No matter in a non-drastic innovation case or in a drastic innovation case, the domestic licensor's environmental regime preference depends on the market size. When the market size is large, the domestic

innovator prefers the environmental standard regime to the emission tax regime; on the contrary, when the market size is small, the domestic innovator prefers the emission tax regime to the environmental standard regime.

We next consider the social planner's decision-making on an environmental policy by a competitive static analysis on ΔSS^d as follows:

$$\frac{d\Delta SS^d}{da} = \frac{(3/2)(1-\varepsilon)(1-\varepsilon-z)}{3b(1-\varepsilon)^2} + \frac{(2/3)\varepsilon z(\varepsilon-1)}{3b(1-\varepsilon)^2} \geq 0, \text{ if } \varepsilon \in [0, \frac{9(1-z)}{9+4z}] \tag{6d}$$

From the Equation (6d), we find that the conclusion in a drastic innovation case is the same as that in a non-drastic innovation case in which social welfare in the emission tax regime is higher than that in the environmental standard regime when the market size is large and the innovation size is small. There is an inverse conclusion when the market size and the innovator size are large.

Section 4 considers the cases of non-drastic and drastic innovation in which the patentee is a foreign innovator; Section 5 also considers the cases of non-drastic and drastic innovation, but when the patentee is a domestic innovator. The findings in these two sections are very different. In Section 4 the adoption of an environmental regime only depends on the market size; however, in Section 5 the adoption of an environmental regime not only depends on the market size, but also on the innovation size. In other words, Section 4 concludes that when the market size is large, social welfare in the emission tax regime is higher than that in the environmental standard regime; Section 5 has the same conclusion when the market size is large and the innovation size is small. Finally, we summarize the finding in Proposition 3 and arrange the social planner's and the domestic licensor's environmental regime preference in Table 6.

Proposition 3 No matter in a non-drastic innovation case or in a drastic innovation case, when the licensor is a foreign innovator, the adoption of an environmental regime only depends on the market size; when the licensor is a domestic innovator, the adoption of an environmental regime not only depends on the market size, but also on the innovation size.

Table 6. The social planner's and the domestic licensor's preference

Model	Decision Maker	Market size	Innovation size	Non-drastic innovation	Drastic innovation
Licensor is a foreign firm	Social planner	Large	–	Emission tax	Emission tax
		Small	–	Environmental standard	
Licensor is a domestic firm	Social planner	Large	Small	Emission tax	
		Large	Large	Environmental standard	
	Licensor	Large	–	Environmental standard	
		Small	–	Emission tax	

From Table 6, we conclude that the environmental standard may not be a welfare-superior regime for Taiwan's adhesive tape manufacturing industry. This result is different from that in Naito and Ogawa (2009) who consider the relation between the environmental regime and the privatization degree. They conclude that the environmental standard is the optimal environmental regime no matter what the privatization degree is. We also conclude there is an environmental preference inconsistency between the patentee and the social planner when the innovator is a domestic firm.

6. Concluding Remarks

For the targets of green production and environmental friendliness, governments often use an emission tax regime and an environmental standard regime. According to the real observation in Taiwan, TEPA adopts the environmental standard regime to restrict VOCs emission being emitted from Taiwan's adhesive tape manufacturing industry. This industry's manufacturing firms also actively seek emission abatement technology so as to reach the TEPA's environmental standard. Some R&D institutions such as TITRI or some firms such as 3M are willing to license emission abatement technology to Taiwan's adhesive tape manufacturing firms, because they earn the licensing revenue. We consider technology licensing in the environmental protection issue and we are interested in whether the environmental standard regime on Taiwan's adhesive tape manufacturing industry is a welfare-superior regime.

We conclude that the environmental standard regime adopted by TEPA for restricting VOCs emission being emitted form Taiwan's adhesive tape manufacturing industry may not be the welfare-superior environmental regime. This finding is very different with that in Naito and Ogawa (2009) who study the relationship between

the environmental regime and the privatization degree. They conclude that social welfare in the environmental standard regime is higher than that in the emission tax regime no matter what the privatization degree is. We also find that there is an environmental preference inconsistency between the patentee and the social planner when the patentee is a domestic innovator.

Many previous papers study the optimal environmental regime. The real world phenomenon tells us that governments set up different environmental regimes with respect to different industries, such as TEPA adopting the environmental standard regime to regulate the adhesive tape manufacturing industry and it adopting the emission tax regime to regulate the cement manufacturing industry. In this paper we confirm that the environmental standard is indeed the welfare-superior regime for Taiwan's adhesive tape manufacturing industry. In the future, we can also confirm whether the emission tax is the welfare-superior regime for Taiwan's cement manufacturing industry.

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Note

Note 1. If the innovation size is sufficiently large and only one firm gets the new technology, then the non-licensee will be kicked out of the market and the market structure becomes a monopoly in which the innovation size is called drastic innovation (Arrow, 1962). On the contrary, given a small innovation size and only one licensee, then the non-licensee still stay in the market and the market structure is a duopoly or an oligopoly in which the innovation size is called non-drastic innovation.

Relevant Factors to Explain Cross-Section of Expected Returns of the Firms Listed in the Dhaka Stock Exchange

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Abstract

Using the well-known Fama-MacBeth methodology, this paper investigates the factors that may influence the cross-section of stock returns in the Dhaka Stock Exchange (DSE). Various combinations of factors such as dividend yield, size, price-earnings ratio, market return, spread between large and small firms, lagged values of factors, illiquidity of stocks, and cross-sectional volatility of the market are considered. However, results show that these factors hardly explain the cross-section of stock returns. Only market returns weakly explain stock returns. Interestingly, the relationship between market returns and stock returns has been consistently found to be negative, which contradicts the established notion of positive risk-return relationship. Even after considering for the effects of size, liquidity, and sub-periods, results do not change much.

Keywords: cross-section, CAPM, Dhaka Stock Exchange, illiquidity, frontier stock markets, emerging markets

1. Introduction

Sharpe (1964), Lintner (1965), and Mossin (1966) develop Capital Asset Pricing Model (CAPM), which is considered as the foundation of modern finance theory. The single-period CAPM shows linear relationship between the expected return and market risk of a security. Thus, no factors besides market risk, which is expressed by the slope coefficient (beta), should be able to explain security returns. However, many research papers in the late 1970's and throughout 1980's have shown that factors other than market return are capable of explaining stock's returns. Lintzenberger and Ramaswamy (1979) find a significant positive relationship between dividend yield and common stock return. Banz (1981) and Reinganum (1981) show that common stocks of small firms produce higher risk-adjusted returns than that of large firms. Lakonishok and Shapiro (1984) report that the difference of returns between the smallest and largest companies is about 1.2 per cent per month. Thus, CAPM faces a serious challenge to survive as an effective asset pricing model.

In an influential paper, Fama and French (1992a) show that when portfolios are formed on size alone, there seems to be evidence that average return is positively related to beta. The betas of size portfolios are highly correlated with size, which makes the size portfolios unable to distinguish between beta and size effects in average returns. Thus, when they divide the size portfolios on the basis of pre-ranking betas, they find a strong relation between average return and size, but relation between return and beta disappears. Later Fama and French (1993) show that size and book-to-market equity are important proxy for common risk factors to explain stock returns.

Researchers document a negative relationship between the expected returns and liquidity for the U.S. stocks [e.g., Amihud & Mendelson, 1986; Brennan et al., 1998; Chordia et al., 2001]. These findings suggest that infrequently traded stocks provide higher returns to the investors. This extra return (that is, liquidity risk premium) occurs because infrequently traded stocks might be riskier than frequently traded stocks as investors of the former cannot quickly adjust their portfolios in response to market changes. Chordia (2000), Liu (2006), and Pastor and Stambaugh (2001) also report that the stock liquidity plays an important role in the pricing of financial assets.

Some papers argue that investor psychology is the reason for return anomalies. Some return anomalies are attributed to momentum effects, which is first documented in Jegadeesh and Titman (1993). In a seminal paper, they show that buying past winners and selling past losers lead to substantial abnormal returns. Daniel et al. (1998) suggest that overconfidence induces overreaction, which ultimately causes stock prices to go away from fundamental value. Grinblatt and Han (2005) point that loss aversion can help explain momentum phenomenon

because past winners have more selling pressure than past losers. Chordiaet al. (2012) find that many of the previously well-known predictors cannot predict stock return in recent times, mainly because technological development enables investors to handle large volume of stocks at much reduced trading costs.

Fama and French (2008) show that regardless of the size group, accruals, net stock issues, and momentum are other main sources of asset price anomalies. Cakici et al. (2012) use very recent data and find strong evidence of value and momentum effects in 18 emerging stock markets. Moreover, they find that local factors explain cross-section of emerging market returns, suggesting that emerging markets are segmented from the developed ones.

All of these findings boil down to one thing – CAPM beta is not enough to explain stock returns and we have to find alternative models, which contain better predictors. A multi-factor model could be a solution. However, emerging markets are different from developed markets, which create several problems for the academicians. First, there is less published research on emerging markets, which means that possibly many peculiarities of such markets are still unknown. Bangladesh, an emerging market (or, strictly speaking, a frontier market), indeed is a less known market due to the same reason. Second, many of the standard finance theories are not applicable in emerging markets due to the idiosyncratic features such as weak regulatory authority, nonsynchronous trading, low liquidity, etc. Third, research on emerging markets is not so easy due to unavailability of reliable data. This is especially true for research on microstructure issues of these markets. Thus, we only know partially about the microstructure characteristics of these markets.

Using well-known Fama and MacBeth (1973) methodology, this paper examines factors such as market return, size, P/E ratio, dividend yield, size premium, illiquidity of stocks, lagged value of factors, and cross-sectional volatility to find which ones may explain the cross-section of returns of Bangladeshi stocks. There are only few studies on the use of factor models to explain cross-section of Bangladesh stock returns. In a previous study, Chowdhury et al. (2003) show that contrary to the findings in the developed markets, additional factors like size, market-to-book equity, and price-earnings ratio cannot explain the cross-section of stock returns in the DSE. However, unlike us, they do not consider firm attributes such as liquidity and size in sorting firms to construct portfolios. In a somewhat similar study, Ali (2011) finds that inflation has negative influence on stock returns and industrial production index, market P/Es and monthly percent average growth in market capitalization have positive influence on DSE stock returns. However, his technique uses index data rather than firm level data. Thus, our study is likely to contribute significantly to the extant literature on Bangladesh stock market.

Rest of the paper is organized as follows. Section 2 provides literature review of the relevant studies, with more emphasis on recent ones. Section 3 discusses how data are collected and specification of the models used in the study. Section 4 analyzes the empirical results. Section 5 gives concluding remarks on the overall findings of the study.

2. Cross-Section of Returns and Relevant Factors: Empirical Evidence

Brown et al. (1983) find that size effect is linear in the logarithm of size, but rejects the hypothesis that this effect is stable through time. That is, due to the instability of effect, estimates are sensitive of time period studied. Lo and Mackinlay (1990) document that returns to portfolios of small company stocks tend to lag returns to portfolio of large company stocks. On the other hand, lagged returns on small company stocks are not correlated with contemporaneous returns on large company stocks.

Fama and French (1992b) have shown that size and book-to-market are proxy for common risk factors in returns. They further show how size and book-to-market equity are related to economic fundamentals. Fama and French (1993) use three factors – an overall market, firm size, and book-to-market equity – to explain stock market returns. They find the evidence that size and book-to-market equity are indeed proxy for sensitivity to common risk factors in stock returns.

Zhang (2006) argues that stocks with greater information uncertainty are more prone to mispricing. Hou and Robinson (2006) show that firms in non-concentrated industries earn higher expected returns than firms in concentrated industries. Their argument is that the concentrated industries have higher barriers to entry, resulting in lower non-diversifiable risk. Fang and Peress (2009) document the presence of premium for 'neglected stocks' by giving the evidence that stocks with low media coverage earn higher expected returns than stocks with high coverage. Avramov and Chordia (2006) use size, book/market, and default spread as factor loadings to find the ability of firms to survive during the time of economy-wide turbulence. Their findings indicate that conditional analysis reduces the strength of size and book/market as the predictors of stock returns.

Rouwenhorst (1999) investigates 20 emerging markets and finds no relation between turnover and cross-sectional

returns but finds a positive relationship between turnover and beta, size, and momentum. Dey (2005) finds that, as far as the emerging markets are concerned, there exists a positive relationship between turnover and stock returns. Sang-Gyung et al. (2003) report that active management of an index may lead to higher liquidity and value. Obiedat (2009) finds a significant effect of earnings per share and book-to-market value on stock price in the Abu Dhabi stock market, whereas no significant effect of dividend per share was found.

Only few studies have so far made an effort to address the appropriate factors that explain the cross-section of returns in the Bangladesh stock market. Here we discuss the findings of the studies that tried to find factors to explain stock returns in the DSE or address the anomalies of stock return. Sadique and Chowdhury (2001) fail to obtain any prospect of lagged price and volume to predict the current and future price changes. However, they find that past trading volume and price changes can predict present and future changes in trading volume. Sadique and Chowdhury (2002) have found significant positive serial dependence in the weekly returns of the DSE over the short run. A study by Chowdhury et al. (2001) finds that beta simply fails to explain the cross-section of DSE-listed stocks. Mobarek and Mollah (2005) show that size, price to book, volume of shares traded, earnings yield and cash flow yield explain returns of the stocks listed in the DSE. Islam et al. (2006) show that although cross sectional returns are explained little by companies' size and the market-to-book value ratio individually, but in aggregate these two factors play an important role. Their results also show the importance of time variation on the volatility of stock prices of the Bangladesh stock market. Uddin et al. (2007) use 73 DSE stocks to examine liquidity risk and report the presence of liquidity premium in the market.

3. Data and Methodology

This paper uses monthly stock price data of all the companies listed in the Dhaka Stock Exchange. Monthly return series is calculated as the logged difference of stock prices on the last trading days of two consecutive months times 100. Stock price, market capitalization, price-earnings ratio, and dividend yield data are collected from Thomson Datastream. Natural log of individual stock's market capitalization is the proxy for firm size. We create the SMB (Small Minus Big) series by taking the difference between the average return of the smallest one-third companies and that of the largest one-third companies listed in the DSE. Beta is estimated every month based on the returns of the stock and that of the market in the past 24 months. We use market model to estimate beta for individual firms. In the same manner, we estimate the coefficients of every factor to find the sensitivity of returns of the individual stock to that particular factor.

Thus, the sensitivities of a portfolio i to the risk factors at time t are denoted by $\beta_{i,t}^m$, $\beta_{i,t}^{smb}$, $\beta_{i,t}^{pe}$, $\beta_{i,t}^{mv}$, and $\beta_{i,t}^{dy}$. Our approach is based on the Fama-MacBeth (1973) two-stage methodology, which is widely used in empirical asset pricing. We estimate the Fama-French betas for every firm from the following time-series regression,

$$r_{i,t} = \alpha_{i,t} + \beta_{i,t}^m r_{m,t} + \beta_{i,t}^{smb} r_{smb,t} + \beta_{i,t}^{pe} (PE)_{i,t} + \beta_{i,t}^{mv} (MV)_{i,t} + \beta_{i,t}^{dy} (DY)_{i,t} + \epsilon_{i,t} \qquad (1)$$

where $r_{i,t}$, $r_{m,t}$, $r_{smb,t}$, $(PE)_{i,t}$, $(MV)_{i,t}$, and $(DY)_{i,t}$ represent return of asset i, market return, return on the SMB, price-earnings ratio of firm i, size (market capitalization) of firm i and dividend yield of firm i, respectively. This procedure is repeated by rolling the window of 24 months of observations one month ahead. Rolling windows of 24 months make an appropriate compromise between adjusting to the latest changes and avoiding of noise in the monthly estimations. Although rolling five-year windows have also been suggested in earlier literature such as Groenewold and Fraser (1997) and Fraser et al. (2004), we have used 24 months mainly due to our data set of shorter time span. Next, we estimate the coefficients $\lambda_{0,t}$, $\lambda_{m,t}$, $\lambda_{smb,t}$, $\lambda_{pe,t}$, $\lambda_{mv,t}$, and $\lambda_{dy,t}$, using the estimated betas $\beta_{i,t}^m$, $\beta_{i,t}^{smb}$, $\beta_{i,t}^{pe}$, $\beta_{i,t}^{mv}$, and $\beta_{i,t}^{dy}$ from equation 1, i.e. estimating cross-sectional regressions for every month,

$$r_{i,t} = \lambda_{0,t} + \lambda_{m,t}\beta_{i,t}^m + \lambda_{smb,t}\beta_{i,t}^{smb} + \lambda_{pe,t}\beta_{i,t}^{pe} + \lambda_{mv,t}\beta_{i,t}^{mv} + \lambda_{dy,t}\beta_{i,t}^{dy} + \xi_{i,t} \qquad (2)$$

Where $\lambda_{j,t}$'s, $j = 0$, m, smb, pe, mv, and dy, are the risk premia which offset the investors for taking one unit of risk from corresponding risk factor. The coefficient $\lambda_{0,t}$ is interpreted as the expected return of a zero beta portfolio.

Due to the findings in the previous literature that liquidity is important factor to explain stock returns, we have also sorted firms based on illiquidity (Note 1). It is difficult to measure liquidity of the individual stocks as well as the market. Researchers have used various measures of liquidity. Brennan and Subrahmanyam (1996) measure stock liquidity by price response to order size and the fixed cost of trading. Easley et al. (1999) use the probability of information-based trading estimated from intra-daily transaction data as a proxy for microstructure risk. Amihud and Mendelson (1986) and Eleswarapu (1997) use bid-ask spread as a measure of liquidity. All these are fine measures of illiquidity that requires data of transactions and quotes that are unavailable in emerging stocks markets such as Bangladesh. Thus, we use the illiquidity measure given by Amihud (2002). His measure of illiquidity

needs only data on returns and volume which are available for most markets for reasonable period. Amihud (2002) defines liquidity as

$$ILL_d^i = \frac{abs(R_d^i)}{VAL_d^i} \tag{3}$$

Where R_d^i is the return for stock i on day d. VAL_d^i is the trading value for stock i on day d in millions of taka (local currency), and ILL_d^i represents the absolute percentage price change per million taka of trading value. Amihud points out that this measure has the intuitive interpretation of measuring average association between a unit of volume and the price change that other liquidity ratios do not have. Monthly illiquidity can be estimated as

$$ILL_m^i = {1}/{D_{im}} \sum_{d=1}^{D_{im}} \frac{abs(R_{md}^i)}{VAL_{md}^i} \tag{4}$$

Thus, monthly market illiquidity is the average of illiquidity across stocks in market in the month m. (Note 2)

4. Analyses of Results

Table 1 shows the results obtained from the basic model given in equation (2). Various combinations of factors (given by model numbers) are also used to find the relevant factors that potentially explain the cross-section of returns of the DSE firms. There are six different models in the table, hence six combinations. Four observations on Table 1 are noteworthy. First, in every model, constant is always significantly positive. Second, market return seems to have significantly inverse relationship with cross-sectional returns, which contradicts with the notion that risk and return are positively related. Using intertemporal CAPM Merton (1973) suggests a positive relation between risk and return. Fama and Schewrt (1977), Breen et al. (1989), and Glosten et al. (1993) provide empirical evidence of time variation in the relation between risk and return.

Table 1. Results of Fama-French regression for various factor combinations

Model	Constant	λ_m	λ_{pe}	λ_{dy}	λ_{mv}	λ_{smb}
Model 1	1.42	-0.6281	0.0038	-0.0008	0.0000	-0.5745
	(3.51)[*]	(-2.61)[*]	(-1.22)	(-0.19)	(-0.15)	(-2.10)[*]
Model 2	1.4318	-0.5903	-0.0025	-0.0014	0.0000	
	(3.34)[*]	(-2.56)[*]	(-0.87)	(-0.32)	(-0.07)	
Model 3	1.3685	-0.5098	-0.0011	-0.0010		
	(3.15)[*]	(-2.24)[*]	(-0.42)	(-0.60)		
Model 4	1.3797	-0.5201	-0.0019			
	(3.15)[*]	(-2.32)[*]	(-0.77)			
Model 5	1.2972	-0.4255				
	(2.97)[*]	(-2.02)[*]				
Model 6	1.3288	-0.5083				-4.630
	(3.25)[*]	(-2.31)[*]				(-1.82)

Notes: *t*-statistics are given in parenthesis. [*] indicates significance at 5% level.

Basher et al. (2007) also find significantly negative risk-return relationship in the DSE. Glosten et al. (1993) describe a situation where investors may not want higher return for taking higher risk. According to them, investors may not want higher risk premium if they find that they are better off bearing risk at time of particular volatility. Additionally, if future is risky the investors may like to invest now even if risk premium is low. Finally, for the general investors, investment in risk-free assets is not so easy in a frontier market such as Bangladesh. Such phenomenon may increase the price of risky assets (that is, lower expected return), ultimately reducing risk premium. The relation between market and stock return is significantly negative in model 5 as well as in other models, which suggests that this relation persists even in the presence of other variables.

Third, P/E ratio, dividend yield, and size do not have any impact on returns. Fourth, SMB, like market return has significantly negative relationship with returns, which also goes against the positive risk-return relationship suggested by finance theory. When market is more risky, risk-averse investors should become more interested in large firms and avoid small firms, resulting in higher price for large firms' stocks and lower price for small firms' stocks. This phenomenon suggests for higher (lower) required return for small (big) firms and larger spread between small and big firms' returns. As mentioned in the last paragraphed, such negative relationship between risk factors and returns is not very new in finance literature on Bangladesh stock market.

Table 2 presents regression results for small, medium, and large size firms. Constants are significantly positive.

Cross-sectional returns still have negative relation with market returns. However, only large firms have significant risk-return relationship. In fact if the argument of Glosten et al. (1993) discussed above is true, then the risk-return relation for large firms should be more strongly negative because investors will switch away from small to large firms when future is uncertain.

Table 2. Results of Fama-French regression for different size firms

Firms	Constant	λ_m	λ_{pe}	λ_{dy}	λ_{mv}	λ_{smb}
Large	2.838	-1.3377	-0.0652	-0.0029	-0.0038	-0.5028
	(4.40)[*]	(-3.36)[*]	(-1.55)	(-0.20)	(-1.34)	(-1.07)
Med	1.2548	-0.4152	-0.0172	-0.0017	0.0000	0.4525
	(2.81)[*]	(-1.35)	(-1.47)	(-0.17)	(0.04)	(1.23)
Small	0.8560	-0.7101	-0.0136	0.0150	-0.0021	-0.2532
	(2.25)[*]	(-1.78)	(-2.23)[*]	(1.32)	(-1.88)	(-0.81)

Notes: *t*-statistics are given in parenthesis. [*] indicates significance at 5% level.

Table 3 gives the results of the full model for three size firms for two sub-periods – from 02/2000 through 03/2004 and from 04/2004 through 02/2008. Results are somewhat similar to previous two tables. For the earlier period, returns of all the size firms – large, medium and small - are explained by market returns. Effects of other factors are not evident. For the later period, market returns do not explain any of the size firms' returns. As before, other factors have limited capability of explaining the cross-section of expected returns. Thus, it seems that in the later period firms are not correlated to the market performances, which raises serious doubts on the manipulation-free trading activities of the market.

Table 3. Results of Fama-French regression for different size firms and two sub-periods

Firm	Constant	λ_m	λ_{pe}	λ_{dy}	λ_{mv}	λ_{smb}
Panel A: Period 02/2000 through 03/2004						
Large	3.1762	-1.4611	-0.0116	-0.0046	-0.0014	0.2895
	(4.94)[*]	(-3.10)[*]	(-0.76)[*]	(-0.50)	(-0.92)	(0.67)
Med	1.5975	-0.8409	-0.0069	0.0006	0.0001	0.1275
	(3.59)[*]	(-2.23)[*]	(-0.69)	(0.06)	(0.23)	(0.44)
Small	0.3878	-0.9031	-0.0044	0.0030	-0.0010	-0.5764
	(0.86)	(-2.31)[*]	(-0.78)	(0.22)	(-1.14)	(-1.82)
Panel B: Period 04/2004 through 02/2008						
Large	2.2628	-0.8551	-0.2228	0.0018	0.0023	1.9858
	(2.12)[*]	(-1.24)	(-1.54)	(0.05)	(-0.11)	(-2.11)[*]
Med	1.6041	-0.2018	-0.2355	0.2682	-0.0209	-0.8582
	(1.83)	(-0.43)	(-2.46)[*]	(2.41)[*]	(-2.46)[*]	(-0.93)
Small	1.0881	-0.3293	-0.0155	0.0493	-0.0008	0.0009
	(2.08)[*]	(-0.41)	(-1.19)	(-0.42)	(-0.30)	(-0.15)

Notes: *t*-statistics are given in parenthesis. [*] indicates significance at 5% level. Data from 02/1998 through 01/2000 are lost due to the estimation of beta based on each firm's last 24 months' data.

It is believed that trade is a way of revealing information. Thus, the highly liquid firms have more opportunity to reflect information in their stock prices. Table 4 shows the results of regression where firms are sorted based on illiquidity. Results of this table is not that much qualitatively different from previous tables. The risk-return relationship is mostly insignificant for medium and low illiquid firms. However, highly illiquid firms show some evidence of significantly negative risk-return relationship. For highly illiquid firms, in four out of six regression models we have found significantly negative relationship between market return and stock return. Thus, this result is a very puzzling evidence of effect of liquidity on stock prices. This also indicates that stock trading does not play any role in disseminating information.

Table 4. Results of Fama-French regression using various factor models for illiquidity-sorted firms

Models	Constant	λ_m	λ_{pe}	λ_{dy}	λ_{mv}	λ_{smb}
Panel A: High illiquid firms						
Model 1	0.6051	-0.7167	-0.0002	-0.0013	-0.0001	-0.2457
	(1.26)	(-2.96)*	(-0.49)	(-0.13)	(-0.16)	(-1.24)
Model 2	0.4665	-0.5938	-0.0031	-0.0076	0.0003	
	(0.95)	(-2.29)*	(-0.64)	(-0.81)	(0.34)	
Model 3	0.3600	-0.4840	-0.0066	-0.0055		
	(0.73)	(-1.96)*	(-1.96)*	(-0.80)		
Model 4	0.2844	-0.3963	-0.0033			
	(0.56)	(-1.63)	(-0.98)			
Model 5	0.2594	-0.3756				
	(0.51)	(-1.56)				
Model 6	0.4455	-0.5405				-0.2462
	(0.90)	(-2.32)*				(-1.55)
Panel B: Medium illiquid firms						
Model 1	1.4868	-0.3984	-0.0063	-0.0055	0.0006	-0.4107
	(3.10)*	(-1.39)	(-0.39)	(-0.46)	(-0.39)	(-1.14)
Model 2	1.5554	-0.3282	-0.0113	-0.0027	0.0002	
	(3.10)*	(-1.23)	(-0.76)	(-0.23)	(-0.13)	
Model 3	1.6466	-0.4200	-0.0074	-0.0054		
	(3.35)*	(-1.63)	(-0.68)	(-0.14)		
Model 4	1.6827	-0.3861	0.0008			
	(3.33)*	(-1.57)	(-0.11)			
Model 5	1.6678	-0.3966				
	(3.25)*	(-1.66)				
Model 6	1.6256	-0.4852				-0.3287
	(3.32)*	(-1.80)				(-1.11)
Panel C: Low illiquid firms						
Model 1	1.8177	-0.4030	-0.0254	0.0035	-0.0016	0.0673
	(3.94)*	(-1.22)	(-1.59)	(0.34)	(-1.04)	(0.24)
Model 2	1.6281	-0.2666	-0.0219	0.0029	-0.0012	
	(3.24)*	(-0.95)	(-1.33)	(0.27)	(-0.72)	
Model 3	1.6221	-0.2595	-0.0093	0.0025		
	(3.18)*	(-0.95)	(-1.50)	(0.39)		
Model 4	1.6918	-0.3447	-0.0009			
	(3.28)*	(-1.39)	(-0.15)			
Model 5	1.5951	-0.2236				
	(3.04)*	(-1.04)				
Model 6	1.6974	-0.3282				0.0779
	(3.50)*	(-1.20)				(0.71)

Notes: *t*-statistics are given in parenthesis. * indicates significance at 5% level.

Table 5 presents the results of multifactor regression models using firms sorted for illiquidity and two time periods – from 02/2000 through 03/2004 and from 04/2004 through 02/2008. Only market returns explain returns of low and medium illiquidity firms during the prior period. Other factors barely explain returns of firms. Thus, liquidity does not play any role to change the power of factors to explain the cross-section of stock returns.

Table 5. Results of Fama-French regression for two sub-periods (illiquidity-sorted firms)

Firm (Period)	Constant	λ_m	λ_{pe}	λ_{dy}	λ_{mv}	λ_{smb}
High (02/00-03/04)	-0.5045	-0.1044	-0.0006	-0.0050	-0.0001	-0.2263
	(-0.66)	(-0.65)	(-0.27)	(-1.36)	(-0.40)	(-1.45)
High (04/04-02/08)	1.8036	-0.0073	-0.0011	-0.0075	0.0006	0.0624
	(1.61)	(-0.04)	(-0.38)	(-0.94)	(1.12)	(0.22)
Medium (02/00-03/04)	0.9413	-0.8361	0.0022	-0.0059	0.0006	0.3177
	(1.69)	(-2.39)*	(0.12)	(-1.02)	(0.67)	(1.01)
Medium (04/04-02/08)	2.1763	-0.4361	-0.0223	0.0082	-0.0008	-0.7123
	(2.31)*	(-1.20)	(-1.58)	(1.06)	(-0.63)	(-1.43)
Low (02/00-03/04)	0.9630	-1.0225	0.0025	-0.0066	0.0005	0.1164
	(1.49)	(-2.12)*	(0.32)	(-1.01)	(0.06)	(0.25)
Low (04/04-02/08)	1.9418	-0.1502	-0.0104	-.0019	-0.0019	0.2239
	(2.45)*	(-0.37)	(-2.04)*	(-0.45)	(-2.72)*	(0.85)

Notes: *t*-statistics are given in parenthesis below the parameter values. * indicates significance at 5% level. Based on illiquidity, firms are sorted into three categories – high, medium, and low.

5. Conclusion

This paper investigates the factors that may influence the cross-section of stock returns in the DSE. We have used various combinations of factors such as dividend yield, size, price earnings ratio, spread between small and large firms, market return, lagged values of factors, illiquidity of stocks, and cross-sectional volatility of the market. However, results show that these factors hardly explain the cross-section of stock returns. Only market returns weakly explain stock returns. Interestingly, the relationship between market returns and stock returns has been consistently found to be negative, which contradicts the established notion of positive risk-return relationship. Using ARCH models, Basher et al. (2007) also find significantly negative risk-return relationship in the DSE. Glosten et al. (1993) describe a situation when investors may not want higher return for taking higher risk. They argue that investors may not want higher risk premium if they find that they are better off bearing risk at the time of particular volatility. Thus, as far as the DSE is concerned, there are two possible reasons for the negative relationship between risk and return. First, investors do not care about the logical risk-return relationship. Second, investors are too sensitive about future uncertainty, which makes them invest now even if risk is irrationally high for a particular level of return. Overall results do not suggest any strong relationship between cross-section of expected returns and well-known risk factors. There are at least two possible reasons. First, investors may not consider market risk factors in pricing stocks. Due to high participation of uninformed individual investors and lack of financial analysts/advisers, market may behave illogically. Second, investors may consider some unknown risk factor in pricing stocks. More research may be able to find those factors.

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Notes

Note 1. We have also used momentum as one of the factors. We have defined momentum as the sum of past 60 days' returns of a stock. However, initial regression does not show any improvements in the model performance, consequently we have dropped momentum from further consideration.

Note 2. Monthly market illiquidity series are also created from the firm level illiquidity data and used as one of the factors in the regression. Although not reported, we have found insignificant relationship between market illiquidity and cross-section of stock returns.

Jordanian Evidence for the Pay-Performance Relation

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Abstract

The intention of the study is to test the pay-performance relation for the Jordanian manufacturing firms listed on the Amman Stock Exchange during the period 2000-2011. Using two regression methods; the Ordinary Least Square Method, and the Fixed Effect Method, three models were tested. All three models that have been tested concluded a positive and significant impact of the CEO remuneration on the Jordanian manufacturing firms' performance. Another finding of the study, that is, due to specific-characteristics of each of the companies, the impact of the remuneration varies among the Jordanian Industrial Firms in the magnitude of the impact, and consistent in the direction of the impact. These findings are compatible with the say that the CEO remuneration have a significant role in mitigating the agency problem by granted reasons for CEOs perform their tasks to the magnification of owner's wealth, and that the remuneration should reflect and suit firm's performance. Also these results support the view that connecting the wealth of CEO to the performance of the firm can bring into line the interests of owners and those of CEO, and thus, helps improving the firm's performance.

Keywords: CEO compensation, performance, Jordan firms

1. Introduction

In this study we examined the relationship between CEO (Chief Executive Officer) remuneration and the corporation performance in Jordan, and up to the knowledge of the researcher, this is the first study of its type in Jordan with that goal. Many applied studies in the developed countries have been done to examine this relationship. One example is the work of Girma et al. (2007), which studied the effect of Cadbary reforms in the field of the CEO remuneration in UK companies, and concluded that the relationship between CEO compensation and the corporation performance was weak in terms of statistical significance. Gregg et al. (2005) concluded the same weak relationship in their study. Ozkan (2007) used the sum of the CEO compensations in the major British companies during the fiscal year 2003 - 2004 concluded that there is no significant relationship between the CEO compensations and the performance of the UK corporations.

In the other hand, Sigler (2011) found a proportional relationship with a statistical significance between the sum of CEO compensations and the performance of the American industrial companies after the adoption of Sarbanes Oxley Act.

Jensen and Murphy (2010) concluded that the remuneration of the CEO in most of the public USA firms was with no effect on their performance. Aggrwal (1999) detected a relationship between the CEO remuneration and the profitability, and concluded that the sensitivity of the change in wealth of the firm owners as a result of the change of the CEO compensations was (0.01452).

Based on the above review, the goal of this study is to try to highlight the assumed relationship between CEO remuneration and the firm's performance for the manufacturing listed Jordanian company.

In the Empirical Analysis, the CEO compensation was expressed as the sum of money compensations added to the basic salaries instead of the stock options and long-term incentive plans, because the latter is not used in Jordan, where the performance of the corporation, is expressed in the study, as the Return on Assets. Also the study has employed a group of Control Variables that represent the Corporation Governance Variables which have been known to have effects on the corporate performance by many studies (e.g. Diamond & Verrecchia, 1991; Leuz & Verrecchia, 2000; Verecchia, 2001; Bushman & Smith, 2001).

A key effort of this study is that it tests the relationship in developing countries rather than developed countries, according to the knowledge of the researcher, this relationship has not been tested in Jordan, and thus contributes

the literature by adding new evidence for the reality of the situation in these countries.

Additionally, the study control for a set of corporate governance; CEO duality, board size, board independence, as the previous literature suggested that the corporate governance mechanisms alleviate the problem of agency and thus improve the company's performance.

Finally, different from other researcher, we used the Fixed-Effect estimation method (FEM) to test for the probability that the effect of CEO compensation on the firm's performing varies among Jordanian manufacturing companies due to unobserved firm-specific characteristics.

The Experimental Findings of this study suggested a positive and significant relation between the CEO remuneration measured by the sum of the base salary and cash remuneration and the Jordanian industrial firm's performance measured by the return on total assets (ROA).

Another finding of the study is the positive and significant effects of CEO remuneration on the firms' performance differ among the Jordanian industrial firms due to the unobserved individuality.

The frame of the paper is planned as follows; part 2 discusses related literatures part 3 provides data and methodology, part 4 includes empirical results, and lastly part 5 ends with a conclusion.

2. Related Literature

Even though there is a wide range of preceding searches examining the association between CEO remuneration and the performing of the firm, these studies have been performed on companies operating in developed financial markets, and in countries characterized by its strong economy, such as American and European companies. Jensen and Murphy, (1990), Gibbons and Murphy (1992), and Paul and Nancy (1994), all suggested significantly positively association between total remuneration and corporate profitability in the US companies.

Gerhart and Milkovich (1990) tested the impact of compensations on a company's return by dividing the compensations to three levels: Short-term, Long-term, and base wages, the study found that short-term and long-term compensations associated positively with the company's performance, expressed as return on assets (ROA), while the basic salary had no significant effect on the corporate performance. Moreover the study of Hayes and Schaefer (2000) investigated the association between firm's profitability and remuneration, and found that the remuneration has a direct relation with return on equity, a proxy of corporate performance. Fich and Shivdasoni (2005) concluded that the stock-based compensation and abnormal return are related positively and significantly in US Company. Murphy (1999) concluded a strong significant association between cash remuneration and corporate revenues, and that the relation holds for all industries in US company.

Baptists (2010), investigated the CEO pay-performance in France, taken into account the total remuneration, and used the accounting and market measures for performance. The study concluded a weak and significant relation between ROA and total remuneration, and no proof of a significant association between historical performance and remuneration in French companies.

Eddy Junarsin (2011) examines the relation between the compensation and corporate performance using four measures for performance: ROA; EPS; MB; return, and the five kinds of remuneration: Total remuneration; Wages; Bonus; Constrained Stock Grant; and Options. The study concluded that total remuneration is directly associated with the corporate profitability, and the relation is stronger for top paid CEO, while the ratio of base wages to total remuneration is negatively associated with corporate profitability, meaning that the base wages as a type of CEO remuneration is less important in high-performing companies.

Main et al. (1996) tested the relation between total remuneration and the performance in the absence of the corporate governance variables. The study concluded a weak relation in the UK companies. Also Gregg et al. (2005) came to the same conclusion.

A study of Giorgio Brunella et al. (2001) suggested a weak relation between compensation and the Italian firm's profitability, and that the relation between CEO compensation and the firm's profitability is stronger: in foreign-owned firms, multinational firms, and listed firms.

Ozkan (2007) tested the effect of corporate governance on the CEO pay's for UK companies, and found no significant relationship between CEO remuneration and corporate performance, while Board Of Directors (BOD) size and ownership structure, as determinants of the corporate governance, of the UK companies explains significantly the variation in the compensation.

3. Data and Methodology

This paper adopts the quantitative research approach by utilizing unbalanced pooled cross-sectional time series for all 77 manufacturing companies listed at ASE within the time horizon 2000-2011.

Two regression methods were adopted; the Ordinary Least Square (OLS) to test for the potential pay-performance relation, and the Fixed Effect Regression Method (FEM) to test for the possibility that the potential effect of the CEO remuneration on the firm's performance differ among the Jordanian industrial Firms.

As for the statistical test, the return on asset (ROA) was appointed to be the dependent variable in the econometric model of the study, while the cash compensation as proxy of the CEO compensation was appointed as the independent variable.

3.1 Control Variables

As for the control variables, we control the pay-performance relation with a set of the corporate governance variables; CEO duality, board size, board independence.

3.1.1 CEO Duality

The disconnection parting of the posts of Chairman of the BOD and CEO is one of the most important indicators of the strength of corporate governance that increase the efficiency of the BOD (Fama & Jensen, 1983; Cadbury, 1992). According to the agency theory, which assumes that managers are opportunists, the disconnection parting of the posts of Chairman of BOD and CEO improves the efficiency of corporate governance and shareholder control over CEO rulings, and therefore improves the performing of the company by reducing agency costs.

Shivdasani and Zenner (2004) concluded that granting the CEO duties to the BOD Chairman makes it harder for the BOD to replace the CEO in the case of poor performance. Goyal and Park (2002) concluded that the combination of the two posts reduces flexibility, efficiency and speed of the BOD in treating the decline in the performance of the company.

We proxy for the CEO duality by the dummy-variable (D_DUL), D_DUL takes value of 1 if there is a separation between the two posts, otherwise 0

3.1.2 Board Size

Even though size of the BOD has a direct effect on the quality of corporate governance, no consensus on the optimal number of the BOD that can perform his duties as the best in terms of management of the company's activities and performance control. Studies on the effect of the size of the BOD concluded that the larger the BOD members, the less efficiency the board is in managing the company and oversight of its activities, due to the difficulty of; communication, coordination and variances in views between members, (Hermalin & Weishach, 2003).

The study of Yermack, (1996) has concluded a negative relation between the BOD size and company's performance, and as the BOD size becomes larger, it becomes slower in making decisions.

The median of the board size was calculated for all the companies for each year of the study. We proxy for the board size by the dummy-variable (DBRD_SIZ), DBRD_SIZ takes value of 1 if the BOD size of ith firm at t^{th} time is greater than all companies median at time t, otherwise 0.

3.1.3 Board Independence

The independence of the BOD considered one of the main pillars of the theory of agency (Fama & Jensen, 1983). There is almost unanimous in the literature of finance that the escalation in the proportion of independent members in the BOD, escalate the efficiency of the BOD in the oversight of management (Morck & Nakamura, 1994; Kaplan & Minton, 1994; Bhagat & Black, 2002), and increases the possibility that the BOD to replace weak CEO.

Solomon et al. (2003) and Tsui and Gul (2000) concluded that increasing the proportion of the independent members in the BOD plays a critical part for the benefit of investors, especially small investors.

The independence of the BOD was expressed through the proportion of external members in the BOD to the total members of the BOD of each of the companies in the study for each year of study. We proxy for the board independence by the dummy-variable (DBRD_IND), DBRD_IND takes value of 1 if the proportion of external members in BOD to the total members of BOD of the ith firm at t^{th} time is greater than the median of all companies at time t, otherwise 0.

3.2 Econometric Model

To test the pay-performance relation, the general model has the form of:

$$Firm's\ performance\ = f(CEO\ compensation, Corporate\ Governance) \qquad (1)$$

This equation suggests that the performance is a function of the CEO pay's and the corporate governance. The

econometric model of the study will be presented as follows:

$$ROA_{it} = \alpha + \beta_1 \, CEO\_COM_{it} + \sum_{j=1}^{n} \gamma_j \, control \; variables_{it} + \varepsilon_{it} \tag{2}$$

Whereas, ROA_{it} is the proxy of the firm's performance for i^{th} cross-sectional firm at t^{th} time, with $i = 1,2,3,\ldots,77$, $t = 1,2,3,\ldots, 11$, α constant, β unknown parameter for the independent variable the CEO compensation to be estimated, $n = 1,2,3$ the count of the control variables, γ unknown parameter of the control variables, which includes the specific characteristics of the firm's corporate governance to be appraised.

The econometric model can be rewritten using corporate governance variables as follows:

$$ROA_{it} = \alpha + \beta_1 \, CEO\_COM_{it} + \gamma_1 D\_DUL_{it} + \gamma_2 DBRD\_SIZ_{it} + \gamma_3 DBRD\_IND_{it} + \varepsilon_{it} \tag{3}$$

Where, $\gamma's$ unknown coefficients of the control variables to be appraised, D_DUL dummy-variable as proxy of the CEO duality, $DBRD\_SIZ$ dummy-variable as proxy of the board size, $DRBD\_IND$ dummy-variable as proxy of the board independent.

3.3 Hypothesis Elaboration

Based on the theory of agency, the agency problem expresses the conflict of interest between CEO and the owners. CEO, acting as the agent for the owners, is assumed to make decisions in the owner's best benefits. But, it is in the CEO's own best interest to consider his own interests. While it is not likely to exclude the agency problem completely, the CEO can be motivated to act in the owners best interests through remuneration, such as performance-based remuneration. This paper aims to investigate the possible relationship between the CEO remuneration and the performance, and to achieve this goal, the following hypothesis will be tested:

H_{01}: There is no statistically significant association between the CEO remuneration and the firm's performance for the Jordanian manufacturing firms listed at ASE.

H_{01} can be rewritten mathematically as:

$$H_{01}: \beta = 0, |sig < 0.05| \tag{4}$$

Whereas, β the regression coefficients of the CEO remuneration on the company's performance, if Sig. $\leq 5\%$, we will reject the H_0, if not, there isn't enough cause to reject it.

To test the possibility that the potential effect of the COE remuneration on the corporate performance differ among the cross-sectional Jordanian Industrial firms we tested the following hypothesis:

H_{02}: There are no statistically significant differences of the COE remuneration effect on the performance of Jordanian manufacturing firms listed at ASE.

H_{02} can be rewritten mathematically as:

$$H_{02}: \varphi_1 = \varphi_2 = \varphi_3 = \cdots = \varphi_i, |sig < 0.05| \tag{5}$$

Whereas, φ_i are the regression coefficients of the interaction variable ($D_i\_COE\_COM$) between the cross-sectional firm's dummy variable (D_i) and the CEO remuneration variable (CEO_COM) with $i = 1, 2, 3, \ldots, 77$. If at least one of the regression coefficients of the interaction variables has a Sig. $\leq 5\%$, we will reject the H_{02}, otherwise accept it.

4. Experimental Findings

The findings of testing the pay-performance relation for the Jordanian industrial companies are reported in the following part.

4.1 Correlation Analysis Findings

Table 1 presents the Pearson correlation coefficients between the variables used in the econometric model of the study. The results show that the CEO_COM associated positively significantly with the corporate performance, indicating that the greater are the CEO compensations the better is the corporate performance.

The result is compatible with the view that the remuneration should be based on merit, so that the preeminent person gets the best positions and assume greater responsibilities, which comes with appropriate rewards.

Table 1 also shows that the corporate performance and the board size are significantly negatively associated; indicating that increasing the board size will reduce the efficiency of the board, which is reflected negatively on the company's performance. Also the Table shows that the separation between the posts of Chairman and CEO positively correlated with the performance of the company.

Table 1. Pearson correlation matrix

Variable		ROA	CEO_COM	DRBD_SIZ	D_DUAL	DBRD_IND
ROA	Coefficient	1	.261**	-.174**	.067*	-.046
	Sig.		.000	.000	.046	.174
	Observations	879	879	879	879	879
CEO_COM	Coefficient	.261**	1	.332**	-.182**	-.035
	Sig.	.000		.000	.000	.304
	Observations	879	879	879	879	879
DRBD_SIZ	Coefficient	-.174**	.332**	1	-.138**	.028
	Sig.	.000	.000		.000	.413
	Observations	879	879	879	879	879
D_DUAL	Coefficient	.067*	-.182**	-.138**	1	.146**
	Sig.	.046	.000	.000		.000
	Observations	879	879	879	879	879
DBRD_IND	Coefficient	-.046	-.035	.028	.146**	1
	Sig.	.174	.304	.413	.000	
	Observations	879	879	879	879	879

Notes: **, *; Significant at 0.01, 0.05 level respectively. Definitions and measures of the variables are presents at appendix 1.

The results are compatible with the view that the separation of the posts and a small BOD works towards increasing the efficiency of the BOD in the control of the CEO, which will reflect positively on the company's performance.

Surprisingly, the Table shows that the independence of the BOD is not significantly associated with the company's performance at the 0.05 level of significance.

4.2 Regression Analysis Findings

Three regression models were utilized, and the regression analysis findings are presented in tables 2, 3, and 4. In Table 2 model 1, the pay-performance relation was tested with the nonexistence of the corporate governance variables. In Table 3 model 2, we controlled with the corporate governance variables, while in Table 4 model 3 the differential slope coefficient dummies method were used to permit the slope parameter regression to differ between firms, to test for the possibility that the effect of the remuneration on the performance varies among Jordanian industrial companies due to the different in the internal specific-characteristics.

Table 2 report the estimated parameter of the unbalanced pooled cross-sectional time series panel regression for model 1. The table shows a positive effect of the CEO_COM on the corporate performance at significant level less than 0.01. This result is compatible with the view that top CEO reward better able to generate profits for their companies, and thus improve its performance.

Table 2 also shows that with the nonexistence of the corporate governance variables, the CEO remuneration by itself was able to explain almost 7% of the change in the corporate performance (Adjusted R-Square = 0.067), and that the sensitivity of the change in the performance of the company as a result of the change in CEO remuneration is .0097 at a significant 0.01.

Table 2. Regression analysis finding for model 1

Variable	Coefficient
Constant	3.089
CEO_COM	.0097**
	8.009
	.000
Adjusted R-Square	0.067
df Regression	1
Residual	877
Total	878
F.	64.143
Sig.	.000

Notes: Dependent variable: ROA a proxy of the performance, First line regression coefficient, Second line t value, Third line sig. (2-tail). **, *; significant at 0.01, 0.05 level respectively. Variables definitions are listed at appendix 1.

In model 2, Table 3 shows that after controlling with the corporate governance the explanatory power of the model 2 has been improved to become 9.3%, which indicates that model 2 is better than model 1 to explain the pay-performance relation. The results appear in Table 3 shows that the impact of the CEO remuneration on the company's performance remained positive and statistically significant at a significant level less than 0.01, and that the sensitivity of the change in the performance of the company as a result of the change in CEO remuneration with the existence of the control variables is .0128 at a significant level 0.01.

Another result shown by Table 3, that the association between BOD size and the company's performance is a statistically significant inverse relationship, suggesting that the increase in the size of the Board could lead to a decrease in the efficiency of the Board, and thus, adversely impact the performance of the company.

Table 3 also shows that the separation between the Chairman of the BOD and the CEO duties leads to a better performance for the Jordanian industrial companies, but unexpectedly, this result was statistically insignificant at 0.05 significant levels.

Table 3. Regression analysis finding for model 2

Variable	Coefficient
Constant	8.945
CEO_COM	.0128**
	6.476
	.000
DBRD_SIZ	-.921**
	-2.869
	.004
D_DUAL	.321
	.204
	.838
DBRD_IND	-1.57
	-1.21
	.226
Adjusted R-Square	0.093
df Regression	4
Residual	874
Total	878
F.	18.593
Sig.	.000

Notes: Dependent variable: ROA a proxy of the performance, First line regression coefficient, Second line t value, Third line sig. (2-tail). **, *; significant at 0.01, 0.05 level respectively. Variables definitions are listed at appendix 1.

Other unexpected result is that the independence of the Board of Directors adversely affect the performance of Jordanian industrial companies, this result also was not statistically significant at 0.05 significant levels.

By using the Fixed Effect Method (FEM) to allow the slopes of the parameter to vary between the Jordanian Industrial firms, Table 4 shows the variables that are not excluded from the analysis, due to their constancy or its missing correlation, and were statistically significant. It shows that the number of these variables is 15 which means that the pay-performance relation varies among the Jordanian Industrial companies due to the firm's internal specific-characteristics.

It is worth to note that the variation among the Jordanian firms is in the magnitude of the effect and not in the direction of the effect, where Table 4 shows that all parameter for the interaction variables were positive. This result supports what has been concluded earlier by using the Ordinary Least Square Method (OLS) in model 2 about the positive effect of the CEO compensation on the corporate performance for the Jordanian Industrial firms.

Table 4 shows another improvement in the explanatory power when using the FEM instead of the Ordinary Least Square Method (OLS), with the value of Adjusted R-Square rising to 11.8%.

Table 4. Differential Slope Coefficient for model 3[*]

Model 3	Coefficients	t	Sig.
(Constant)	17.064	5.540	.000
D5_CEO_COM	.0091	2.252	.025
D15_CEO_COM	.0075	4.127	.000
D20_CEO_COM	.0109	2.905	.004
D28_CEO_COM	.0113	3.332	.001
D31_CEO_COM	.0031	2.111	.035
D34_CEO_COM	.0071	2.187	.029
D39_CEO_COM	.0129	3.629	.000
D42_CEO_COM	.0094	4.075	.000
D45_CEO_COM	.0012	2.349	.019
D51_CEO_COM	.0093	2.717	.007
D53_CEO_COM	.0200	2.159	.034
D63_CEO_COM	.0051	1.995	.047
D71_CEO_COM	.0131	2.426	.015
D75_CEO_COM	.0104	2.502	.013
D76_CEO_COM	.0087	2.600	.009
DBRD_SIZ	-.872	-4.407	.000
D_DUAL	.712	1.285	.199
DBRD_IND	-1.03	.973	.331
Adjusted R-Square	.118		
df Regression	45		
Residual	833		
Total	878		
F.	2.483		
Sig.	.000		

Notes: * 45 interaction variable out of the 77 were auto-excluded from the Fixed Effect analysis either because interaction variables are constants or have missing correlations, for the remaining 32 interaction variables only the results that are statistically significant were reported. Dependent variable: ROA a proxy of the performance, Di_CEO_COM; the interaction variable between the ith company dummy variable (Di) and the CEO compensation variable (CEO_COM). Variables definitions are listed at appendix 1.

Based on the above, and that's where: $\beta_{CEO\_COM} \neq 0$, |Sig. < 0.05| we reject the H_{01} and accept the alternative hypothesis which includes that there is a statistically significant association between the CEO remuneration and the firm's performance for the Jordanian industrial companies. And also because: $\varphi_5 \neq \varphi_{15} \neq \varphi_{20} \neq \varphi_{28} \neq \varphi_{31} \ldots |sig < 0.05|$ we reject the H_{02} and accept the alternative hypothesis which includes that there is a statistically significant differences of the COE remuneration effect on the performance of the Jordanian industrial companies.

5. Conclusion

The intention of the study is to test the pay-performance relation for the Jordanian manufacturing firms listed on the Amman Stock Exchange during the period 2000-2011. Using two regression methods; the Ordinary Least Square Method, and the Fixed Effect Method, three models were tested. All three models that have been tested concluded a positive and significant impact of the CEO remuneration on the Jordanian manufacturing firms' performance.

Another finding of the study, that is, due to specific-characteristics of each of the companies, the impact of the remuneration varies among the Jordanian Industrial Firms in the magnitude of the impact, and consistent in the direction of the impact.

These findings are compatible with the say that the CEO remuneration have a significant role in mitigating the agency problem by granted reasons for CEOs perform their tasks to the magnification of owner's wealth, and that the remuneration should reflect and suit firm's performance.

Also these results support the view that connecting the wealth of CEO to the performance of the firm can bring into line the interests of owners and those of CEO, and thus, helps improving the firm's performance.

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Appendix 1. Definition, Measure, Notation, and Expected Effect

	Variable	*Measure*	*Notation*	*Expected Effect*
Dependent Variable : Corporate Performances	*Return on total assets*	*Net Profit before tax / Total Assets*	*ROA*	
Independent Variables — *Variable of Interest*	*CEO Compensation*	*Total of salary and cash compensation*	*CEO_COM*	+
Control Variables	*CEO Duality*	$D\_DUL = \begin{cases} 1 \ separation\ between\ the\ two\ posts \\ 0 \ otherwise \end{cases}$	*D_DUL*	+
	Board Size	$DBRD\_SIZ = \begin{cases} 1\ if\ board\ size\ is\ greater\ than\ the \\ \quad median\ of\ all\ companies \\ 0\ otherwise \end{cases}$	*DBRD_SIZ*	-
	Board Independent	$DBRD\_IND = \begin{cases} 1\ if\ proportion\ of\ external\ to \\ \quad total\ members\ of\ board \\ \quad directors\ is\ greater\ than\ the \\ \quad median\ of\ all\ companies \\ 0\ otherwise \end{cases}$	*DBRD_IND*	+

The Study of Accounting Conservatism after the Promulgation of New *Accounting Standards for Enterprises* - Based on the Evidence in China's Capital Market

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Abstract

The accounting conservatism is the important topic of academic research in China and other countries, the Ministry of Finance promulgated *accounting standards for enterprises* which looks upon accounting conservatism as one of the principles for the first time in November, 1992 in China. And the Ministry of Finance issued a new *Accounting Standards for Enterprises* which regards the accounting conservatism as the quality requirements of accounting information in February, 2006. Thus the importance of accounting conservatism can be vividly seen. This paper uses the companies as the research samples after the implementation the new *accounting standards for enterprises* promulgated, that is to say, I choose the data from 2008 to 2011 for 4 years as research samples. Using Ball and Shivakumar's (2005) accrued - cash flow model, but the model was modified, specific practice is to divide accruals into discretionary accrual items and non-discretionary accrual items, the results of multiple regression show that China's accounting earnings is conservative, but accounting conservatism stems from non-manipulative accruals.

Keywords: accounting conservatism, accruals, discretionary accrual items, non-discretionary accrual items

1. Introduction

Early in the middle ages, accounting conservatism as a measurement principle was widely applied in the commercial activities. In early fourteenth century, Henley in his book *housekeeping* suggested that the personnel in the audit of the manor should maintain loyalty and caution. Bliss (1924) is the man who gives the definition of conservatism for the earliest, he states conservatism as "to foresee all possible losses, but don't expect any uncertain income". FASB (1980) in the Announcement of Financial Concept No. 2 gives the characterization of conservatism which is "the reflection of uncertainty carefully". IASB (2008) states the conservatism as "under uncertain conditions, the prudence of a certain degree was included when the use of judgement required obtains the necessary estimation, for example the assets or incomes cannot be overestimated, liabilities or expenses can not be underestimated". The new *accounting standards for enterprises* issued in February, 2006 in China defines the conservatism as follows: the conservatism requires that confirming and measuring and reporting transactions or matters should be prudent in corporations, assets or income should not be overstated, liabilities or costs should not be underestimated.

In the early stage of the People's Republic of China, the economic system of China is basically planned-economy system, until 1978, after the Third Plenary Session of the Eleventh Central Committee, China implemented fundamental state policy of reform and opening-up, gradually reformed the original economic system, especially in the Fourteenth National Congress of the Communist Party of China in 1992, building the marketable economic system of socialist is the target of the reform of economic system. Therefore, the accounting serving for the economy will also undertake a series of reform in order to adapt to the changes of China's economic environment. The Ministry of Finance issued the new *accounting standards for enterprises* (implemented in July 1, 1993) in November 30, 1992, it can be said that the new standards was promulgated in order to adapt to the development of the Chinese market economy, the guidelines regards accounting conservatism as one of the basic principles of accounting for the first time, thus it can be seen that the accounting conservatism is very important. China formally joined WTO in November 10, 2001 and has become one member

of the World Trade Organization. From then on, the relationship between China's economic development and the development of the global economy is more closely, what's more the world itself is the era of global economic integration. So the Ministry of Finance issued a new *enterprise accounting standards* in order to meet the needs of development of the global economy and to make China's accounting standards conform with international standards and at the same time to adapt to the needs of the reform of the market economic system. All listed corporations were claimed to begin to implement the new accounting standards in January 1, 2007, and the accounting conservatism is also mentioned as one of qualitative characteristics of accounting information in this new standards. Since the accounting conservatism (prudence) is so important, furthermore *the accounting standards for business enterprises* of China also looks upon conservatism as accounting principles, I can not help asking the Minestry of Finance requires corparations to follow the conservatism, but the accounting in enterprises does really reflect the accounting conservatism? This paper wants to verify if the conservatism of accounting earnings does exist in listed corporations of China through the method of empirical research? And to explore if the accounting conservatism exists, further to ask what the conservatism of accounting earnings stems from in the capital market of China?

2. A Review of the Literature

2.1 Foreign Literature Review

Watts (1993) is the earliest man who conducts systematic research on accounting conservatism, he mainly studied the reasons of the formation of the conservatism , and thought that accounting conservatism primarily arises from the debt contract and subject to the regulatory and legal effect, but his primary method is normative research method, and didn't find the method of empirical research metering accounting conservatism, but he thought that accounting conservatism can be inspected through empirical research. The legal systems of the United States have changed since 1966, which supplied an opportunity that tested whether legal proceeding is a factor of conservatism or not (Kothari, 1988). Ahmed etc. (2002) found that the conflict between shareholders and creditors is stronger, and the degree of accounting conservatism is higher. What's more, the degree of conservatism is higher, the debt cost of corporations is lower, which proves that the debt contract is one of the reasons of the conservatism. Basu (1997) is the earliest man who used the method of empirical research to test the conservatism of accounting earnings, and built the surplus-stock return model ,namely the rate of stock return represents the good news or the bad news, if the accounting earnings is able to reflect the bad news more timely, accounting earnings is conservative. Gioly and Hayn (2000) used the book-to-market ratio, the characteristics of earnings distribution and the accumulative amount of non-operational accruals and the changes of symbol to measure accounting conservatism, and thought that the systematic difference between the operating cash flow and accounting earnings exists, the difference is caused by the non-operational accruals. Holthausen and Watts (2001) used Basu's surplus- stock return model to test the conservatism of accounting earnings of listed corporations from 1927 to 1993 in the capital market of the United States ,it was found that the accounting earnings in the United States appeared before 1966, and verified that accounting conservatism has existed before the emergence of accounting standards. Lara etc. (2005) used France, Germany and Britain's listed corporations as the samples, and he ,separating the normal accruals and discretionary accruals ,found the cause of accounting conservatism of British's listed corporations by using Jones' model, namely managements transfer useful information to investors through discretionary accrual. Ball and Shivakumar (2005) established the accrued-cash flow relation model to examine the accounting conservatism of earnings, and they thought that accruals could confirm the economic profit and loss timely, and tested the existence of accounting conservatism through the model and drew a conclusion that the conservatism is caused by accruals. Afterwards, Basu's (1997) earnings -stock return model and Ball and Shivakumar's (2005) accrued-cash flow model were mainly used overseas to study the conservatism of accounting earnings extensively and thoroughly.

2.2 A Review of Literature in China

Li and Lu (2003) used the data of A-shares of China's listed corporations from 1995 to 2000, the conservatism of accounting earnings has at least been validated with Basu's earnings-stock return model in the period. Zhao (2004) used Basu's earnings-stock return model, and the listed corporations of A-shares of Stock Market in Shanghai and Shenzhen were applied as research samples from 1994 to 2004, the results found that the conservatism of accounting earnings in China has been more greatly improved than previous years after 1998, and the conclusion was drawn that the conservatism of China's accounting earnings is improved due to cash flow instead of accruals. Xia and Zhu (2009) used Ball and Shivakumar's (2005) accrued-cash flow model to examine the data of listed corporations of A-shares from 1999 to 2006 in China, the results showed that China's accounting earnings is conservative, but it is caused by the non-operational accruals. Qiu and Qu (2009) used Ball and Shivakumar's (2005) accrued-cash flow model to examine empirically the data of samples of listed

corporations of A-shares of stock market in China's Shanghai and Shenzhen from 2001 to 2005, and the results showed that the conservatism of China's accounting earnings exists, but the conservatism is caused by the discretionary accrual items. Hong and Xu (2009) selected the data of listed corporations of A-shares in 2007 in Shanghai and Shenzhen, and used Ball and Shivakumar's (2005) accrued-cash flow model to confirm the existence of accounting conservatism of listed corporations, they didn't divide accruals into the discretionary accrual items and non-discretionary accrual, and thought that conservatism stemmed from accruals. I have discovered that Basu's (1997) earnings-stock return model and Ball and Shivakumar's (2005) accrued-cash flow model are mainly being used to study empirically the conservatism of accounting earnings after I read the documents in China.

3. Research Design

The purpose of this paper is to discuss if the conservatism of China's accounting earnings in listed corporations does exist after the new *accounting standards for business enterprises* was implemented in January 1, 2007? And to explore the root of its formation? The design on empirical research is elaborated as follows:

3.1 Model Established and Variables Defined

Before and after the financial crisis in 2008, China's capital market is still immature, China's stock market fluctuated gravely, such as Composite Index in Shanghai Stock Exchange from the highest point 6124 in 2007 to the lowest point 1664 in 2008, then rebounded to its peak 3478 in 2009, the great fluctuation in stock market will make surplus - stock return model represented "the good news" or "bad news" with stock return rate deviate, so this paper adopts Ball and Shivakumar's (2005) accrued-cash flow model to measure the accounting conservatism. Healy (1985) has divided accruals into discretionary accrual items and non-discretionary accruals according to if the accruals is influenced by the subjective judgment of business management, so based on this, this article has modified Ball and Shivakumar's (2005) accrued-cash flow model, namely dividing accruals into discretionary accrual items and non-discretionary accruals. And discretionary accruals is widely used to measure earnings management in academic circle, so the measurement model of earnings management will be first chosen. Xia (2003) thinks that earnings management can be the most effectively revealled by cross-section Jones' the model which is handled by branch of industry estimation and the total accruals before the items used below the line (Note 1) as dependent variables to estimate parameters. Through the method of the empirical test, Liu (2011) verified that earnings management can be effectively measured by the modified Jones' model handled by year and industry in Chinese capital market. Through the empirical study, Subramanyam (1996) showed that cross-section Jones' model and modified cross-section Jones' model can more effectively reveal the behaviors of earnings management than time series model. Therefore, this paper uses the Jones' model handled by year and industry to measure earnings management. Combining Xia's (2003) with Liu's (2011) conclusions of empirical research, first the basic Jones' model (Model 1) is established to obtain the characteristic parameters in industries, and then the characteristic parameters in industries are put into modified Jones' model (Model 2), and non-discretionary accrual items are achieved, then discretionary accrual items can be calculated according to accruals equals discretionary accrual items plus non-discretionary accruals. In addition, Francis, Maydew and Sparks (1999) considered that the earnings management is to increase profits or reduce profits in unclear cases, discretionary accruals are taken the absolute value in order to measure more effectively the level of earnings management, so in this paper discretionary accruals have been taken absolute value.

$$\frac{GTA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \qquad \text{(Model 1)}$$

$$\frac{NDA_{i,t}}{A_{i,t-1}} = \alpha_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} \qquad \text{(Model 2)}$$

In Model 1 and model 2, $GTA_{i,t}$ presents the total accruals of company i in t year, its value is equal to operating profit plus net cash flow of operating activities; $A_{i,t-1}$ reprents the total assets of company i in t-1 year; $\Delta REV_{i,t}$ reprents the business income variation of corporation i in t year; $\Delta REC_{i,t}$ reprents the net variable quantity of accounts receivable of company i in t year; $PPE_{i,t}$ reprents the value of fixed assets (Notes 2) of company i in t year. $NDA_{i,t}$ represents non-discretionary accrual items of company i in t year; α_1, α_2, α_3 respectively presents characteristic parameters about industry; $\varepsilon_{i,t}$ reprents residuals of company i in t year.

This paper uses Ball and Shivakumar's (2005) accrued-cash flow model to measure the conservatism of accounting earnings, but this model has been modified, namely the accruals are divided into discretionary accrual items and non-discretionary accrual items in this paper. On this paper my aim is to examine if accounting conservatism does exist in China? Under the existence of the accounting conservatism, its cause of formation is

accruals or discretionary accrual items or non-discretionary accrual items? Based on this, the three models as follows are been established, Model 3 is the original model of accrued-cash flow, Model 4 and Model 5 are the modified model of accrued-cash flow model:

$$Acc_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t} + \alpha_2 DCFO_{i,t} + \alpha_3 CFO_{i,t} \times DCFO_{i,t} + \varepsilon_{i,t} \qquad \text{(Model 3)}$$

$$OperAcc_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t} + \alpha_2 DCFO_{i,t} + \alpha_3 CFO_{i,t} \times DCFO_{i,t} + \varepsilon_{i,t} \qquad \text{(Model 4)}$$

$$NoperAcc_{i,t} = \alpha_0 + \alpha_1 CFO_{i,t} + \alpha_2 DCFO_{i,t} + \alpha_3 CFO_{i,t} \times DCFO_{i,t} + \varepsilon_{i,t} \qquad \text{(Model 5)}$$

In Model 3, Model 4 and Model 5, $ACC_{i,t}$ represents accruals of company i in t year divide the total assets at the beginning of the period, its value is equal to the operating profit (Notes 3) in t period minus net cash flow of operational activities in t period. $CFO_{i,t}$ represents net cash flow of operational activities of company i in t period divide the initial total assets. $DCF_{i,t}$ is virtual variables, when $CFO_{i,t}$ is less than 0, $DCFO_{i,t}$ is equal to 1, otherwise its value is equal to 0. $CFO_{i,t} \times DCF_{i,t}$ is interactive projects and indicates the relationship between accrual and negative cash flow. $\varepsilon_{i,t}$ reprents residuals of company i in t period. $OperAcc_{i,t}$ represents discretionary accruals, $NoperAcc_{i,t}$ represents non-discretionary accrual items. Ball and Shivakumar (2005) thought that accruals in the model (Model 3) mainly have two functions: one is to reduce the "noise" of cash flow; the other is the asymmetric confirmation of unrealized gains and losses. Based on the first role, the relationship between accruals and cash flow is negative correlation, α_1 is expectedly negative; The second role showed that loss is more timely responded than gains, or bad news (negative cash flow) is timely reflected in accruals, if the coefficient of α_3 is significantly positive, the positive correlation between accruals and negative cash flow will be stronger, the model can not only test the "noise" of accruals reducing operating cash flow, can but also verify the existence of accounting conservatism.

3.2 Samples Selected

In January 1, 2007 , China's listed corporations started the implementation of the new *accounting standards for enterprises*, therefore I select the corporations after the new guidelines implemented as the research samples, the asset indicators in the last period in the selected model is needed and make the data comparable, so the data of listed corporations of A-shares in Shanghai and Shenzhen are selected as research samples from 2008 to 2011. In the process of the samples selected, I follow the following principles: (1) because of the particularity of financial and insurance enterprises, these corporations are eliminated; (2) because accounting earnings about initial public offerings' company in the current year is different from other years, the IPO companies are rejected; (3) ST companies are eliminatied in order to make the data more comparable; (4) the elimination of abnormal value of ACC and CFO in the samples, the specific practice is to remove one percent of the largest and the smallest samples; (5) the companies which are insufficient in data are removed; (6) In using Jones' model, the industry is classified, classification criteria is based on listed corporations industry classification direction issued by China Securities Regulatory Commission in 2001, listed corporations in the guidelines are divided into 13 major categories, because manufacturing industries in class C are numerous, based on this, manufacturing industries in this paper are further classified in accordance with two level code, taking into account the small number of samples about C2 (less than 10 each year from 2008 to 2011), thus combining it into other manufacturing industries C9; communication and cultural industries in class L are small sample size (less than 10 each year), so the category is directly removed. Together, combining samples' selection principle (1) and (6), financial and insurance industries and communication and culture industries are eliminated, merging C2 into C9, the samples are divided into 19 sectors, specific distribution about samples in each year is in Table 1.

Table 1. The industry classification

Industry	A	B	C0	C1	C3	C4	C5	C6	C7	C8	C9	D	E	F	G	H	J	K	M	Total
2008	24	19	48	50	21	123	52	101	171	67	23	40	27	46	58	42	43	37	30	1022
2009	27	21	50	52	25	134	58	106	188	72	25	41	27	45	66	46	49	38	35	1105
2010	29	26	56	49	28	130	61	109	204	78	29	41	25	48	73	57	69	37	27	1176
2011	19	27	45	32	12	90	36	73	124	65	0	42	18	42	36	51	72	26	24	834
Total	99	93	199	183	86	477	207	389	687	282	77	164	97	181	233	196	233	138	116	4137

The financial data and the basic information on listed corporations in the model stem from GuoTaian's database of CSMAR in Chinese securities market, statistical software SPSS19.0 is used to conduct multiple regression.

4. The Empirical Results and Analysis

According to the above analysis, I use the annual data in this paper and accruals are divided into discretionary accrual items and non-discretionary accruals to study the existence of conservatism of accounting earnings and its cause of formation after *accounting standards for enterprises* promulgated, the results of multiple regression are elaborated as follows:

4.1 Descriptive Statistical Analysis

Descriptive statistics of variables in Model 3, Model 4 and Model 5 are put into Table 2 about sample firms in 2008, concrete analysis is as follows: (1) ACC's mean value is -0.0109, on the average, accruals of the sample firms are negative, maximum value and minimum value are respectively 1.3002, -0.3783, which indicates that accruals of sample companies have the certain differences. (2) The mean value about OperAcc is 0.0821, on the average, discretionary accrual about sample firms is positive, the maximum value and minimum value are respectively 1.2617, 2.5056×10^{-5}, which shows that discretionary accrual items of samples are greatly different. (3) The mean value about NoperAcc is -0.09292, on the average, non-discretionary accruals about sample firms is negative, the maximum value and minimum value are respectively 0.3223, -1.3462, which suggests that non-discretionary accrual items of samples have certain difference. (4) The mean value about CFO is 0.0601, on the average, the cash flow of operating activities about sample firms is positive, the maximum value and minimum value are respectively 0.6202, -0.7321, which indicates that the cash flow of operating activities between different companies is different. (5) The mean value about DCFO is 0.2114, the variable is virtual, which indicates that the net cash flow of operating activities in 21.14% of the sample firms is negative. The descriptive statistics of variables in 2009, 2010 and 2011 are the same with the above, thus no longer stated, but their descriptive statistics are listed in Table 3, Table 4 and Table 5.

Table 2. Descriptive statistics in Model 3, Model 4 and Model 5 in 2008 (N=1022)

	Maximum Value	Minimum Value	Mean Value	Std.Deviation
ACC	1.3002	-0.3783	-0.0109	0.1180
OperAcc	1.2617	2.5056×10^{-5}	0.0821	0.0925
NoperAcc	0.3223	-1.3462	-0.0929	0.1350
CFO	0.6202	-0.7321	0.0601	0.1120
DCFO	1	0	0.2114	0.4085

Table 3. Descriptive statistics in Model 3, Model 4 and Model 5 in 2009 (N=1105)

	Maximum Value	Minimum Value	Mean Value	Std.Deviation
ACC	0.6590	-0.7152	-0.0258	0.1086
OperAcc	0.6910	8.03216×10^{-6}	0.0729	0.0790
NoperAcc	0.0979	-1.4062	-0.0988	0.1375
CFO	1.0747	-0.6310	0.0830	0.1176
DCFO	1	0	0.1520	0.3592

Table 4. Descriptive statistics in Model 3, Model 4 and Model 5 in 2010 (N=1176)

	Maximum Value	Minimum Value	Mean Value	Std.Deviation
ACC	0.7002	-0.4555	0.0207	0.1108
OperAcc	0.6994	7.67922×10^{-5}	0.0786	0.0847
NoperAcc	0.1688	-0.9056	-0.0579	0.0833
CFO	0.6044	-0.4693	0.0503	0.1117
DCFO	1	0	0.2372	0.4256

Table 5. Descriptive statistics in Model 3, Model 4 and Model 5 in 2011 (N=834)

	Maximum Value	Minimum Value	Mean Value	Std.Deviation
ACC	0.6051	-0.4856	0.0165	0.1006
OperAcc	0.6277	0.0001	0.0796	0.0730
NoperAcc	-0.0002	-0.6222	-0.0631	0.0809
CFO	0.7691	-0.3994	0.0398	0.1095
DCFO	1	0	0.3058	0.4610

4.2 The Results of Multiple Regression and Analysis

Model 3, Model 4 and Model 5 are respectively Ball and Shivakumar's (2005) original model of accrued-cash flow and its modified model, accruals in the modified model are divided into discretionary accrual items and non-discretionary accrual items. And the cross-sectional data used in various models has been elaborated in the front, namely annual regression, regression results about Model 3 are in Table 6, regression results about Model 4 are in Table 7, regression results about Model 5 are in Table 8. Now the analysis of regression results about different models are as follows: (1) In addition to the 2008 and the rest of the year, the regression results in Model 3 show that CFO and ACC is significantly negative, which indicates that accruals can reduce the "noise" of cash flow, but in addition to the 2008 the interactive items between CFO and DCFO is not significant, the interactive items in the rest of the year are significantly negative, the results contradict the coefficient of the interaction which is significantly positive in the original model of accrued-cash flow, namely Model 3 failed to verify the existence of accounting conservatism in China. (2) The regression results in Model 4 show the coefficient of CFO in each year are all positive, which is not compatible with the coefficient of CFO which is significantly negative in the original model of accrued-cash flow, in addition to the 2008, the interactive items between CFO and DCFO is not significant, in the remainder of the year the coefficient is significantly negative, the conclusion is contrary to the coefficient of the interactive items which is significantly positive in the original model of accrued-cash flow; Model 4 failed to examine the presence of accounting conservatism of listed corporations in China. (3) Regression results in Model 5 are described as follows: First, the coefficient of CFO each year is significantly negative at the 1% significance level, which just verifies accruals deduct the "noise" of cash flow in the accrued-cash flow model, and this is caused by non-discretionary accrual items in accruals; Secondly, in the period during from 2008 to 2011, the coefficients of CFO and DCFO interaction are significantly positive, which indicates the positive relativity between non-discretionary accrual items and negative operating cash flow is stronger, and this further explains losses can be reflected than gains in a timely manner, which indicates that accounting earnings in China is conservative, the conclusion is consistent with the significantly positive interaction coefficient in accrued-cash flow model. Finally, the fitting degree of the regression of the model is better, and there is no multicollinearity problems. From the results of regression analysis about the above 3 models from 2008 to 2011, conclusions can be drawn: accounting earnings is conservative in China, and accounting conservatism is determined by the non-discretionary accruals.

Table 6. The results of multiple regression on Model 3- total accruals ACC

	2008	2009	2010	2011
Cons	-0.0107[*]	$-8.4348×10^{-5}$	0.0245[***]	0.0140[***]
(T value)	(-1.6867)	(-0.0216)	(6.9398)	(3.3925)
CFO	-0.0094	-0.4527[***]	-0.4231[***]	-0.3992[***]
(T value)	(-0.1986)	(-16.0253)	(-14.4039)	(-11.1819)
DCFO	0.0140	0.0467	0.0238	0.0278
(T value)	(0.3304)	(1.6193)	(0.9380)	(0.7808)
CFO×DCFO	0.0109	-0.2630[***]	-0.4045[***]	-0.3444[***]
(T value)	(0.2428)	(-9.0734)	(-14.5812)	(-9.4505)
N	1022	1105	1176	834
Adj-R[2]	0.0027	0.4385	0.6228	0.4867
F value	1.0840	288.3412	647.5693	264.2602
Durbin-Watson	1.8343	1.9141	1.8442	1.9573

Notes: *, **, *** respectively represent the 10%, 5%, 1% level of significance.

Table 7. The results of multiple regression on Model 4-discretionary accruals OperAcc

	2008	2009	2010	2011
Cons	0.0343[***]	0.0228[***]	0.0406[***]	0.0440[***]
(T value)	(8.8758)	(8.0802)	(14.5520)	(14.0250)
CFO	0.4728[***]	0.5642[***]	0.2117[***]	0.2653[***]
(T value)	(12.9746)	(20.0609)	(6.9749)	(7.0927)
DCFO	0.0015	0.1628[***]	0.0892[***]	0.0896[**]
(T value)	(0.0461)	(5.6633)	(3.4023)	(2.3996)
CFO×DCFO	-0.8597	-0.7018[***]	-0.8636[***]	-0.7527[***]
(T value)	(-24.7449)	(-24.3162)	(-30.1398)	(-19.7111)
N	1022	1105	1176	834
Adj-R[2]	0.4006	0.4434	0.5974	0.4363
F value	228.4422	294.2019	582.2903	215.9140
Durbin-Watson	2.0117	1.8829	1.9032	1.9775

Notes: *, **, *** respectively represent the 10%, 5%, 1% level of significance.

Table 8. The results of multiple regression on Model 5-non-discretionary accruals NoperAcc

	2008	2009	2010	2011
Cons	-0.0538***	-0.0229***	-0.0161***	-0.0300***
(T value)	(-8.2016)	(-4.2580)	(-4.4163)	(-7.9114)
CFO	-0.4955***	-0.6817***	-0.7780***	-0.7357***
(T value)	(-11.6709)	(-22.1497)	(-19.3304)	(-18.0417)
DCFO	0.0335	-0.0566*	-0.0590*	-0.0462
(T value)	(0.8807)	(-1.7995)	(-1.6972)	(-1.1355)
CFO×DCFO	0.1342***	0.1955***	0.3399***	0.2507***
(T value)	(3.3144)	(6.1889)	(8.9452)	(6.0211)
N	1022	1105	1176	834
Adj-R^2	0.1864	0.3334	0.2919	0.3301
F value	78.9706	185.0149	162.4235	137.8540
Durbin-Watson	1.9791	1.9023	1.9679	2.0215

Notes: *, **, *** respectively represent the 10%, 5%, 1% level of significance.

5. Sensitivity Test

I will conduct the sensitivity test for the model in order to make the research results more reliable. The empirical study part of the front, the cross-sectional data of the selected samples are used in solving discretionary accruals and non-discretionary accrual items, and the calculation of non-discretionary accruals and discretionary accruals is obtained by the basic Jones' model to solve industry characteristic parameters first, and then the characteristics parameters of industry are substituted in the modified Jones' model. In using Jones' model in both China and other countries, many people select panel data, discretionary accrual and non-discretionary accrual items are directly solved through modified Jones' model. For example, Su and Lin (2010) used the modified Jones' model to solve discretionary accrual items, and applied panel data. Therefore, the specific approach is in the test of the sensitivity as follows: (1) selecting panel data, namely data of 4 years from 2008 to 2011 as a whole body; (2) directly using the modified Jones' model to obtain the accruals, discretionary accrual and non-discretionary accrual items. This requires the establishment of the modified Jones' model, as Model 6 (variables defined in the model are uniform with the front). Combining Model 6 with Model 2, we can get accruals, discretionary accrual items and non-discretionary accrual items. Then the results are substituted into Model 3, Model 4 and Model 5 to test, the results of regression are put in Table 9.

$$\frac{GTA_{i,t}}{A_{i,t-1}} = a_1 \frac{1}{A_{i,t-1}} + \alpha_2 \frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{A_{i,t-1}} + \varepsilon_{i,t} \qquad \text{(Model 6)}$$

Table 9. The results of sensitivity test on Model 3, Model 4 and Model 5 (N=4137)

	Model 3	Model 4	Model 5
Cons	0.0058**	0.0339***	-0.0282***
(T value)	(2.8345)	(21.3263)	(-11.0604)
CFO	-0.3787***	0.4078***	-0.6642***
(T value)	(-24.2511)	(24.7610)	(-34.7911)
DCFO	0.0308**	0.0922***	-0.0367**
(T value)	(2.0832)	(5.9102)	(-2.0310)
CFO×DCFO	-0.3846***	-0.8286***	0.2251***
(T value)	(-25.0210)	(-51.1072)	(11.9788)
Adj-R^2	0.5142	0.4600	0.2739
F value	1460.1907	1173.3010	521.0664
Durbin-Watson	1.8977	1.9411	1.9265

Notes: *, **, *** respectively represent the 10%, 5%, 1% level of significance.

According to Table 9, the regression results on Model 3 show that the coefficient of CFO is significantly negative, which is the same with Ball and Shivakumar's (2005) original model of accrued-cash flow, but the coefficient of interaction on CFO and DCFO is significantly negative, which is apparently contrary to the original model of accrued-cash flow. The regression results on Model 4 show that the coefficient of CFO is significantly positive, which contradicts the original model of accrued-cash flow, and the coefficient of

interaction on CFO and DCFO is significantly negative, and the result is also not consistent with Ball and Shivakumar's (2005) original model. The regression results on Model 5 are described as follows: (1) the coefficient of CFO in the model is significantly negative, which has verified the accruals (exactly non -discretionary accrual items) offset the "noise" of operating cash flow so that the original model of accrued-cash flow is correct; (2) the coefficient of interaction of CFO and DCFO is significantly positive, which indicates the positive correlation between non-discretionary accrual items and negative cash flow is stronger, and this also verified negative cash flow are timely reflected by non-discretionary accrual items, or the loss can be more timely reflected than income, namely accounting earnings has conservatism. In the sensitivity test, the regression results of using panel data in Model 3, Model 4 and Model 5 are consistent with the cross-section data above. This further validates accounting earnings is conservative in capital market of China, and the conservatism stems from non-discretionary accrual items.

6. Research Conclusion and Prospect

I adopt the listed corporations of A-shares in Shanghai and Shenzhen of China from 2008 to 2011 as research samples in this paper, the purpose is to test if the conservatism of accounting earnings does exist in Chinese listed corporations after the implementation of the new *accounting standards for enterprises*? And exploring its origins. First individually tested according to annual namely cross-sectional data, I have used the panel data to inspect in the sensitivity test in order to make the results more reliable. In choosing the model, using Ball and Shivakumar's (2005) accrued-cash flow model, but the original model has been modified, namely accruals are divided into discretionary accrual items and non-discretionary accrual items. So 3 models have been built, the 3 models have been respectively conducted multiple regression in order to clarify the existence of the conservatism and its root of formation. The conclusion is that China's accounting earnings are conservative, but its cause of formation is non-discretionary accrual items. Obviously this conclusion is not entirely consistent with the accounting conservatism steming from accruals in Ball and Shivakumar's (2005) accrued-cash flow model, the reason may lie in the existence of difference in the capital market of China and other countries or accounting method of two kinds of capital market themselves. Therefore, in using China's capital market as samples and using the original model of accrued-cash flow to test, the conclusion is different from the original model, so accruals should be further explored, namely it is divided into discretionary accrual items and non -discretionary accrual items. After having been handled, I find accounting earnings is conservative in the capital market of China, but its cause stems from non-discretionary accrual items. The reason of this conclusion is accrual (non -discretionary accrual items) can confirm timely the economic profit and loss, but which is mainly due to the forecast for the future, and non-discretionary accruals is mainly the prediction of future profit and loss of the companies. Therefore, the role that the economic profit and loss are timely confirmed can be reflected by non -discretionary accrual items.

The econometric model of the empirical research of accounting conservatism, in addition to Ball and Shivakumar's (2005) accrued-cash flow model, includes Basu's earnings-stock return model etc. So other models will be considered to study the accounting conservatism in the future. Of course, listed corporations should be also chosen to act as the object of study in the foreign capital market, or listed corporations of B-share will be researched in the capital market of China. In addition, listed corporations for ST and PT can be also considered to conduct empirical study.

Acknowledgements

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Notes

Note 1. On operating profit for boundaries, the items above operational profit are called online items, they are considered regular projects; the items below operational profit are called the items below the line, they are considered mostly accidental. The total accruals before the items below the line is equal to operating profit plus net cash flow of operating activities; the total accruals including the items below the line is equal to net profit plus net cash flow of operating activities.

Note 2. The new *accounting standards for enterprises* issued in February 15, 2006 stipulates that the amount of fixed assets in balance sheet is only disclosed net amount, so based on access to data, the value of fixed assets in Jones' model and modified Jones' model model is taken net value.

Note 3. Xia Lijun's (2003) results through empirical research have showed that earnings management can be more effectively revealed by the total accruals before the items below the line, so here I use operating profit rather than net profit in the calculation of total accruals.

A Simple Multiproduct Multimachine Production Planning Model

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Abstract

Business models of production management and planning have known an important development. Whether it is M.R.P, Kamban or JAT, these planning methods of production require the mastery of the information system. Unfortunately, seldom does such system exist in small and medium size businesses. Sometimes, sophisticated systems based on these methods of production planning were acquired by companies that could afford them only to discover in the end that these systems were not usable because they require a certain level of formation and competence of the human factor, which level is nonexistent in small and medium enterprises and even in larger enterprises in developing countries. Could a more flexible planning system not requiring the existence of an information system too rigid and which can be run by less experienced agents be developed? This article answers this question in the affirmative.

Keywords: multi-machine, multi-product, multi-period, material requirement planning, production planning, minimizing production cost, simplex

1. Introduction

Production is the main activity of most of the enterprises, it is essential to master its mechanics. Several models and methods have been developed in order to achieve optimal management of production. Among these models and methods we can mention Material Requirement Planning (MRP) (Albert Courtois, 1992) KANBAN (Keysuki Arai & Kenichi Sekine, 2006), the Just In Time (JIT) (Shiugo Shigeo, 1988) and finally the so-called OPT (James R Evans, 1993).

The implementation of such technologies requires efficient information system which often proves costly to implement and heavy to maintain functioning. This is due to the important flow of information required by such systems. In a small or medium business environment, it is often impossible to implement such systems for the following reasons:

• The cost of acquisition and continued operation of the hardware and software necessary for the proper monitoring of the production process.

• The lack of training of staff charged with feeding data into the information system and operating the appropriate hardware.

Faced with such constraints, one might ask if there would be a system easier to implement and maintain. We propose to formalize such a model that requires very little information, and is easily implementable in small to midsized businesses.

2. The Model

We consider the case of an enterprise which makes several different products. Such enterprise has a series of machines, each of which is capable of performing all the operations required to produce one unit of one of these products. In other words, any one item is the result of a single machine. The machines can make any product.

In this enterprise, there is an inventory of raw material from which all the machines draw. Just as there is a single inventory for each of the final products. These machines can be different and therefore they will be characterized by different production capacities and manufacturing costs.

To allow for the possibility of maintenance shutdowns, production capacity of a given machine may vary from one

period to another.

The enterprise must meet the demand for each product, it is not allowed to enter into shortage periods.

We assume that the demand is known for it is either:

• demand on the enterprise customers orders books,

• anticipated demand.

In order to meet the demand of the different periods that make up the planning horizon, the enterprise must determine which product to make, which machine to use, when and how much to produce. Most often this planning horizon is the year and the period is the month (or week). In parallel with the goal of satisfying the demand of the customers, the company would strive to minimize the overall cost. The overall cost comprises two costs classes: the production cost and the holding cost.

The first constraint imposed on the enterprise is the production capacity. We cannot produce more than permitted by the machines. This constraint can be easily circumvented by drawing, the difference between the total capacity of the machines and the demand, from the inventories. These would have been accumulated during the periods when the capacity exceeded the demand. The constitution of inventories should not lead the enterprise to incur unnecessary costs. Indeed, we must take into consideration the costs associated with such a transfer of production from one period to another because production costs vary from one period to another: the price of farm products such as tomato decreases significantly in the summer thus leading to a lower cost of production of tomato paste. Thus, the enterprise might be tempted to produce the maximum of the tomato paste in the tomato season to take advantage of the tomato price differential. Unfortunately, such a policy stumbles on the question of storage costs.

A product not sold implies extra expenses: interests paid to the bank for advancing funds for the purchase of raw materials, lack of income due to loss and or spoil, amortization of the investment required for the storage (such as the purchase or rental of a storage area or specific equipment), inventory holding cost when it requires appropriate conditions (e.g. the use of low temperatures), and finally the costs of caretaking and inventory control.

In such a situation, the gains made by lower production costs should not be offset by excessive storage/holding costs. The whole problem is to choose a production schedule that benefit to the maximum from the raw material price cuts and maintain the overall storage cost to a minimum level. In other words, the sum of production costs and storage costs should be at its minimum. This is the goal to achieve.

3. Notation

T: Number of periods in the planning horizon.

t: Index of period in the planning horizon; t=1,2,...,T.

M: Number of machines.

i: Index of a machine; i=1,2,...,M.

N: Number different products.

j: Index of a product; j=1,2,...,N.

X_{ijt}: Number of units of product j produced on machine i in period t.

P_{it}: Production capacity of the ith machine in period t.

a_{ij}: Capacity units needed to process one unit of product j on machine i.

I_{jt}: Inventory of product j at the end of period t.

D_{jt}: Demand for product j in period t.

C_{ijt}: Cost of producing one unit of product j on machine i in period t.

h_{jt}: Holding cost for product j in period t.

4. Cost Evaluation

4.1 The Production Cost

Let's consider some machine i in a given period t. For a given product j, X_{ijt} units are produced and the cost of producing each unit is C_{ijt}. The total cost for this machine at this time period t and for this product j is $C_{ijt}X_{ijt}$.

The cost incurred on that particular machine i for that particular time period t is for all the products:

$$\sum_{j=1}^{N} X_{ijt} C_{ijt} \tag{1}$$

Equation (1) assumes that the cost of production is linear. This means that regardless of the level of production for a given machine i at a given time period t, the cost C_{ijt} does not vary with the level of output X_{ijt}.

The production cost for any given period t is simply the sum over all machines i of equation (1). That is:

$$\sum_{i=1}^{M}\sum_{j=1}^{N} X_{ijt} C_{ijt} \tag{2}$$

The total production cost for the planning horizon is obtained by summing up (2) over all periods t:

$$\sum_{t=1}^{T}\sum_{i=1}^{M}\sum_{j=1}^{N} X_{ijt} C_{ijt} \tag{3}$$

4.2 The Holding Cost

If for a given product j the inventory at the end of period t is I_{jt} and if the associated holding cost for product j in period t is h_{jt}, then the inventory cost for that single product and for that time period is:

$$h_{jt} I_{jt} \tag{4}$$

Thus, for all the products the holding cost for a given period t is seen to be:

$$\sum_{j=1}^{N} h_{jt} I_{jt} \tag{5}$$

Last, the total holding cost for the entire planning horizon is obtained by summing equation (5) over all periods t:

$$\sum_{t=1}^{T}\sum_{j=1}^{N} h_{jt} I_{jt} \tag{6}$$

It should be noted that equations (4) to (6) provide that the cost of storage may vary from one period to another. An example of such a cost varying with time is given by products that require to be kept in the cold. Under such conditions, the storage costs incurred in winter are certainly lower than those undergone in the summer.

4.3 The Total Cost

The total cost over the planning horizon is the sum of the total production cost (3) and the total holding cost (6).

$$\sum_{t=1}^{T}\sum_{i=1}^{M}\sum_{j=1}^{N} X_{ijt} C_{ijt} + \sum_{t=1}^{T}\sum_{j=1}^{N} h_{jt} I_{jt} \tag{7}$$

The goal of good management is to keep the total cost as expressed by equation (7) to its minimum level. Also we can mathematically formulate this objective as follows:

$$\min z = \sum_{t=1}^{T}\sum_{i=1}^{M}\sum_{j=1}^{N} X_{ijt} C_{ijt} + \sum_{t=1}^{T}\sum_{j=1}^{N} h_{jt} I_{jt} \tag{8}$$

5. The Constraints

The production process undergoes several constraints. There are:

▪ Budgetary constraints: the enterprise cannot exceed a certain level of investment in stocks of raw materials and finished products.

▪ Technical constraints: failure due to spare parts, power failure, etc..

▪ Technological constraints: at a given time t, a given machine i cannot produce more than its capacity.

▪ Logical constraints: the production and inventories cannot have negative values.

The proposed model takes into account the last two types of constraints.

The model we aim at consists in minimizing the total cost of production during a planning horizon of T periods. The demand will be met by deciding the production levels as well as the levels of the inventories at the end of each period. If the production cost is higher than the holding cost, the requested quantity is satisfied from the inventories if there are any and if necessary, planned quantities are launched for production. On the other hand, if the cost of

production is significantly lower than the holding cost, it would be absurd not to meet the demand from planned quantities to be produced.

5.1 The Capacities Constraints

If producing one unit of product j on machine i consumes a_{ij} units of the capacity of that machine i, then for a given level of production X_{ijt} the number of capacity units consumed is:

$$a_{ij}X_{ijt} \tag{9}$$

Hence all the products produced on machine i will consume

$$\sum_{j=1}^{N} a_{ij}X_{ijt} \tag{10}$$

Since the machine has a capacity that we cannot go beyond, the capacity constraint is seen to be:

$$\sum_{j=1}^{N} a_{ij}X_{ijt} \leq P_{it} \qquad \text{for each i=1,2,...,M and each t=1,2,..,T} \tag{11}$$

5.2 The Balance Constraints

The balance constraint simply states that for each product j, the inventory at the end of period t is equal to the inventory at the end of the prior period (t-1) augmented by whatever was produced on all the machines during the period t and reduced by the demand satisfied during that same period t.

$$I_{jt} = I_{j(t-1)} + \sum_{i=1}^{M} X_{ijt} - D_{jt} \qquad \text{for each j=1,2,...,N and each t=1,2,...,T} \tag{12}$$

5.3 The Non Negativity Constraints

Since neither the production levels X_{ijt} nor the inventory levels I_{jt} can be negative, we shall add the following constraints:

$$X_{ijt} \geq 0; \; I_{jt} \geq 0 \text{ for each i=1,2,...,M; each j=1,2,...,N and each t=1,2,...,T} \tag{13}$$

We shall assume that the starting inventories are null for each product j:

$$I_{j0} = 0 \qquad \text{for each j=1,2,...,N} \tag{14}$$

The final set of constraints (14) has been added on the initial inventory at the beginning of the first period. This is necessary because the balance constraint refers to the inventory of the preceding period. In case this inventory is not null, a simple solution would be to subtract the initial inventory from demands of the first periods constituting the planning horizon but without resulting in negative demands.

6. The Model

let's put together the objective (8) and the set of constraints (11) to (14).

$$\min z = \sum_{t=1}^{T}\sum_{i=1}^{M}\sum_{j=1}^{N} X_{ijt}C_{ijt} + \sum_{t=1}^{T}\sum_{j=1}^{N} h_{jt}I_{jt}$$

Subject to:

$$\sum_{j=1}^{N} a_{ij}X_{ijt} \leq P_{it} \quad \text{for each i=1,2,...,M and each t=1,2,..,T}$$

$$I_{jt} = I_{j(t-1)} + \sum_{i=1}^{M} X_{ijt} - D_{jt} \text{ for each j=1,2,...,N and each t=1,2,...,T}$$

$X_{ijt} \geq 0; \; I_{jt} \geq 0$ for each i=1,2,...,M; each j=1,2,...,N and each t=1,2,...,T

$I_{j0} = 0$ for each j=1,2,...,N

6.1 Number of Variables

The variables to be determined are the X_{ijt} the production levels on each machine for each period and for each product on one hand and the I_{jt} the inventory levels for each product at the end of each period on the other. Therefore there are M*T*N variables X_{ijt} and T*N variables I_{jt}. That is T*N* (M +1) decision variables.

6.2 Number of Inequalities

For each machine i and for each period t, there is one inequality of the type (11). It follows that the total number of such inequalities is equal to M * T. Moreover, for each period t and for each product j we have an equation of the type (12). There is therefore T*N equations. The total number of constraints (equation or inequality) is equal to T * (M +N).

7. Solution

The set of equations and inequations in (8) and (11) to (14) form a linear program which can be easily solved using the simplex method.

8. Conclusion

Although the model presented is rather limited, it can easily be developed in the following cases:

• model with budget constraint;

• model with limited space or storage volume.

The model requires very little information: Assessing the demands for the different periods of the planning horizon, the production and holding costs and the capacities of the machines. This is very little information compared to the requirements of the MRP based models for example.

Among the methods for solving linear programming problems, the simplex method allows easy handling. This method is known, recognized, often used, easy to use and inexpensive. The level of the informational complexity is within reach of small businesses.

In addition, the computer software implementing the simplex method for solving such a problem can be run on any personal computer with minimum time. Several simplex-based software are available and affordable. Some are even free-share.

The proposed model can be enhanced in response to the changing information needs of the enterprise and its constraints. Thus, an additional inequality could change the model for the management of budgetary constraints or space constraints or volume required for storage of the products.

This model is therefore a simple and inexpensive alternative compared to other planning methods such as MRP method.

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Possibility of Implementing Participatory Budgeting in the Kingdom of Bahrain

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Abstract

This research aims at providing a general overview about participatory budgeting as well as providing a study on the possibility whether participatory budgeting can be implemented in the kingdom of Bahrain. The research was conducted with the assist of primary data as well as secondary data. The primary data consists of a survey distributed to 52 samples as well as an interview performed at the Ministry of Finance in the kingdom of Bahrain. The secondary data revolved around some previous studies as well as the assist of published books and the World Wide Web. The research analysis stated that people would love to see participatory budgeting being implemented in the kingdom. Finally, the author reached a conclusion stating that participatory budgeting can't be implemented in the kingdom at the mean time but it could be possible in the near future by starting the execution gradually in one of the five governorates in the kingdom with the assist of the Municipal Council which was appointed by the citizens. The author also suggested for participatory budgeting to be taught in schools as well as integrating an online tool to solve the problem of participation through the e-Government Authority.

1. Introduction

We always hear about annual budgets being distributed for this project or for that specific development plan, and we read in the newspapers about expenditures made and resources being allocated for the expansion of the national airport for instance, but we never get to have a say or give an opinion about where all the public money should be spent on.

Suppose that you live in a country where all the people of the community gather several times a year to perform meetings, where they can not only give their opinion about how the public budget should be spent but more generally take the lead on actually deciding how, where and on what the budget should be spent, and make critical decisions about their own budget, instead of being prepared behind the scenes only by specialists and experts, deciding how the public budget should be spent on behalf of the whole community without sharing their opinion.

This process is called Participatory Budgeting, where the citizens of one community calculate and negotiate the allocation of the public's resources and permits them to decide on which project the public's money should be spent.

By 2004 participatory budgeting has been implemented in more than 300 cities worldwide (Cabannes & Huber, 2004), and it's getting even more popular through the years. Numerous cities and countries are adopting the idea of participatory budgeting and are giving great reviews about it.

The main idea of this study is to explore the possibility whether participatory budgeting can be implemented in the Kingdom of Bahrain.

The study will try to provide an explanation to some questions:

• Is the Kingdom of Bahrain a suitable place and has the suitable environment to adopt participatory budgeting?

• Do we have the required conditions to implement it?

• Will participatory budgeting succeed in Bahrain if it was implemented?

This research paper will study the possibility whether participatory budgeting can be implemented in the Kingdom of Bahrain.

This research aims:

• To identify participatory budgeting.

• To explore the possibility of implementing participatory budgeting in the kingdom of Bahrain.

Research questions:

• What is participatory budgeting?

• Can participatory budgeting work in Bahrain?

At the end of this research paper, the conclusion will try to reach those objectives and answer the research questions asked.

2. Literature Review and Previous Studies

The study examines the town of Lawrence's experience with participatory budgeting. The town of Lawrence was one of the poorest towns in the U.S. and its community was made of Blacks, Latinos, and White people, with whites making only 1/3 of the population (Baiocchi & Lerner, 2007).

Baiocchi and Lerner aimed at the possibility whether participatory budgeting could work in the United States and compare it with the Canadian experiment, as well as the politics in the US presents various challenges and possibilities for participatory budgeting.

The authors concluded that participatory budgeting can be implemented in the US, and recommended that supporters of participatory budgeting should cooperate with other social movements fighting against inequality.

The elected representatives are supposed to represent the people and be their voice, since the people them selves elects them and put them in that position they can also choose to not re-elect them in the next cycle, thus unlike professional managers elected representatives are under pressure (Franklin, Ho & Ebdon, 2009).

The authors aimed to explore how elected representatives distinguish the values of diverse participatory methods in addition to adding to present literature for there are very few surveys of this kind.

Franklin, Ho and Ebdon concluded by stating the importance of using participatory mechanisms in midsized cities and the relevant relationship between the citizens and the elected representatives.

In Guelph, Canada, people have started implementing participatory budgeting to allocate their city budget since 1999, and their first experience with participatory budgeting came after the Neighborhood Support Coalition (NSC) started to use participatory budgeting to allocate private and public funds, after the successful experience in Porto Alegre in Brazil (Pinnington, Lerner & Schugurensky, 2009). The authors aimed to provide several lessons learnt through the Canadian experiment in Guelph in addition to presenting the conditions that helped this city in its development and it's caused challenges for its success. Despite the fact that participatory budgeting idea came from Latin America, Pinnington, Lerner & Schugurensky explained the difference between the city of Guelph in Canada and Latin America where the latter tried the solve the limitation and weakness of the infrastructure. In Canada those services and needs are already met which leaves the residence with various motives to engage in participatory budgeting (Pinnington, Lerner & Schugurensky, 2009). Participatory budgeting in Canada enhanced the support of government representatives, the councils support for the NSC and democratic participation as well as building a better democratic environment, and better government representatives and citizen's relationship, and just like the experience in the United States, it made other cities in Canada express an interest in participatory budgeting.

Zhang and Liao disagreed with some of the previous studies specifying the fact that some previous researches have been conducted stating that citizens participation requires two way dialogue between the citizens and the government. However, there hasn't been any study illustrating whether local governments will provide two way communications in the budget process (Zhang & Liao, 2011). In order to fill this academic shortage, Zhang and Liao took the initiative to conduct a study on whether local governments will provide this two way communication via a survey from municipal managers and mayors in New Jersey to study how public representatives' manner and awareness, type of government, council's variety and political affairs, and society characteristics influence the adoption of mechanisms of two-way communication for participatory budgeting.

The authors concluded and recommended the necessity of having two way communications for an effective

citizen's participation and involvement in the budget process.

Another study by Haller and Faulkner aiming to enhance the efficiency of participatory budgeting. In Denver, Colorado where the first integration of the internet and technology in participatory budgeting programs occurred in March 2012 (Haller & Faulkner, 2012).

Haller & Faulkner aimed at demonstrating the differences between conducting participatory budgeting in a face to face communal way, and using the internet and online approaches to make it easier and flexible for citizens who are unable to attend meetings.

Participatory budgeting in the US is still in its early stages, and it will take time for it to reach the stage that Porto Alegre reached; however, participatory budgeting in Denver is in the head of those since it uses the internet approach to increase the publics' participation which is driving Denver to a brighter future (Haller & Faulkner, 2012).

2.1 The Difference between the Previous Studies and the Current Study

After illustrating the previous studies, there are several differences to distinguish the previous studies from the current study. Some of these differences are:

The previous studies focused on the participatory budgeting experiences initiated in various cities, such as Porto Alegre, New Jersey, Guelph (Canada), while this study focuses on the possibility of applying participatory budgeting in the kingdom of Bahrain.

The first article conducted its study five years ago in 2007, while the fourth and fifth articles were made in 2009; article two and three were conducted in 2011 and early 2012 respectively. However, this article was accomplished in late 2012.

While most of the previous studies used primary data as well as secondary data, this research was conducted using the primary data via a survey distributed and collected in the public sector as well as the private sector in addition to an interview conducted at the Ministry of Finance in the kingdom of Bahrain. Also, this article had the assist of some secondary data, using previous studies as well as books in the subject matter in addition to some of the World Wide Web resources.

3. Research Methodology

3.1 Study Sample

This section will reveal the study sample distributed and obtained in order to calculate the ratio of the study sample. This is relevant because it identifies the efficiency of the study conducted.

The questionnaire was distributed to 70 samples; 40 were distributed by hand to the public sector mostly (Ministries and governmental organizations), as well as the private sector, while 30 samples were distributed online to university students. The questionnaire was distributed to various occupations such as accountants, auditors, engineers, accounting students and marketers.

Out of the 70 samples distributed, 52 samples were obtained, which makes the study sample ratio equals to 74%.

3.2 Study Hypotheses

This research consists of two hypotheses to test the prediction of this study, the study hypothesis is:

(Ha1): there is a possibility to implement participatory budgeting in Bahrain.

(Ho1): there is no possibility to implement participatory budgeting in Bahrain.

The first hypothesis will test whether the Kingdom of Bahrain has a chance to implement participatory budgeting, while the second hypothesis will test that participatory budgeting has no possibility of being implemented in the Kingdom.

4. Discussion of Results

The research analysis will split into two parts; the first part will demonstrate the descriptive analysis which will examine the first section of the survey and evaluate the general information, as well as the analyzing of the study questions. The second part will illustrate the testing of hypothesis. The research analysis will be conducted using SPSS.

4.1 Descriptive Statistics

4.1.1 General Information

The following table will illustrate the data analysis of the general information.

Table 1. Personal details analysis

Variables		Frequency	Percentage %
Gender	Male	21	40.4
	Female	31	59.6
	Total	52	100
Age	Between 18 and 25	18	34.6
	Between 26 and 35	21	40.4
	Between 36 and 45	5	9.6
	More than 45	8	15.4
	Total	52	100
Degree	Undergraduate	9	17.3
	Diploma	1	1.9
	Bachelor	29	55.8
	Master	11	21.2
	PhD	2	3.8
	Total	52	100
Professional Certificate	No	48	92.3
	Yes	4	7.7
	Total	52	100
Nationality	Bahraini	49	94.2
	Other	3	5.8
	Total	52	100

The data in table 1 shows us that the frequency of male responses was 21, which makes the percentage equals 40.4%. On the other hand, the frequency of female responses reached 31 which make the percentage equivalent to 59.6%.

The data analysis shows us that the number of female responses were more than the male responses.

The results show us that there were no responses from the less than 18 category which makes both the frequency and percentage equals to zero. The frequency of people between the age 18 and 25 reached 18, and the percentage was 34.6%, while the age category between 26 and 35 had the most responses with a frequency of 21 and a percentage of 40.4%.

Respondents between the age 36 and 45 had the least frequency which reached only 5 with a percentage equals to 9.6%, while the age category more than 45 years old had a frequency of 8 and a percentage equals to 15.4%.

The frequency of people who have not graduated yet was 9 with a percentage of 17.3%, on the other hand, the number of respondents who carry a Diploma was only 1 with a percentage equals to 1.9%.

Respondents who carry a Bachelor degree had the highest frequency of 29 with a percentage up to 55.8%, while those who carry a Masters degree reached 11 responses with a percentage equals to 21.2%. The second least number of responses of people who carry PhD reached a frequency of only 2 with a percentage of 3.8%. The frequency of people who don't carry any kind of professional certificate reached 48 which is the highest with a percentage equals to 92.3%, while the number of people who carry a professional certificate reached only 4 and a percentage of 7.7%.

The highest frequency of the nationality belonged to Bahrainis which reached 49 respondents and a percentage of 94.2%, on the other hand, a frequency of only 3 from other nationalities responded to the survey, which makes the percentage equals to 5.8%.

4.1.2 Study Information

Table 2. The Kingdoms suitable environment

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q1. Kingdom of Bahrain has the suitable environment to implement participatory budgeting.	Strongly disagree	7	13.50	3.04	60.80%	1.188
	Disagree	9	17.30			
	Neither	16	30.30			
	Agree	15	28.80			
	Strongly agree	5	9.60			
	Total	52	100.00			

The mean calculated was 3.04, which means in a scale out of 5, most of the respondents almost agree that the Kingdom has the suitable environment to implement participatory budgeting, and the general percentage calculated for that agreement equal 60.8%. The standard deviation was 1.188, which determines that the frequency of responses varied among people.

In the researchers' opinion, the responses of people differed due to the current political situation in the Kingdom; some might believe that in order to implement participatory budgeting we must have a stable political environment, while others think that participatory budgeting is actually needed and would work efficiently in an environment such as in Bahrain.

Table 3. Government and citizens' relationship

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q2. Participatory budgeting success mostly depends on government and citizens trust relationship as well as supportive political environment.	Strongly disagree	1	1.90	4.33	86.60%	0.879
	Disagree	1	1.90			
	Neither	5	9.60			
	Agree	18	34.60			
	Strongly agree	27	51.90			
	Total	52	100.00			

The Bahraini community is known to be highly educated; therefore, it could evaluate that participatory budgeting depends on trust along with suitable political environment.

Those who disagreed with the question probably have an opinion that since participatory budgeting could be executed at the command of not only the government but also other non governmental organizations, as it was explained in the questionnaire distributed, therefore people might not have to only deal with the government since it can be an individual social movement. But at the end, the final decision regarding the chosen projects goes back to the government.

Table 4. Continuous meetings throughout the year

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q3. I am able and willing to attend continuous meetings through out the year to have a decision in my city's public budget if participatory budgeting was implemented in Bahrain.	Strongly disagree	6	11.50	3.69	73.80%	1.351
	Disagree	5	9.60			
	Neither	6	11.50			
	Agree	17	32.70			
	Strongly agree	18	34.60			
	Total	52	100.00			

The results shown in table 4 can make us determine how the Bahraini community is willing to make changes, as it turns out that the idea of participatory budgeting was favored by the Bahraini community. People realize that the idea of participatory budgeting could be beneficial for everyone; therefore they are willing to try it despite their cluelessness about the unknown results. Those who disagreed might know that they can't be committed to continuous meetings, besides the fact that some are willing but are unable to attend due to some other personal or work commitments.

Table 5. Affect on fraud and better decision making

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q4. Participatory budgeting can reduce fraud rates and lead to better decision making.	Strongly disagree	3	5.80	3.94	78.80%	1.11
	Disagree	2	3.80			
	Neither	9	17.30			
	Agree	19	36.50			
	Strongly agree	19	36.50			
	Total	52	100.00			

People realize that participatory budgeting will deal mostly with the public, and all the financial information will be within reach; therefore, the process of stating the public budget will be known and shown to everyone, so there will be no chance for manipulation or fraud which explains the results of high agreement in table 5. Also, people might think it could lead to efficient decisions since the decisions will be in their hands for the one who wears the shoe can tell best where it hassles. Politicians might then stop taking control over everything and therefore the community will accomplish better decision making.

Table 6. The adoption of participatory budgeting

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q5. If all the required conditions were available in Bahrain, Bahrain government will adopt participatory budgeting strategy.	Strongly disagree	8	15.40	2.92	58.40%	1.218
	Disagree	11	21.20			
	Neither	15	28.80			
	Agree	13	25.00			
	Strongly agree	5	9.60			
	Total	52	100.00			

According to the results, we can conclude that the community isn't able to predict the governments' moves; people can't make a choice whether the government will adopt participatory budgeting or at least consider it, and that could be because the Bahraini community might in fact need participatory budgeting but the government and the society as well realize that they are not ready for it just yet. It could be difficult for the government to shift to an entirely new budgeting strategy after it has implemented a certain strategy for years.

Table 7. The openness of the Bahraini community

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q6. I think the Bahraini community is open to changes like participatory budgeting.	Strongly disagree	4	7.70	3.37	67.40%	1.205
	Disagree	11	21.20			
	Neither	7	13.50			
	Agree	22	42.30			
	Strongly agree	8	15.40			
	Total	52	100.00			

In the researchers' opinion, the Bahraini community is in fact open to changes, but since we have a variation in responses, the disagreement opinions could be due to the cultural environment in the Kingdom of Bahrain that people are anxious about new changes. Despite the fact that the Bahraini community is highly educated, there are still some Bahraini individuals who are known of being traditional and might not accept the idea of attending such meetings and debates throughout the year.

Table 8. Chances for more democratic decisions

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q7. Participatory budgeting can be a good opportunity for the community to make more democratic decisions.	Strongly disagree	1	1.90	3.96	79.20%	0.969
	Disagree	4	7.70			
	Neither	7	13.50			
	Agree	24	46.20			
	Strongly agree	16	30.80			
	Total	52	100.00			

As previously mentioned, the Bahraini community acknowledges the fact that participatory budgeting will function by them mostly, since decision making will be in their hands (despite the fact that the final decision goes to the government); participatory budgeting can actually lead to more democratic decisions since democracy is one of participatory budgeting's' best qualities and advantages.

Table 9. Availability of financial information

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q8. The necessary information of the financial situation and so are available to the Bahraini citizens in order to be able to participate in participatory budgeting.	Strongly disagree	8	15.40	2.87	57.40%	1.237
	Disagree	13	25.00			
	Neither	15	28.80			
	Agree	10	19.20			
	Strongly agree	6	11.50			
	Total	52	100.00			

According to the results, we can determine that most of the respondents are unaware whether the financial information are available or not, since most of the answers were neutral. Those who disagreed with the question might believe that the information within reach isn't sufficient for the community to conduct participatory budgeting.

Table 10. The knowledge of the Bahraini community

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q9. The Bahraini community is knowledgeable and educated enough to adapt to participatory budgeting easily.	Strongly disagree	5	9.60	3.48	69.60%	1.213
	Disagree	7	13.50			
	Neither	7	13.50			
	Agree	24	46.20			
	Strongly agree	9	17.30			
	Total	52	100.00			

In the researchers' opinion, the agreed responses are due to the fact that the Bahraini community is actually highly educated. More than half the respondents carried Bachelor degrees as well as Masters and PhD's among other professional certificates. Also, the English language is considered the second language in the Kingdom, and others use it as a first language; hence, the Bahraini community might not have a problem adapting to participatory budgeting or actually practicing it.

However, in spite of the fact that English is considered the second language, some Bahraini individuals still lack the ability to speak proper English and find it very difficult to communicate with, which could explain the disagreement in opinions.

Table 11. The awareness of Bahrain's general budget

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q10. I am aware of how the Bahraini government states the general budget and the steps it takes.	Strongly disagree	8	15.40	2.81	56.20%	1.138
	Disagree	13	25.00			
	Neither	14	26.90			
	Agree	15	28.80			
	Strongly agree	2	3.80			
	Total	52	100.00			

The previous result could be because despite the fact that the citizens are not involved in preparing the general budget, most of the responses verified that they are aware of the budgetary system and allocation due to the involvement of the parliament which represents the Bahraini community. Those who agreed could have an interest in following the latest news about the parliament involvement.

However, the testing results indicate that responses lean more on being unaware to neutral about how the government states the general budget, hence we can determine that the Bahraini community got used to having the general budget being prepared by the government without any direct involvement from the citizens, therefore they show no interest in learning about the budget strategy followed.

Table 12. The fairness of the budget allocation in Bahrain

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q11. The budgetary system and budget allocation are fairly reasonable in Bahrain.	Strongly disagree	7	13.50	2.75	55.00%	1.1
	Disagree	15	28.80			
	Neither	17	32.70			
	Agree	10	19.20			
	Strongly agree	3	5.80			
	Total	52	100.00			

Given the previous results, we can determine that the majority of the respondents are unaware of the budgetary system and budget allocation to make a decision whether it's fair or not.

As previously mentioned, a significant amount of people show no knowledge of how the publics resources are being allocated, possibly because of other work commitments that keep them preoccupied to learn about this point.

However, there are still a fine number of people who are actually aware of how the government states the budget and the strategy it follows and believe that it's being executed fairly, probably due to their close work field in that matter or they could be just satisfied with what they get.

Table 13. The acceptance of participatory budgeting in Bahrain

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q12. I would love to see participatory budgeting being implemented in Bahrain.	Strongly disagree	0	0.00	4.23	84.60%	0.807
	Disagree	2	3.80			
	Neither	6	11.50			
	Agree	22	42.30			
	Strongly agree	22	42.30			
	Total	52	100.00			

The significantly high mean of 4.23, indicates that the majority of the responses had an agree opinion as well as strongly agree. The standard deviation (0.807) demonstrates the responses didn't vary in the frequency distribution.

In the researchers' opinion, the Bahraini community would love to see a change occurring, and would love to be a part of that change which explains the weak disagreement.

Table 14. The success of participatory budgeting in Bahrain

Variables		Frequency	Percentage %	Mean	General Percentage %	Standard deviation
Q13. It would be a successful experiment if participatory budgeting was implemented in Bahrain.	Strongly disagree	2	3.80	3.73	74.60%	0.952
	Disagree	1	1.90			
	Neither	17	32.70			
	Agree	21	40.40			
	Strongly agree	11	21.20			
	Total	52	100.00			

The Bahraini community appears to be interested in the idea of participatory budgeting and have high expectations for it. The Bahraini community believes that a strategy such as participatory budgeting is needed in the area in order to enhance democracy, citizens' participation in the public resources allocation in addition to boost the education level in Bahrain.

However, the disagreements could be possibly because people believe that participatory budgeting is not what they need at the mean time, or could simply be lack of knowledge.

4.2 Testing of Hypotheses

Table 15. One sample T.test

Question	Mean	T.test	Sig
Q1. Kingdom of Bahrain has the suitable environment to implement participatory budgeting.	3.04	0.234	0.816
Q2. Participatory budgeting success mostly depends on government and citizens trust relationship as well as supportive political environment.	4.33	10.881	0.000
Q3. I am able and willing to attend continuous meetings through out the year to have a decision in my city's public budget if participatory budgeting was implemented in Bahrain.	3.69	3.695	0.001
Q4. Participatory budgeting can reduce fraud rates and lead to better decision making.	3.94	6.122	0.000
Q5. If all the required conditions were available in Bahrain, Bahrain government will adopt participatory budgeting strategy.	2.92	-0.455	0.651
Q6. I think the Bahraini community is open to changes like participatory budgeting.	3.37	2.187	0.033
Q7. Participatory budgeting can be a good opportunity for the community to make more democratic decisions.	3.96	7.153	0.000
Q8. The necessary information of the financial situation and so are available to the Bahraini citizens in order to be able to participate in participatory budgeting.	2.87	-0.785	0.436
Q9. The Bahraini community is knowledgeable and educated enough to adapt to participatory budgeting easily.	3.48	2.589	0.006
Q10. I am aware of how the Bahraini government states the general budget and the steps it takes.	2.81	-1.218	0.229
Q11. The budgetary system and budget allocation are fairly reasonable in Bahrain.	2.75	-1.638	0.108
Q12. I would love to see participatory budgeting being implemented in Bahrain.	4.23	10.995	0.000
Q13. It would be a successful experiment if participatory budgeting was implemented in Bahrain.	3.73	5.535	0.000

The first question got a T.test result of 0.234 and a Sig equal to 0.816; those results indicate that major responses leaned more to disagree with the question, which means that most of the respondents have a neutral to a disagreeing opinion that the kingdom of Bahrain has the suitable environment to implement participatory budgeting.

The second question had a result of 10.881 T.test and a Sig of 0.000; the results demonstrated indicate that the major responses agreed with the question, which means that the respondents believe that participatory budget success mostly depends on the trust between the citizens and the government relationships as well as supportive political environment.

The third question had a T.test equal to 3.695 and a Sig of 0.001 indicating that the major responses agreed with the question. Nearly all the respondents agreed on their ability and willingness to attend continuous meetings throughout the year in order to participate in preparing the general budget and have an opinion if participatory budgeting was implemented in the kingdom.

The forth question had a T.test equals to 6.122 and Sig of 0.000. The results signify that the majority of the responses agreed with the stated question. Almost all the respondents agreed that participatory budgeting can reduce fraud rates and lead to better decision making.

Question fives' results were as following: the T.test was calculated to be -0.455, and the Sig was 0.651. The results indicate that the most responses disagreed with the question, since the T.test was negative and the Sig was more that 0.05. The majority of the respondents had a disagreeing opinion that if all the required conditions were available in the Kingdom; the government of Bahrain will adopt participatory budgeting strategy.

Question six had the following results: the T.test was calculated to be 2.187 and the Sig was 0.033. The previous results show that the majority of the responses agreed with the question, which means that most of the respondents agree that the Bahraini community is an open community to major changes such as participatory budgeting.

The seventh question had a calculated T.test of 7.153 and a Sig equal to 0.000 which indicates that the majority of the responses agree with the stated question. Most of the respondents agreed that participatory budgeting can be a good opportunity to make more democratic decisions where they can have an opinion on the general budget and even make decisions on where the given resources should be allocated.

Question eight got a T.test of -0.785 and a Sig equal to 0.436. The results indicate that the majority of the responses disagreed with the question. Since the T.test was negative and the Sig was more than 0.05 which means that most of the respondents disagreed that the necessary information of the financial situation are available to the Bahraini citizens to be able to participate in participatory budgeting.

The ninth question results were the following: the T.test calculated was 2.859 and the Sig was equal to 0.006. The demonstrated results indicate that the greater part of the responses agreed with the question indicating that the Bahraini community is knowledgeable and educated enough to adapt easily to participatory budgeting.

The tenth question results were as follows: the T.test calculated was equivalent to -1.218 and a Sig of 0.229 which indicates the disagreement responses for the greater part since the T.test was negative and the Sig was more than 0.05. The results show us how most respondents denied their awareness of how the government of Bahrain states the general budget and the budget system and strategy it follows.

Question eleven had a negative T.test result equivalent to -1.638, and a Sig greater than 0.05 which is equal to 0.108. The previous results indicate that the majority of the responses leaned more to disagreeing with the question, which means that the respondents had an opinion that the budgetary system and budget allocation are not fairly reasonable in the kingdom of Bahrain.

Question twelve had the following results: the T.test calculated was equal to 10.995 and the Sig was 0.000.the results show us that most of the responses agreed with the question which means that the majority would love to see participatory budgeting being implemented in the kingdom of Bahrain.

Finally, the last questions' results were as follows: the T.test calculated was equal to 5.535 and the Sig was 0.000 which tells us that the greater part of the responses agreed with the question. Most of the respondents agreed that participatory budgeting would be a successful experiment if it was implemented in the kingdom of Bahrain.

4.3 Possibility of Implementation in the Kingdom of Bahrain

4.3.1 Bahrain's Budgetary System

Bahrain is a small island with an estimated population of more than 1 million Bahraini citizens in 2011. In 2002, it was announced by his Majesty the king of Bahrain, king Hamad bin Isa Al Khalifa, that the Kingdom will be divided into five governorates; Capital governorate, Central governorate, Muharraq governorate, Northern governorate and Southern governorate, and each had its own governor who in turn is elected by the citizens every four years.

Bahrain's budgetary system according to the general budget act of the kingdom is settled by the Ministry of Finance, and the execution of the budget allocation remains with the director of the budget department.

Recently the kingdom of Bahrain has adopted a new approach for preparing the general budget of 2011 – 2012. This new approach is called Strategic Funding, which is a way for preparing the budget that depends on making a connection between the strategic objectives and the priorities with the financial funds. This approach specifies the objectives of the strategy to observe the execution of the budget throughout the budget cycle.

Strategic funding is considered one of the major initiatives in the National Economic Strategy (NES) developed by the Kingdom of Bahrain and which sets goals of six years to be accomplished by 2014. Strategic funding is based on connecting the strategic objectives with the available financial resources and is one of the basic priorities in the public sector; also it's considered the main tool to observe and monitor the budget performance and achieve efficiency in the government, in addition to the efficient use of resources in the public sector.

Strategic funding is implemented in preparing the publics' budget and plays a primer role in achieving the goals stated within the NES and enhance the governments' transparency to attain one of the Economic Visions principals of the Kingdom for 2030 which was established in 2008 by his Majesty the King.

Strategic funding also enhances the procedure of decision making. The main advantages of strategic funding budgeting method are:

It allows the distribution of funds according to priorities; it enhances the accountability, clearness and simplicity of the distribution of funds; it provides a better control and management over expenditures which in turn enhance the efficiency and effectiveness of the budget and finally, Ministries and governmental organizations focus on the objectives and projects set.

According to the Head of Budget Coordination at the Ministry of Finance (Note 1); the only difficulty facing the strategic funding is making arrangements on the recurrent expenditures since it contains frequent figures.

It's essential to know that the Bahraini economy is mixed. The oil and natural gas are classified as the only major natural resources that rule and control the economy in Bahrain despite the governments' efforts to vary (Ramadhan, 2009).

Before starting the budget preparations; a committee is formed and appointed by the Minister of Finance; this committee includes the executive of financial affairs; senior budget analyzer, the department chief and the

accountant. The budget committee is directed by either the financial affairs executive or the director of the financial resources.

The first step in preparing the general budget is to determine the estimation of income and revenues which are allocated to cover some general expenses; the Ministry of Finance with the collaboration of the other Ministries and governmental organizations start the initial estimates of revenue according to the Minister of Finance instructions and rules on the determined date, and any delay from any certain direction, the Ministry of Finance will take the initiative to estimate the revenues on its own after informing that Ministry. The Ministry takes into consideration any unplanned changes that might occur.

After that, the Ministry of Finance prepares the final estimates of the income and revenues.

The revenues section is categorized by the sort of revenues; they consist of oil revenues and non-oil revenues, as well as grants.

The next step is for the other Ministries to estimate the expenses taking into account the estimated revenues, and then provide them to the Ministry of Finance (director of budget), including notes on the necessary information and explanation to justify each estimated figure in the budget.

After that, the director of budget in the Ministry of Finance will discusses the budget and reviews it with the budget committee elected by the director. Sometimes the elected committee may represent other Ministries. The Ministry will search the expenditures estimates of the other Ministries, taking into consideration the expenditures estimated for the work force and the other Ministries to discuss the size of these estimates and their needs.

The Ministry of Finance afterward starts preparing the budget document according to rules and regulations; it also prepares a statement on the financial and economic situation of the kingdom and the measures taken to implement the budget as well as the influence on the new budget.

The document should include:

• Prediction of the revenues and grants.

• Prediction of frequent project expenses.

• Prediction of interest and settlement of loans.

• Prediction of the budget shortage along with the suggested ways to fund it.

• The revenues and expenditures of the prior year.

• The revenues and expenditures of the year before the previous year.

After that, the Minister of Finance will submit the adoption of the budget to the council of Ministers for approval in order to be presented to the parliament before the end of the current financial year by at least two months to discuss it and then allocate it to the Shura Council.

The role of the parliament revolves only around discussing the general budget; however, the representatives' can't make any changes on it, not without the government approval, and if the budget wasn't approved by the parliament, the budget could be reduced.

According to the general budget act, a Royal Decree draft must be prepared and submitted by the director of budget to be approved and signed by his Majesty King Hamad Bin Isa Al Khalifa (Ramadhan, 2009).

Finally, the general budget is implemented, and all the Ministries and other governmental bodies are informed to start executing it.

Ministries may not exceed their expenses or expenditures on a certain project, unless approved by the law, also, the ministers and heads of governmental organizations are obligated to provide the Council of ministers with the audited financial accounts along with the detailed results reached compared with the stated objectives of the project, within three months after the end of the fiscal year. A copy of those documents is presented to the Minister of Finance afterwards.

The kingdom of Bahrain might not involve the citizens directly in participating in setting the general budget, but there have been some regular visits by the royal family, the King and the Prime Minister, to the governorates in the kingdom where they meet the citizens directly and ask them about their demands and needs and report them to the specialized ministry or governmental organization where they get prioritized and translated into numbers.

It's not difficult or impossible to implement participatory budgeting in Bahrain, the community of Bahrain showed a high interest in the process. An interview made with the Head of Budget Coordination at the Ministry of Finance was able to answer some critical questions and provide some interesting recommendations.

So what would be the benefits of participatory budgeting if it was implemented in the kingdom? And what are the obstacles facing the implementation of participatory budgeting in Bahrain?

Participatory budgeting could be a great opportunity for the Bahraini community to communicate with each other and learn about each others needs and demands; also it's a superior chance for them to gain knowledge and information about the actual financial situation of the kingdom which will help them make better decisions. Participatory budgeting could be a good indicator of how much the community is educated and knowledgeable; suppose that participatory budgeting was in fact implemented in Bahrain, people's decisions regarding the favorable projects will show whether they are actually thinking about their individual selves or the place and the district they are living in.

The former point could be considered an obstacle when it comes to implementing participatory budgeting in the kingdom, people's choices of projects could reflect their own interest instead of the majorities. Also, if for example BD1 million was allocated for a certain district and projects were prioritized, the next year, people might ask for more and claim that BD1 million was not sufficient as people's demands will keep growing with time.

Another disadvantage is that the Bahraini community might not be committed to continuous meetings and debates throughout the year. The cultural environment plays a critical role as well; although the Bahraini community might seem open and outgoing but if there will be any participation; it will be limited to a certain category, such as a certain age and a certain occupation for there are many conservative families and individuals who can't accept the idea of such meetings.

Since participatory budgeting takes time for it to actually have an effect, people in Bahrain might be disappointed and lose faith easily because when they start the participatory budget strategy, higher expectations will be set.

Regardless of the limitations and obstacles, participatory budgeting still remains a good idea to be implemented gradually and partially in the kingdom of Bahrain where the citizens' voices could be heard.

5. Discussion of Conclusion and Recommendations

While a high percentage of responses tended to neither agree nor disagree agree that the kingdom of Bahrain has the suitable environment to implement participatory budgeting; a very high percentage of respondents stated that they would love to see it being implemented in Bahrain.

Many respondents also agreed that participatory budget can lead to better decision making since the people will decide what they want by themselves. The results also showed the willingness of the majority to participate in meetings and debates throughout the year, which gives a good indicator of how the Bahraini community is willing to make changes.

At the end, we conclude this study based on the survey, interview and research conducted; the results indicate that there is possibility for participatory budgeting to be implemented in the kingdom, and in spite of the previous opinions, it was agreed in the interview at the Ministry of Finance that a strategy such as participatory budgeting is in fact needed in the kingdom, for everyone want their voices to be heard.

However, participatory budgeting may not be fully and precisely implemented at the mean time, but there is a possibility in the near future, since the kingdom is divided into six governorates, the process could be experienced in one governorate with the help of the Municipal Council and the elected representative of that governorate, by directly communicating with the citizens and providing them with specific amount of money to be allocated by them, and then report those prioritized needs by the representatives to the Council of Ministers to discuss those demands. Results then could be illustrated then along with the difficulties faced and the suggested effort to overcome them, and finally judge the process and whether it could be continued.

It's true that it's a long process in order for participatory budgeting to have an effect, especially in a country such as Bahrain, but it's not impossible to implement it even if it lacks the conditions and suitable environment now, the near future might hold the opportunity for participatory budgeting to be executed, although in the researchers' opinion, every country or district can make their own rules and conditions based on their special circumstances.

The author would like to draw the attention to the limitations of the study stating that the theories and conclusion reached are limited to this study exclusively, since the survey was distributed to only 52 different entities due to the lack of time.

The recommendation suggested in this study is to overcome the limitations and obstacles faced by the kingdom

of Bahrain such as solving the problem of participation by integrating an online approach for those who can't participate directly taking advantage of the e-Government Authority. Also it might be difficult for the community to elect a representative among them, so the problem could be solved by involving the Municipal Council which was already elected by the citizens.

It could also be a good idea to start teaching participatory budget in schools as a preparation for the coming generation to gain knowledge about the main idea as well as knowledge about the kingdoms' financial situation and budgetary system. Conducting a study to test the potential effectiveness and efficiency of participatory budgeting on the kingdom before adopting it, is also a relevant point.

Finally, proceed the current study by having a real life experience and bring participatory budgeting to life in one governorate in the kingdom and record the actual results is also one of the suggested future studies.

Acknowledgements

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Note

Note 1. Head of Budget Coordination at the Ministry of Finance: Mr. Najeh Al Tawash.

A Conceptual Model of Literature Review for Family Takaful (Islamic Life Insurance) Demand in Malaysia

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Abstract

The growing significance of takaful industry (Islamic insurance) in Malaysia is expected to foster sustainable economic growth in Malaysia. Further to this, Malaysia is recorded to be the major player and one of the fastest takaful growth in Southeast Asia. As such, family takaful (Islamic life insurance) segment must be competitive and innovative to increase market penetration and compete with their conventional counterparts. This paper aims to propose a simple yet comprehensive conceptual model by identifying the main determinants that drive family takaful demand in Malaysia. An extensive review of literature available has been carried out to achieve the purpose. Several critical factors namely, agency system (al-wakalah), reputation of takaful operators, products and services, marketing and advertising of takaful products, are found to be the main determinants for family takaful demand.

Keywords: family takaful, Islamic life insurance, al-wakalah, Malaysia

1. Introduction

Insurance as practised in the conventional financial system refers to a financial protection system that serves as a risk management strategy or tool, to reduce risk uncertainty and provides a planned financing technique that distribute losses. Whereas, takaful system (Islamic insurance) is known as a concept of mutual cooperation *(ta'awun)* and donation *(tabarru'),* where the risk is shared collectively and voluntarily by the group of participants to guarantee mutual protection of the members (Dusuki, 2011; Redzuan et al., 2009). The *takaful* term is derived from the Arabic word *kafala,* which mean 'joint guarantee' or 'guaranteeing each other' which also explained as a group of individuals that guarantees each other against potential loss or damage faced by anyone of them (see, Ahmad Musadik, 2010; Yusof, 2009).

Section 2 of the Malaysian takaful Act 1984 defines takaful as 'a scheme based on the brotherhood, solidarity and mutual assistance to the participants in case of need whereby the participants mutually agree to contribute or donate for that purpose'. Takaful also can be referred to as a financial transaction of a mutual co-operation between two parties towards providing a financial security for one of them against any misfortune (Ma'sum Billah, 2003). Therefore, it can be said that *takaful ta'awuni* (Islamic co-operative insurance) is not a contract of buying or selling, where a party offers and sells protection and other party accepts and buys the service at a certain cost or price. Rather, it is an arrangement whereby a group of individuals each pay a fixed amount of money, and compensation for the losses of members of the group are paid out of the total sum. Thus, it reflects a sense of brotherhood and solidarity amongst the participants who are willing to help and assist one another in times of difficulty and need. Accordingly, the holy Qur'an, in verse 5:2, mentioned that: "... help you one another in *Al-Birr* and *At-Taqwa* (virtue, righteousness and piety); but do not help one another in sin and transgression ...".

In recent years, the takaful industry has become more diverse internationally and locally as there has been tremendous increase in the number of takaful operators operating worldwide as well as in Malaysia. For instance, the takaful market shows strong growth in countries such as Malaysia, Indonesia, Singapore and Brunei. Meanwhile, in the Middle East, the takaful industry concentrates in Saudi Arabia, Bahrain, Iran, Qatar and Iran with new takaful operations opening up in Egypt, UAE and Kuwait. This tremendous increase of takaful operators in Malaysia open great opportunities for expansion in takaful market share and increased penetration.

Abdul Hamid and Ab. Rahman (2011) have argued that the role of agency force is important as intermediaries between customers and takaful operators which can contribute to the high performance for the takaful industry in Malaysia. The industry is in good position to seize the enormous opportunities from the estimated 1.5 billion Muslims around the world whom are currently underserved by the insurance industry (Abd. Kadir, 2011).

There are two types of takaful, namely general takaful and family takaful. At one hand, among significant features of general takaful are short-term policy, contributions paid by participants are credited into the general takaful fund, *tabarru'* as the core element, no savings element and can be categorised into motor and non-motor takaful. On the other, family takaful typically is long-term policy in nature, loosely comparable to conventional life insurance. Participants aim at saving for their long-term needs, for example their children's education, their pension and compensation for dependants in the event of death and disability, amongst others. Family takaful also covers two funds that are, savings (participant account) and investment elements (participant's special account or *tabarru'*).

This paper focuses on two main objectives. First, to identify critical factors that determine the family takaful demand. Second, to develop a conceptual model for determinants of family takaful demand in the context of Malaysian study.

The remainder of the paper is structured into six sections as follows: Section 2 justifies the problem statement of the study. Section 3 describes research methodology. Section 4 provides an extensive review of literature on determinants of family takaful demand. Then, a conceptual model on family takaful demand is proposed in Section 5. Finally, Section 6 concludes the discussion.

2. Problem Statement

The global takaful industry has witnessed impressive growth, particularly over the last five years. However, the performance of Malaysia takaful industry is still lags far behind in terms of total insurance market penetration and share. According to Takaful Ikhlas President and Chief Executive Officer Datuk Syed Moheeb Syed Kamarulzaman (2010), Malaysia's penetration rate for takaful industry is around 10 percent, compared with overall conventional insurance industry which is stood at 40 percent. It has been highlighted that the primary target in takaful industry is the Muslim segment as the Muslim population in Malaysia comprises more than 60 percent of the total population (OSK Research Report, 2012). This fact represents a large untapped potential market for takaful industry in Malaysia.

The Malaysian government entrusted Bank Negara Malaysia (Central Bank of Malaysia) to play an important role in promoting takaful businesses by providing better financial infrastructure. Hence, the takaful industry in Malaysia has been undergoing a steady growth and facing the rapid changes over the last five years. According to Bank Negara Malaysia Report (2011) the growth of this industry can be seen through its business performance. As shown in Table 1, the total of takaful business performance in term of gross contributions are increased from RM2,255 millions in 2007 to RM4,295 millions in 2011. For family takaful business, the gross contribution also increased from year to year. Similarly for general takaful business, the gross contributiosn are increased albeit only at a slower pace which was from RM768 millions in 2007 to RM1,600 millions in 2011 compared with performance of family takaful business. In short, takaful industry in Malaysia has strongly contributed by family takaful business compared with the general takaful business.

Table 1. Takaful business performance from years 2007 to 2011

Category	Year	RM (million)	Growth (%)
FT	2007	1,487	17.4
GT		768	7.0
Total		2,255	24.4
FT	2008	1,980	33.2
GT		874	13.8
Total		2,854	47
FT	2009	2,178	10.0
GT		1,054	20.6
Total		3,232	30.6
FT	2010	2,587	18.8
GT		1,346	27.7
Total		3,933	46.5
FT	2011	2,695	4.2
GT		1,600	18.9
Total		4,295	23.1

Source: Bank Negara Malaysia Report (2011).

Notes: FT = Family Takaful, GT = General Takaful.

Ernst & Young World Takaful Report (2011) Malaysia shows a strong takaful growth among Southeast Asia countries. It is reported that there is a large untapped market that still exists with only 54 percent of the population having a life insurance or family takaful policies in 2010 (Abd. Kadir, 2011). By focusing into family takaful market, the family takaful penetration rate is merely 10 percent of the population in 2010 (OSK Research Report, 2012). Therefore, it can be argued that family takaful market is facing a lower market penetration compared to the conventional life insurance market in Malaysia. Many incentives are given by the Malaysian government in promoting family takaful such personal tax relief for takaful contribution from RM5,000 to RM6,000. In addition, new parliamentary initiatives from government such as the New Economic Model (NEM), Economic Transformation Program (ETP) and the Tenth Malaysian Plan would lead to the growth in demand for takaful products and services. Therefore, it is important to highlight why family takaful penetration is still low and what are the factors that influence the family takaful demand.

3. Research Methodology

This paper uses qualitative approach by systematically review all relevant literature from various databases. To have a clear and precise guidance in reviewing the literature, two research questions are developed. First, what are the critical factors for the family takaful demand? Second, what is the proposed conceptual model for the determinants of family takaful demand. In searching for literature only articles in established journals are reviewed including Proquest, EBSCO, Web of Science - Social Citations Index and Business Source Premier. A literature search produced a total of more than 100 articles, of which 36 are randomly picked for detailed review.

4. Literature Review

4.1 Empirical Evidence: Factors Related to Family Takaful Demand

It is worth noted that issues relating to takaful have always been discussed but little empirical study on the determinants of family takaful demand has been conducted. Obviously, from the previous literature, there is very limited research focusing on family takaful. Thus, it can be concluded that many researchers may have less interest to explore issues related family takaful as compared to the conventional life insurance. The main reason could be family takaful is still at its infancy stage. Among earlier study on family takaful is conducted Redzuan et al. (2009) by using economic factors as determinants of family takaful demand. Their study aim to identify the driving force of family takaful consumption in Malaysia. The main finding of the study indicated that income per capita is a robust predictor of family takaful demand, while long term interest rate and composite stock index have significant relationship with family takaful demand. A study by Yusoff (2009) also explored the determinants of the demand for family takaful in Malaysia. In this study, they investigated both of the economic and socio-demographic factors in order to determine the consumption of family takaful which is slightly difference with study of Redzuan et al. (2009) in terms of variables used. Among demographic factors, this study indicated that income, Islamic banking development, education, dependency ratio, and Muslim population factors are positively related to family takaful demand. On the other hand, among economic factors, it is found that inflation, real interest rate, financial development and life expectancy appear to be the significant factors that influence the family takaful demand in Malaysia.

Meanwhile, Mohd Nor (2010) examined the awareness and ownership of family takaful plan among Muslim community in Kuala Lumpur. His study is attempted to obtain a deeper understanding of the relationship between levels of awareness and the purchase of family takaful plan. The results of the study indicate that the level of awareness is very high. It was identified that the level of awareness has significant positive relationship with respondents' ownership of family takaful plan. Whereas, a study by Omar (2010) has found that the perception of customers of Prudential BSN Family takaful and Prudential Life Insurance that takaful plan would guarantee savings and protection to them. Besides, the study also found that from customers' perception that Shariah Supervisory Council plays an important role in ensuring the implementation of takaful in Malaysia.

In addition to this literature, the studies of Islamic finance as well as Islamic banking which related to the issue were also being reviewed to understand the factors on selection of Islamic institutions which can be applied into this current study on determinants of family takaful demand. For example, a survey by Gait and Worthington (2008) have found that religion is the main factor considered by customers in Islamic finance, although further pricing, bank reputation and quality of service are also very important criteria for bank customers. This is supported by Al-Ajmi et al. (2009) who revealed that Islamic religious belief and social responsibility are the two most important factors while cost benefit is the third most important factor considered in determine bank selection. Adnan (2010) has examined the choice determinants of Islamic banking institution among Muslims in Terengganu. This survey has found eight determinants factors consists of *halal* (permitted) and *haram* (forbidden) consideration, quality consumption, maslahah return, consumption according to priority, reputation

and recommendation, characteristics of products and services, convenience, and marketing and advertising. He also has examined the relationship of these determinants with the demographic and religious adherence factors. Amin et al. (2011) investigated the effects of the following factors: attitude; social influence; religious obligation; government support; and pricing, on the intention to use Islamic personal financing. The study has found that only three determinants to be significant in influencing the intention to use Islamic personal financing namely attitude, social influence, and pricing of Islamic personal financing. Whereas, religious obligation and government support are found to be insignificant predictors.

4.2 Determinants of Family Takaful Demand

Even though there are substantial study conducted on takaful, but research on family takaful is still very few compared with conventional life insurance. As mentioned earlier, prior studies have attempted to examine conventional life insurance demand are based on demographic factors (for example, Hammond et al., 1967; Duker, 1969; Headen & Lee, 1974; Burnett & Palmer, 1984; Truet & Truet, 1990; Showers & Shotick, 1994; Gandolfi & Miners, 1996; Lin & Grace, 2007; Yusof et al., 2009) and economic variables (for example, Neumann, 1969; Cargill & Troxel, 1979; Babble, 1981, 1985; Lim & Haberman, 2004; Ching et al., 2010). These economic factors also are employed in the study of family takaful demand (Redzuan et al., 2009; Sherif, 2009). However, the present paper focuses on the determinant factors of family takaful demand among Muslim customers in Malaysia by examining various factors to provide a better understanding of how and why family takaful purchases are made. Since the available relevant literature related to family takaful is very scarce, we also rely on the literature related to Islamic finance and banking. Finally, we are able to conclude that there are four main critical factors that could be significantly contribute to the family takaful demand.

4.2.1 The Agency System (Al-Wakalah)

The agency system or *al-wakalah* in the Arabic word is commonly used by takaful operators in distributing family takaful products which is approved by *Shariah* (Islamic Jurisprudence). According to Bashir et al. (2011), *al-wakalah* model is a form of relationship between the takaful operator and participant. In this case, takaful operator acts as the participant's agent and will be paid fees for the services provided. The fees are charged as a fixed amount or percentage, or based on the agreed ratio from the investment profits (Abdul Hamid et al., 2010; Bashir et al., 2011; Htay & Zaharin, 2012). A study by Annuar (2004) has revealed that customers prefer the agency system (*al-wakalah*) in dealing with a takaful company. It is found that customers prefer to choose agency system as it generates greater benefits to takaful operators while not causing any harm to customers (Annuar, 2004; Annuar et al., 2001). However, Hamid and Othman (2009) have shown that most of the respondents do not know or understand about the new concept of al-wakalah (agent) which contribute to less participant in takaful.

4.2.2 Reputation and Recommendation

There are many studies which considered the reputation as one of the factors that contribute to the selection of Islamic financial instituitions such as in finance, banking, as well as in insurance (Haron et al., 1994; Gerrard & Cunningham, 1997; Naser et al., 1999; Al-Ajmi et al., 2009; Mansour et al., 2010; Bashir et al., 2011; among others). Various studies (for example, Naser et al., 1999; Almossawi, 2001; Dusuki & Abdullah, 2007; Gait & Worthington, 2008; Mansour et al., 2010) have affirmed that the reputation as of the important contributors in the selection of Islamic banking among customers. It is in line with a takaful study, which found that majority of respondents chose reputation as their reason for choosing takaful operator (Bashir et al., 2011). Meanwhile, the recommendation made by families or friends also contribute in selecting Islamic financial system (Haron et al., 1994; Gerrard & Cunningham, 1997; Metawa & Almossawi, 1998; Naser et al., 1999). In addition, Mansor (2004) has found that one of the reasons why policyholders choose to join family takaful is because of the recommendation of their families, friends and relatives. Hashim (2006) also has reported that most of their respondents agreed that they know about family takaful from their family and friends.

4.2.3 Product and Services

There are number of studies focuses on both customers' awareness and satisfaction of product and services in Islamic financial system (see, Naser et al., 1999; Ahmad & Haron, 2002; Bley & Kuehn, 2003; Dusuki & Abdullah, 2007; Al-Ajmi et al., Adnan, 2010; Mansour et al., 2010). While, a few of studies have focused only on the consumers preferences to Islamic banking products (see, Gerrard & Cunningham, 1997; Metawa & Almoswawi, 1998; Bley & Kuehn, 2003; Rammal & Zurbruegg, 2006). Meanwhile, some of the studies focused on consumers' attitude, perception and knowledge of Islamic financial products (Yusof & Shamsuddin, 2003; Gait & Worthington, 2008). These studies have indicated that majority of customers prefer to choose products and services that are conform to Shariah (Naser et al., 1999; Ahmad & Haron, 2002; Al-Ajmi et al., 2009;

Mansour et al., 2010; Rustam et al., 2011). In addition, a study by Bashir et al. (2011) has documented that easy to understand product is one of the critical reasons for choosing takaful operator.

4.2.4 Marketing and Advertising

There have been some research on marketing and advertising which can influence customers' buying behaviour (Abideen & Saleem, 2011; Gilaninia & Ghashlagh, 2012) and the selection of Islamic banks (Haron et al., 1994; Gerrard & Cunningham, 1997; Hassan et al., 2008; Haque, 2010; Adnan, 2010; Hakim et al., 2011). Similarly, other studies have indicated that there is significant relationship between effective marketing and advertising and the consumers' buying behaviour (Abideen & Saleem, 2011; Gilaninia & Ghashlagh, 2012). Moreover, Haron et al. (1994), Gerrard and Cunningham (1997), and Adnan (2010) have argued that marketing and advertising influence customers selection of Islamic banks.

5. Proposed Conceptual Framework

Based on the reviewed of relevant literature available, a conceptual model for determinants of family takaful demand is developed. This study suggests that several factors such as the agency system (*al-wakalah*), reputation and recommendation, products and services, marketing and advertising are considered important factors that determine family takaful demand. The proposed model for this study is presented in Figure 1 as follows:
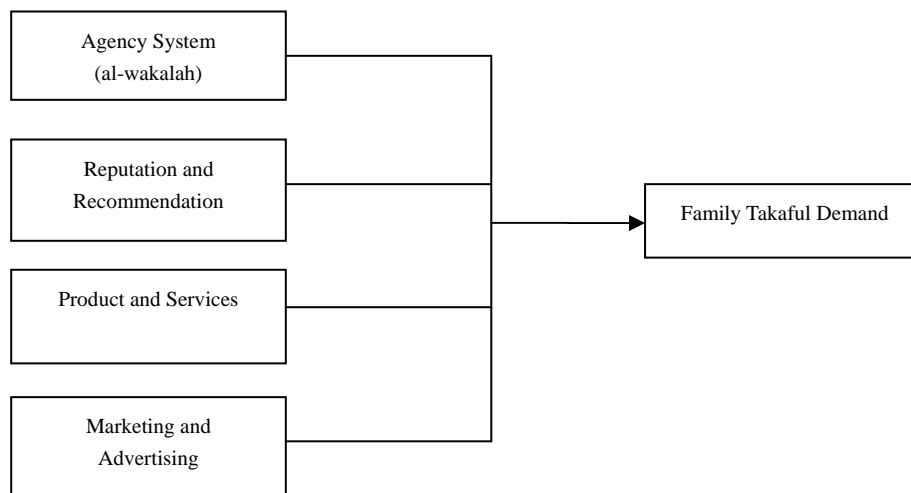

Figure 1. A proposed conceptual model for determinants of family takaful demand

From the above, one can hypothesize that:

• There are positive relationships between variables namely agency system (*al-wakalah*), reputation and recommendation, products and services, marketing and advertising with family takaful demand.

Hence, future study seeks to test the proposed conceptual model for family takaful demand particularly in the context of Malaysia.

6. Conclusion

This paper seeks to come up with a conceptual model by identifying a set of determining factors that contribute to the demand for family takaful. From the extensive review of relevant literature available, there are four factors that could possibly influence family takaful demand. Further empirical study is therefore needed to examine whether all of these factors contribute significantly to the family takaful demand. We expect a positive relationship between the proposed critical factors that determine the demand for family takaful. Limitation of the present study is that we have confined ourselves to published articles, both academic or practioner, which are available to us from the four chosen databases. There maybe articles not brought to our attention, hence, interpretation of the proposed model in this study on family takaful demand in Malaysia may be somewhat limited.

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An Investigation of Relationship among Emotional Intelligence, Organizational Commitment and Job Satisfaction: Evidence from Academics in Brunei Darussalam

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Abstract

Emotional Intelligence (EI) is emerging paradigm discussed and researched widely within the domain of organizational behavior and leadership research continuum in the workplace. This has further been recognized as an effective tool along with organizational commitment (OC) in assessing the job satisfaction. Keeping in view the relative importance and the potential of these two domains; EI and OC to the job satisfaction among academics, this pioneering study was conducted among the 90 academic staff of a technical university in Brunei Darussalam. The study using survey methodology aims not only to establish empirical evidence of examining academics' relationship between EI, and OC but also to find out their level of job satisfaction. The result indicates that two out of seven dimensions of EI and effective component of organizational commitment strongly predict the job satisfaction. The results are discussed and recommendations are made based upon the data analysis and conclusion.

Keywords: emotional intelligence, organizational commitment, academics, job satisfaction, Brunei Darussalam

1. Introduction

In today's competitive business environments, organizations are facing multifaceted challenges not only in enhancing the productivity but also coping with the pressure of setting efficient and effective human resources (HR) practices in the form of hiring, training and retaining skillful employees. To support this, effective HR policies are becoming mandatory for the success of an organization and to overcome these challenges, management of these organizations are finding new avenues of implementing effective and dynamics HR policies. In this regards, new dimensions of organizational behavior such as understanding the emotional intelligence of the employees, integration of work design characteristics, employee commitment and employee satisfaction have gained rapid prominence on the strategic roadmap of the organization.

Over the last decade, the term Emotional Intelligence (EI) emerged globally among the gurus of organizational behavior and industrial psychologists and were given due recognition by the industry. Later on, it has become one of the popular topics of many discussions, researchers, scholars, academics and corporate executives. EI is defined as ability both to know one's own emotions and to read others' emotions as well (Davies *et al.,* 1998; Zadel, 2008). Several scholars use the term to express emotional awareness, accurate self-analysis, self-confidence, trustworthiness, conscientiousness, adaptability, innovation, and so on (Bar-On & Parker, 2000; Goleman, 1998). However, Goleman (ibid) has assessed the link between emotional intelligence and leadership. Goleman focused on the personal capabilities of the leaders that appeared to drive outstanding performance within these organizations. Personal capabilities were clustered in three categories: technical skills, such as accounting and engineering; cognitive skills like analytical reasoning; and competencies demonstrating emotional intelligence such as the ability to work with others and effectiveness in leading change. The result showed that EI proved to be twice as important as technical skills and cognitive abilities for leadership jobs at all levels of an organization. Goleman, (1998) then listed five components of emotional intelligence that an effective leader exhibits: Self-awareness, self-regulation, motivation, empathy, and social skills. Research on emotions in the workplace suggests that emotions may drive productivity gains, innovations, and

accomplishments of individuals, teams and organizations (Cooper, 1997). Individuals with high emotional intelligence are said to be more effective at leading and managing others and fostering positive attitudes amongst employees (George, 2000).

Despite of the management crisis in Asia and other parts of third world countries, EI was given due consideration in dealing with the issues of low organizational productivity and resolving HR related practices especially focusing on employee turnover and issues dealing with job satisfaction. Researchers have conducted studies by linking several antecedent variables such as organizational commitment, motivation and organizational culture. However, little research endeavors in South-east Asia has been devoted to examine and understand its application and practicality not only among businesses but especially among the academics of a higher learning institutions. The academics of the universities behave entirely different contrary to the corporate executives cum leaders in the business organizations. Most of the work as stated above has been conducted in the western world and their results might not be generalized within the corporate world among the South-east Asian context. There exists a potential gap in adopting the results of these researches on the leadership continuum with ASEAN business community. This pioneering research therefore aims not only to provide empirical evidence of examining the link between emotional intelligence, organizational commitment and job satisfaction among the academics of a technical university in Brunei Darussalam, but also to predict the job satisfaction with the significant dimensions of the emotional intelligence and of organizational commitment.

The paper begins with the introduction that also gives some explanation on the motivation of the study with a brief review of literature on the three variables selected for the study. This is followed by a discussion of the methodology and presentation of the findings and results. The results are discussed and finally conclusions and practical implications of the study are highlighted.

1.1 Motivation to Conduct the Study among Academics

The majority of studies on EI and organizational commitment has been undertaken in the business or in the industrial setting (Muller *et al.,* 1992); comparatively less has been researched within the educational setting. The education sector, especially the higher education plays a pivotal role in the national development. One of the biggest problems faced by the universities especially in the developing nations is lack of organizational commitment of their faculty members. This has resulted in the lack of concern among faculty members towards achieving the university's goals and delivering knowledge to the students and ultimately resulting in low participation of students and high turnover of university faculty members (Sial *et al.*, 2011). Similarly, a fair number of studies like Batt, (2002); Huselid, (1995); Patterson *et al.* (1995) linked HR practices with number of outcomes including job performance, productivity, absenteeism, turnover and focus remained on the attitude of the employee toward their commitment. Sial *et al.*, (2011) have found that organizational commitment is strongly and positively influenced by the compensation practice among university staff. Studies have also found that fostering organizational commitment among the academic staff is very important as the academics that are highly committed stay longer, perform better, miss less work and engage in more positive behavior (Chughtai & Zafar, 2006). Nooraei and Arasi, (2011) studied 896 academics in Iran and found a strong relationship between faculty's social competence and their academic performance. On the other hand, academic staff that is not committed to their workplace put less efforts thus in resulting lower performance in students' learning in particular and lowering of the education standard in general. From the administration point of view the good staff take with them teaching as well research skill and experience that is deemed necessary not only for staff development but also to improve the university rating. The committed faculty would further cut down the cost and time involved in advertising expenses, in recruitment, selection and training of new faculty members. Thus the replacement cost could be minimized with the retention of more committed and satisfied existing faculty members. In his study, Buck (1999) quoted from the David Morris of Morris & Associate (USA) that the average cost of replacing a professional employee making $15 an hour is US$5190 (Nov, 6th, 1998). The cost is even higher in the higher education institution, considering the funding process, their average annual turnover among staff employee at public research institution is approximately 17% (Buck & Watson, 2002).

Malik *et al*. (2010) in their study of job satisfaction and organizational commitment among 331 academic staff of public sector universities in Pakistan found that satisfaction with work itself, quality of supervision and pay satisfaction had significant positive influence on organizational commitment. Daneshfard and Ekvaniyan, (2012) studied organizational commitment and job satisfaction in Iran and found a correlation between faculty job satisfaction with affective and normative organizational commitment (r=.25, p<0.05). Gaylor, (2004) found in his study of faculty members at a Christian university in USA that affective commitment was found to be a significant predictor of intention to leave. So if the faculty members have a sense of affection to the mission of college they tend to stay within the university because they "want to" stay. In another study of 122 faculty

members in a Taiwanese' university, it was found that faculty that possessed higher commitment score had a higher level of job satisfaction (Chien & Chen, 2012).

In summary, it is evident that by conducting studies that combine the important antecedent variables with job satisfaction among faculty members will not only improve the total variance shared in job satisfaction but also provide guidelines for the relevant authorities at the higher education sector to come up with policies that will enable to attract and retain top level faculty members in the universities. From the researchers' point of view, adding more organizational variables like emotional intelligence will not only improve the parsimony of the research conducted but also fill-in the existing gaps with the various regional and geographical setting. That's why it is very important to study these variables in depth to find out the empirical support.

2. Review of Literature

2.1 Emotional Intelligence

Much more has been written on the EI over the past ten years (Davies *et al.*, 1998). Salovey and Mayer (1990) initially proposed a definition of EI as a set of skills and abilities contributing to the appraisal of emotions, the regulation of emotions, and the use of emotions in reasoning. Goleman (1995, 1998) has assessed the link between emotional intelligence and leadership ability. As stated previously, Goleman (1998) listed five components of emotional intelligence that an effective leader exhibits: self-awareness, self-regulation, motivation, empathy and social skills. Prior research on emotions in the workplace suggests that emotions may drive productivity gains, innovations and accomplishments of individuals, teams, and organizations (Cooper, 1997). Similarly, Bedwell (2003) have studied the relationship between emotional intelligence and personality and job performance and found several of the EI subscales have a significant relationship with job performance after controlling personality feature anxiety. Eskandarpour and Amiri (2012) also studied the relationship between various dimensions of emotional intelligence and effectiveness of forty-four university managers and noticed a significant difference between different dimensions of EI and their effectiveness.

Studies on EI are nevertheless exuberant; however, not much has been studied in academic settings. Most of the prior studies were confined to academics' leadership in linking their emotional intelligence with their job performance. Porter *et al.* (1974) summarized the abundant literature showing the consistent and moderate relationship between greater job satisfaction and their propensity to remain with the organization. Goleman, (1998) stressed that high emotional awareness has been considered as an important trait for workplace setting. Dong and Howard (2006) found that emotionally intelligent behavior positively affects job satisfaction. In the educational setting, Indoo and Ajeya (2012) found among faculty members in India a significant negative relationship between emotional intelligence and occupational stress. Jelondar and Goodare (2012) studied the teachers' emotional intelligence and job satisfaction in Iran and confirmed the strong correlation that existed between two variables. Wright and Crapanzano, (2000) linked the EI with workplace setting. Sy, Tramm and O'Hare (2006) asserted that individuals with high emotional intelligence demonstrated higher measures of job satisfaction.

In Brunei a number of studies were undertaken to find the correlation between employees' emotion and EI of the employees during change (Salleh, 2010), linking leadership and EI (Salleh, 2009) and finally assessing EI during change (Salleh, 2008). Seyal *et al.* (2011) in their first study of 110 senior executives of SMEs in Brunei have studied the relationship between leadership style, emotional intelligence, personality, and organizational culture and found that there exists a significant relationship between EI, leadership style (transformational) and personality dimension dependence versus autonomous remained significant. Similarly in another study Seyal *et al.* (2012) not only studied the emotional intelligence and organizational citizenship behavior among executives of Bruneian SMEs but also studied the role of the demographics on EI. The results indicated that both EI and OCB are significantly correlated and all demographical variables excluding gender are significant with EI of the executives. The results of all these studies highlighted the importance and role of EI on different scenarios within the general context of Brunei Darussalam.

2.2 Organizational Commitment

Organizational commitment is commonly defined as a 'psychological link between the employee and his/her organization that makes it less likely that employee will voluntarily leave the organization (Allen & Meyer, 1996). The organizational commitment is no doubt one of the most researched topic in organizational behavior and human resource management but is also an essential concern in organizational and industrial psychology because of its relationship with many of the employees behavior and attitude as employees satisfaction (Tanriverdi, 2008), job performance and quality of work (Hacket *et al.*, 1994).

The organizational commitment (OC) has been extensively researched as an important factor in employee's motivation, retention and satisfaction. Measuring organizational commitment is multi-dimensional concept and is complex work attitude (Allen & Meyer, 1996). However, two dimensions of OC, effective commitment and continuance commitment were of significant nature. According to Moynihan, Boswell and Boudreau, (2000) effective commitment refers to identification with, involvement in, and emotional attachment to the organization. Previous work has found that both job characteristics and job satisfaction are statistically significantly related to affective commitment. Whereas, continuance commitment refers to commitment based on the employee's recognition of the costs associated with leaving the organization such as loss of benefits and few employment alternatives. According to Meyer and Allen (1991) affective commitment is a sense of belonging and identification that increases the employees' involvement in the organization' goal and their desire to remain with the organization as thus, is considered as an important determinant of dedication and loyalty. Both job characteristics and job satisfaction are statistically significant with affective commitment. Simply speaking, employees with high affective commitment stay with the organization because they want to do so, compared with employees who have high continuance commitment who stay with the organization because they have to do so (Allen & Meyer, 1990). The significance of organizational commitment has been focused on its relation to many behavioral and attitudinal consequences among employee that influence the organization such as, job performance and job satisfaction (Jofri et al., 2011; Malik et al., 2010; Daneshfard & Ekvaniyan, 2012), job turnover (Buck & Watson, 2002), organization and job productivity and performance (Saif et al., 2012), organizational citizenship behavior (Gautam et al., 2005; Meyer, Stanley, & Herscovitch, 2002).

2.3 Job Satisfaction

Job satisfaction is another important criteria that has been investigated not only under organizational behavior but by several other disciplines such as organizational and industrial psychology and management sciences. Locke, (1976) defined job satisfaction as a 'pleasure or positive emotional state resulting from the appraisal of one's job or job experience'. Whereas, Porter et al. (1975) noted that job satisfaction is determined by the difference between the amounts of some valued outcome that a person receives and the amount of the outcome he feels he should receive. Job satisfaction is actually how much a person likes his/her job (Spector et al., 1998). Similarly, Smith et al. (1998) asserted that job satisfaction is an effective reaction to a job that results from the incumbent's comparison of actual outcome with those which are desired.

2.4 Relationship between Emotional Intelligence, Organizational Commitment & Job Satisfaction

Although a lot of studies have focused on linking emotional intelligence, organizational commitment and job satisfaction among the business enterprises, unfortunately not much has been done among academics; whilst several studies were undertaken in the developing countries. Santhaparaj and Alam (2005) and Ngah et al., (2009) in their Malaysian-based study of emotional intelligence of university staff with respect to work attitude found that EI is positively related to work attitude and appraisal and expression of emotions are moderately correlated with job performance and satisfaction. Ssesanga and Garrett, (2005) studied the job satisfaction among the university academia in Uganda and found evidence of job satisfaction among university employees and antecedent variables EI, and organization commitment. The result suggested that academics with high values of emotional intelligence and perceived high satisfaction tend to feel more emotionally attached with their organizations. Similarly, Lee (2010) studied the relationship between job characteristics and job satisfaction towards affective commitment among engineers of an engineering firm in Malaysia and found that they were related to effective commitment. Shore and Martin, (1989) studied organizational commitment and found that it was strongly related to job performance rather than job satisfaction. This might be because of different measures to assess the self-report responses used for this study. Previous studies have found the relationship between OC and EI mainly among leaders of the business organizations in determining their leadership style. Furthermore, these studies were diverse in their nature as some studies were regionally based while others have focused on a particular industry such as hotel or banking sectors. Carmeli (2003) and Petrides and Furham, (2006) examined the three components of EI, organizational commitment and job satisfaction and found significant relationship existed among them. Arifin et al. (2004) studied the influence of EI, OC, job satisfaction in the public and private sectors and confirmed the significant relationship among these variables. Khani-M and Lalardi, (2012) studied the emotional intelligence, organizational commitment among staff of the hospitality industry in Iran. Results show that there was a significant relationship between EI and OC.

3. Methodology

3.1 Instrument

A multidimensional instrument in four parts was used for this study to capture the information on emotional

intelligence, organizational commitment and job satisfaction using the five-point Likert scale. The demographical data was provided in Part one of the questionnaire and consists of questions based upon nominal and ordinal scale. The detail on basic demographical data is given in Table 2.

3.2 The Measures

Measuring Emotional Intelligence is multi-dimensional concept. There are three models that are commonly used in the literature (Caruso, 2004). These are "ability-based' that measures the mental ability to do with emotions used by Mayer and Salovey, (1997). The second one is "trait-based" that focuses on socio-emotional traits such as "awareness". Barr-on (1997) has used this model and finally the "competency-based" model that measures the set of emotional competencies and used by Goleman, (2001). However, for this study, Emotional Intelligence were measured on a scale provided by Genos (www.genos.com.au) developed by Palmer and Stough, (2001) and was based on Swinburne University Emotional Intelligence Test (SUEIT). The SUEIT, however, measures five components of EI. The Genos EI concise version consisting of 31-items yield a total EI score and was sub-divided into seven subscales. The SUEIT dimension "recognition and expression" was further subdivided into two of Genos' version into emotional self-awareness and emotional expression. The emotional management component of SUEIT was subdivided into self-management and emotional management of others in the Genos' instrument (Palmer, 2007). The selection of the Genos' instrument is simply because of having sufficient face validity, easy to understand, relatively cheaper and require less time to fill-in the questionnaire. Table 1 further elaborates the seven subscales of the "Emotional Intelligence" scale.

Table 1. Showing the explanation of sub-scales of Genos EI measure

Subscale	Explanation
Self-awareness	Understanding ones' own feelings and use of those priorities to lead oneself in decision making to do one realistic examination of one's own capabilities and self-confidence.
Emotional expression	Using the deepest interest to move and lead towards purposes help us to proceed in the way of competence and lead us to resistance against weaknesses and regression.
Self-control & emotional self-management	Being compatible with ones' own emotions in a way that instead of interference in action help themselves to facilitate and capability of appropriate interaction with changes.
Emotional awareness of others and emotional management of others	Understanding feeling of others, capability of considering others' viewpoint the way of interacting with individuals' emotional responses and developing compatibility with different people.
Emotional reasoning	Being compatible with sentiments in relations and careful understanding of situation and social network.

Organizational Commitment was measured on a sixteen-item scale and adopted after Myers and Allen, (1991) an example being "I feel emotionally attached to this organization".

Job Satisfaction was measured on a three-item scale adopted from Hackman and Oldman's (1975), measured on a five-point Likert scale. An example of the first item is "I find real enjoyment in my job".

3.3 The Population and Sample

The study is descriptive and of an exploratory nature. The target population in this study is all the academics in both the faculty of business and computing and faculty of engineering. Keeping in view the small size of the population, the study was designed to cover the whole population. This is not a new phenomenon as Sharon, (2009) has identified two aspects of examples that illustrate when total population sampling may be appropriate: (1) the population size is relatively small and (2) the population shares an uncommon characteristic. In our case, the uncommon characteristic is academics from the different faculties and departments. Based on this assertion, one hundred and thirty questionnaires were sent to the academics of a technical university in the capital area. Out of them 100 questionnaires were returned. Ten of them were found not to be filled-in properly and were dropped from the final stage. The responses of 90 were retained making the response rate 69%, sufficient enough to draw a logical conclusion. The basic statistics and reliability coefficient are provided in the Table 3.

4. Results

Data obtained from the survey were analyzed using descriptive statistics, factor analysis as well as correlation and regression analysis by using SPSS version 17, a well-known statistical package.

4.1 Background Profile

The background data of academics, as well as their organizational profile is summarized in Table 2. The Table 2 describes the characteristics of respondents. Majority is relatively young male academics within age group of

25-40 years and possesses 15 years and above of teaching experience. Similarly majority of the respondents are lecturers (55%) and from Electrical & Communications Engineering department (21%).

Table 2. Demographical data

Variable	Description	Percentage
Gender	Male	64%
	Female	36%
Age	Between 25-35	40%
	Between 36-40	18%
	Above 40	42%
Position	Lecturers	55%
	Senior Lecturers	31%
	PL/Assoc Prof	6%
Educational Qualifications	Advanced Tech. Diploma	7%
	First Degree	14%
	Masters Degree	58%
	PhD	21%
Departmental Affiliation	Business Management	12.5%
	Computing	17%
	Petroleum & Chemical	6%
	Electrical & Comm Engg	21%
	Civil Engineering	18%
	Mechanical Engineering	19%
No of Years of Experience	Less than 1 year	3%
	1 to 5 years	17%
	6 to 10 years	21%
	11 to 15 years	24%
	Above 15 years	36%

4.2 Validity and Reliability

In order to assess the validity and reliability, tests were performed in this study. For getting the reliability of the questionnaire the coefficient of Cronbach's alpha (1951) were taken into account. For the various subscales of emotional intelligence the minimum Cronbach's alpha value is above 0.70, except for the one (.68) indicates sufficient reliability of the instrument and fulfill the criteria of Hair *et al.* 1998. The Cronbach's coefficient for organizational commitment is .88 for affective and .86 for continuance subscale which is higher than original scale reliability of 87% and 75% (Meyer & Allen, 1991).

During the initial screening of conducting reliability tests the items were dropped because of low corrected-item total correlation which was less than .40, the cut-off value suggested (Hair *et al.,* 1998). The remaining items were applied the factor analysis subjected to principal component analysis using varimax rotation, in addition to considering Kaiser-Normalization as techniques of rotation to examine both the individual items and the relationship among them (Hair *et al.*, 1998). All the items that were loaded on more than one factor at cut-off value of .40 were eliminated from the constructs (The result of the factor analysis is not attached to avoid the unnecessary length of the paper). Convergent and discriminant validities were assessed via factor analysis by taken in the account the total variance as explained by each construct. Table 4 shows the inter-constructs correlation and diagonal in the Table represents the variance. The variance above 0.50 suggests a sufficient validity and parsimony of the instrument. The internal consistency (Cronbach's alpha) of this instrument and its subscales and the alpha value is provided in Table 3.

Prior to the testing for the regression analysis, in line with the principles of multivariate data analysis, we conducted a zero order correlation between the various independent variables as shown in Table 4. The correlation provides directional support for the predicted relationship and shows that co-linearity among the independent variables are within the acceptable range (Hair *et al.* 1998).

Table 3. Reliability & quality control statistics

	Mean	Std .dev	Cronbach Alpha(α)	Original items	Items retained	Source
Emotional Self Awareness	3.57	1.07	.78	4	4	Palmer & Stough, (2001)
Emotional Expression	3.39	1.07	.68	5	5	
Emotional Awareness of Others	3.65	1.08	.70	4	4	(ibid)
Emotional Reasoning	3.51	0.89	.72	5	5	
Emotional Self Management	3.49	1.06	.70	5	5	
Emotional Management of others	3.56	1.03	.70	4	4	
Emotional Self Control	3.30	1.04	.72	4	4	
Affective Org. Commitment	3.31	1.10	.88	8	4	Meyer & Allen, (1991)
Continuum Org. Commitment	3.04	1.07	.86	8	4	(ibid)
Job Satisfaction	3.74	1.12	.90	3	3	Heckman and Oldman's (1975)

Table 4. Showing inter-constructs correlation

Constructs	1	2	3	4	5	6	7	8	9	10
Emotional self awareness (1)	**1.00**									
Emotional expression (2)	.26*	**0.64**								
Emotional awareness of others (3)	.61*	.50*	**0.60**							
Emotional reasoning (4)	.32*	.38*	.38*	**0.60**						
Emotional self management (5)	.38	.60	.55*	.30*	**0.58**					
Emotional management of others (6)	.29*	.46*	.53*	.52*	.15	**0.59**				
Emotional self control (7)	.54	.29	.58	.11	.35*	.37*	**0.55**			
Affective-org. commitment (8)	.29	.14	.16	.17	.12	.32*	.38*	**0.57**		
Continuum-org. commitment (9)	.11	.04	-.02	.16	.06	.10	.20	.38*	**0.55**	
Job satisfaction (10)	.08	.23	.22	.19	.36*	.23*	.54*	.25*	.10	**0.60**

Notes: Diagonal represents the total variance explained. * shows significant values at p< 0.05.

4.3 Regression Analysis

Regression analysis was conducted not only to find out the relationship between the nine independent variables on the emotional intelligence and of organizational commitment but also to find the predictive indicators of the job satisfaction among the academia of a technical university in Brunei. In line with the principles of multivariate data analysis, data was screened for outliers. Cases with standard deviation greater than 2 and cases with missing values were removed. The result of regression analysis is presented in Table 5. The model has statistically significant F-ratio and possesses sufficient explanatory power as indicated by R^2 coefficient that shows 49% of the variance in the job satisfaction is explained by the emotional intelligence, and affective component of organizational commitment. From Table 5, it is further evident that two out of seven components of emotional intelligence and one component of organizational commitment (affective) as significant predictors of job satisfaction.

Table 5. Showing regression analysis

Variables	Beta	t-value	p-value	Remarks
Emotional self awareness	-.329	2.468	.016	**Significant**
Emotional expression	-.056	-.445	.658	Not Significant
Emotional awareness of others	.159	1.009	.317	Not Significant
Emotional reasoning	.120	.859	.329	Not Significant
Emotional self management	.382	2.964	.000	**Significant**
Emotional management of others	.689	1.179	.000	Not Significant
Emotional self control	.001	.333	.978	Not Significant
Affective org commitment	.561	5.098	.000	**Significant**
Continuum org, commitment	.071	.669	.506	Not Significant

Notes: Dependent variable: Job Satisfaction; R^2= .48, F= 5.58, -statistically significant.

5. Discussion

The present pioneering study explores the link between emotional intelligence, organizational commitment and job satisfaction. The findings confirm the relationship among these variables proving evidence of the validity of the prior research in establishing positive relationship between these variables.

The study has found a significant correlation between the overall constructs of emotional intelligence, organizational commitment and job satisfaction as shown in Table 6. However, the significance of emotional intelligence variables among the surveyed academics revealed some interesting findings. The study has found that out of the seven dimensions of emotional intelligence, only two i.e. emotional self awareness and emotional self management are related with the job satisfaction. In other words, most of our respondents are concerned about expressing their own emotions. They are not only aware of their emotions but also know how to express and manage them. All other dimensions of emotional intelligence especially knowing other emotions either are not fully understood by the respondents or do not contribute towards job satisfaction. The result supports the majority of the prior studies especially linking EI with job satisfaction. With regards to consideration of two subscales that are significant, our results do corroborate with Eskandarpour and Amiri (2012) who found significant difference between the different dimensions of emotional intelligence and university managers. Similarly, our work further support Joibar (2008) who found a significant relationship among self-motivating, self-awareness and self-control.

Table 6. Showing overall correlation among three constructs

Construct	Emotional Intelligence	Organizational Commitment
Job satisfaction	.32*	.48**

Notes: * Significant P<0.05; ** P<.01.

Similarly, the organizational commitment as an overall construct contributed towards the job satisfaction as shown in Table 6; however, our regression analysis in Table 5 indicated that continuance dimension of organizational commitment remained insignificant. This is true as affective commitment (AC) is related to employee's emotional attachment to the organization and as Meyer and Allen (1991) asserted that the components of organizational commitment reflect the different 'mind sets' which can characterize an employee's commitment to the organization. As a result, the respondent is high and significant affective mindset strongly identifies with the goals of the organization and desires to remain a part of the organization. So it will be worth to mention that the academics commit to the university because they 'want to'. Academics with more organizational commitment are more satisfied and the correlation coefficient of these two variables is high and better as compared with emotional intelligence and job satisfaction. Our results are in line with several of prior studies such as Malik *et al.* (2010); Jofri *et al.* 2011; Daneshfard and Ekvaniyan (2012) who found high degrees of organizational commitment and job satisfaction.

6. Conclusion

This pioneering study has full-filled its objectives. The study was initially designed to provide the empirical evidence of the links between emotional intelligence, organizational commitment and to predict the job satisfaction among academics of a technical university in Brunei Darussalam. Hence the study's findings suggest that EI and job satisfaction would be recognized as an important factor in understanding and predicting the academic job satisfaction. This combination is not only ideal but could further lead to the institution's productivity and would foster the staff turnover and staff satisfaction that is considered as necessary measure to deal with the issue of under staffing in the newly established technical university.

6.1 Practical Implications

The study has several practical implications for HR and higher management of the technical university in general and Higher Education Department of Ministry of Education. The newly established technical university was previously running as a technical institution and it's staff are very experienced and are very committed and this should be considered as an asset and thus any attempt to sustain and motivate the commitment of current academics will determine the success of the institution of higher learning. The findings reveal that affective commitment of the academics has relevance with their understanding as how to further strengthen academic and organization linkages. O'Driscoll and Randall (1999) concluded that employees' satisfaction with intrinsic rewards (e.g. job scope, challenges and five job enrichment areas) has strong linkages with the performance. Any attempt to mould the intrinsic rewards with extrinsic rewards such as revise scale or grade will work as elixir for these academics.

6.2 Limitations and Future Research

Like every empirical research based on survey techniques, the present study is not void of limitations. The surveying of the population in itself is subject to criticism. The survey is based on self-reported information that is further exposed to response-bias and the study lacks the methods of controlling this so we suggest that caution should be exercised in generalizing the result. Since the study is based on a single institution so again any attempt in generalizing the results should carefully be made. The results of this study are limited and constrained by the three measures used for this study. While the measures used are accepted as reliable and valid and their selection is defendable, however, the more applied measures (EI, and OC) would reflect different perspectives and can further be used to establish generalization of the study. In addition, the results of this study are bound by the context of the research, we also recommend that future research endeavors be focused on this aspect and replication of this study into different work-settings especially cross-cultural and cross industry will further improve the study results within different perspectives. In the academic perspective future studies should focus on the role of these variables in addition to other organizational variables to predict the academic performance of institutions of higher learning.

Acknowledgements

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Critical Factors Influencing E-Banking Service Adoption in Jordanian Commercial Banks: A Proposed Model

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Abstract

The primary purpose of this current research is to conduct an investigation into the factors affecting the acceptance of E-Banking by clients who have access to the internet and elicit the opinion of non-internet users about E-Banking. To develop a theoretical framework model for the current study, a literature review relating to the technology acceptance model (TAM) and its various adaptations is being undertaken. The E-Banking has been chosen as an innovative service, whose possible adoption by customers will be investigated. It is believed that the successful adoption of E-Banking will be cost and convenience beneficial for all stakeholders in the financial sector. The current research model purposes an extension to the technology acceptance/ adoption models that account essential factor influence E-Banking services adoption in the Jordanian commercial banks.

Keywords: Jordanian commercial banks, E-Banking service, technology acceptance model, critical factors

1. Introduction

In Jordan the potentials of E-Banking service were introduced to the banking sector in mid-2002. Since then Jordanian commercial banks have been active in developing E-Baking, and M-Banking services. The banking sector in Jordan is eager to contribute to the enhancement the role of internet, mobile services in the banking transactions. Thus, the primary objectives of the current research are to investigate and measure the impact of the critical factors influences adoption of E-Banking Services.

The current research will also review available literature concerning essential factors affecting the adoption/ acceptance of E-Banking services by clients who have access to the internet and elicit the opinion of non-internet users about E-Banking. It is apparent that there is a lack of research on the issue under consideration. This has motivated the venture into this unsearched area to see whether bank account holders who have access to the internet will adopt E-Banking services.

2. Literature Review

2.1 Technology Acceptance Model (TAM)

The TAM, firstly proposed by (Davies, 1986), was conceived to predict (Fishbein & Ajzen, 1975), and explain an individual's IT/IS acceptance (Hu, et al., 2008).

The Technology Acceptance Model (TAM) is an extension of the Theory of Reasoned Action (TRA). TRA was originally proposed by Fishbein and Ajzen in 1975 in an attempt to understand behavior and predict outcomes. TRA assumes that a person takes into account the implications of his/ her action before deciding whether or not to engage in certain behavior. It also posits that the main determinant of a person′s behavior is behavior intention. The premise of TAM is that people behavioral intention to accept and actually use a certain technology is determined by two constructs namely; perceived usefulness and perceived ease of use (Davis, 1989). User′s attitude and belief as proposed by TAM is perceived to be an important factor which influences the use of new technology. A person whose attitudes toward information technology are positive will have higher acceptance of the use of technology in question, compared to another person whose attitudes toward that technology are negative. Many empirical researches (e.g. Davis, et al., 1989; Agarwal & Karahanna, 2000; Venkatesh, et al., 2003, 2007; Adams, et al., 1992; Segars & Grover, 1993) have shown support for TAM. Thus, the technology acceptance model is generally referred to as the most influential theory in IT and Information Systems (Benbasat & Bark, 2007).

However, TAM has been criticized for not being able to fully reflect the specific influences of technological and usage-context factors which may alter user acceptance (Quan, et al., 2010; Davis, et al., 1989). Others (e.g. Venkatesh, et al., 2003; Chau & Hu, 2002; Moon & Kim, 2001; Mathieson, et al., 2001) argue that TAM requires extension and adjustment in order to comply with the specific characteristics of technology under consideration. They further point out that although the findings of TAM′s application have been shown to be valid, it is not possible and feasible to apply them to the evaluation of factors affecting the voluntary acceptance of certain E-services by individual end users or customers. This is simply because TAM findings are oriented toward the adoption of technologies in companies. Thus, a number of researchers have adjusted and extended the TAM, either by adding new constructs to it, or making certain constructs redundant. Besides, Venkatesh, et al., (2003) proposed an extended TAM which unifies eight popular models and combined them to the unified theory of acceptance and use of technology to illustrate how information systems are accepted, and to highlight the factors impacting intention to use them (Venkatech, et al., 2003). The Unified theory of acceptance and use of technology (UTAUT) represents a shift from fragmented view of IT adoption or acceptance to a unified integrated single theory (Abu Shanab, et al., 2010). Kaasinen, et al., (2002) and Keat and Mohan (2004) modified the value component (from perceived usefulness) and added two components: trust and perceived ease of adoption. In a study by Quan, et al., (2010) the "attitudes" construct was removed for simplification. O′cass & French (2003) are of the opinion that TAM should not be confined solely to the adoption of technological perspective, and that other non-computer based technological adoption should be encouraged to add a marketing flavor to the findings, and to be more specific. The researcher concluded that most of the technology acceptance models have been extensively tested in the developed countries. More specifically, the IT literature lacks technology acceptance adoption models in the Arab world. Therefore, it is vital to conduct study in terms of E-Banking services adoption in the Jordanian Commercial Banks.
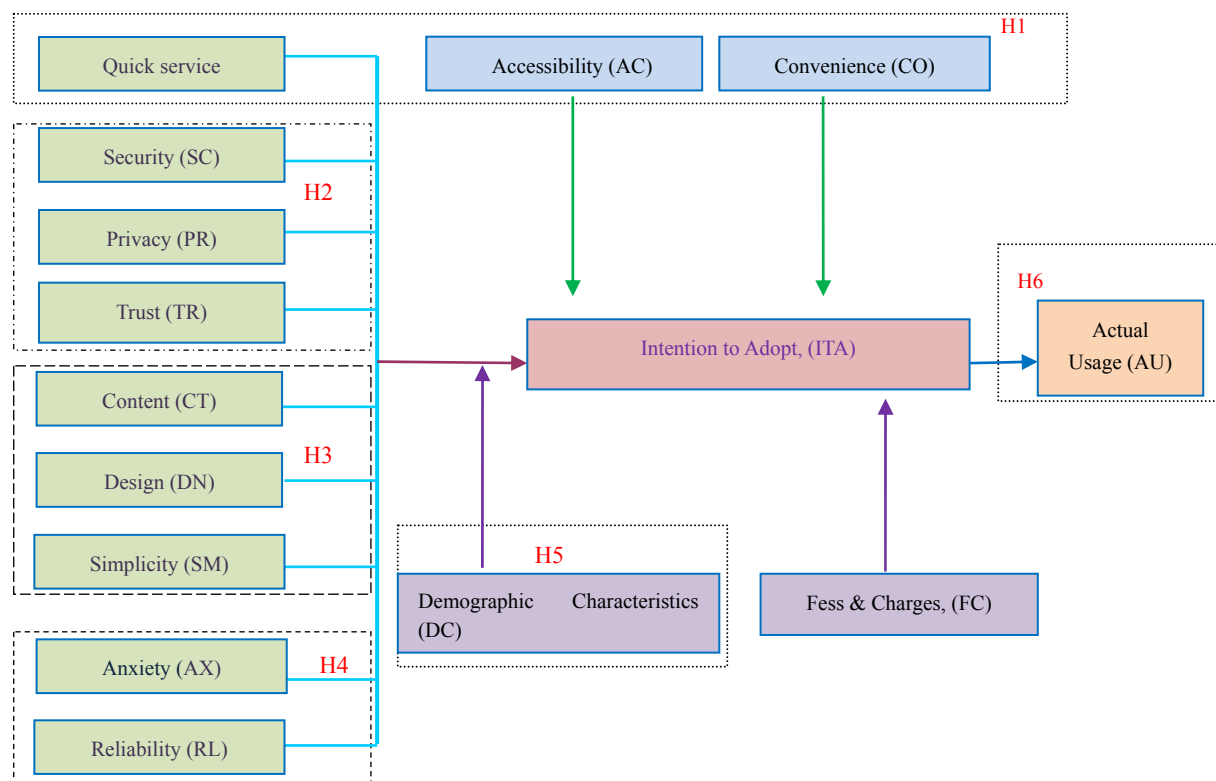
2.2 A Proposed E-Banking Service Adoption

Figure 1. E-banking acceptance model

Source: Compiled in light of literature review and exerts comments (during pilot study).

Based on previous studies, a number of variables thought to be impacting the process of adoption of products and services will be discussed and later embodied in a suggested model. These variables are as follows:

2.2.1 Convenience, Accessibility and Quick E-Service Delivery

E-Banking provides three major advantages: convenience (Meuter et al., 2002), speedy service (Karjaluoto, et

al., 2002), and accessibility (Al-alak & Alnawas, 2010), compared to traditional retail banking services. Indeed, the rationale behind the establishment of E-bank Services in the first place is to enable bank account holders to conduct transactions with higher degree of convenience and speed, and to access internet banking services at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage (Delvin, 1995; Ainscough & Luckett, 1996; Daniel, 1999; Black et al., 2001; Polatoglu & Ekin, 2001; Suganthi, et al., 2001; Gerrard & Cunningham, 2003). Obviously, both bankers and clients would be satisfied with a service delivery that is convenient, quick and easily accessible.

2.2.2 E-Security, Privacy and Trust

As many bank account holders are concerned with the risk associated with E-Banking transactions, the perceived lack of financial and non-financial security is definitely a stumbling block (Jun et al., 2004). Financial security is about conveying financial information online (e.g. an account number, account statement, transfers, etc.), whereas non-financial security is related mainly to showing personal information (e.g. e-mail, telephone number, etc.). Security is defined as the protection of data against accidental or international disclosure to unauthorized persons, or unauthorized modifications or destruction (Mirza, et al., 2009). Furthermore, bank account holders often fear that their personal information might be leaked to unauthorized circles via the internet (Davis, 1993; Dumortier & Goemans, 2001; Miyazaki & Fernandez, 2001). Clients are also concerned about the trust ability of the E-bank's privacy policies (Gerrrard & Cunningham, 2003). Other studies show that security and privacy are associated with trust in the sense that trust is often invoked by the academia to synchronize the issues of security, privacy, fulfillment and confidence (Lynch & Lundguist, 1996). Indeed, numerous empirical studies have found that trust constitutes a major critical factor influencing the success of E-Banking because uncertainties often surround banking transactions over the internet (Zhang & Tang, 2006; Chellappa, 2000; Gerrard & Cunningham, 2003).

2.2.3 Content, Design and Simplicity of the Banking Web Site

According to Laukkanen, et al. (2008) consumer resistance to internet banking, especially among those who are not fully familiar with the world of internet, is mainly attributed to technical issues such as design, content and complexity not only of the web site but also the ways and means of using the site itself. Another study shows that sophisticated web site design and crowded content discourage customers from using the web site and benefit from it (Pikkarainen, et al., 2006). Earlier studies on internet banking show that the complexity or poorness of the web site design and content might deter visitors from using the services provided via such web sites (Gerrard & Cunningham, 2003; Howcroft et al., 2002; Black et al., 2002). Simplicity is defined as the betterment of tools that enables the provider of services to deliver the benefit that satisfies an unspoken consumer's need by inserting better pictures and finding better ways of sharing to their potential customers (Piew, et al., 2010). Lau (2007) suggests that in order for a web site to be truly appealing and attractive to customers, it should be designed in such a way as to deliver the maximum benefits as perceived by end-users themselves.

2.2.4 Anxiety and Reliability

A study by Laukkanen, et al. (2008) reveals that psychological dimensions such as anxiety, prior beliefs, traditions and image are even greater sources of resistance to E-Banking Services than other factors. The term anxiety is most often used to describe unpleasant emotional state which characterized by tension and apprehensive (Abu Shanab et al., 2008). The anxiety motivates users to avoid condition that produce anxious feelings Reliability refers to the extent to which a user believes that he or she can rely on the E-banking service provided and feel satisfied with it (Lee & Lin, 2005). In this sense, both reliability and anxiety might be regarded as constructs impacting the intention to use E-Banking services (Quan & Jianxin, 2010; Piew, et al., 2010; Al-alak, 2004).

2.2.5 Fees and Charges

It has been empirically found that customers will be more likely to accept new technologies if the advantages gained from the use of such technologies exceed the costs incurred (Davis, 1989). Cost savings have enabled internet-based banking to offer E-Banking services at lower or no service fees, and to offer higher interest rates on interest-bearing accounts than traditional banks (Poon, 2008; Gerlanch, 2000; Jun & Cai, 2001). Other studies (e.g. Howcroft et al., 2002; Karjaluoto, 2002; Karjaluoto, et al., 2002; Poon, 2008; Gerrard, et al., 2006; Kuisma, et al., 2007; Laukkanen, et al. 2008) argue that even though internet banking users largely perceive that the service fees are acceptable, for some non-adopters the relative advantage of internet banking may be poor due to the fact that a great deal of expenses will be incurred in buying a computer and getting online, when the costs might exceed the benefits.

2.2.6 Demographic Characteristics: Gender, Age, Income, and Education

Research in the field of E-Banking suggests that demographic characteristics such as gender, age, income and education). Impact the intention to use certain E-Banking services. Wilson (2000) reveals that low income consumers would be less likely to pay for a monthly fee to subscribe to an internet service, and would be less likely to have a home computer. previous study reported that males were moved likely to adopt or accept E-Banking (Al-Qisi, 2009). However, other researchers reveal that level of education is factor capable of impacting the intention to use E-Banking services (Sathye, 1999; Matilla, et al., 2003; Laforet & Lee, 2005; Polatoglu & Ekin, 2001; Akinci et al., 2004; Eriksson, et al., 2005; Wan et al., 2005; Jaruwachirathanakul & Fink, 2005).

As the main objective of the current study is to investigate the factors influencing the acceptance of E-Bankingby bank account holders in Jordan, it is expected that the positive impact of such factors as effort expectancy, convenience, accessibility, quick service delivery, security, privacy, trust and anxiety, lack of reliability, fees and charges, content, design, simplicity and demographic characteristics, on clients' intention to use E-bank statement would also determine acceptance behavior, i.e. intention to use would be positively associated with acceptance behavior.

2.2.7 Behavioral Intention

Behavioral intention to adopt/accept E-Banking services measures a user's relative strength of intention to perform a behavior (Fishbein, Ajzen, 1975). It is an indicator of a person's motivation to perform specific behavior. Behavior intention is considered as the antecedent of actual behavior.

2.2.8 Actual Usage

(Davis, 1985) proposed that system use is a response that be explained by user motivation which in turn is directly influenced by external variables consisting of the actual system features and capabilities. Davis considered that the actual use of a system is a behavior. Actual use of behavioral usage is usually measured by amount of time using, frequency of use, actual number of usage and diversity of usage.

Research's Hypothesis

This model has strong behavioral elements assume that when banks users form behavioral intention to adopt or accept such technology such as E-bankingthey will be free to act without imitation. Thus, the researcher hypothesized that the intention to adopt/accept E- bankingis a major determinant of whether the bank's user (client) will actually use or reject this technology.

Based on the research's model, the author suggests the following hypotheses:

H1: There will be a positive significant relationship between convenience, accessibility and quick service delivery and intention to adopt E-banking.

H2: There will be a positive significant relationship between security, privacy, and trust and intention to adopt. E-Banking.

H3: There will be a positive significant relationship between content, design, and simplicity and intention to adopt E-Banking.

H4: There will be a positive significant relationship between anxiety and reliability and intention to adopt E-banking.

H5: There will be a positive significant relationship between fees and changes and intention to adopt E-Banking.

H6: There will be a positive significant relationship between intention to adopt a E-bankingnd the actual usage.

H7: The influence of convenience, accessibility, and quick delivery service on behavioral intention to adopt E-banking will be moderated by experience, gender, and age, such that the effect will be stronger for men and particularly for younger men at early stages of experience.

3. Methodology and Data

3.1 Population, Sampling and Instrument

The population of the study will be made up of all bank account holders who make use of E-Banking in Jordan. A convenient sample of 3000 respondents will be selected to obtain the required primary data. The study's instrument will be a self-administered questionnaire that will be developed and employed to achieve the objectives of the current study. To improve the structure design and content of the study's instrument, a pilot study will be carried out. The questionnaire will be revised in the light of comments received from 30 experts,

who include 15 academicians and 15 bank managers. The questionnaire will consist of two sections. Section 1 covers questions on respondent's profile, and Section 2 focuses on the variables that are believed to impact customer intention to adopt E-Banking.

Respondents will be asked to rank their level of agreement based on a 5-point Likert scale, ranging from '1' (strongly disagree) to '5' (strongly agree). The response rate is expected to be around 90.8%. The process of distributing the questionnaire will be drop-off approach (Aaker et al., 2004). On the basis of the logic of this method, the researchers will deliver the questionnaire to clients who categorically state that they have experience with E-Banking, after explaining to them the purpose of the study, the required procedures to fill out the questionnaire and answering any question with regard to any of the questionnaire's statement.

4. Conclusion

The purpose of this research is to conduct an investigation into the essential factors affecting the behavioral intention to adopt or accept of E-Banking service in the Jordanian Commercial Banks. The proposed model posits that Effort expectancy, convenience, accessibility quick service delivery, security, privacy, trust, content, design and simplicity of the banking website as well as anxiety, lack of reliability, fees and charges and E-service quality have a direct impact on the behavioral intention to adopt financial services. At the same time this research suggests a direct impact of the behavioral intention on the actual usage of the E-Banking service. The literature review indicated that TAM models were extensively used to explain the intention to accept and use specific technology in the developed countries more than Arab world. While some researches have been used TAM models in Arab business environment, to date very little research has been done to address E-Banking services adoption in Jordan.

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Notes

Note 1. http://teletimesinternational.com/middleeast/3109/zain-jordan-signs-up-4500-for-mobilE-Banking-service

Note 2. http://www.internetworldstats.com/me/jo.htm

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