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Internal Marketing Based on the Hierarchy of Effects Model for the Life Insurance Industry

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Abstract

The purpose of this study is to identify the extent to which ethical climate, leader–member exchange, and role clarity can be employed as business levers in internal marketing; the relationships among them are investigated using a conceptual model based on the hierarchy of effects model. From several major life insurance firms in Taiwan, 644 life insurance salespeople formed the basis of the empirical analysis in this study. Ethical climate is not only a feasible business practice for implementing internal marketing but also a basis for other managerial activities concerning internal marketing. Managerial activities arousing salespeople's perceptions of ethical climate, leader-member exchange, and role clarity may be useful in enhancing their job satisfaction, and in strengthening the organizational identification and organizational commitment of their salespeople. This study extends the internal marketing literature both by applying the principles of the hierarchy of effects model to internal marketing, and by examining the effects of ethical climate, leader-member exchange, and role clarity on job outcomes within such a context.

Keywords: internal marketing, ethical climate, leader-member exchange, role clarity

1. Introduction

The concept of internal marketing is particularly applicable to service industries (Cooper & Cronin, 2000). A successful service company has a competitive advantage regarding external customers, partly because it has a competitive advantage concerning its internal customers, namely its employees. By treating employees as internal customers and satisfying their needs, employees gain organizational benefits that can encourage them to meet organizational marketing objectives, leading to the development of a more customer-conscious, market-oriented, and sales-minded workforce, thereby enhancing the organization. This places the firm in a superior position to deliver high-quality service, satisfying external customers and strengthening its competitive position (Papasolomou & Vrontis, 2006).

The life insurance industry is an apt example of a service-intensive sector. Life insurance policies are complex and thus difficult for prospective policy holders to understand (Taek Yi et al., 2012). Therefore, policyholders rely heavily on salespeople for relevant information, entailing intensive interactions between the two parties (Schlager et al., 2011). Life insurance salespeople can be among the most crucial determinants of service quality and customer satisfaction, and in turn, the financial performance of life insurance companies. By implementing internal marketing, life insurance companies expect to develop salespeople who are further qualified and eager to provide a higher level of service quality. This further implies that a steep information asymmetry may be exploited by salespeople and should be addressed by internal marketing. In the internal marketing process, it is critical that managers act to change employee attitudes and behaviors.

Researchers have expanded the internal marketing concept by incorporating more variables. Researchers have also proposed general models of internal marketing, in which the categories and types of relevant variables and the causal relationships between them are theoretically systemized. For example, King and Grace (2010) proposed and tested a model of employee-based brand equity (EBBE) that is essentially a model of internal marketing. One difficulty of building a general model of internal marketing is that we can always incorporate more variables into such a general model. Another difficulty lies in the complexity of the causal relationships between variables. The causal relationships may exist between different dimensions of internal marketing, and between variables belonging to the same dimension. Because the possible relationships between and within dimensions of internal marketing are numerous, a complete and comprehensive illustration of them is not possible. This impossibility explains why there is here is no universally accepted and adopted internal marketing program (Papasolomou & Vrontis, 2006). Therefore, instead of proposing such a general model, the author proposes a conceptual model based on the hierarchy of effects model (Lavidge, 1961). The hierarchy of effects model describes a process of purchasing that customers go through a series of steps that begins with awareness of product and results in buying behavior (Grover & Vriens, 2006). Thus, it is used more as a principle than a general model and is flexible enough for marketing managers to develop their unique promotion strategy.

The conceptual model of the current study is based on the hierarchy of effects model that was originally applied to external marketing. To the best of the author's knowledge, this is the first time a conceptual model of internal marketing based on the hierarchy of effects model is presented. The conceptual model of the current study should be viewed as one possible example for crystallizing the hierarchy of effects model within the context of internal marketing. This approach is sufficiently flexible to allow firms and researchers to develop their own suitable internal marketing approaches or models by incorporating appropriate variables.

In the conceptual model based on the hierarchy of effects model, the current study expands internal marketing research by including several variables that have seldom been included in studies involving salespeople. These variables are leader–member exchange (LMX), ethical climate (EC), role clarity (RC), and organizational identification (OI). Several proposed relationships that have not been fully explored in previous studies are evaluated, including the relationship between EC and OI and that between RC and OI. On the one hand, the extent to which EC, LMX, and RC can be employed as business levers in internal marketing was evaluated following the hypotheses derived from the conceptual model. On the other hand, the empirical findings about the conceptual can be used to test the validity of applying the hierarchy of effects model to internal marketing.

The empirical findings of the current study confirm the the validity of applying the hierarchy of effects model to internal marketing. Thus, the roles played by EC, LMX, RC, and OI within the context of internal marketing can be illustrated in our conceptual model. From these findings some practical suggestions can be derived for life insurance industry.

2. Conceptual Model Based on the Hierarchy of Effects Model

The conceptual model is based on the hierarchy of effects model (Lavidge, 1961), which was originally applied to external marketing. Following this approach, disinterested consumers to do not instantaneously become convinced customers of a given firm. Potential customers progress through a series of steps in which they learn about a product through marketing, subsequently forming feelings regarding the product in question and finally making their purchase decision. This process is assumed to comprise three stages: the cognitive dimension, affective dimension, and conative dimension (Pérez & del Bosque, 2014). Marketing managers use a set of managerial activities to convey their messages to target audiences in order to create a positive influence on customer thoughts and beliefs, invoke customer interest and desire, and elicit the targeted customer behavior (Clow & Baack, 2007).

Generally, internal marketing refers to a set of managerial activities that begin with creating a positive influence on employee thoughts and beliefs by applying marketing strategies to employees, resulting in positive effects on employee behavior and positive organizational outcomes such as high service quality (Lings & Greenley, 2005). The process of internal marketing is similar to that of external marketing. Therefore, we apply the hierarchy of effects model to internal marketing in this study.

The conceptual model of the current study consists of the relationships among LMX, EC, RC, job satisfaction (JS), OI, and organizational commitment (OC) regarding life insurance salespeople (Figure 1). EC, LMX, and RC act as cognitive variables directly resulting from managerial activities. EC dictates a firm's ethical values and the behaviors that are expected, supported, and rewarded, referring to how the organization shapes the routine behaviors of its members (Schwepker, 2001). In other words, EC can influence the thoughts, beliefs, behavioral intentions, and behaviors of individuals in an organization. Incorporating EC into internal marketing provides managers with an additional means of improving internal marketing outcomes and forms the basis of other internal marketing levers. Therefore, we assume that EC is more fundamental than other cognitive variables, as shown in Figure 1.

The relationships between cognitive variables and the expected behavioral intention or actions of employees have not consistently been significantly supported by the empirical findings of previous studies, even if these relationships have been theoretically well founded. Therefore, between the cognitive and conative variables, we introduce the affective variables as mediators. The affective variables refer to the affective responses of employees to the internal marketing activities of managers, acting as the antecedents of the conative variables. JS is likely the most frequently investigated affective variable in the domain of internal marketing (Ahmed & Rqfig, 2003; King & Grace, 2010). OI and OC are viewed as conative variables. The effects of EC on them are more likely to be mediated by other variables. LMX and RC act as independent internal marketing practices that are positively related to JS, which in turn positively influences employee OC and OI. JS mediates the effects of EC, LMX, and RC on OI and OC.

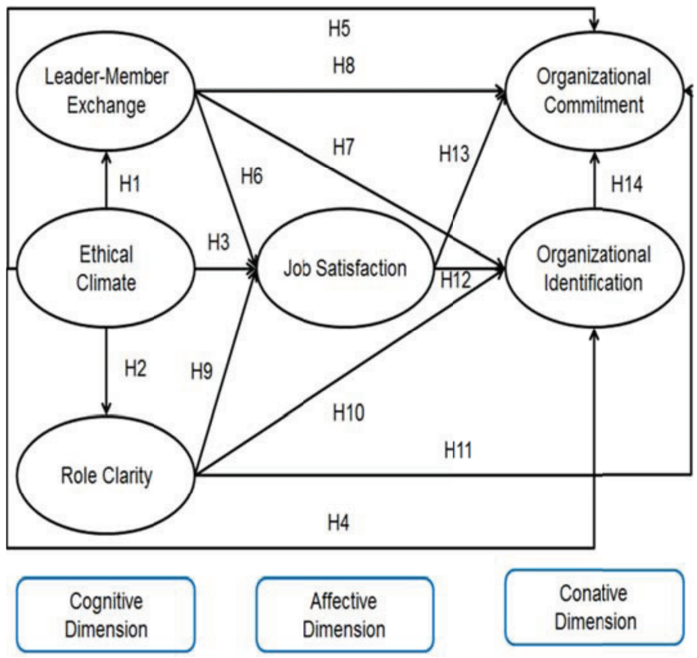

Figure 1. Conceptual model

3. Hypotheses Development

3.1 EC

To test the unique role of EC, five hypotheses regarding its effects on other variables are proposed. EC embodies the norms and patterns of typical interaction and determines stakeholder trust in the "rules of the game" maintained in an organization (Ahmed & Rqfig, 2003; Fein et al., 2013; Stachowicz-Stanusch & Simha 2013). EC may be viewed as the interpersonal atmosphere that can enable feelings of trust among members of an organization (Fein et al., 2013). These feelings of trust are crucial constituents of LMX. Effective LMX relationships are characterized by high levels of mutual trust and respect that exceed formal employment expectations (Bauer & Green, 1996). Therefore, we propose the following hypothesis:

H1: EC is positively associated with LMX.

RC is defined as "an individual's understanding of job expectations, the process of fulfilling these expectations, and the consequences of one's role performance" (Hartenian & Hadaway, 1994). EC relates to employee perceptions of an organization's norms, whereby ethical content provides cues regarding expected, supported, and rewarded behaviors (Jaramillo et al., 2006). These norms can aid employees in understanding the expectations that the organization has for them, and reduce role ambiguity (Jaramillo et al., 2006). Therefore, we propose the following hypothesis:

H2: EC is positively associated with RC.

The positive association of EC with JS is supported by empirical evidence. Vitell & Davis (1990) showed that the JS of employees is higher when top management emphasizes ethical behavior, as well as and when they are optimistic about the relationship between ethics and success within their firms. Mulki et al. (2006) found that EC is a significant predictor of JS. We thus propose the following hypothesis:

H3: EC is positively associated with JS.

In the process of classifying themselves and other individuals into social groups, people adopt unique group norms that guide their behavior (Ellemers et al., 2004); they behave similarly to other group members. These norms concretize the EC. The EC thus enhances the similarities between group members on which OI is built. In addition, members who positively perceive the EC created by an organization identify strongly with the organization (DeConinck, 2011a). Thus, we propose the following hypothesis:

H4: EC is positively associated with OI.

OC is viewed as the reciprocal exchange relationships within an organization. It is based on trust in the "rules of the game" maintained in the organization (Ahmed & Rafig, 2003). To some degree, these relationships can be enhanced by an EC that ensures high functioning of these rules (Mulki et al., 2006). Therefore, we propose the following hypothesis:

H5: EC is positively associated with OC.

3.2 LMX

To specify the extent to which LMX can be employed as an internal marketing practice, three hypotheses regarding its effects on other variables are proposed. LMX evolved from social exchange theory (Blau, 1964) and the norm of reciprocity (Homans, 1958). Social exchanges occur only when two parties must each give and receive something (DeConinck, 2011b). Over time, norms of reciprocity develop, governing the exchanges between the parties (Blau 1964; Homans, 1958). In high-quality LMX, the leader provides substantial support and resources to the subordinate. The subordinate is thus obligated to reciprocate affectively, intentionally, or behaviorally.

High-quality LMX also endows employees with positive social–emotional experiences, which are positively associated with JS (Volmer et al., 2011). In the process of social exchange, the perception of oneness with or belongingness in an organization (i.e., OI) (Loi et al., 2014) and the psychological bond of the employee with the organization (i.e., OC) (Joo 2010; Porter et al., 1974) are enhanced. Therefore, we propose the following hypotheses:

H6: The quality of LMX is positively associated with JS.

H7: The quality of LMX is positively associated with OI.

H8: The quality of LMX is positively associated with OC.

3.3 RC

For specifying the extent to which RC can be employed as an internal marketing practice, three hypotheses regarding its effects on other variables are proposed. Empirical findings on the relationship between RC and JS have been mixed (Van Sell et al., 1981). To our knowledge, no study has examined the relationship between RC and OI. Furthermore, prior studies have supported the contention that decreased RC results in lower OC (Dubinsky & Hartley, 1986).

Employees experience RC when they are sure of what is expected from them in certain employment situations. In the absence of RC, employees experience role stress. Studies have generally indicated that the influence of role stress on job outcomes is negative (Boshoff & Mels, 1995). Therefore, we can infer that the influence of RC on most job outcomes is positive. Positive effects of RC on JS, OI, and OC are assumed for this reason.

H9: RC positively affects JS.

H10: RC positively affects OI.

H11: RC positively affects OC.

3.4 JS

According our conceptual model, JS acts as an affective variable that has direct effects on conative variables and mediates the relationships between cognitive variables and conative variables. Here, JS is selected because it is likely the most frequently investigated precursor to positive employee behavioral intentions and subsequent behaviors (Van Dick et al., 2004). The direct effects of JS on conative variables are the necessary condition of its mediating effects. Therefore, only hypotheses regarding direct effects are presented herein.

JS is an antecedent of OI (De Moura et al., 2009). Furthermore, a positive association between JS and OC has been identified in previous studies (Johnston et al., 1990; Porter et al., 1974). Although the causal direction is ambiguous (Jernigan et al., 2002), there is strong evidence that OC is a consequence variable of JS, contrasting with the concept that JS is a consequence variable of OC (Schwepker, 2001). Therefore, two hypotheses regarding the effects of JS on conative variables are proposed as follows:

H12: JS positively affects OI.

H13: JS positively affects OC.

3.5 OI

OC and OI are highly correlated but distinct variables (Riketta, 2005). Bedeian (2007) indicated that OI is an antecedent of OC. Meyer et al. (2006) further suggested that OC mediates the effects of OI on employee behavioral intention and outcome. Therefore, final hypothesis is proposed as follows:

H14: OI positively affects OC.

4. Questionnaire Design and Data Collection

A composite questionnaire composed of seven sections was created for the current study. In section 1, the seven-item scale developed by Scandura et al. (1986) was used to measure LMX. Items LMX2, LMX3, and LMX6 were excluded to improve model conformity because of high modification indices (M.I.) par change value. In section 2, EC was measured using Schwepker's (2001) seven-item scale, which has been widely applied in previous studies. Items EC1 and EC7 were excluded because their standardized regression weights are lower than 0.5 (Fornell & Larcker, 1981). In section 3, RC was measured using the six-item scale developed by Low et al. (2001). Items RC1, RC5, and RC6 were excluded because of high M.I. par change value. In section 4, we applied the five-item scale developed by King & Grace (2010) to measure JS. Items JS4 and JS5 were excluded because of high M.I. par change value. In section 5, OC was measured using the scale developed by Allen & Meyer (1990). Items OC4, OC5, OC6, OC7, and OC8 were excluded because of high M.I. par change value. In section 6, the six-item scale developed by Mael & Ashforth (1992) was used to measure OI. Items OI4, OI5, and OI6 were excluded because of high M.I. par change value. Responses to items in the aforementioned six sections were measured on a 7-point Likert scale anchored at 1 (strongly disagree) and 7 (strongly agree). Demographic questions were included in section 7.

A considerable number of studies have suggested that common method variance influences measures applied in a given field and the relationships between these measures (Podsakoff et al., 2003). If the items are ambiguous, respondents may respond systematically by using their own heuristic or may respond randomly (Podsakoff et al., 2003). For reducing item ambiguity and controlling common method variance, every point on the response scale was labeled (Krosnick, 1991). In addition, we introduced a proximal separation between the measurements of predictor and criterion variables by randomly positioning measures of the same construct apart from each other (Weijters et al., 2009). This proximal separation could prevent the respondents from using their prior responses to answer subsequent questions, thereby reducing common method variance (Podsakoff et al., 2003).

To test the proposed model and related hypotheses, data were collected by surveying life insurance salespeople working for major life insurance companies in Taiwan. These salespeople were responsible for selling insurance policies through direct selling. We telephoned potential participating organizations to determine the managers' willingness to participate in this study. Sales managers, to whom questionnaires were sent, were asked to distribute copies of the survey to their sales teams. Respondents were asked to send completed surveys in a sealed envelope directly to the researcher to keep them anonymous. A total of 800 survey instruments were distributed and 653 were returned; nine were discarded because of missing data. Therefore, 644 life insurance salespeople from several major life insurance firms in Taiwan formed the basis of the empirical analysis in this study. The majority of respondents are female (67.9%) and younger than 40 years old (63%). More than half (57.2%) of the respondents have sales experience of less than 6 years, while 30.6% of them have more than 9 years of experience.

5. Data Analysis and Results

Internal consistency, construct reliability, convergent validity, and discriminant validity were evaluated through confirmatory factor analysis of all data collected. As indicated in Table 1, all values of Cronbach's α were between 0.854 and 0.924, exceeding the threshold of 0.7, indicating adequate internal consistency. All values of composite reliability (CR) indices were between 0.855 and 0.926, higher than the threshold of 0.6, indicating a favorable level of construct reliability. All values of average variance extracted (AVE) were between 0.663 and 0.768, higher than the threshold of 0.5. All estimated regression weights of items for the latent variables were significant at the 0.001 level and over the threshold of 0.5. Therefore, the measurement scales showed strong convergent validity.

Table 1. Construct measure reliability and validity

Construct	Indicator	Standardized	Regression weight	SE	P	Cronbach's α	CR	AVE
LMX	LMX1	0.790	1.000			0.919	0.920	0.742
	LMX4	0.910	1.162	0.044	<0.001			
	LMX5	0.910	1.144	0.043	<0.001			
	LMX7	0.830	1.006	0.043	<0.001			
EC	EC2	0.889	1.000			0.924	0.926	0.759
	EC3	0.916	0.969	0.028	<0.001			
	EC4	0.924	1.040	0.029	<0.001			
	EC6	0.743	0.766	0.033	<0.001			
RC	RC2	0.838	1.000			0.892	0.894	0.737
	RC3	0.901	1.021	0.039	<0.001			
	RC4	0.835	1.016	0.041	<0.001			
JS	JS1	0.813	1.000			0.907	0.908	0.768
	JS 2	0.916	1.106	0.041	<0.001			
	JS 3	0.896	1.103	0.041	<0.001			
OI	OI1	0.845	1.000			0.854	0.855	0.663
	OI2	0.829	0.923	0.044	<0.001			
	OI3	0.767	0.819	0.041	<0.001			
OC	OC1	0.878	1.000			0.895	0.897	0.744
	OC2	0.870	0.952	0.035	<0.001			
	OC3	0.839	1.057	0.041	<0.001			

Note: SE= standard error; CR = composite reliability; AVE = average variance extracted.

The procedure proposed by Torkzadeh et al. (2003) and Fornell & Larcker (1981) was employed to determine discriminant validity. Discriminant validity is achieved when the value of 1 is not included in the confidence interval (Bagozzi & Phillips, 1982). The results of Table 2 showed that the value of 1 was clearly not included in any computed confidence interval, supporting the discriminate validity of all constructs.

For detecting common method variance, the unmeasured latent method construct (ULMC) technique was applied. The congeneric model, which has a better model fit than that of the noncongeneric model, was compared with the constrained model. If the congeneric model was nonsignificantly different from the constrained model (ΔX^2=20.363, ΔDF=15, P=0.158), this indicated that there was no evidence of common method variance (Podsakoff et al., 2012).

Table 2. Correlation coefficients and their confidence intervals

	LMX	EC	RC	JS	OI	OC
LMX	1	0.001	0.003	0.003	0.002	0.002
EC	0.537 (0.459~0.619)	1	0.002	0.002	0.002	0.002
RC	0.290 (0.193~0.376)	0.313 (0.224~0.406)	1	0.003	0.003	0.002
JS	0.562 (0.471~0.633)	0.386 (0.284~0.474)	0.345 (0.240~0.432)	1	0.001	0.002
OI	0.644 (0.566~0.716)	0.744 (0.671~0.807)	0.327 (0.227~0.415)	0.486 (0.395~0.576)	1	0.002
OC	0.787 (0.703~0.849)	0.610 (0.517~0.964)	0.301 (0.193~0.391)	0.564 (0.468~0.644)	0.743 (0.659~0.809)	1

Note: The p values are shown above the diagonal. The coefficient coefficients and their respective 95% confidence intervals are illustrated beneath the diagonal.

To access the overall model conformity, a set of fit indices were applied, as reported in Table 3. The model chi square (X^2) reached a statistically significant level. This may have been because of the sample size (Jöreskog & Sörbom, 1993). Carmines & McIver (1981) suggested using the normed chi square (X2/DF) to address the sensitivity of the X^2 statistic. The value of X2/DF was 3.672, under the recommended tolerance threshold of 5 (Bollen, 1989). CFI = 0.959, SRMR = 0.045, and RMSEA = 0.065, indicating reasonable model fit.

Table 3. Effect decomposition

	Unstandardized Direct effects	Standardized	Unstandardized Indirect effects	Standardized	Unstandardized Total effects	Standardized
H1:EC->LMX	0.515 (0.001)	0.540 (0.001)	0	0	0.515 (0.001)	0.540 (0.001)
H2:EC ->RC	0.292 (0.002)	0.318 (0.002)	0	0	0.292 (0.002)	0.318 (0.002)
H3:EC -> JS	0.071 (0.112)	0.075 (0.121)	0.300 (0.001)	0.316 (0.002)	0.371 (0.001)	0.391 (0.002)
H4:EC->OI	0.492 (0.001)	0.540 (0.001)	0.188 (0.002)	0.206 (0.002)	0.680 (0.01)	0.747 (0.002)
H5:EC-> OC	0.062 (0.394)	0.059 (0.400)	0.586 (0.001)	0.554 (0.001)	0.648 (0.001)	0.613 (0.001)
H6:LMX->JS	0.469 (0.002)	0.473 (0.002)	0	0	0.469 (0.002)	0.473 (0.002)
H7:LMX->OI	0.270 (0.004)	0.283 (0.003)	0.047 (0.020)	0.049 (0.020)	0.317 (0.003)	0.332 (0.002)
H8:LMX->OC	0.525 (0.003)	0.474 (0.002)	0.183 (0.001)	0.165 (0.001)	0.708 (0.002)	0.639 (0.002)
H9:RC->JS	0.199 (0.002)	0.193 (0.002)	0	0	0.199 (0.002)	0.193 (0.002)
H10:RC-> OI	0.041 (0.309)	0.041 (0.306)	0.020 (0.016)	0.020 (0.015)	0.061 (0.016)	0.061 (0.015)
H11:RC-> OC	0.001 (0.944)	0.001 (0.945)	0.048 (0.005)	0.042 (0.005)	0.050 (0.005)	0.043 (0.005)
H12:JS ->OI	0.100 (0.022)	0.105 (0.020)	0	0	0.100 (0.022)	0.105 (0.020)
H13:JS ->OC	0.122 (0.006)	0.110 (0.007)	0.040 (0.021)	0.036 (0.018)	0.162 (0.001)	0.146 (0.001)
H14:OI->OC	0.397 (0.001)	0.342 (0.001)			0.397 (0.001)	0.342 (0.001)

Note: $X^2(156)^=580.952$ (0.000), X^2/DF =3.724, CFI =0.959, SRMR =0.045, and RMSEA =0.065, at the 90% confidence interval 0.059~0.071. P values are in parentheses.

The construct relationships and significances hypothesized in the conceptual model were examined using structural equation modeling. The effect decomposition is presented in Table 3 and Figure 2. We used these results to test the proposed hypotheses. To clearly illustrate the mediating effects, the sequence of presentation for the hypothesis findings does not follow their ordinal numbers.

First, the paths JS->OI, JS->OC, and OI->OC are significant at the 0.05 level, supporting H12–14.

Second, the paths LMX->JS, LMX->OI and LMX->OC were all significant at the 0.01 level, supporting H6–8. The regression weights of LMX on OI and OC were decomposed into direct effects and indirect effects; these two relationships are implicitly assumed to be mediated by JS. The method of bootstrapping was used to estimate the two-tailed significance for the total effects, total indirect effects, and direct effects (Bollen & Stine, 1990). The number of bootstrap samples was set at 1000. The findings of the bias-corrected percentile method are presented in Table 2. As shown in Table 2, the direct and indirect effects of LMX on OI and OC were all positive and significant. These findings imply that the effect of LMX on OI and OC is partially mediated by JS (Andrews et al., 2004).

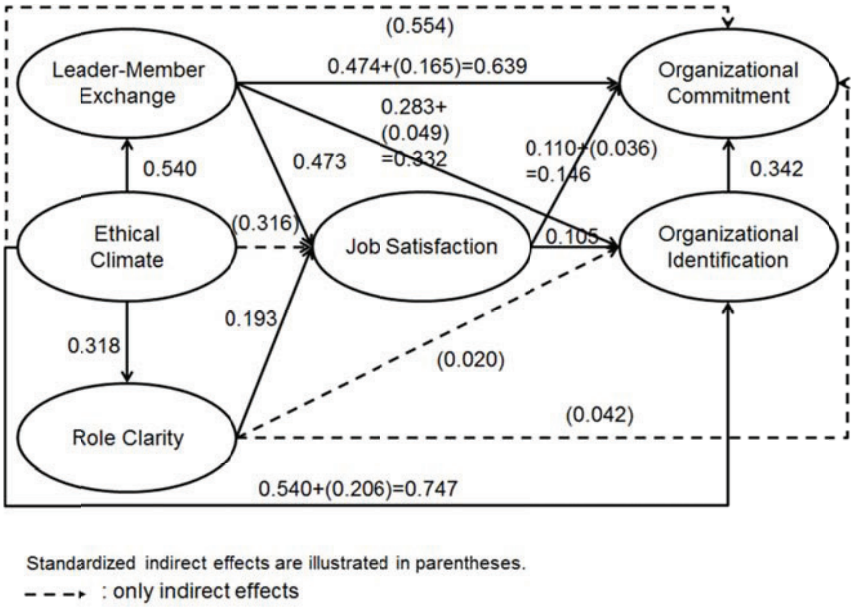

Figure2. Standardized total effects of the structural model

Third, the paths RC->JS, RC->OI, and RC->OC were all significant at the 0.05 level, supporting H9–11. For the paths RC->OI and RC->OC, neither of the standardized estimates of the two direct effects was significant, whereas the standardized estimates of the two indirect effects were all significant at the 0.05 level. In addition, the direct effects of RC->JS, JS-> OI and JS->OC were significant. These findings imply that the effects of RC on OI and OC are all fully mediated by JS (Andrews et al., 2004).

Fourth, the paths EC->LMX, EC->RC, EC->JS, EC->OI, and EC->OC were all significant at the 0.05 level, supporting H1–5.

The direct effect of EC->JS was nonsignificant, whereas the indirect effect was statistically significant at the 0.01 level. The direct effects of EC->LMX, LMX->JS, EC->RC, and RC->JS were all statistically significant. Therefore, the path EC->JS is fully mediated by LMX and RC (Andrews et al., 2004).

The path EC->OI is partially medicated by RC and JS; the direct effect and indirect effects of EC->OI and the direct effects of EC->RC, RC->JS, and JS->OI were all statistically significant at the 0.05 level.

The path EC->OC is fully mediated by LMX, JS, and OI; its direct effect was not significant, whereas its indirect effects and the direct effects of EC->LMX, LMX->OC, LMX->OI, LMX->JS, JS->OI, and OI->OC were all statistically significant at the 0.05 level.

6. Discussion and Conclusion

This study expands the literature of internal marketing by applying the principles of the hierarchy of effects model to internal marketing and by examining the effects of EC, LMX, and RC on job outcomes in the context of internal marketing.

Several findings in this study indicate the fundamental role of EC as a cognitive variable in our conceptual model; EC has strong direct effect on LMX and RC, which are assumed to be lower-ranking cognitive variables that are directly associated with internal marketing consequences. Although EC has no significant direct effect on JS, its total effect is greater than that of RC, which significantly affects JS. EC has a stronger influence on OI compared with other antecedents. In addition, the direct effect of EC on OI is stronger than the sum of the indirect effects of EC on OI. These findings imply that OI of life insurance salespeople is primarily influenced by EC. Among the five antecedents of OC, the total effect of EC is lower than that of LMX only, although EC has no significant direct effect on OC. These findings confirm that EC is a basis for managerial activities concerning internal marketing. Based on these findings, this study evidences a crucial link between EC and internal marketing.

It is also critical that the empirical findings of this study support the validity of applying the hierarchy of effects model to internal marketing. All hypothesized total effects (i.e., regression weights) in the conceptual model are significant at the 0.05 level. Furthermore, all mediating effects of JS on the paths LMX->OI, LMX->OC, RC->OI, RC->OC, EC->OI, and EC->OC were confirmed in the empirical analysis. These findings are consistent with the theoretical implications based on the hierarchy of effects model, according to which the conative outcomes of internal marketing may not be directly influenced by cognitive variables. JS, which belongs to the affective dimension, appears to act as a mediator between the cognitive and conative variables.

The findings of this study may provide useful suggestions for financial service industries and life insurance companies. The present study indicates that the life insurance industry, and possibly the financial service industry, should focus on the influence of managerial activities on salespeople's affective responses such as JS. JS represents a crucial link between salespeople's perceptions of managerial activities and their behavioral intentions and actions. For life insurance companies, which operate in a fiercely competitive service-intensive industry, a critical competitive advantage is gained by retaining satisfied salespeople who will deliver high-quality service.

Financial products are intangibles. Among them, life insurance policies are relatively complicated, and it is often difficult for prospective clients to understand the content of life insurance policies. Compared with average policyholders, life insurance salespeople have abundant expertise regarding their products. The existence of a steep asymmetry leads to policyholders' heavy reliance on salespeople. The life insurance salespeople are in an advantageous position relative to their policyholders; this advantageous position may be exploited either by companies or individual salespeople. Similar situations are frequently found in other financial service industries (Taek Yi et al., 2012). Moreover, salespeople' jobs are highly demanding because of their intensive interactions with policyholders. With pressure to missell products to customers, owing to firm requirements, salespeople may have less JS because of job stress.

Our findings indicate that EC may play a fundamental role in the internal marketing process. Emphasizing EC in internal marketing could improve ethical values in the life insurance industry and enhance life insurance salespeople' OI and OC; LMX and RC could play a complementary role in this regard. Managerial activities leading to EC, RC, and LMX, which may reduce the pressure of misselling and job stress, appear to be practical approaches for increasing salespeople's JS.

Such a process is effective according to the conceptual model proposed in the present study, which is sufficiently flexible for life insurance companies, or companies in general, to incorporate other managerial activities and develop their own internal marketing approach. Therefore, a customized approach toward internal marketing could be developed for individual companies and industries by incorporating different managerial activities. Furthermore, future research could explore other conative outcomes such as organizational citizenship behaviors (King, & Grace, 2010) and their relationships with cognitive and affective variables. Finally, we recommended applying the samples from firms in other industries to examine the stability of the findings.

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Appendix. All Constructs and Their Items

Constructs and items
Leader-member relationship (LMX)
LMX1. My sales manager understands my problems and needs.
LMX 2. My sales manager recognizes my potential.
LMX 3. Regardless of how much formal authority my sales manager has built into his or her position, my sales manager would be personally inclined to use his or her power to help me solve problems in my work.
LMX 4. I can count on my sales manager to “bail me out” at his or her expense when I really need it.
LMX 5. My sales manager has enough confidence in me that he or she would defend and justify my decisions if I were not present to do so.
LMX 6. I usually know where I stand with my sales manager.
LMX 7. My working relationship with my sales manager is extremely effective.
Ethical climate (EC)
EC1. My company has a formal, written code of ethics.
EC 2. My company strictly enforces a code of ethics.
EC 3. My company has policies with regards to ethical behavior.
EC 4. My company strictly enforces policies regarding ethical behavior.
EC 5. Top management in my company has let it be known in no uncertain terms that unethical behaviors will not be tolerated.
EC 6. If a salesperson in my company is discovered to have engaged in unethical behavior that results primarily in personal gain (rather than corporate gain), she or he will be promptly reprimanded.
EC 7. If a salesperson in my company is discovered to have engaged in unethical behavior that results in primarily corporate gain (rather than personal gain), she or he will be promptly reprimanded.
Role clarity (RC)
RC1. My job has clear, planned goals and objectives.
RC 2. I know that I have divided my time properly.
RC 3. I know what my responsibilities are.
RC 4. I know exactly what is expected of me.
RC 5. I feel certain about how much authority I have.
RC 6. My supervisor's explanation of what has to be done is clear.
Job satisfaction (JS)
JS1. I feel reasonably satisfied with my job.
JS 2. I feel a great sense of satisfaction from my job.
JS 3. I am satisfied with my overall job.
JS 4. I would not consider leaving my current job should another job opportunity be presented to me.
JS 5. I do not enjoy my job(R).
Organizational identification (OI)
OI 1. When somebody criticizes your company, it feels like a personal insult.
OI 2. I am very interested in what others think about my company.
OI 3. When I talk about this company, I usually say “we” rather than “they.”
OI 4. This company’s successes are my successes.
OI 5. When someone praises this company, it feels like a personal compliment.
OI 6. If a story in the media criticized this company, I would feel embarrassed.
Organizational commitment (OC)
OC1. I would be very happy to spend the rest of my career with this organization.
OC 2. I enjoy discussing my organization with people outside it.
OC 3. I really feel as if this organization's problems are my own.
OC 4. I think that I could easily become as attached to another organization as I am to this one (R).
OC 5. I do not feel like 'part of the family' at my organization (R).
OC 6. I do not feel 'emotionally attached' to this organization (R).
OC 7. This organization has a great deal of personal meaning for me.
OC 8. I do not feel a strong sense of belonging to my organization (R).

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Which One is More Efficient? German or Japanese Automobile Industry: A Meta-frontier with Technology Gap Comparison

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Abstract

The goal of this paper is to compare the cost efficiency of the automobile industry in Germany and Japan during the period of 1980–2014 by applying the Meta-Frontier Cost Function. Despite the constant competition and the global automobile industry crisis during 2008-2010, only a few existing studies compare the efficiency of the industry cross countries. However, these all fail to address various types of technology adopted and the environment faced by automakers across countries. The meta-frontier model became a recognized and useful tool to evaluate technical efficiency of firms applying dissimilar technologies. Overall, the results signify that the cost efficiency of the German automobile industry by average is better than that of the Japanese one and the German one uses more superior production technique though it was lower the Japanese one in the 1980s. The difference reversed in the 1990s and has been enlarging since the 1990s to the end of the observation period.

Keywords: meta-frontier cost function, technology gaps, automobile industry, Germany, Japan

1. Introduction

Prior literature paid little attention to the management of the companies in the automobile industry; in particular, comparative studies on the productivity or efficiency of automobile companies in different countries are very rare and were mostly done decades ago. They provided some guidance on understanding the efficiency of the automobile industry. However, these previous studies failed to provide the evaluation of efficiency across countries. It is suggested that the environment faced by firms varies by regions and countries in many aspects such as regulations, the management, and production practices. Thus, previous studies are lack of identifying gaps on performances resulted from various levels of production technique used by automobile companies in different countries. Battese & Coelli (1992) and Battese et al. (2004) proposed meta-frontier functions which can effectively evaluate technical efficiency for firms applying dissimilar production techniques.

Examining the competitiveness of automakers in different countries is valuable for the management of global automobile industry in light of the fierce and constant competition among automobile companies world-wide. It has also become increasingly significant to study their efficiencies especially after the automobile industry crisis of 2008-2010. The automobile industry crisis of 2008–2010 was a part of a global financial downturn. The crisis affected European and Asian automobile manufacturers; however it has more significant negative impacts on the American automobile industry. The automobile industry was weakened by steep rises in the prices of fuels from 2003 to 2008 energy crisis which discouraged purchases of sport utility vehicles (SUVs) and pickup trucks which have low fuel efficiency. The popularity and relatively high profit margins of these vehicles had encouraged the American "Big Three" automakers, General Motors, Ford, and Chrysler to make them their primary focus. With fewer fuel-efficient models to offer to consumers, sales began to slide. When gasoline prices rose above $4 per gallon in 2008, Americans stopped buying the big vehicles and the Big Three sales and profitability plummeted. Consumers turned to smaller, cheaper, more fuel-efficient imports from Japan and Europe. Eventually, the above management and business practices forced Chrysler and General Motors into bankruptcy. Chrysler filed for bankruptcy protection on 1st May 2009, followed by General Motors four weeks later.

Volkswagen overtook Toyota in global vehicle sales for January-June 2015, the first time the German automaker had come out top in the intensely competitive tallies. General Motors (GM) Corporation was the top-selling automaker for more than seven decades until being surpassed by Toyota in 2008. GM retook the sales crown in 2011, when Toyota's production was interrupted by the quake and tsunami in northeastern Japan. Toyota made a successful comeback in 2012, and has been the world's top-selling automaker for the past three years (2012-2014). It appears that the ranking is still changing and the industry crown is coveted and significant. The aim of this paper is, therefore, to conduct a comparative research of the three largest German automakers and the five main Japanese automakers to evaluate these world leading carmakers' cost efficiency and the management performance.

It is of interest to conduct a cross-country comparison of the automobile industry in the two countries. Firstly, automakers in these two countries were in much better shape than those in the US which had been acquisitioned by foreign companies or taken over by the government during the crisis of 2008-2010. Secondly, it is also our motivation to evaluate how efficiencies of automakers in these two countries evolved during the past decades to enhance their competitiveness and performances to become top-selling automakers. The empirical evidence illuminates the future management of the industry and the government policy.

Contributions of this paper is that it is the first paper to emphasize comparing cost efficiencies of automakers in these two counties from 1980 to 2014 by using the meta-frontier approach which is more appropriate than traditional methods. The empirical evidences demonstrate that the average cost efficiency of the German automobile industry was better that of the Japanese one during the period of this study. The cost efficiency of the German automobile industry progressed steadily and surpasses the Japanese on over this period though the cost efficiency of the Japanese one was more superior to that of the German one in the beginning of the observation period.

The next section of this paper reviews the prior research and emphasizes the importance of applying the meta-frontier approach in cross country/region studies. Section 3 presents the econometric model, Section 4 briefly describes the data, Section 5 analyzes the empirical results, and Section 6 concludes the paper.

2. Literature Review

There are relatively few existing studies on automobile industry productivity or efficiency regardless of the importance of the industry in the economy and the daily life. Most of these focus only on firm-level or one-country issues. Such as Cusumano (1988) studied the Japanese auto industry evolution. Pries (1999, 2003) conducted the analytical study on firm-level car-manufacturer performances in Germany. Takeishi (2006) studied the management performance of the Japanese automobile industry. In addition, most previous studies adopted either a non-parametric or parametric methodology to assess cross-country automobile industry efficiencies. For instance, Fuss & Waverman (1990) examined both results of using the above approaches. They identified and proposed that the parametric cost-function model result is more useful. Lieberman et al. (1990) compared the productivity and management between Japanese and US automobile producers with conventional productivity techniques (the measurement of total factor productivity based upon the Cobb-Douglas production function). Oliver et al. (1996) collected the data by conducting the questionnaire survey throughout 71 auto component companies in 8 countries and analyzing their performances by employing SPSS software. Ark et al. (1993) presented the comparative productivity performance in manufacturing industry of Germany, Japan, and the US. They developed the "Unit Value Ratio" (a census concept of value added and commonly defined as gross value of output minus costs) and applied the expenditure-based PPP (Purchasing Power Parity) for international comparison. Denny et al. (1992) used the relative efficiency level (measured on a base of unity and is less than one if Country A's industry is relatively less efficient than Country B's industry. In other words, with the same resources, Country A is producing less output than Country B) to compare manufacturing industries in Canada, Japan and the USA. Although, they also recognized that there were serious limitations in attempting to calculate relative efficiency levels due to the lack of the adequate and appropriate data for internationally comparison.

Jorgenson & Kuroda (1992) studied the competitiveness of Japan and the US industrial productivity with emphasizing the data to be transformed through PPP as aforementioned for comparison. Thus, the relative efficiency (binary comparison), the PPP, and the parametric and non-parametric measures were widely applied in previous cross-country comparative researches. Other researches, such as: Jones & Paris (1978) is an earlier study of conducting international comparisons on motor industry. Muller (1992) compared the German and Japanese automobile industry management efficiency based on more than 250 interviews was analytical. Carr (1993) mainly used two factors: average return on capital employed (ROCE) and sales growth to compare the performances among British, German, Japanese and the USA's vehicle components industries. Though previous studies provided some guidance on understanding the efficiency of the automobile industry, they failed to assess the efficiency across countries, regions and industries. It is suggested that the environment faced by firms varies by regions and countries in many aspects such as regulations, the management, and production practices. Thus, earlier studies are lack of identifying gaps on performances resulted from various levels of production techniques used by automobile companies in different countries. The meta-frontier model was proposed by Battese & Coelli (1992) and Battese et al. (2004). This model can effectively evaluate technical efficiency for firms applying dissimilar production techniques.

It is very interesting to notice that the meta-frontier approach has not yet been applied in the automobile-industry related research though it has been employed in many fields in the past decade such as Bos & Schmiedel (2007), Chen & Song (2008), Matawie & Assaf (2008), Witte & Marques (2009), Mulwa et al. (2009), Moreira & Bravo-Ureta (2009), Assaf et al. (2010), Oh (2010), Kontolaimou & Tsekouras (2010), Lin (2011), Mariano et al. (2011), and Chen & Yang (2011). This highlights the significance of applying the meta-frontier approach to scrutinize the efficiency of global automakers from an unexplored perspective. The basic notion of the meta-frontier model is on the basis of the assumption that each firm is able to access to the indifferent production technique, however each may choose a different process, depending on specific circumstances, such as regulation, environments, production resources, and relative input prices.

In this paper, we construct the Cobb-Douglas cost function with the application of the meta-frontier approach proposed by Battese & Coelli (1992), and Battese et al. (2004). This approach is able to effectively measure technical efficiencies (CE) for automakers utilizing non-identical technologies and the technology gap ratios (TGRs). It further can identify how the cost frontiers of individual countries deviate from the meta-frontier cost function. The meaning of the technical efficiency is the capability of optimal use of available resources either by yielding maximum output for a given input combination or by employing minimum inputs to generate a given output (Lovell, 1993).

3. The Meta-frontier Cost Model

We postulate the model with the application of the regional stochastic frontier cost approach incorporated by Huang et al. (2010) and Liu & Chen (2012), with the framework of time-varying and inefficiency effects. Thus, for the *j*th country, the stochastic cost frontier model for the automaker *i* at time *t* can be presented below.

$$TC_{it(j)} = f(Y_{it(j)}, W_{it(j)}; \beta_j)e^{v_{it(j)}+u_{it(j)}},\ i = 1, \ldots, N,\ t = 1, \ldots, T,\ j = 1, \ldots, R \tag{1}$$

where TC represents the realized total cost; Y, W and β represent the vector for outputs, input prices and unknown technology parameters, respectively. $v_{it(j)}$ is a random variable which is presumed to be $N(0, \sigma^2_{v(j)})$.

Furthermore, the term $u_{it(j)}$ can be parameterized as follows according to Battese & Coelli (1992):

$$u_{it(j)} = u_{ij}\exp[-\eta_j\ (t - T)] \tag{2}$$

where u_{it} is non-negative random variable which is assumed to account for cost inefficiency in production and is assumed to be iid (independent and identically distributed) as truncation at zero of the $N(\mu_j, \sigma^2_{u_j})$ distribution; η_j is a parameter to be calculated. Also, a negative or positive value of η_j signifies that the cost inefficiency of the *j*th type of firms increases or decreases over the time.

Independent variables of this cost frontier function therefore include one output and two input variables. In theory, due to the homogeneity constraint of cost functions, some properties can be evaluated consequently if the parameters are calculated and obtained. This model with panel data therefore can be written as follows:

$$\ln\left(\frac{TC_{it(j)}}{w_{1it(j)}}\right) = \beta_{0(j)} + \beta_{1(j)}\ln y_{1it(j)} + \beta_{2(j)}\ln\left(\frac{w_{2it(j)}}{w_{1it(j)}}\right) + u_{it(j)} + v_{it(j)} \tag{3}$$

where the unknown technology parameters β of the Cobb-Douglas cost function can be calculated and obtained by adopting the maximum likelihood method (MLE). The estimation of cost efficiency ($CE_{it(j)}$) or overall economic efficiency ($EE_{it(j)}$) for the automaker *i* of the *j*th country in the year of *t* is measured by the ratio of frontier minimum cost to observed cost. That is to say that it can be estimated as $CE_{it(j)} = \exp(-u_{it(j)})$ and its value is between 0 and 1.

The concept of the meta-frontier approach proposed by Battese et al. (2004) suggests that there is merely one data-generation process for automakers producing cars with a given technology for each country. The overall cross-country data is individually generated from the respective frontier models in the different countries. The meta-frontier is assumed to take the same functional form as the individual stochastic frontiers in the different countries. The meta-frontier can be defined as a deterministic parametric function enveloping the deterministic parts of the individual cost frontiers such that its values must be less than or equal to the deterministic components of the stochastic cost frontiers of the different countries involved. Thus, the meta-frontier cost function model for the whole automakers concerned in the two countries can be displayed below:

$$TC_{it}^{*} = f(Y_{it},\ W_{it};\ \beta^{*}),\ i = 1, \ldots, N,\ t = 1, \ldots, T \tag{4}$$

TC_{it}^{*} represents the optimal level of production cost by adopting the best available technology. β^{*} represents the corresponding parameter vector of the related meta-frontier cost function. This function should satisfy the circumscription as shown in Equation (5) below:

$$f(Y_{it},\ W_{it};\ \beta^{*}) \leq f(Y_{it(j)},\ W_{it(j)};\ \beta_j) \tag{5}$$

The meta-frontier cost function model which is presented in Equation (5) projects the minimum possible production cost for generating a given level of outputs. That is to say, it is the minimum cost correlated to the most efficient production technique. The inequality restraint of Equation (5) is required to hold for the two countries and time periods. The meta-frontier is therefore, an envelope curve beneath the individual cost frontiers of the different countries. Thus, the meta-frontier cost efficiency (CE_{it}^{*}) for the automaker i in the year t can be estimated by the ratio of the meta-cost to the actual cost. This can be displayed in Equation (6) below.

$$CE_{it}^{*} = \frac{f(Y_{it}, W_{it}; \beta^{*}) e^{vit(j)}}{TC_{it}} \tag{6}$$

The lower the CE_{it}^{*} is, the actual output level automaker i is farther away from the meta-frontier cost and vice versa according to Equation (6). Furthermore, the term: the technology gap ratio (TGR) can be obtained from the right-hand side of the equation (6). In other words, TGR_{it} indicates the technology gap ratio for automaker i of year t as displayed in Equation (7) below.

$$TGR_{it} = \frac{f(Y_{it}, W_{it}; \beta^{*})}{f(Y_{it(j)}, W_{it(j)}; \beta_j)} \tag{7}$$

TGR_{it} estimates the technology-gap size for the country j whose present technology chosen by its automakers lags behind the technology available for all countries, represented by the meta-frontier cost function. The assessment of TGR uses the ratio of the potentially minimum cost that is defined by the meta-frontier cost function to the cost of the frontier function for country j, given the observed output and input prices. Also, equation (5) implies the value of the TGR is between zero and one. Therefore, the lower the average value of the TGR is for a country, the less advanced the production technology it adopts and vice versa.

The meta-cost efficiency measure of equation (6) can be rewritten as follows:

$$CE_{it}^{*} = CE_{it(j)} \times TGR_{it} \tag{8}$$

It is suggested that CE_{it}^{*} is composed of two factors by Equation (8). One is the conventional technical efficiency measuring the deviation of an automaker's actual cost from the country specific cost frontier. The other is a new one measuring the deviation of the country specific cost frontier from the meta-frontier cost function. Both values of the CE and the TGR lies between zero and one so the value of CE_{it}^{*} is also in the same range. The meta-cost frontier efficiency value of an automaker signifies how well it performs relative to the predicted performance of the best practice automakers that apply the best technology available for all countries to produce a given output mix. Thus, automakers operating on the meta-cost frontier serve as a benchmark for all automakers concerned because they adopt the best available technology during the production process.

To obtain the technology parameters estimates of $\hat{\beta}_j$, $j = 1, 2, \ldots, R$, we apply the stochastic frontier model which allows for temporal variant technical efficiency proposed by Battese et al. (2004). In addition, the estimates of $\hat{\beta}^{*}$ in the meta-frontier cost function can be obtained by employing two different mathematical programming techniques. These two techniques include one that is dependent on the sum of absolute deviations of the meta-frontier values from those of the country frontiers (minimum sum of absolute deviations), and the other depends on the sum of squares of the same distances (minimum sum of squared deviations).

The "minimum sum of absolute deviations" is also known as linear programming (LP). Vector $\hat{\beta}^{*}$ can be estimated by filling the $\hat{\beta}_j$ into the equations shown below:

$$\text{Min. } L \equiv \sum_{t=1}^{T} \sum_{i=1}^{N} \left| \ln f\left(Y_{it(j)}, W_{it(j)};\ \hat{\beta}_j\right) - \ln f(Y_{it}, W_{it}; \beta^{*}) \right| \tag{9}$$

$$s.t.\ \ln f(Y_{it}, W_{it}; \beta^{*}) \leq \ln f\left(Y_{it(j)}, W_{it(j)};\ \hat{\beta}_j\right) \tag{10}$$

Clearly, the estimated meta-frontier vector minimizes the sum of the absolute logarithms according to Equation (9) and (10). The weights of the deviations for all automakers concerned are the same. Furthermore, equation

(9) indicates that all the deviations are positive and all the absolute deviations are exactly equal to the differences.

The "minimum sum of squared deviations" is to measure $\hat{\beta}^*$ by solving a quadratic programming (QP) issue. It can be presented in Equation (11) and (12) below.

$$\text{Min. } L \equiv \sum_{t=1}^{T}\sum_{i=1}^{N}\left[\ln f\left(Y_{it(j)}, W_{it(j)};\ \hat{\beta}_j\right) - \ln f(Y_{it}, W_{it}; \beta^*)\right]^2 \tag{11}$$

$$s.t.\ \ \ln f(Y_{it}, W_{it}; \beta^*) \le \ln f\left(Y_{it(j)}, W_{it(j)};\ \hat{\beta}_j\right) \tag{12}$$

It is suggested that the lesser (or larger) the TGR is for an automaker, the lower (or higher) the weight it owns according to equation (11) and (12). It also indicates that the weights for each country are different.

The estimation of parameter $\hat{\beta}^*$ of the meta-frontier function can be obtained by employing the above two approaches. On the other hand, we use the bootstrapping method in calculating the standard errors of the meta-frontier function due to the fact that underlying data generation process is unknown. The bootstrapping method is to provide a better finite sample approximation according to Huang et al. (2010) because the analytic estimates of the standard errors of the estimators are difficult to obtain.

4. Data Description

Inputs and outputs variables of this paper are chosen with the application of the cost function approach. The total cost is the dependent variable. Independent variables include the input variable: price of labor, price of capital. These are quite standard and well-established in efficiency estimation (Bauer et al., 1998; Altunbas et al., 2000; Altunbas et al., 2001; Beccalli, 2004; Weill, 2004; Bos & Schmiedel, 2007). The price of labor is calculated as the ratio of salaries and benefits expenses to the number of employees.

Fuss & Waverman (1990) emphasized that the motor vehicle industry is characterized by quasi-fixed factors such as capital plant and equipment in the form of product-specific manufacturing facilities. These quasi-fixity manifests significantly affect measured cost and efficiency differences, we, therefore, calculate the price of capital as the ratio of the sum of depreciation, depletion, and amortization to the net value of property, plant, and equipment.

On the other hand, the output variable: sales revenue is also employed as an explanatory variable. Carr (1993) used sales revenue to evaluate performances of vehicle component companies. Sales revenue, in other words, as the value of gross output is also adopted by Ark et al. (1993) and Ito (2004) to measure the productivity as well.

All the data are downloaded from the *Datastream* (electronic data bank) and some others are supplemented form the annual reports of each company. In order to be consistent on the data during the period of this study, we chose the three largest German automakers and five main Japanese automakers (company names and their observation period are listed in Table 1).

Table 1. Sample Companies for the Empirical Estimation

Country	Firm	Period
Germany	Volkswagen	1980-2014
	BMW	1980-2014
	Benz	1980-2014
Japan	Toyota	1980-2014
	Honda	1980-2014
	Mitsubishi	1989-2014
	Mazda	1980-2014
	Suzuki	1991-2014

Table 2. Sample Statistics

Variable	All sample	Group1-Germany	Group2-Japan
Total Cost	3,124,043,673	64,293,024	5,196,777,983
	(4,658,493,912)	(45,150,621)	(5,078,321,905)
Sales Revenues	7,941,604,438	11,569,996,220	5,483,661,618
	(18,660,486,242)	(28,293,580,995)	(5,473,550,503)
Price of Labor	39,048.9467	266.7410	65,320.7635
	(35,488.2580)	(130.0694)	(19,947.7500)
Price of Physical Capital	0.1914	0.2516	0.1506
	(0.0873)	(0.0766)	(0.0686)
Number of observations	260	105	155

Note. Figures of the brackets represent the standard deviation.

Table 2 displays the descriptive statistics of the selected automakers in the Germany and Japan. Substantial differences can be identified from the means and standard deviation of variables from this Table. Automakers in the two countries could have adopted distinctly different technologies and production procedures so they generated non-identical products. That is to say, efficiencies and performances of automakers of these two countries were based upon various norms and by various measures and they should not be contrasted directly. This evidently supports the application of the meta-frontier model.

5. Empirical Results

This paper attempts to focus on comparing the overall cost efficiency in Japanese and German automobile industries by employing data of five main Japanese automakers and the three largest German automakers. The cost efficiency (CE*, CE, and TGR) of the individual firm is also produced and listed in the Appendix. The parameter estimates of the stochastic cost frontier for automakers in Germany and Japan are displayed in Table 3. The *LR* test method is adopted to examine the technological heterogeneity among various groups. We obtain that the value of *LR* test statistics is 179.8, which is significant at the 1% level by using the dataset of Germany, Japan and all sample. (Note 1) This indicates that the null hypothesis is rejected. In addition, this outcome corresponds with the assumption of our paper that automakers in Germany and Japan adopt different production technologies and own distinct frontiers. That is to say, if we do not take the above existing heterogeneity issue into account explicitly and only use regression analysis by combining the whole data, the result of the estimation cannot identify the technical relationship and the production properties of inputs and output precisely.

Table 3. Parameter Estimates of the Cobb-Douglas Cost Frontiers

Variable	Group1-Germany		Group2-Japan		All sample	
Intercept	8.6677	***	-2.4167	***	9.4536	***
	(0.3124)		(0.9333)		(0.4069)	
lny	0.0325	***	0.7037	***	0.0733	***
	(0.0101)		(0.0468)		(0.0106)	
ln(w2/w1)	-0.2915	***	0.1997	***	0.1758	***
	(0.0387)		(0.0197)		(0.0127)	
$\sigma^2(=\sigma_u^2+\sigma_v^2)$	0.7165		0.1022	***	1.6024	***
	(1.1569)		(0.0120)		(0.1748)	
$\gamma=\sigma_u^2/(\sigma_u^2+\sigma_v^2)$	0.9505	***	0.7410	***	0.9643	***
	(0.0804)		(0.0701)		(0.0068)	
μ	0.5344		0.5503	***	2.4861	***
	(1.2077)		(0.1643)		(0.5069)	
η	0.0006		-0.0224	***	-0.0137	***
	(0.0026)		(0.0063)		(0.0021)	
Log likelihood function	17.7857		49.9724		-22.1475	
LR test of the one-sided error	219.9897		46.1234		468.7046	
Number of observations	105		155		260	

Notes.

1. Numbers in the brackets are the standard deviation.

2. ***significant at the 1% level.

Furthermore, a linear program (LP) is an optimization problem in standard form, in which all the functions involved are affine. The feasible set is thus a polyhedron, that is, an intersection of half-spaces. Polyhedral functions are functions with a polyhedral epigraph, and include maxima or sums of maxima of linear or affine functions. Such functions can be minimized via LP. Quadratic programs (QPs) offer an extension of linear programs, in which all the constraint functions involved are affine, and the objective is the sum of a linear function and a positive semi-definite quadratic form. QPs generalize both LPs and ordinary least-squares: the objective function is the same as in ordinary least-squares, and the problem includes polyhedral constraints, just as in LP. We, therefore, adopt the QPs and the QPs results are displayed and analyzed as follow.

Basic summary statistics of QP coefficient estimates and the bootstrapped standard deviation are shown in Table 4. In addition, the estimates of the cost efficiency and the technology gap with the application of QP parameter estimates are displayed in Figures 1 to 3.

The measure of the TGR and the relative cost efficiency to the stochastic frontier for individual countries: CE, and the meta-frontier efficiency score: CE* are reported in Table 5. The meta-frontier approach divides the CE* into CE and TGR. This provides in-depth insights on automakers' cost efficiencies. The observed cost efficiency and the technology adopted render more information for automakers' management and government authorities to examine the efficiency of the automobile industry operation, and contribute to improve their productivity. Additionally, this can be applied to evaluate the reallocation of their resources to where they are most needed. In other words, the distinct evidences can be a valuable guide to cost reduction and enhance the productivity by employing superior technology so as to improve the competitiveness of the automaker itself and the automobile industry.

Table 4. Estimates of the Meta-frontier Cost Function

Coefficients	Quadratic programming (QP)	
	Estimates	Standard Errors
β_0	9.6572	0.2833
β_1	0.2167	0.0314
β_2	0.2305	0.0374

Note. The estimated standard error of the meta-frontier parameter is obtained by bootstrapping methods.

Table 5. Estimates of Cost Efficiencies and Meta-technology Ratios

Country	Statistics	QP			
		Mean	Min.	Max.	St. Dev.
Germany					
	$CE_{(j)}$	0.4916	0.2272	0.9371	0.3177
	TGR	0.4965	0.1011	1.0000	0.2323
	CE^*	0.2805	0.0308	0.9032	0.2614
Japan					
	$CE_{(j)}$	0.6291	0.3665	0.8238	0.1233
	TGR	0.4285	0.1970	1.0000	0.1894
	CE^*	0.2513	0.1388	0.4505	0.0680
All countries					
	$CE_{(j)}$	0.5735	0.2272	0.9371	0.2327
	TGR	0.4560	0.1011	1.0000	0.2100
	CE^*	0.2631	0.0308	0.9032	0.1743

For all automakers concerned in the Germany and Japan, the mean value of CE is 0.5735. The CE value for Japan is 0.6291 and the value for Germany is 0.4916. These values signify that the potential cost saving for the German automakers are about 50.84% on average of their actual costs. This could be attributed to the less efficient management on the cost reduction. On the other hand, the Japanese automakers on average lie near the cost frontier. The cost efficiency of the Japanese automobile industry is better than that of the German automobile industry. It indicates that there is still room for automakers in Germany to lower their costs greatly.

In terms of the TGR, the German automobile industry led the Japanese automobile industry and the gap increased over the observation period. Interestingly, the result is on the contrary to that of the CE, the German one is more superior with a higher TGR value. In other words, the Japanese automobile industry with the value of the TGR: 0.4285 is lower than the German one with the value of TGR: 0.4965. This indicates that the German one adopted more superior production techniques than the Japanese one did. Also, it implies that the Japanese one with the TGR value: 0.4285, could shave its frontier costs by up to 57% or so in the event that the potential technology available to both countries was applied. This distinctive evidence offers us a clearer picture in regards to levels of technology difference between the two countries. There indeed exists a technology gap between the German and Japanese automobile industry. The result indicates that automakers in Japan should make efforts to apply the potential technology available to both countries in order to shift its frontier cost function down to be more competitive.

Therefore, the above results of CE and TGR values of the two countries under study can be combined and obtain the mean cost efficiency relative to the meta-frontier, the value of the CE* for the German automobile industry: 0.2805 which is better than that of the Japanese automobile industry: 0.2513. This shows that overall the German automobile industry is more efficient than the Japanese one. Therefore, the Japanese automobile industry can make further efforts in improving its cost efficiency.

In a closer investigation on changes of their efficiency during the period of this study (see Figure 1), CE* values of the Japanese automobile industry move in a narrower range: between 0.15 and 0.30 while CE* values of the German automobile industry move in a relatively wider range and trend higher and higher over the years of the observation period: between 0.15 and 0.45. It is interesting to notice that values of CE* for the Japanese automobile industry were higher than that of the German one in most years of the 1980s however it improved little from then on. On the other hand, the Germany one significantly improved over the period of this study and surpassed the Japanese one since the late 1980s. Meanwhile, in regards to the impacts of the global automobile crisis on cost efficiencies in the two countries, CE* values in both countries performed very differently. The Japanese one deteriorated soon after the crisis though it recovered slowly between 2012 and 2014. The German one, on the contrary, greatly enhanced its efficiency during and after the crisis. The difference became ever large between these two during the period of this study (see also Figure 1).

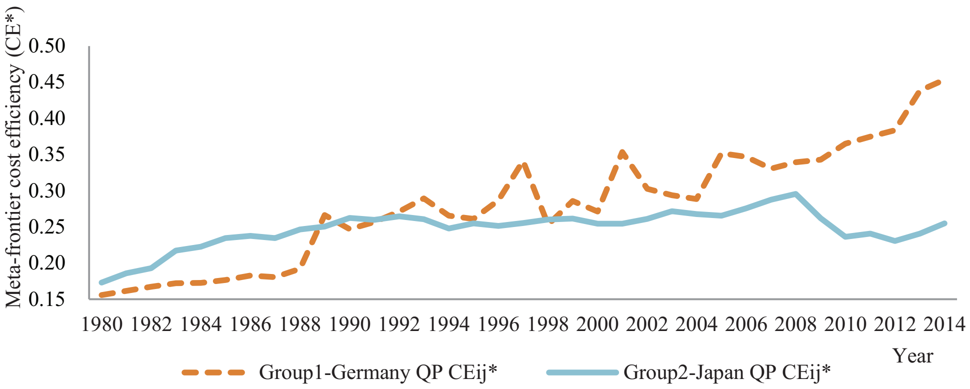

Figure 1. Mean Values of CE* for Automakers in the Two countries over 25 years

In Figure 2, the cost efficiency of the Japanese automobile industry (mostly above 0.53) led that of the German one (mostly below 0.50) with a difference throughout this period. However, the Japanese one is progressing downward significantly from 0.68 in the 1980s and the beginning of the 1990s while the German one shows little change during this period. It also shows that the CE values of Japanese automobile industry peaked in the beginning of the 1990s and then started a declining trend from the mid-1990s to 2014. On the other hand, the CE values of the German one remain unchanged before and after the global automobile crisis.

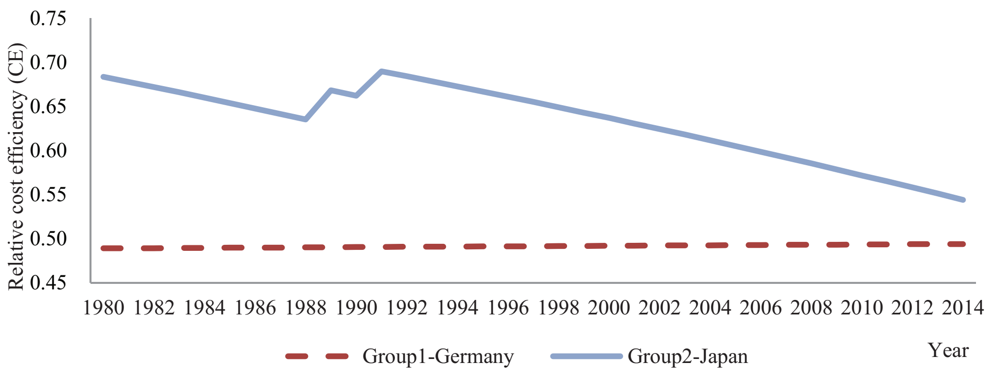

Figure 2. Mean Value of CE for Automakers in the Two Countries over 25 years

According to Figure 3, movements of TGRs in both countries are similar to those of CE*. The average values of TGRs in the German automobile industry were higher than those in the Japanese automobile industry aforementioned. TGR values of the Japanese one lagged behind those of the German one since the 1990s though it led the German one in the 1980s. TGR values of the Japanese one never caught up with those of the German one since the1990s. In addition, values of TGRs in the Japanese one dropped after the global automobile industry crisis but started picking up again after the year 2012. It appears that the German automobile industry quickly introduced more advanced production technique during the crisis to recover and maintain its competitiveness. Furthermore, values of TGRs changed drastically in the German one soon after the crisis. The gap between these two became the largest after the crisis.

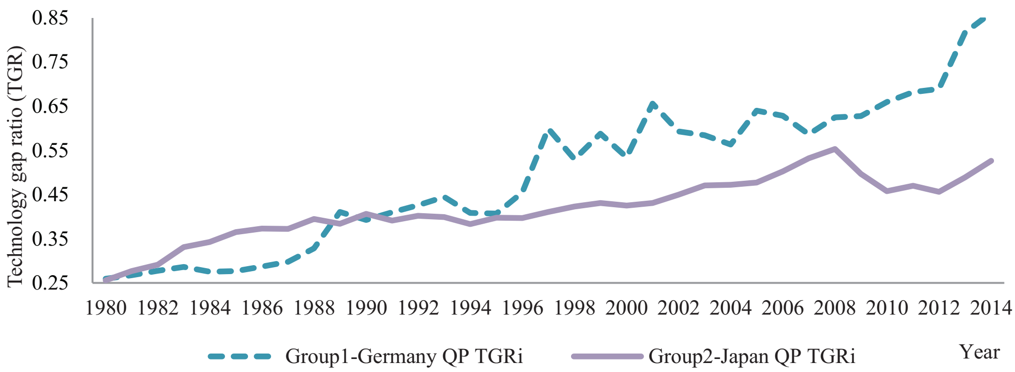

Figure 3. Mean Values of TGR for Automakers in the Two Countries over 25 years

To sum up, empirical results show the cost efficiency of the German automobile industry led that of Japanese automobile industry and the margin enlarged. It is worthwhile to note that values of CE* and TGRs of the Japanese one was better in the early years (1980s) of the observation period. However, the German one caught up with and surpassed the Japanese one since the 1990s with the increasing gaps. With the collapse of the USA's largest three automakers, the increasing efficiency of the German automobile industry has made it become more competitive while the Japanese one improved less during the period of this study. This also signifies that the Japanese automobile industry might have to make greater efforts in enhancing its cost efficiency higher in order to compete with the German one. In the perspective of the Japanese automobile industry, it has to keep adopting superior production techniques to compete with the German one in the long term. Its cost efficiency is lower than that of the German one and it needs to address the enlarging gap of the cost efficiency with the German one in order to maintain its competitive advantage.

Finally, the above empirical results may well have been reflected in the world automobile markets. Both automakers in Japan and German enjoy a sound reputation in quality while, generally speaking, the German automobile industry has a higher-technological image which can be attributed to the fact that it employs more advanced production techniques and has better cost efficiency in comparison with the Japanese one.

6. Conclusions

Previous studies on the efficiency of the automobile industry have contributed to a better understanding of its productivity and efficiency on firm or country level. However, they have not fully explored the critical question: how a firm can outperform foreign competitors.

This paper employs the meta-frontier approach to assess efficiencies of the automobile industry in the Germany and Japan from 1980 to 2014 in terms of the cost-efficiency and technology gap ratios. The meta-frontier approach can be used to differentiate the technology gap ratio (TGR) from the relative cost efficiency (CE) score and offers more information on automakers' cost efficiencies. Thus, this approach gains deeper insights by subdividing the measure of meta-frontier cost efficiency (CE*) into two factors: CE and TGR. The empirical evidences signify the automakers' management and governments' policies in the future.

The empirical result identifies that overall the average CE* of the German automobile industry led the Japanese one and the gap continuously increased during the period of this study. Although the technical efficiency or the relative cost efficiency (CE) of the Japanese automobile industry is higher than that of the German one in the 1980s, the difference is shrinking over the years.

The empirical investigation also indicates that values of TGRs in the Japanese automobile industry improved less over the period of this study and it deteriorated after the global automobile industry crisis though it recovered to some extent from 2012 to 2014. On the other hand, the German automobile industry sped up in employing more superior production techniques during and after the crisis to enhance its competitiveness. Therefore, values of TGRs jumped up sharply in the German automobile industry and formed the largest gap with those of the Japanese in the end of the period of this study.

It is intriguing to notice that the above findings may well have been reflected in the world automobile markets. Though German and Japanese automakers both enjoy a sound reputation in quality, the German automobile industry has a higher-technological image. This can be attributed to the fact that the German one employs more superior production techniques and has better cost efficiency in comparison with the Japanese one.

Finally, we can draw the conclusion that the Japanese automobile industry may have to improve its cost efficiency higher and adopt more advanced technology in order to compete with the German one from the future perspective of the automobile industry in these two nations, From the viewpoint of the German automobile industry, it does have a significant overall cost-efficiency (CE*) advantage over the Japanese one however it also needs to address the relatively lower cost efficiency (CE) issue to sustain its competitive advantage.

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Notes

Note 1. The *LR* Test Statistics is calculated by the following equation: $\lambda=-2\{\ln[L(H_0)/L(H_1)]\}=-2\{\ln L(H_0)-\ln L(H_1)\}$. The $\ln L(H_0)$ of this equation is the log-likelihood-function value of the whole sample-country dataset in the model. Meanwhile, The $\ln L(H_1)$ is the sum of the Germany and Japanese log-likelihood-function values. λ is the Chi-squared distribution at 7 degrees of freedom.

Appendix A

Table A. The Cost Efficiencies and Meta-technology Ratios of the Individual Firms

Country	Firm	$CE_{(j)}$	QP	
			TGR	CE^*
Germany	Volkswagen	0.2305	0.4259	0.0983
	BMW	0.9364	0.6607	0.6187
	Benz	0.3077	0.4029	0.1245
Japan	Toyota	0.5332	0.6863	0.3530
	Honda	0.5012	0.4635	0.2226
	Mitsubishi	0.7261	0.3394	0.2479
	Mazda	0.6799	0.2996	0.2019
	Suzuki	0.7763	0.2859	0.2208

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Factors Influencing the Students' Choice of Accounting as a Major: The Case of X University in United Arab Emirates

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Abstract

This study tried to examine the factors that influence students' choice of accounting at X Private University. A questionnaire survey was used to collect data for the five hypotheses which were tested in this study related to the factors of reputation of the university or college, personal interests, job prospect, family members and peers, and media. The findings of the study revealed that personal interests, personality, job prospect, reputation of the university and media did not have a significant influence on the students' choice of accounting as a major. On the other hand, data analysis shows thatfamily members and peers, significantly related to the students' choice of accounting as a major. In other words, hypotheses H_1, H_2, H_3, and H_5 are rejected, whereas hypothesis H_4 is accepted. This research contributes to literature by identifying the relationship between the independent variables (reputation of the university, personal interests, job prospect, family members and peers, and media) and the dependent variable (student's choice of accounting as a major), and the results of the study give valuable information to university's management to know how they can influence families to increase the number of students enrolling in such university, especially accounting students. This research also tested a new variable, which is reputation of the university – a variable that is expected to influence students' choices.

Keywords: accounting, accounting students, major, university, UAE

1. Introduction

Accounting considers being the language used in business and traditional accounting process entail events that encapsulate the identifying, recording, classifying, and communicating the economic events of an organization to the interested users (Weygand, Kimmel & Kiso, 2012).In the current times accounting entails has a much wider range and is even more valuable member of the corporate strategic team as it is involved in the planning, evaluating, and forecasting of the firm's future. Specifically, accounting now includes consulting in information systems' design and management advisory services – two leading fields of its expansion.

Moreover, an accounting program, which is a detailed professional program deals with a wide range of accounting practices of definite criteria, suchas the Generally Accepted Accounting Principles (GAAP), and the International Financial Reporting Standards (IFRS). The program is also deals with the following fields, such as financial statements analysis, financial accounting, managerial accounting, taxation system, auditing, accounting theory, financial management, public accounting, and accounting information systems. Such an accounting program assists in preparing the students on the actual professional accounting practices and on the performance of interrelated business activities.

Despite the several advantages achieve by the accounting degree; according to the AICPA report of 1995/96 and 1998/99[1], the number of students that enrolled in accounting programs dropped by 23% and between 2003/04 and 2009/10, the number of awarded bachelor degree in accounting also decreased. However, the AICPA report also noted that the number of students who enrolled in accounting programs and obtained their Bachelors degree between 2009/10 and 2011/12 showed a 20% increase[2].

The issue lies in the notable declining number of accounting students graduating from some universities, which has becomes a primary concern to the profession of accounting (Hunt, Falgiani & Intrieri, 2004). For example, in

[1]The Supply of Accounting Graduates and the Demand for Public Accounting Recruits,AICPA (1997; 1999).

[2]The Supply of Accounting Graduates and the Demand for Public Accounting Recruits,AICPA (2012; 2013).

the context of the U.S., this decline has been related to several factors, such as business environment changes, decrease in the level of salary, alternative attractive careers, and lack of awareness regarding the accounting profession (Albrecht & Sack, 2000).

In the context of X University, the university follows the procedure of separating male and female, but low number of accounting students has forced the university to mix them in same Class, and this will influence the competitive advantages at this university in UAE, which has a distinct culture. The accounting choice of students has a tendency to be equivalence to the rest of the professional courses, such as law, engineering, economics, and others. Despite the fact that several researchers have examined the factors that affect the career selection of students when it comes to accounting, there is a gap of studies relating to accounting dedicated to the U.A.E. This paper, as a result is an attempt to investigate the factors which influence the students' accounting choice at X University, which is a private university in UAE. UAE is a modern and rich country in the Arab world, and the citizens of it have high incomes and suitable works compared with most of other countries. UAE has a distinct culture and as expected, the factors which influence the students' choice of accounting will be different. Our aim is to determine the factors influencing the students' choice of accounting to help X and other universities to increase the number of accounting students. To our knowledge, this is the first study conducted about a university in UAE, which has a distinct environment and a distinct citizen's culture and habits and this may influence the relationship between the dependent and independent variables in UAE which is part of the developing countries.

2. Literature Review

Several reasons have been contributed to the students' choice of accounting as their major in the institutions of higher education. For instance, students who are good in numbers and mathematics would be more prone to choose accounting as their major (Abu Shawarib, 2010). According to prior studies, factors including personal interests, gender, peer influence, family background, career opportunity and availability of jobs are some of the factors that affect the students' decision making in this matter. Moreover, the students' perceptions towards their major were studied by Rajabi (1994) and Strasser, Ozgur & Schroeder (2002) and they reported that the students generally decide on a major of study during their high school years according to the job market requirements. This explains why a significant proportion of students pick accounting as a major, but Walstrom et al. (2008) revealed that prospects in term of jobs and incomes are significant criteria for the selection of major.

In a related study, Leppel, Williams & Waldauer (2001) reported that gender, race, ability, financial stability requirement and parental occupation significantly affects the students' decisions while Didia & Hasnat (1998) and Bauer and Dahlquist (1999) stated that personality has a key role in the major selection. Similarly, in Worthington and Higgs (2004), the authors noted that the student choose their major according to their personality and personal interests. Add to this, students' characteristics may also have a role in determining their major. According to another study by Geiger and Ogilby (2000), the relationship between student perceptions of their first accounting course, their final grades and their instructors all play a role in choosing accounting as a major. Also, prior studies highlighted that family members and peers play a significant role in the student's choice (Hanson, 1994).

Additionally, Kenny et al. (2003) argued that peers persuasion assists students in their decision to study overseas or in their country, but this is only effective following the establishment of the intention of studying abroad. Along the same line, Pearson and Dellmann (1997) revealed that the role that siblings, friends, and the media play combined is less than the role of parents, whereas Dynan and Rouse (1997) stated that the influence of media and prior achievement contributes to the choice of the students' selection of major.

2.1 Reputation of the University or Faculty Member

A significant relationship was reported by Kaur and Leen (2006) between teaching reputation of faculty members and the choice of accounting as a major. In one hand, Kim et al. (2002) carried out a study on business major covering accounting, finance, general business, management, marketing, management information system and double major. They demonstrated that the primary reasons for major selection were interest in a career, good job opportunities, good fit with abilities, and tendency towards running a business, and projected earnings in the related career. On the other hand, the least selected reasons for major selection included reputation of university major, perceived quality of instructions, parents' influence, and the level and type of promotional information concerning the major and peer influence. On a similar note, Sharifah and Tinggi (2013) called for future studies to investigate the relationship between the university/college reputation and the decision to accept accounting as a major.

2.2 Personal Interests

There are number of researches revealed that student's interest in the topic considers one of the significant factors which influencetheir main choices. On one hand, (Lewis & Norris, 1997) and (Dynan & Rouse, 1997) defined how important interests and prospects as factors of determining the students' choice of economic as a major. On the other hand, (Easterlin, 1995) stresses that preference represent the main factor in the normal transformation of students to business or management courses. Fortin and Amernic in 1994 arrived to the result that both of interest and subject skills consider as an incentives for students to select the major of accounting. Add to that, thegenetic values such as solving logical and powerful problems and freedom to act are main aspects in influencing the students when selecting a major. Number of other studies, conclude that personality has a main role in the selection of major, and as an example on that (Taylor & Lawrence, 2000) discovered that students who own the senses, thoughts, and judgments on the different kinds of personality, were more prone to choose or select accounting as their major of study. In the same time, (Geiger & Ogilby, 2000) revealed that students decide on specializing in accounting through their very first accounting course. Their purpose will be performance, special instructors, and no changes in their prospective after that first course.

2.3 Job Prospective

There were studies in literature that exposed about students' choices for business as a major to be affected by the prestige, the job development, and the high earnings (Markham & Kim, 2002. They also declared that Job opportunities represent an important factor at influencing the students in choosing the accounting major (Ramadan, 1989), (Strasser et al., 2002) & (Odia and Ogied, 2013). Add to this, (Galotti & Kozberg, 1987) examine five factors which own the potential to influence the students in choosing the major, and those are: requirement policies to enter into the study of the major, job opportunities, college or university reputation, previous academic experiences, and courses' characteristics. According to some previous researchers, the job opportunities or the job perspectives consider the most significant factor to influence students' major selection.

2.4 Influences of Family Members and Peers

There is another identified important factor that affects students' achievement, their future study, and major choice which is parental or family members influence, particularly in the context of Arab countries. But studies conducted in this field, showed inconsistent results. Several studies with the exception of Cohen and Hanno (1993), found that parents, counselors, and friends' influences does not generally affect the students' decision. Also, Sharifah and Tinggi (2013) revealed that parents' influence did not affect the students' decision. In contrast, other studies revealed that family members and friends, and college or university professors influence the choice of accounting as a major. For instance, Mazzarol and Soutar (2002) reached the conclusion that family members, peers, and advisors (teachers, agents, and seniors) may have a hand at influencing the choice of the major selected by students. In contrast also, Pimpa in the study of (2007), he found that while parents do influence the choice of business major, those who choose accounting as their majors were not influenced. Additionally, students' major choices can also be influenced by the occupation held by their parents.

2.5 Mass Media

The importance of media has been examined due to the studies which revealed inconsistent findings. Even though Sharifah and Tinggi (2013) showed insignificant differences between the students' choice of major and other factors (past achievements, personal interest, family members, peers, and media, Macionis (2000) covered the mass media factor as a significant factor that influence students' choice of major and found that aside from family influence, mass media influence such choice. In the same time, Pearson and Dellmann (1997) investigated the impact of several factors, such as parents, relatives, peers, teachers, and media on students' major selection, and revealed that mass media positively impact such selection. In addition to that, Linda (2006) demonstrated that media impacts the students' major selection and declared that media like, internet, advertisement, television, and others influence the students' behavior whenever the students often browse through the media to acquire about information concerning universities or colleges, courses that offered, and available fields of studyprior to selecting a major of any kind.

3. Hypothesis Development

The primary objectives of this study to examine the factors which influence students' choice of accounting major at X University. The following sections focus on the main hypothesis related to the important objective regarding the study factors, which are reputation of the university or college, personal interests, job prospect, family members and peers, and media, and their influence on the students' choice of accounting as a major. The hypotheses in this study are as follow:

Hypothesis 1:

$H0_1$: Reputation of the university or college does not have a significant impact on student's choice of accounting major.

Ha_1: Reputation of the university or college has a significant impact on student's choice of accounting major.

Hypothesis 2:

$H0_2$: Personal interests do not have a significant impact on student's choice of accounting major.

Ha_2: Personal interests have a significant impact on student's choice of accounting major.

Hypothesis 3:

$H0_3$: Job prospect does not have a significant impact on student's choice of accounting major.

Ha_3: Job prospect has a significant impact on student's choice of accounting major.

Hypothesis 4:

$H0_4$: Family members and peers do not have a significant impact on student's choice of accounting major.

Ha_4: Family members and peers have a significant impact on student's choice of accounting major.

Hypothesis 5:

$H0_5$: Media does not have a significant impact on student's choice of accounting major.

Ha_5: Media has a significant impact on student's choice of accounting major.

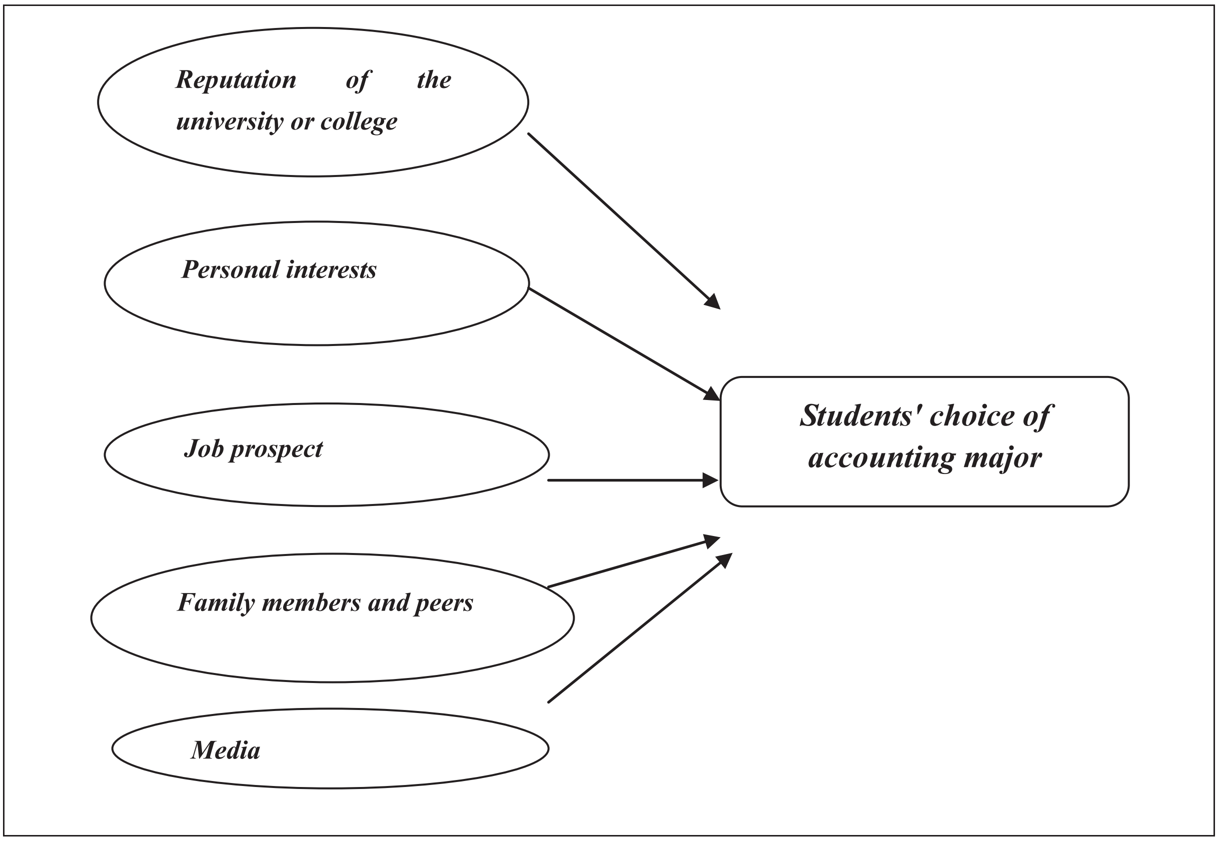

Figure 1.Research model

4. Methodology

Questionnaire was used in the current study to determine the factors, which influence students' choice of accounting as a major, specifically at X university, and 93 copies were distributed to target respondents, who are the accounting students at X university. However, 86 questionnaires were returned and authenticated representing a response rate of 92%. The goal of this questionnaire is examining the factors which influence the students' choice of accounting as a major at X university. The questionnaire which distributed in this study consists of two parts:

Part 1 – Demographic Profile: to obtain some information regarding respondent's background, gender, age, parents academic qualification, and tuition fees financing.

Part 2 – Factors Influencing Choice of Accounting as a Major: These factors are tested by regression analysis, and the process took place from 15th October to 2nd December 2014.

5. Data Analysis

For data analysis, descriptive statistic, Cronbach alpha, Pearson correlation test, and multiple regression analysis were used. The output from the above analyses were tested and confirmed for their reliability and consistency.

In this study the researcher used Cronbach alpha to measure internal consistency. Sekaran (2003) said that Cronbach alpha has some advantages. Firstly, Cronbach's alpha explains how much the correlation is probable between the items used and all other probable items that are measuring the same variable. Secondly, it measures the squared correlation between the score that is given in a particular scale and the score of all probable items, which would have been given in any questionnaire in the world. Since alpha can be considered a coefficient correlation, the Cronbach α is coefficient for each key variable used in the statistical analysis and Alpha showed more than 70%. We can say that they have considerable reliability because the values exceed conventional levels of acceptability (Sekaran, 2003). Descriptive statistic used in this study to measure the demographic variables, and multiple regression analysis were used to test the relationship between the dependent variable (the students' choice of accounting as a major) and the independent variables (reputation of the university or college, personal interests, job prospect, family members and peers, and media).

6. Results of the Analysis

6.1 The Demographics of the Study Sample

The results of the analysis on demographic variables are presented here**:**

A) Students Gender:

Respondents were asked to determine their gender. Table 1 shows that a total of 47 (54.7%) of respondents gender were males students, while 39 of them (45.3%) are female.

Table 1. Respondents Gender

Students Gender	**Frequency**	**percent**	**Valid percent**	**Cumulative percent**
Male	47	54.7	54.7	54.7
Female	39	45.3	45.3	100
Total	86	100	100	

B) Students Age:

Respondents were asked to indicate their age group or category. Table 2 reveals that majority of 10 (11.9%) of respondents belong to the age group of (18 to 19) years old, with the least agegroup being (20-21) at (8.1%). The rest of the results are shown in table 2 below:

Table 2. Students Age

Students Age	**Frequency**	**percent**	**Valid percent**	**Cumulative percent**
18-19	10	11.6	11.6	11.6
20 – 21	7	8.1	8.1	19.8
22-23	55	64	64	83.7
24 and above	14	16.3	16.3	100
Total	86	100	100	

C) Parents Academic Qualification:

Respondents were asked to state their fathers or mothers highest academic qualifications or education. Majority of the respondents answers in relation to their parents qualifications were equal to 52(60.5 %) who have master degree or higher, while 14 (16.3%) of respondent's parents are secondary school or Lower.The rest of the results are shown in table 3 below:

Table 3. Parents Academic Qualification

Parents Academic Qualification	**Frequency**	**percent**	**Valid percent**	**Cumulative percent**
Secondary School or Lower	14	16.3	16.3	16.3
Diploma or BSC	20	23.3	23.3	39.5
Master or Higher	52	60.5	60.5	44.2
Total	86	100	100	100

D) Financing for tuition fees:

Respondents indicated various sources of funding for their education. Majority of the respondents are financed through self financing 55 at (64%) and parent with the lowest financing of 5 at (5.8%). The results are shown in table 4 below:

Table 4. Financing for Tuition Fees

Financing for tuition fees in the university	Frequency	percent	Valid percent	Cumulative percent
Parent(s)	5	5.8	5.8	5.8
Loan	8	9.3	9.3	15.1
scholarship	18	20.9	20.9	36
Self Financing or others	55	64	64	43.1
Total	86	100	100	100

6.2 Factors Analysis

The developed hypotheses were analyzed with the help of regression analysis to see how strong is the relationship between the dependent variable (the students' choice of accounting as a major) and the independent variables (reputation of the university or college, personal interests, job prospect, family members and peers, and media). The results are shown in table 5 below:

Table 5.Regression Data Analysis

Independent variables	Beta	T	Sig.	R	R Square	F	Sig.
Reputation of the university	0.004	0.037	0.971			13.031	0.000
Personal interests	0.176	1.427	0.157				
Job prospect	0.025	0.221	0.826	0.670	0.440		
Family members and peers	0.455	3.844	0.000				
Media	0.128	1.132	0.261				

The following points are based on the above analysis:

1. There is no significant relationship between the reputation of the university and student's choice of accounting as a major, where the values of (Beta, T) reached (0.004, 0.037), and Sig. (0.971). Therefore the first hypothesis is rejected.
2. There is no significant relationship between personal interests and student's choice of accounting as a major, where the values of (Beta, T) reached (0.176, 1.427), and Sig. (.157) indicating that the second hypothesis is rejected.
3. There is no significant relationship between job prospect and student's choice of accounting as a major, where the values of (Beta, T) reached (0.025, 0.221), and Sig. (.0.826), which shows that the third hypothesis is rejected.
4. There is a significant relationship between family members and peers, and student's choice of accounting as a major. The values of (Beta, T) reached (0.455, 3.844), but Sig. (.0.00) and thus the fourth hypothesis is not accepted.
5. There is no significant relationship between media and student's choice of accounting as a major. The values of (Beta, T) reached (0.128, 1.132), and Sig. (0.261), indicating that the fifth hypothesis is rejected.

7. Conclusion

This study developed and distributed questionnaires to find out whether there is a positive relationship between the independent variables (Reputation of the university or college, personal interests, job prospect, family members and peers, and media), and the dependent variable (student's choice of accounting as a major). However, data analysis shows a significant relationship between family members and peers and student's choice of accounting as a major. These finding were consistent with several previous studies, such as Mazzarol and Soutar (2002) who said that family members and peers, may have an influence in the students' choice of the major. Pimpa (2007) also suggested that parents do affect students' choice of accounting as a major. But other previous studies, such as (Cohen & Hanno; 1993), and (Sharifah & Tinggi; 2013) found the influence of parents to be generally insignificant for the choice.Data analysis alsoshowed no significant relationship between the following independent variables (reputation of the university or college, personal interests, job prospect, and media), and the dependent variable (student's choice of accounting as a major). These finding is consistent or in conflict with previous studies (see the literature review section in this paper).

This research contributed to literature by identifying the relationship between the independent variables (reputation of the university or college, personal interests, job prospect, family members and peers, and media) and the dependent variable (student's choice of accounting as a major). These results give valuable information to university management to know how they can influence families to increase the number of students at X university, and especially, accounting students. This research also tested a new variable, which is reputation of the university or college – a variable that is expected to influence students' choices.

8. Recommendations and Suggestions for Future Research

Many opportunities have been discover for future work, but the followings consider the most applicable; first, this study concentrated on a single university, and so this may influence others and give them the possibilities to generalize on the findings. In this regard, a more intensifying set of studies is called for to attain more information regarding students' choices for the major of study in other universities in U. A. E, Middle East, and other countries. Second, a comprehensive review of literature reveals that studies committed to examining the effect for reputation of the university on the students' accounting choice as a major is few. Thus, future studies can try to provide more insight into the relationship between the two variables. The study variables were not selected as comprehensive factors in order to influence the students' choice of accounting as a major, but rather as examples of factors which have been proven to influence the same. Future studies can capitalize on the samples, works, and findings of this study by examining other factors related to religion and culture, and many others.

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The Association between Audit Committee Members' Multiple Directorship, Ownership and Earnings Management in Saudi Arabia

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Abstract

This study examines the association between the multiple directorship and stock ownership of audit committee members and companies' earnings management. Based on a sample of 98 Saudi nonfinancial listed companies, this study finds that the multiple directorship of audit committee members is not statistically associated with a reduction in the level of earnings management; however, the stock ownership of audit committee members is significantly related to a reduction in the level of earnings management.

The results of this study add to the field of knowledge as they provide evidence on the alignment hypotheses from less developed countries (i.e. Saudi Arabia). Furthermore, these findings are useful to understand the current situation of the multiple directorship and stock ownership of audit committee members and their role in improving the monitoring system and reducing earnings management in countries with special characteristics like Saudi Arabia (i.e., with a less developed legal system and new corporate governance regulations).

Keywords: corporate governance, multiple directorship, stock ownership, audit committee, earnings management

1. Introduction

In recent discussions of business structure, it has been posited that a separation of ownership and management could lead to a conflict of interest between managers and stakeholders. According to Fama and Jensen (1983), managers may behave opportunistically to maximize their own interest in a manner that might not be aligned with stakeholders' objectives. One example of the conflict of interest between management and stakeholders is earnings management, when managers use their judgments to manipulate earnings at the expense of shareholders.

The audit committee (AC) is an important factor in corporate governance (CG) that plays a vital role in monitoring the opportunistic behavior of management and thereby improving alignment with shareholders' interest.

Indeed, the monitoring role of the AC has received significant attention in the literature in recent years (for example: Abbott, Parker, & Peters, 2004; Bédard, Chtourou & Courteau, 2004; Farber, 2005; Klein, 2002; Krishnan, Wen, & Zhao, 2011; Lin, Li, & Yang, 2006); however, more recently, researchers and commentators have turned to exploring the effect of AC members' multiple directorships and stock ownership on companies' earnings management.

With regard to multiple directorship, prior studies have sought to examine the link between multiple directorship and firm performance (Ferris, Jagannathan, & Pritchard, 2003; Fich & Shivdasani, 2006) financial reporting quality (FRQ) (Sharma & Iselin, 2012) and firm value (Ahn, Jiraporn, & Kim, 2010; Beasley, 1996; Perry & Peyer, 2005). Two theoretical hypotheses have been advanced to explain the association between multiple directorship and earnings management. The reputation hypothesis contends that the number of directorships held by a director increases in accordance with the degree of director quality. In other words, directors who hold multiple directorships will be more sensitive about their reputation and present themselves as good monitors to obtain more directorial positions in other companies. This situation will result in an improvement in the monitoring system and a reduction in the level of earnings management. Studies that have investigated this hypothesis include Jiraporn, Singh, and Lee (2009) and Perry and Peyer (2005).

The second hypothesis is the busyness hypothesis. This hypothesis proposes that when directors hold more outside board seats, they become so busy that they cannot fulfill their monitoring responsibilities effectively (Ahn et al., 2010; Ferris et al., 2003; Fich & Shivdasani, 2006), which leads to a reduction in their ability to detect and prevent earnings management.

Another issue of this study concerns the association between AC members' stock ownership held and the level of earnings management. Most studies that have investigated this issue are based on the alignment hypothesis (Alves, 2012; Teshima & Shuto, 2008; Warfield, Wild & Wild, 1995). The advocates of this view argue that as directors' ownership of stock in their companies increases, they will more be aligned with the interests of shareholders and thus pay greater attention to monitoring the company's performance. This, in turn, will lead to an improvement in the quality of earnings and a reduction in the level of earnings management. (Note 1)

Unlike studies that have investigated the association between multiple directorship and stock ownership with earnings management at the level of the whole board (Ahn et al., 2010; Ferris et al., 2003; Fich & Shivdasani, 2006; Perry & Peyer, 2005), the current study aims to investigate the issue at the level of the company's AC.

Based on sample of 98 Saudi nonfinancial listed companies, this study finds that the multiple directorship of an AC member is not statistically associated with a reduction in the level of earnings management. One explanation for this finding is that there is a shortage of directors with multiple directorships who serve on ACs in Saudi companies. In fact, 41% of AC members have either single or double directorship, indicating that a gap exists between the current situation and the potential number of directors with multiple directorships who could add value to the AC's performance. On other hand, this finding may indicate that less value is placed on directors with multiple directorships by the company's board of directors, which might affect their role in monitoring financial reporting. Furthermore, it implies that Saudi companies are unable to adhere to the formal governance regulation issued by the Capital Market Authority (CMA), which encourages directors to be members of other boards, providing that they do not hold more than five directorships in joint stock companies simultaneously (Capital Market Authority [CMA], 2006).

However, the current study finds that the stock ownership of AC members is significantly associated with a reduction in the level of earnings management. This result is consistent with the alignment hypothesis, suggesting that when AC members hold more common stock in their companies, they will be more motivated to improve the quality of earnings, thereby leading to a lower level of earnings management.

In a supplementary analysis, this study finds that the stock ownership of AC members has a significant impact on the level of earnings management when the level of the stock ownership of AC members is high; however, it does not have an impact when the stock ownership of AC members is at an intermediate or low level.

The findings of this study can assist policy makers in Saudi Arabia who are concerned about the current situation of AC members' multiple directorships and stock ownership. It also places emphasis on the influence of AC members' multiple directorships and stock ownership on improving a company's monitoring system and reducing earnings management. Moreover, it adds to the knowledge of the field because while most studies on these issues have been carried out in the context of advanced economies, this study provides evidence from a less developed country (i.e., Saudi Arabia).

From a practical perspective, the current study provides evidence that can help companies strategize to benefit more from directors who serve on multiple boards. In addition, the findings of this study are important to initiate long-term plans designed to motivate directors to achieve the objectives of shareholders (for example, by offering stock options and other stock-related compensation plans).

The remainder of this paper is organized as follows: Section two presents the literature review and explains the hypothesis development. Next, section three describes the research methods used, and section four presents and discusses the results of the study. Finally, section five draws conclusions and offers suggestions for future research.

2. Literature Review and Hypothesis Development

A separation of ownership and management calls for improving the CG system to monitor the opportunistic behavior of management. One adverse outcome of divergences of interest between management and shareholders is earnings management. This occurs when managers intentionally mislead investors by altering financial information to maximize their own interest (Schipper, 1989). (Note 2)

To reduce the level of earnings management, companies must improve their CG system. An AC is an important element of CG that helps improve the quality of earnings and reduces the likelihood of earnings management (Abbott, Park, & Parker, 2000; Abbott et al., 2004; Farber, 2005). In particular, studies have examined the impact of specific characteristics of AC effectiveness on earnings management, including AC independence, competency, and diligence (Bédard et al., 2004; Klein, 2002; Krishnan et al., 2011).

For instance, a study undertaken by Klein (2002) examined the relationship between the AC, board characteristics and earnings management and found that AC independence was negatively related to the reduction in earnings management, as proxied by abnormal accrual. This result supported the hypothesis that an AC with more independent directors is more effective in monitoring the corporate financial accounting process.

Likewise, Bédard et al. (2004) investigated the effects of AC independence, expertise, and activities on aggressive earnings management. Their results revealed that aggressive earnings management was negatively associated with the presence of a majority of independent directors, with the presence of financial experts, and with the presence of a clear mandate defining the oversight responsibilities of the AC.

Another study was conducted by Velte and Stiglbauer (2011), who examined whether the establishment of an AC that had independent members with financial expertise could reduce the likelihood of earnings management. Their evidence showed a significant negative relationship between the independence and financial expertise of AC members and earnings management.

While most literature has focused on the associations between specific characteristics of the AC (i.e., independence, competency, and diligence), less attention has been paid to other important characteristics of AC members, such as holding multiple directorships and holding common stock ownership.

2.1 AC Multiple Directorship and Earnings Management

Literature on the association between multiple directorship and earnings management has been based on two competing hypotheses. Under the reputation hypothesis, it is proposed that directors gain a diversified set of information when they hold multiple board seats (Booth & Deli, 1996).

To be eligible for a second term on a board, directors with multiple directorships should offer better monitoring work and send the signal that they are good monitors. This would imply that they were more knowledgeable about the incentive to manage earnings and more effective in fulfilling their monitoring role (Ahn et al., 2010; Sharma & Iselin, 2012). In particular, Ahn et al. (2010) found that companies that were acquired with boards where the majority of outside directors served on other board seats experienced negative abnormal returns.

In this regard, Ferris et al. (2003) found that the initial appointment of directors with multiple directorships was well accepted by shareholders, who expected that such directors would benefit the firm in terms of improving the quality of financial reporting.

In addition, directors with multiple directorships who serve on an AC gain the respect of management and would be in a better position in working with auditors (Sharma & Iselin, 2012). This suggests that multiple-directorship directors would work evenly with the different interest groups in companies and would be more aligned with the interest of shareholders rather than acting for management at the expense of shareholders.

It is expected, based on the reputation hypothesis, that directors with multiple directorships will be more qualified (Fama & Jensen, 1983) and provide better monitoring work than those with single and double directorship, which in turn leads their presence to improve the quality of earnings and reduce the level of earnings management.

In sum, this hypothesis predicts a negative relationship between multiple directorship and earnings management. Thus, it is predicted that as the percentage of multiple-directorship members in the AC increases, the quality of the monitoring system increases, leading to a reduction in the level of earnings management.

The alternative hypothesis is the busyness hypothesis. Advocates of this view argue that the more multiple directorships board directors hold, the lower the directors' effectiveness. Directors with multiple directorships have limited time and resources. When they serve on multiple boards, they will be so busy that they will be less effective in fulfilling their monitoring responsibilities for any specific company (Ahn et al., 2010).

Another challenge related to the busyness of directors with multiple directorships is a limitation of having the required information for monitoring decisions. Furthermore, as directors serve on multiple board seats, they will have less time to spend on the AC (Jiraporn et al., 2009), which adversely influences their ability to offer good monitoring.

In this regard, Fich and Shivdasani (2006) found that the companies that had directors with multiple directorships had weaker corporate governance. In addition, the empirical results of Beasley (1996) revealed that as the number of directors with multiple directorships decreased, the likelihood of fraudulent financial reporting decreased. These results imply that directors who serve on multiple boards are so busy that they cannot contribute to the effectiveness of the monitoring system.

Similarly, Sharma and Iselin (2012) reported a positive association between AC multiple directorship and financial misstatements, suggesting that AC members who serve on multiple boards may not offer better monitoring.

It is expected, consistent with the busyness hypotheses, that ACs with multiple directorships are unable to carry out their monitoring functions effectively. In other words, directors who serve on multiple boards spend less time on AC monitoring functions, which affects their effectiveness in monitoring financial reporting and ultimately leads to a higher level of earnings management.

Overall, because studies reported in the literature have provided inconsistent findings on this issue, the current study did not suggest any direction with respect to the association between the multiple directorship of AC members and earnings management. Thus, the first hypothesis of the current study is developed in alternative form, as follows:

H1: There is association between the percentage of AC members with multiple directorships and earnings management.

2.2 AC Stock Ownership and Earnings Management

In general, studies have focused on the alignment hypothesis to predict the association between stock ownership and earnings management. The alignment hypothesis contends that companies use stock ownership to encourage their directors to be more committed and aligned with the interest of shareholders (Jensen & Meckling, 1976). (Note 3)

The advocates of this view argue that when directors hold a stock interest in their companies, they become, by default, shareholders; thus, they will be more motivated to achieve the goals of shareholders (Ahn et al., 2010; Jiraporn et al., 2009) and have less incentive to engage in aggressive reporting.

In this regard, Teshima and Shuto (2008) theorized that directors, who hold stock in their companies, perform to a higher level, including in activities related to the financial reporting process. Meanwhile, Jensen (1993) argued that the more equity outside directors hold in their companies, the more effective they are in monitoring top management.

Consistent with this view, Beasley (1996) found that as the level of ownership of a firm's stock held by outside directors increased, the likelihood of fraudulent reporting decreased. Likewise, the results of Shivdasani (1993) provided evidence that the higher the level of outside directorial ownership, the greater the quality of monitoring.

Thus, it is proposed that the higher the level of ownership of the firm's stock held by directors, the greater the monitoring quality, leading to lower incentives to manage earnings. Hence, to examine the association between the levels of stock ownership held by AC members and earnings management, the second hypothesis of this study is stated, in alternative form, as follows:

H2: There is negative association between the percentage of AC members holding common stock shares and earnings management.

3. Method

3.1 Sample Selection

The initial sample is drawn from the Saudi Stock Exchange (TADAWL), consisting of all Saudi nonfinancial listed companies in 2013. The current study focuses on one fiscal year (2013) because data is not available from the TADAWL as much as needed. The difficulties in collecting data from the official site of TADAWL resulted in small sample size. Nonetheless, the sample represents more than two-thirds of Saudi non-financial listed companies in 2013.

Banks and insurance companies are excluded from the sample due to their unique regularity system. In addition, the financial statements of such companies are not under the regulations of CMA, while they are in concurrence with the regulations of the Saudi Arabian Monitory Agency (SAMA). Notably, these specific regulations would result in differences in incentives and opportunities to exercise earnings management.

The criterion for using the modified Jones model specified by DeFond and Jiambalvo (1994), i.e., a minimum of six cases in each industry, is met by the sample. On the other hand, the sample excludes outliers and cases with incomplete data. Overall, these criteria yield a final sample of 98 Saudi nonfinancial listed companies, as shown in Table 1.

Table 1. Sample Size

Initial sample	114
Less: companies with incomplete financial data	3
Less: companies cannot be attributed to specific sector	5
Less: outliers	8
Total companies removed	16
Final sample	98

For the purpose of applying the modified Jones model, both TADAWL and the Global Industry Classification Standard (GICS) are used to classify the sample into certain industries. This yields eight industries, each of which contains at least six observations. Although the sample size is relatively small, which might limit the generalization of the results, it represents more than two thirds (86%) of Saudi nonfinancial listed companies in 2013.

3.2 Model and Variables

Consistent with prior research, the current study estimates the following regression model:

AbnAccrual= β0+ β1ACMULTID+ β2ACOWNR+ β3LEV + β4LOSS+ β5SIZE+ β6LEV+ β7B-EFCTV+ β8AC-EFCTV+e

where AbnAccrual is the absolute value of discretionary accruals estimated by the modified Jones (1991) cross-sectional model (Bartov, Gul, & Tsui, 2000; DeFond & Jiambalvo, 1994).

Other variables in the model are measured as follows:

ACMULTID	=	The percentage of AC members who hold three or more directorships
ACOWNR	=	The cumulative percentage of common stock shares of the company held by AC members
SIZE	=	The natural log of beginning year's assets
LEV	=	The ratio of total liabilities to total assets
LOSS	=	Dichotomous variable taking 1 if the firm reported a net income below 0 in 2013 and 0 otherwise
B-EFCTV	=	A composite index of factors representing the effectiveness of the board. One point is added to the B-EFCTV each time one of the following three factors is higher than the sample median: (1) board size: the number of board members, (2) board independence: the percentage of independent board members, and (3) board meeting: the number of board meetings held
AC-EFCTV	=	A composite index of factors representing the effectiveness of the AC. One point is added to the AC-EFCTV each time one of the following three factors is higher than the sample median: (1) AC size: the number of AC members, (2) AC independence: the percentage of independent AC members, and (3) AC meeting: the number of AC meetings held.

ACMULTID is the multiple directorships held by outside directors serving on the AC. All directors who are not currently employed by the company are categorized as outside directors. This definition is in concurrence with the definition of the CMA (2006). In addition, this definition allows researchers to capture the effect of the monitoring role of AC directors with multiple directorship (Ahn et al., 2010; Ferris et al., 2003). Consistent with the study of Ferris et al. (2003), this variable is measured by the percentage of AC members who hold three or more directorships. (Note 4)

ACOWNR is the stock ownership held directly or indirectly by AC members. Consistent with prior studies (Beasley, 1996; Lin et al., 2006), this variable is measured by the cumulative percentage of common stock shares of the company held by AC members. (Note 5)

Control Variables

Consistent with prior studies (Beasley, 1996; Klein, 2002; Lin et al., 2006), our model includes the following variables:

First, LEVERAGE (LEV): This variable is measured by the ratio of total liabilities to total assets; it is expected to find a positive relationship between leverage and earnings management. Second, LOSS (LOSS): this variable is measured using a dichotomous variable taking 1 if the firm reported a net income below 0 in 2013 and 0 otherwise. The expected sign for loss is positive, implying that when loss increases, earnings management also increases. Third, SIZE (SIZE): this variable is measured by the natural log of the beginning year's assets. It is expected that earnings management is negatively associated with the size of companies, implying that the larger the company, the lower the extent of earnings management. Using one composite index for both the board and AC effectiveness as in Huang, Wang, and Zhou (2013) could be a noisy measure of effectiveness. Instead, in this study, each variable is measured separately. In particular, B-EFCTV is used to capture the effect of board effectiveness on earnings management, while AC-EFCTV is used to control for the effect of AC effectiveness on earnings management. Specifically, the variable B-EFCTV is a single composite index for board effectiveness that includes board independence, meeting, and size, as adopted in prior studies (Klein, 2002; Xie, Davidson, & DaDalt, 2003). On the other hand, the variable of AC-EFCTV is a single composite index for AC effectiveness that includes AC independence, meeting, and size, as adopted in prior studies (Abbott et al., 2004; Bédard et al., 2004; Klein, 2002).

4. Results and Discussion

4.1 Descriptive Statistics & Regression Results

Table 2 summarizes the descriptive statistics of the sample. The mean (median) of abnormal accrual is .049 (.04); the mean (median) stock ownership of AC members is .06 (.005); and the mean (median) multiple directorships per AC member is .12 (0). These results indicate that the percentage of AC members holding multiple directorships in Saudi companies is very low, approaching zero.

Table 2. Descriptive Statistics

Variable	Minimum	Maximum	Mean	Median	Standard deviation
AbsAccrual	0	0.13	0.049	0.04	0.037
ACMULTID	0	0.75	0.12	0	0.18
ACOWNR	0	1.45	0.06	0.005	0.17
SIZE	5.14	8.53	6.4	6.32	0.66
LEV	0.01	0.8	0.36	0.36	0.21
LOSS	0	1	0.14	0	0.35
B-EFCTV	0	3	1.8	2	0.71
AC-EFCTV	0	3	1.78	2	0.68

Note. See model specification in section 3 for definitions of variables.

The results reveal that the independent variables are not strongly correlated to each other, with none of the correlation coefficients exceeding .4 (Table 3). The results of the standard regression diagnostics are within acceptable limits (Table 4). The variance inflation factor (VIF) scores are all below ten, implying that the problem of multicollinearity is not significant (Hair, Anderson, Black, Babin, &Tatham, 2006). Eight cases are excluded after the initial testing for outliers. However, the application of the Mahalanobis distance values test, the final test used to test for outliers, reveals no further multivariate outliers among cases because the Mahalanobis values are less than the critical chi-square of 24.32 for the model at an alpha level of .001. The overall model is significant (p=.020), with an adjusted R^2 of .099.

Table 3. Pearson Correlation Coefficients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
AbsAccrual(1)	1	0.11-	-.17*	-.27*	0.06	0.08	0.05	-0.02
ACMULTID(2)		1	-0.1	0.1	0.04	-0.11	0.17	-0.01
ACOWNR(3)			1	-0.12	-0.17	-0.14	-0.11	-0.1
SIZE(4)				1	.41*	-0.09	0.13	0.04
LEV(5)					1	0.14	-0.12	-0.05
LOSS(6)						1	0.09	0.13
B-EFCTV(7)							1	.18*
AC-EFCTV(8)								1

Note. Variables are as defined in model specification in section 3.

Table 4. Regression Result

AbnAccrual= β0+ β1ACMULTID+ β2ACOWNR+ β3LEV + β4LOSS+ β5SIZE+ β6+ β7B-EFCTV+ β8AC-EFCTV+e

Variables	Exp sign	β	VIF	t-value	p-value*
Intercept		0.16		4.2	0
Control					
SIZE	-	-0.02	1.31	-3.45	0.001
LEV	+	0.04	1.34	1.8	0.075
LOSS	+	-0.003	1.12	-0.26	0.794
B-EFCTV	-	0.01	1.14	1.29	0.2
AC-EFCTV	-	-0.002	1.06	-0.31	0.76
Experimental					
ACMULTID	-/+	-0.026	1.06	-1.23	0.22
ACOWNR	-	-0.005	1.08	-1.91	0.059

R^2 =.16, Adjusted R^2= 0.099, F-ratio = 2.526, Signif. $F < 0.05$, n =98

Note. *p-values represent one-tailed tests when direction of coefficient is consistent with expectations; variables are as defined in model specification in section 3.

The regression results show that the multiple directorship of AC members is not significant (p= .221), implying that holding multiple directorships is not associated with a reduction in AC members' level of earnings management. Hence, the first hypothesis of this study is not supported. A possible reason for this result is that there is a shortage of multiple-directorship directors serving on ACs in Saudi companies. On average, the percentage of AC members holding multiple directorships in Saudi companies is very low, approaching zero (.12). The descriptive information also shows that approximately 41 percent of directors serving on ACs hold single or double directorship, a further indication of the shortage of AC members holding multiple directorships (three or more directorships) in Saudi companies. The result also implies that having AC members with multiple directorships receives low priority from the board. However, it also implies that Saudi companies tend to not adhere to the formal governance regulation issued by CMA, which encourages directors to be members of other boards of directors (CMA, 2006). While that is implicitly mentioned in the corporate governance regulation, it is recommended that directors not be a member of more than five joint stock companies simultaneously (CMA, 2006). This regulation indicates that CMA does consider the role of multiple directorship in improving the monitoring system.

Overall, these results are consistent with those documented in Ferris et al. (2003), who found no relationship between directorship and the likelihood of securities fraud litigation. However, the current study is not in concurrence with the results reported in other prior studies (Beasley, 1996; Sharma & Iselin, 2012). The differences may reflect the lack of importance attached to having AC directors with multiple directorships in Saudi listed companies compared to companies in advanced countries.

Regarding AC stock ownership, the results reveal that the stock ownership of AC members is significantly negatively associated with the level of earnings management, at the ten percent alpha level (marginally significant at the five percent alpha level; p=.059). This result implies that when the cumulative percentage of the stock interest of the company held by AC members increases, the level of earnings management decreases. Hence, the second hypothesis of this study is supported. (Note 6)

This result is in support of the alignment hypothesis, which proposes that outside directors will be more aligned with the interests of shareholders if they hold a stock interest in the company. As a consequence, the monitoring role of outside directors will increase, and the level of the earnings management will decrease. The result is also consistent with those of Beasley (1996), who found that as the stock ownership of outside members increased, the likelihood of financial statement fraud decreased.

In terms of control variables, company size (SIZE) is statistically significant at the five percent alpha level (p=.001), while leverage is significant at the ten percent alpha level (p=.075). The coefficient of size (SIZE) is negative, as predicted, implying that the larger the company, the lower the extent of earnings management. Likewise, the coefficient of leverage (LEV) is consistent with the expectation, as the result shows a positive effect of leverage on the incentive to exercise earnings management in Saudi nonfinancial listed companies.

However, contrary to expectations, this study finds that AC effectiveness, as measured by the composite index of factors including the size, independence, and frequency of meetings of the AC, is not significant (p= .76). Similarly, the results show that board effectiveness is not an important factor in reducing the level of earnings management, as measured by the composite index of factors including the size, independence, and frequency of meetings of the board (p= .20). Finally, the results reveal that there is no relationship between the company's loss and the level of earnings management (p= .794).

4.2 Supplementary Analysis

This analysis addresses three issues: the alternative measurement of variables, the relation specification, and the endogeneity test.

4.2.1 The Alternative Measurement of Variables

Prior studies have used several measurements to measure multiple directorship, including the total number of other directorships held by independent directors divided by the number of outside directors (Ahn et al., 2010); the maximum number of multiple directorships held by AC members (Ferris et al., 2003); a dummy variable taking one if at least one AC member serves on three or more other board seats and zero otherwise (Sharma & Iselin, 2012); and the average number of multiple directorships held by outside directors (Ferris et al., 2003). The results (not reported) reveal that none of the above measurements is significant (p=.949; p=.622; p=.369; p=.240, respectively), suggesting that the multiple directorship of AC members has no significant impact on earnings management.

In addition, the number of multiple directorships based on Saudi regulator criteria, which limit multiple directorship to holding 5 other board seats, is used to measure multiple directorship. The results reveal that the multiple directorship of AC members is not significant (p=.497), implying that this criterion is not important to improve the monitoring role of directors with multiple directorships. This result suggests that Saudi regulators should review the current regulation on holding multiple directorships. While it is an unparalleled regulation compared to those applied in advanced countries, it has no impact on FRQ. (Note 7)

4.2.2 Relation Specification

The aim of this test is to examine whether the relations between the variables differ based on the variation in the level of independent variables. In this context, Ahn et al. (2010) found that the impact of multiple directorship was constant across the entire range of multiple directorship.

The range measure is used to divide the sample into five thresholds based on the median value. This requirement yields five models to test the proposition that the impact of the multiple directorship of AC members might change across the entire range of the multiple directorship of AC members.

In model 1, ACMULTID is replaced by the variable defined as a dummy variable taking one if the percentage of AC members who hold three or more directorships is above the median value and zero otherwise. Based on information in Table 5, the results reveal that the multiple directorship of AC members is not significant (p=.32). In models 2 and 3, the sample is divided based on two threshold levels representing the interquartile range (i.e., the scores between the first quartile and the third quartile) and the top quartile. The results show that the association between the multiple directorship of AC members and the level of earnings management does not differ across the different levels of AC multiple directorship (p=.97; p=.87). In models 4 and 5, two other threshold points are identified representing the scores between the median to the third quartile and the scores below the median value. The results indicate that the multiple directorship of AC members is not significantly associated with a reduction in earnings management (p= .51; p= .32, respectively). Overall, the results of the supplementary analysis confirm that the multiple directorship of AC members is not significantly associated with a reduction in the level of earnings management. In other words, the association between the multiple directorship of AC members and earnings management is constant for the low, intermediate, and high levels of the multiple directorship of AC members.

Table 5. Supplementary Analysis: Multiple Regression of Earnings Management on AC Multiple-Directorships (model 1-5)

Variables	Exp sign	Model 1	Model 2	Model 3	Model 4	Model 5
Control						
SIZE	-	.00*	.00*	.00*	.00*	.00*
LEV	+	.11	.09**	.10	.10	.11
LOSS	+	.95	.92	.94	.93	.95
B-EFCTV	-	.37	.28	.32	.31	.37
AC-EFCTV	-	.91	.80	.72	.85	.90
Experimental						
ACMULTID	-/+	.32	.97	.87	.51	.32
ACOWNR	-	.08**	.08**	.06**	.08**	.08**

Note. *, ** Represent statistical significant at P<.05, P<.10, respectively. One-tailed test for a directional predicted sign, and two-tailed otherwise.

With regard to stock ownership by AC members, the current study also examines whether the relation between the stock ownership of AC members and earnings management differ based on the level of stock ownership of AC members. In this context, Warfield et al., (1995) found that an inverse relation between the stock ownership held by directors and the level of earnings management was constant for different levels of stock ownership.

To test whether the relations change based on AC members' level of stock ownership, the median value is used to identify four threshold points. Hence, the current study develops four models with four variables representing different levels of AC ownership: the scores below the median value (ACOWNR1); the scores between the median value (i.e., the second quartile) and the third quartile (ACOWNR2); the scores above the median value (ACOWNR3); and the scores above the third quartile (ACOWNR4).

The results (not reported) show that the coefficients of three first variables (ACOWNR1, 2, and 3) are not significant (p= .22, p= .23, p=226, respectively). However, the coefficient of the fourth variable (ACOWNR4) is significant with the expected sign (p= .004), suggesting that as the stock ownership of AC members increases, the level of earnings management decreases only in situations where there is a high level of AC ownership.

4.2.3 Endogeneity Test

It has been reported in the literature that the presence of multiple directorship is determined exogenously by external factors that might affect study results (Booth & Deli, 1996; Brickley, Linck & Coles, 1999; Ferris et al., 2003). (Note 8)

Conversely, it is suggested that while AC members' multiple directorship influences the level of earnings management, the presence of multiple directorship itself might also be influenced by the level of earnings management. In this regard, Srinivasan (2005) found that misstated companies that had directors with multiple directorships suffered from labor market penalties; in particular, such directors lost their positions on ACs following a restatement.

To alleviate this concern, the current study uses a simultaneous equation approach as in (Coles, Daniel, & Naveen, 2008). This approach is based on using a two-stage least squares (2SLS) regression. Several variables are included in the 2SLS model to determine the variability in endogenous variables, including board independence (B-IND), board size (B-SIZE), company size (SIZE), return on assets (ROA), and earnings management, as measured by abnormal accrual (AbnAccrual).

The results, as reported in Table 6, show that the multiple directorship of AC members is not influenced by the level of earnings management (p= .944). On the other hand, the results show that stock ownership of AC members is significantly negatively associated with the reduction in the level of earnings management (p=.066). Overall, the results indicate that endogeneity is not a critical issue in the relation between the multiple directorship of AC members and companies' earnings management.

Table 6. Endogeneity Results

Independent variables	AbnAccrual	AC multiple-directorships
B-EFCTV	.258	
AC-EFCTV	.959	
ACMULTID	.463	
ACOWNR	.066*	
LEV	.165	
SIZE	.017**	.292
AbnAccrual		.944
ROA		.147
LOSS	.702	
B-IND		.489
B-SIZE		.025**

Note. *(**) Significant at the .10 (.05) level.

5. Conclusion

The aim of this study is to examine the association between the multiple directorship and stock ownership of AC members and companies' earnings management.

With regard to the multiple directorship of AC members, prior studies are based on two competing hypotheses. Under the reputation hypothesis, it is proposed that directors with multiple directorships offer better monitoring work than do directors with single and double directorships. It is assumed that they will be more effective in fulfilling their monitoring role and thus contribute more to earnings quality in terms of reducing the level of earnings management. On the other hand, the busyness hypothesis contends that as the number of multiple directorships held by directors increases, they become so busy that they are unable to fulfill the requirements of their monitoring role. This, in turn, will adversely affect their effectiveness in reducing the level of earnings management.

Contrary to expectations, the current study finds that the multiple directorship of AC members is not statistically associated with any reduction in the level of earnings management. This might be due to the shortage of multiple-directorship directors serving on ACs of Saudi companies. The descriptive information shows that approximately 41 percent of directors serving on ACs have single or double directorships. This result implies that management gives low priority to ensuring that AC members hold multiple directorships. Furthermore, it suggests that Saudi companies tend to not to adhere to the provisions of the formal governance act issued by CMA, which encourages directors to hold memberships on other boards of directors.

In terms of stock ownership by AC members, the alignment hypothesis contends that when members of a board hold quantities of stock, they are more committed in their work, which leads them to perform better in monitoring activities. It is proposed, based on this argument, that the greater the percentage of stock ownership held by AC members, the higher the quality of the monitoring system, leading to a reduction in the level of earnings management.

The results of the study provide evidence supporting the alignment hypothesis, suggesting that the size of the stock ownership of AC members has a significant impact on earnings management in Saudi nonfinancial listed companies.

A supplementary test provides additional evidence for the positive impact of stock ownership by AC members on the level of earnings management. Interestingly, the finding shows this relationship is significant only when the level of stock ownership by AC members is high; it is not significant for intermediate and low levels of AC stock ownership.

This study is among the few studies that seek to provide evidence on the association between multiple directorship and the stock ownership of AC members with companies' earnings management. It sheds light on the current debate concerning the impact of both the multiple directorship and stock ownership of AC members on earnings management. While most previous studies have been conducted in advanced countries, this study presents evidence from an emerging economy, i.e., Saudi Arabia.

The findings of the study are useful for directors of Saudi companies to initiate long-term plans to overcome the shortage of multiple-directorship directors serving on ACs and to develop strategies to increase the stock ownership of AC members as a means of achieving better monitoring outcomes.

The findings can also provide regulators (i.e., CMA) with a better understanding of the current situation of the multiple directorship and stock ownership of AC members in Saudi companies. This may help improve the regulations related to ACs as a corporate governance mechanism and, specifically, regulations related to the multiple directorship and stock ownership of AC members.

A concern that might be raised regarding the result of this study is the sample size. In fact, because the difficulties in collecting data from TADAWL, the current study focuses on one fiscal year (2013). Although the sample size represents more than two-thirds of Saudi non-financial listed companies in 2013, it might be relatively small, which might limit the generalization of this study. Researchers should concern this issue and increase the sample size to include more than one fiscal year as data become more available in the future.

To conclude, the following opportunities are suggested for future research in this area: an investigation into the effect of various factors that might influence the effectiveness of multiple directorship, the stock ownership of AC members and their impact on earnings management. The impact of the multiple directorship and stock ownership of AC members on the value of a firm might also be explored in future research, specifically in an emerging economy such as that of Saudi Arabia.

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Notes

Note 1. Contrasting to the alignment hypothesis, the entrenchment hypothesis proposes that as ownership increases, directors with a higher percentage of ownership might control the companies in a manner that limits the role of the monitoring system, including the AC. Such a situation could lead to an increased incentive to manage earnings.

Note 2. As cited in Beneish, 2001.

Note 3. Considering that the CMA requires each company to set up an AC with not less than three members and that only outside members are eligible for membership of the AC, the association between managerial ownership and earnings management is beyond the scope of this study.

Note 4. Outside directors can be either grey directors or independent directors (Beasley, 1996). Based on this categorization, the grey directors include all outside directors who are not viewed as being independent from management, such as consultants/ suppliers to the company or investment bankers; while the independent directors include all outside directors excluding grey directors; since outside directors(including both grey and independent directors) are only eligible for membership of the AC according to CG regulation in Saudi Arabia, the measure of AC multiple-directorships in this study is based on multiple-directorships of the outside directors who serve on AC.

Note 5. To fulfill the assumption of normality, the log of ACOWNR is used. After making transformations for this variable, the value of skewness and kurtosis reveal that all variables in the model fulfill the assumption of normality.

Note 6. The result is the same when AC multi-directorship and Ac ownership are isolated from the analysis.

Note 7. Since most prior studies in the area of stock ownership are interested in the impact of managerial ownership on the quality of earnings (Alves, 2012; Huang et al., 2013; Warfield et al., 1995), the alternative measurement of stock ownership is beyond the scope of this study.

Note 8. None of the literature reported an endogeneity problem with the relation between AC outside ownership and earnings management.

Appendix

Abnormal Accrual

Abnormal Accrual (AbnAccrual) is defined as follows:

$$NDAC\ ijt = \alpha_j\ [1/Aijt\text{-}1] + \beta 1j\ [\Delta REV_{ijt} - \Delta REC_{ijt}/A_{ijt}\ \text{-}1] + \beta 2j\ [PPE_{ijt}/A_{ijt}\ \text{-}1] \quad (2)$$

$$AbnAccrual_{ijt} = TAC_{ijt}\text{-}NDAC_{ijt} \quad (1)$$

where

ΔREV ijt	=	the change in revenue for firm i in industry j between year t-1 and t
PPE ijt	=	gross property, plant and equipment for firm i in year t
A ijt -1	=	total assets for firm i in industry j at the end of the previous year
ΔREC ijt	=	the change in receivables for firm i in industry j between year t-1 and t

where αj, β1j and β2j are industry-specific coefficients estimated from the following cross-sectional regression:

$$TACijt/Aijt\text{-}1 = \alpha j\ [1/A\ ijt\ \text{-}1] + \beta 1j\ [\Delta REVijt/\ A\ ijt\ \text{-}1] + \beta 2j\ [PPE\ ijt\ /\ A\ ijt\ \text{-}1] + \varepsilon ijt \quad (3)$$

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Interrelated Factors Influencing the Adoption Decision of AIS Applications by SMEs in Jordan

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Abstract

This study aims to identify the main factors that either facilitating (motivating) or inhabiting the adoption decision of AIS by small –medium sized companies in Jordan. In order to accomplish the research objectives, a conceptual framework was designed. The conceptual framework includes three major interrelated factors: organizational, technological and environmental factors. The data for this research were collected through email survey with 101 respondents. The target respondents were the small-medium sized companies in Jordan and the key respondent approach was used. A group of twenty factors, employed as variables from the previous studies and models of adoption were listed and examined in a neutral manner, without pre-classifying them as barriers or incentives, through email surveys sent to key respondent in the SMEs. Respondents were asked to indicate how these factors influence their AIS adoption decisions. Furthermore, a comparison analysis has conducted to show how these factors are perceived differently among those who have adopted as AIS, those that will not adopt it all and those that might adopt it in the near future. The finding showed that only twelve of these factors were found significant, eight labeled as incentives and four labeled as barriers. However, the set cost factor was the only shared one perceived as a barrier among all groups. The results showed the three groups adopt perceive factors differently. The research has finalized with some theoretical and practical implications and recommendations.

Keywords: AIS (Accounting Information System), adoption, SME (Small-Medium Sized) Enterprises, Jordan

1. Introduction

1.1 Research Background

The main function of accounting is to provide the users with reliable quantitative information. The AIS is an information system that is developed to make the performance of accounting functions more effective. Accounting Information Systems (AIS) are a tool which, when integrated into the field of Information and Technology systems (IT), were developed to help in the management and control of issues related to firms' financial activities. But the high progress and spread in technology has opened up the possibility of producing and practicing accounting information from a management strategic perspective. Due to its importance for all firms, the adoption of AIS could be highly important for medium-sized and small, particularly those which work under the conditions of uncertainty in the competitive market.

Small and Medium Enterprises (SMEs) play a significant role in all business over the world and are viewed as the key initiative of innovation and growth. Their role to the economy is well recognized worldwide (Grande et al., 2011, Awosejo et al., 2014). SMEs are responsible for the employment creation and economic growth. In Jordan, they account for over 80% of all companies (Jordan National Statistical Year Book, 2014). Previous studies (Ismail and King, 2007; Guo and Feng, 2008; Awosejoet al., 2014) showed that large companies were highly likely to adopt AIS than SMEs. This might be due to the high cost associated with the adoption of AIS. In fact, accounting information system is beneficial and valuable to the all types of business regardless their size, it can provide help during all the process of decision making and enhance business performance and strategies (e.g., Romney and Steinbart, 2014). Consequently, many organizations should adopt and practice AIS in order to manage, execute and control adequately in all areas and functions. Furthermore, the development of AIS enhanced the role played by accounting departments and contributed to the professional added-value of their organizations. Human error factor within automated AIS developed by software experts occurs much less if compared to non-automated systems (Ilhan and Veyis, 2009). Organization's management can better plan and control operations related to business through the AIS.

Nowadays, organizations are more concern to use accounting information systems in order to enhance business performance and to achieve competitive advantages, booming international economy, and improving business conditions. Therefore, there is a growing interest among researchers to gain more insight about the problems and solutions of the practice of AIS by SME. AIS in Jordan is in its initial stages of adoption. There are changes taking place in the IT landscape of Jordan. This study has come to find out where Jordan stands in terms of IT adoption especially in the AIS field and at what level AIS among SME is being implemented.

Over the past twenty years, there have been tremendous studies concentrating on the adoption decision of IT technology in general, and IS in particular. However, there is no clear empirical evidence about the factors that influence the adoption decision of IS by SME in developing countries, like Jordan. In previous studies on IT adoption, these factors are identified most frequently as either motives (they are known in previous studies as facilitators, drivers, determinants, incentives) or barriers (inhibitors) to adoption and use (Doms et al., 2004; Wongsim, 2013; Al-Dmour et al., 2015; Maqableh et al., 2015). Previous research on the adoption of IS has been inconclusive regarding the applicability of a western-developed model of technology adoption in other cultures (Masa'deh et al., 2015, Tarhini et al., 2015a). Therefore, this study has come to examine the applicability of such models in Jordan as non-western country. A research on factors hindering AIS adoption in SMEs in Jordan is still limited or not done at all at the time of this study.

This study mainly focuses on those factors motivating / inhibiting the adoption of AIS by small-medium business companies in Jordan. The importance of such study is based on many reasons; notably, its capability of providing some insights into the adoption of AIS by Jordanian small-medium business companies, which should help accounting professional users to gain more insight into the current situation, benefits, and barriers to the practice of AIS applications. Furthermore, based on the general insights offered, accounting persons should be well-informed in advance about the rate of AIS applications in Jordan to decide which type of change and actions the companies should take into considerations in order to adopt the AIS more effectively. Furthermore, a review of literature showed that research on AIS is heavily directed to business companies in developed countries such as UK and USA. The study, therefore, have focused on the factors influencing the AIS adoption in SMEs in a modest attempt to bridge this gap.

1.2 Accounting Information System: Definition and Importance

While accounting is a business function aims to provide specific users with quantitative accounting information, the AIS is an information system that is designed and implemented within an organization to enable the accomplishment of accounting functions (Ghasemi et al. 2011). There are various definitions of AIS. This system is simply defined as ‘a unified structure within an entity, such as a business firm, that employs physical resources and other components to transform economic data into accounting information, with the objective of satisfying the information needs to a variety of users’ (Hansen et al. 2009). An AIS consists of four major sub-systems: (1) The transaction processing system, (2) The general ledger/financial reporting system, (3) The fixed asset system and (4) The management reporting system, which provides internal

The AIS is a subsystem of organizational management information systems (MIS). The purpose of the AIS is to measure business financial performance and perform organizational accounting functions. Accounting information is required not only by management in managing the financial activities of the companies but also by shareholders, who need regular financial statement in order to evaluate business performance. It is required by a government to ensure the effective utilization the country’s resources therefore; it plays a significant role in all economic and social aspects. It assists in auditing and examining irregularities and misappropriations. Accounting information is the cornerstone of any organization without which it is likely to stay inactive or unworkable (Rom and Rohde, 2007).

1.3 Research Problem and Questions

This research has come to examine the main factors influencing the adoption of AIS by SMEs in Jordan as a developing country. According to the knowledge of the researchers, this study could be the first study tackling such problem in Jordan. The study problem will mainly try to answer the following questions:

1. To which extent the AIS applications are practiced or used by accounting departments SMEs in Jordan?

2. What factors facilitate or inhibit the adoption of AIS applications by Jordanian small-medium business companies?

1.4 Research Objectives

The main purpose of this study is to determine the main factors inhibiting or facilitating the adoption decision of AIS applications by small-medium sized companies in Jordan. The specific aims of this research were as follows:

1. To find out to which extent Jordanian small-medium sized companies practiced/used the AIS applications. This is to examine the content and context of AIS in Jordan.

2. To evaluate which of the derived factors is most influential in determining the resultant extent of the use of AIS applications (adopters vs. non-adopters).

2. Literature Review

2.1 Accounting Information System: Definition and Importance

While accounting is a business function aims to provide specific users with quantitative accounting information, the AIS is an information system that is adopted and implemented within an organization to enable the accomplishment of accounting functions (Borthick and Clark, 1990; Ghasemi et al. 2011). There are various definitions of AIS. It can be viewed as an established structure system within a business firm, which uses financial resources and other resources to transform economic data into accounting information, for the purpose of satisfying the information needs to a variety of users. AIS consists of four major sub-systems: (1) The transaction processing system, (2) The general ledger/financial reporting system, (3) The fixed asset system and (4) The management reporting system, which provides internal (Ghasemi et al. 2011).

The AIS is a subsystem of organizational Management Information Systems (MIS). The purpose of the AIS is to measure business financial performance and perform organizational accounting functions. Accounting information system can be simply defined as a computer based system usually used for classifying, collecting, and analyzing a company's financial and accounting data. Accounting information systems are generally employed by managers to take strategically actions and decisions, and provide financial reports for stakeholders: shareholders, investors, employees, and government (Rom and Rohde, 2007). Accounting information is required not only by management in managing the financial activities of the companies but also by shareholders, who need regular financial statement in order to evaluate business performance. It is required by government to ensure the effective utilization the country's resources therefore; it plays a significant role in all economic and social aspects. It assists in auditing and examining irregularities and misappropriations. Accounting information is the cornerstone of any organization without which it is likely to stay inactive or unworkable (Ghasemi et al. 2011). Going electronic is increasingly becoming a popular trend in different areas of work. This actually becomes more needed when it comes to having to deal with countless volume of numbers and statistics. Accounting is a great example in this respect. Companies have been always looking for solutions to make their accounting work more efficient, cost-effective and less time consuming and the solution certainly lies in AIS, which gives clients all of that.

2.2 Empirical Research

Several studies have examined the adoption of IS system and innovations for several reasons in the past. In this study, the review is focused on and is limited to the adoption and use of AIS by SMEs. However, few studies have attempted to understand why accounting information systems are adopted (Wongsim, 2013).More specifically, research of the factors influencing AIS related factors, such as adoption and usage, is far more limited than research of other trends involving the AIS. Although the AIS is increasingly being used worldwide, little theory-driven research examined the antecedents of AIS adoption and use is available (e.g., Wongsim, 2013). Furthermore, these studies do not provide a comprehensive understanding of the factors influencing the adoption of the AIS. They focus only on one or two aspects-the characteristics of the AIS and the social aspect-and the analyses were at the organizational level.

Guo and Feng (2008) believed that the existence of accounting comes primarily to satisfy a need for information. Accounting data must respond quickly to users' needs in order to be relevant. The main task of financial reports is to provide accurate and timely information about the financial position and status of the company, its operational business progress and monitoring any changes in the company's financial situation and cash flow (Romney and Steinbart, 2014). Linda (2007) elaborates that record keeping has two main tasks, namely to advice owners business transactions and a complete and easy process to record the business transaction through widely available and verifiable income tax information. For an accounting system to be good, it should provide accurate, timely, and full results of information in order to facilitate the comparison between present and past year's data, as well as enable the use of financial statements by stakeholders such as government, bankers, creditors, investors and disclosing any relevant information (Obeidat et al., 2013; Tarhini et al., 2015b).

On the other hand, some researchers argued that many small-medium sized companies simply do not maintain adequate financial records and/ or that they do not take advantage of the practice of their financial reports well. Davis et al. (2009), for example, emphasized on the fact that small or big businesses should have similar accounts record such as the income profit/loss statement, budget, capital, assets and liabilities. A small company needs to go through and understand its expenses, income, assets and liabilities. Several software applications introduced such as interface, wizards file, icon and pre built templates for multitasks can recall and repeated transactions by keeping records that are used on regular basis. By practicing this form and techniques, record keeping will be accurate and accessible (Davis et al. 2009).

Information technology, which was limited only to large companies in the previous decades, can now be used by SMEs to enhance their business performance and competitive advantage (Ghasemi et al. 2011). Competitive advantage can be gained by meeting and processing customer orders and requirements effectively and, then, achieving their satisfaction. On competitive side, AIS permits more opportunities for business since it enhances effectiveness and efficiency based upon precise decision-making. Moreover, AIS can be operated to include a wide a range of activities and process of the one organization that aim to save costs and have access to evidenced solutions. Also, organizations are benefited by being enabled to upgrade the level of procedures and have more congruent with relevant best practices (Pollock and Cornford 2004). Inclusions of business applications within AISs facilitate the implementation of common business functions like human resources management, and stock management. Taking into consideration that computerized business processes are embedded into comprehensive, AIS that can also produce real-time data (Ghasemi et al. 2011). Accounting information systems can improve control and strategic decision-making through real-time information produced for management. Booth, et al. (2000) argued that accurate and timely information appears necessary in light of the fact that AISs provide very easy access to the database since it always available to users. In support of this, AIS has more effect on transaction processing if compared to reporting and decision support. Furthermore, a guarantee decision will be improved by well-organized and classified information gained from AISs, accompanied with the experience of professional accountant (Booth et al., 2000).

Booth et al. (2000) also claimed that AISs has several advantages, such as enhancing business processing efficiency, better quality financial report, greater flexibility in information generation, eliminating duplications efforts, upgrading integration of financial reports and forms, reduced paperwork and cost, and rationalized decision process by obtaining an accurate accounting information. As a result, the business performance of the organization is improved. However, AISs advantages are only valuable if they are not exceeds by the costs of implementation. Hence, SMEs will not realize the benefits of using such a system where the costs are higher. Sajady et al. (2008) also elaborated that the practice of AIS could be more beneficial and effective in decision-making process when the benefits outweighed the costs. They concluded that the advantages of AISs can be assessed by their influence on the enhancement of decision-making process, performance appraisal, quality of financial reports, internal auditing and improving business competitiveness. However, there is a need for full capacity utilization of AISs in order for SMEs to take advantage of practicing AISs. This can be accomplished by probably using highly qualified employees. In line with this, Flynn (2003) claimed that AISs adopted should be effective in order that these benefits can accrue. Hence, evaluation models are used to evaluate the effectiveness of AISs according to the purpose of usage. He also argued that AISs adopted need to be effective in order for these benefits to accrue.

Wang and Cheung (2004) concluded that many SMEs do not have both adequate financial capabilities and resources or are not willing to invest of their money and efforts because of the long process and high installation costs associated with AISs adoption. In addition, results of previous studies indicated that the adoption and implementation of IT largely depends on CEO support as an important factor. The adoption and implementation of new innovations comes along a supportive climate and the provision of adequate resources. Davis (1989) pointed out the perceived benefits and perceived usefulness is the two main factors facilitating the adoption decision of AIS by SME. Sound perception of privileges of electronic tools is considered as the main drive behind adopting accounting information technologies. Consequently, if accounting information technologies are prioritized highly by chief financial officers based on electronic means' compatibility, superiority and easiness of comprehension, it means that such means have more opportunities to be adopted. Furthermore, Ismail and King (2007) concluded that the perceived usefulness of using the practice review system was a significant factor influencing auditors' attitude towards the acceptance of the information system. However, the ease of use factor was found not to be significant (Ismail and King, 2007).

The implementation of AISs by SMEs is also influenced by the complexity of AISs. SMEs owners are not willing to adopt the technology when AISs are perceived to be too complicated and beyond their needs (Sajady et al, 2008). Strength of managerial and strategic competencies are needed sometimes within the process of adopting and implementing AISs to realize the valuable correlation between the business structure and the system itself, and to manage duly with the output of AIS implementation that is represented in unavoidable organizational impact (Gibson et al., 2000; Poston and Grabski, 2001).They also found that the lack of financial resource and inadequate skilled personnel are the main problems for Canadian small businesses not to adopt IT. A review literature in technology innovation has revealed that availability financial and human resources as well as adequate IT infrastructure in large organizations and management commitment can encourage the adoption of innovation (Gibson et al., 2000). In comparison, inadequate financial resources, unavailability of IT expertise were among the barriers that small and medium businesses might have to encounter in order to adopt information system. Gibson et al. (2000) also reported that a lack of capital as well as the lack of top management commitment was viewed as the main barriers inhibiting the adoption of information system and technology by small companies. Furthermore**,** Gwangwava et al. (2012) indicated that perceived cost, complexity of AISs, lack of government support, inadequate financial resources were strongly influence the decision of adoption of AISs by SMEs while lack of knowledge about AISs as well as reluctance were not.

The above studies have provided important theoretical and empirical contributions to the research on the adoption of accounting information system. External environmental factors such as governmental rules and regulations, market competitive pressure, readiness of suppliers/vendors for IT business and availability of the right partners with whom to work were also mentioned by previous studies as either hinders or incentives to the adoption of IT system by small-medium sized companies (e.g., Guo and Feng, 2008).

3. The Study's Conceptual Framework

The first step in this research is a thorough review of the literature and development of an extensive list of variables suggested as significant barriers or incentives to the adoption and use of IT. This review focuses on, but is not limited to, the adoption and use of AIS by SMEs. Studies related to adoption and use of information and IS, in general, are also considered. In previous studies on IT adoption, a lot of factors are identified most frequently as either motives (also referred to in the literature as drivers, determinants, incentives) or barriers (inhibitors) to adoption and use. Researchers have clustered these factors in different ways. In this study, such factors are grouped into environmental, technological and organizational characteristics, based on technology, organization, and environment (TOE). This framework is developed by Tornatzky and Fleischer (1990). In the context of IT adoption, the same framework has been also used in previous studies (e.g. Zhu et al. 2003). Because these studies reflect theoretically and empirically the factors that influence IT and AISs, they constitute a solid ground for this study.

Tornatzky and Fleisher (1990) argued that the process of adoption of technological innovation by individual is determined by three interrelated categories of factors. They are organizational, technological, and environmental characteristics. The organizational characteristics include organizational competence and resources, organizational structure, top management support and other variables. The technological characteristics include both the availability of IT infrastructure as well as the processes. The environmental characteristics include the suppliers support, competition pressure, change agents, and the government policies. These three categories present "both threats and opportunities for technological innovation" (Tornatzky and Fleisher, 1990, p. 154). Therefore, they might influence the way a company sees the need for, searches for, and adopts new technology. Figure 1. below explains these three categories.

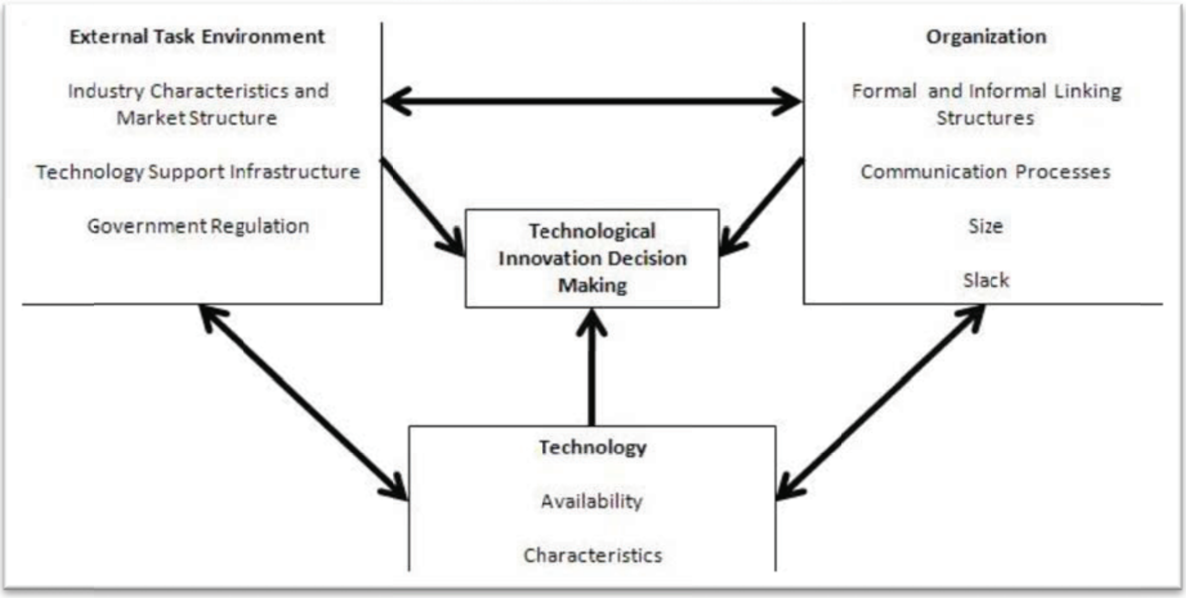

Figure 1. Technology-Organization-Environment Model

Source: Tornatzky and Fleisher (1990, p. 154).

The conceptual framework of this study has been designed to illustrate factors influencing AIS decision adoption. The developed framework investigates and analyzes the relevant factors through looking at the context form of the problem. These factors are:

1. Organizational Factors: The first category includes the organizational factors that relate directly to the availability and use of internal resources. Organizational factors identified in the previous studies relate mainly to business size, top management commitment and support, organizational structure and culture, employee's level of IT knowledge, industry sector, business location, and information-intensity (e.g., Zhu et al., 2003).The financial resources of any business company limit its ability to acquire and invest in a new technology. Compared to smaller firms, larger firms are highly likely to spend a much more of financial resources, time, and commitment to use the technologies. Complexity of the business tends to affect the adoption of AISs by both small and large organizations. Due to the complex nature of their business and voluminous transactions, large organizations have a high probability of adopting AISs compared with small firms whose transactions are not that complex. Agreeing with that, Markus and Tanis (2000) argue that the adoption of AISs by SMEs is largely limited by their simple size in nature which is easy to manage. In comparison, Buonanno et al, (2005) suggested that business complexity, being a composed factor, is a not strong predicator of AISs adoption, whereas just company size considered being a very strong one. Moreover, as Guo and Feng (2008) indicated, size influences willingness towards adopting technologies of information technologies. They also referred to the fact that AISs' non-adoption within SMEs is not affected mainly by financial constraints. However, it is more correlated with structural and organizational reasons. This contradicts partially with what has been noticed among huge institutions, since the direct reason for AISs' non-adoption is organizational.

Wang and Cheung (2004) argued that many SMEs either do not have adequate resources or are not willing to invest a large amount of their financial resources due to the long processing, times and high cost associated with set up and use of AISs applications. In addition, results of previous studies showed that the adoption and implementation of IT largely depends on CEO support as an important factor. The adoption and implementation of innovations comes along a supportive climate and the provision of adequate resources. The current study considers the following organizational factors: top management commitment, availability of human IT resource (Technical Expertise), financial capabilities, management support, organizational culture, organization structure, and manager accounting prior experience and knowledge.

2. Technological Factors (AIS Characteristics): a number of technology-related factors are identified by the research literature as potentially affecting AIS adoption decisions. Technological factors include technology availability, cost, security, reliability and capabilities. Based on perceived ease of use and perceived usefulness, human behavior plays a paramount role in influencing the adoption of AISs. Users that perceive AISs to be useful and easy to use are more likely to adopt the technology than those that do not. In support of this, Davis (1989) suggested that the two most important factors in explaining accounting information technology adoption

are perceived ease of use and perceived usefulness. Sound perception of privileges of electronic tools is considered as the main drive behind adopting accounting information technologies. Consequently, if accounting information technologies are prioritized highly by chief financial officers based on electronic means' compatibility, superiority and easiness of comprehension, it means that such means have more opportunities to be adopted.

According to Gibson et al. (2000), the adoption of AISs by SMEs is also affected by the complexity of AISs. SMEs owners are less likely to adopt the technology when AISs are perceived to be too complicated and beyond their needs. Strength of managerial and strategic competencies are needed sometimes within the process of adopting and implementing AISs to realize the best correlation between the business peculiarities and the system itself, and to manage duly with the output of AIS implementation that is represented in unavoidable organizational impact. Also, strengths of managerial and strategic competencies are considered as a deficiency in SMEs and cause failure of AISs adoption. In support of Gibson et al. (2000), a research conducted by Duxbury (2002) found that the main inhibiting factors to the implementation of computer technologies among Canadian small businesses were inadequate financial resources and unqualified employees. The past literature in technology innovation has found that more resources and infrastructure in large businesses can facilitate the adoption of innovation (Dewar and Dutton, 1986). In comparison, limited financial resources, lack of expertise in in-house information system were among the barriers that small and medium businesses had to face to adopt information system (Gibson et al., 2000). Albert and Kinman (1990) mentioned that the larger the business, the higher the ability to hire people with specific skills, such as knowledge of information systems. Factors of technology for this study are: (1) cost to setup and maintain AIS (2) Availability and adequacy of existing of IT infrastructure to support AIS (3) Reliability of AIS and (4) Security issues of AIS.

3. External Factors (Characteristics) are related to variable-based operating systems of organizations; mainly, markets, competitive pressure, government rules and regulations, suppliers, vendors, and partners. Wholesalers, trade associations, franchisors, for instance, are all affected and led by competition, and voluntary groups in small businesses are also influenced by IT adoption, according to Treadgold (1990). As Wenzler (1996) has stated, its' more customers related matter than competitor's which leads to adopt IT in their businesses. According to Wang, et al. (2008), competition in general is considered a probable source for increasing innovation adoption since it enhances both the rate and the need of adoption of innovations. However, Porter and Millar (1985) suggested that businesses can adopt IT by changing competition rules and industry structure. IT can create competitive advantage by reducing costs or increasing differentiation. Because of the peer pressure correlated with the "diffusion effect," IT new businesses tend to adopt an innovation, where "diffusion effect", as Rogers (2003) indicated, is the degree of influence on individual or organization to approve or reject the innovation. This is led by motivation of the peer network in social system, according to Rogers (2003), rather than as a result of a cost/benefit assessment, firms may end up adopting because of perceived competitive necessity (or even sheer imitation).External environmental factors are classified throughout this study as the following: (1) Competitive pressure from other internet adopters within the industry (2) Government rules and regulations (3) Availability of the right partners with whom to work and (4) Readiness of suppliers for electronic business.

4. Research Hypotheses

Based on the above proposed research framework, the following hypotheses were formulated**:**

H1: All the identified potential factors (organizational factors, technological factors and environmental factors) influence the adoption decision of AIS by small-medium sized companies in Jordan.

H2: There is no statistically significant difference among the respondent's groups (adopters, intend to adopt, and non-adopters) in terms of their perception of these factors as incentives or barriers.

5. Research Methodology

This section presents the rational reasons for selection of quantitative approach as an appropriate method to collect the required data to examine the research questions. Generally, a research methodology illustrates the decision concerning the choice of data collection method, and also more decision about scaling procedures and measurement, samples frame and size, and data statistical techniques. Quantitative and qualitative are the two popular research approaches that can, either one or both, be used to achieve the research objectives. These approaches are frequently mentioned and used in humanities studies including Information Systems. Quantitative research approach searches for causes and facts from the respondent's opinion or perceptions. It manipulates, interprets, and describes the data. It also tests the hypothesis in numerical way (Creswell, 2013). Furthermore, qualitative research approach manipulates and interprets the observation in non-numerical for the aim of exploring the meanings and types of relationships (Saunders et al., 2012).

According to Hair et al. (2010), quantitative research is useful for the purpose of describing the variables and their relationships, in addition to testing hypotheses. It is also helpful in providing detailed planning prior to data collection and analysis, and to providing tools for measuring themes, planning design stages and handling the population or sampling problems. Furthermore, this approach employs statistical measures and control procedures that can minimize the bias level and confound variables. Quantitative approach is the most useful technique in dealing with many issues and problems of internal validity, external validity and reliability of measures and procedures. Literature indicates that there are several barriers and motives (i.e. factors) that influence the adoption decision of AIS. Based upon the theories of adoption of innovation as well as the existing literature of adoption of AIS, this study adopts the quantitative approach to answer the research questions.

5.1 Selection of the Data Collection Methods

Two data collection methods are used to support this study. As for secondary data, it was obtained from various books, periodicals, theses, and the internet. The empirical part of the study discussed the factors influencing the adoption of AIS by the small –medium business companies in Jordan. To study the general picture of the factors that influence the adoption of AIS by accounting department, a questionnaire is used in a way that helps to probe further into manager's opinion and views. Statistically, it is believed that questionnaires containing a large sample size are designed for unbiased statistical results, which apply on the whole population (Saunders et al., 2012). The designed questionnaire for this study is reviewed by five accounting practitioners, academicians, and accounting consultants. Based upon their comments and notes, the questionnaire was modified and then distributed.

Data collection was performed through a self-administered, web-based questionnaire, which was sent to the targets by e-mails. According to Sekaran and Bougie (2010), there are many benefits with this method of data collection. Respondents can have the freedom to fill out the questionnaire when they have the time to do so. The data collection process can be performed over a short time-span and respondents perceive this method as the most anonymous. On the other hand, there are some drawbacks with a self-administered questionnaire. Respondents who are unfamiliar with responding surveys on the internet may not be willing to participate. Another problem is that managers are usually flooded with e-mails and may decide to ignore the invitation. It may even happen that the invitation gets stuck in a spam-filter and never arrives to the appropriate respondent. It is also problematic that one cannot be sure that the respondent actually understands the questions in the survey and responds correctly.

5.2 Research Population and Sampling Design

Following Saunders, et al. (2012), the researchers should identify several requirements when designing the sample. They include 1) the sampling frame, 2) the selected ample process, and 3) the size of the sample. In the present study, the sample was collected from Amman Chamber Industry database. The target population for this study is all small-medium sized companies located in Amman, Jordan. The random sample covers only 10% of the total number of these companies, which is (1450), and with a number of employees less than 100 employees (Jordan National Statistical Year Book, 2013. This sample was selected because SMEs businesses employ large number of people and greatly contribute to the national income in Jordan. The most commonly used international criteria for defining a small and medium business in many previous studies is the number of full–time employees. This study only classifies SMEs as companies with less than 100 full- time employees based on Jordanian companies law. The questionnaires were emailed to the managers of the selected companies. Managers were selected as the key respondents of this study because they were highly expected to be familiar with the AIS applications as well as they were the most key decisions who can decided on the adoption of AIS by their firms. The required data was gathered during the summer time in 2015.

5.3 Selection Scale of Measurement

The variables are deduced from the literature and it is recognized that some of them might act in conjunction with one another, or that their full effect could only be observed in the presence of others. Measurement is defined as "the rules for assigning of numbers to objects in such a way as to represent quantities of attribute" (Hair, et al., 2010). The details items and scales consist of the following:

1) General information: this section of the questionnaire includes general questions about the selected companies' demographic characteristics such as the number of employees, and business experiences, type of business, accounting structure department and so on.

2) The dependent variables (the extent of the adoption of AIS): The participants are asked to indicate the extent to which their companies adopt the AIS. Respondents are asked to choose one of the following answers: (1) will not adopted at all (2) intend to adopt and (3) adopt.

3) The independent variables: This section of the questionnaire includes all the independent variables (factors) in this study. Responses are collected through a seven point Likert scale where the lowest value of -3 indicates a 'major barrier' the midpoint 0 indicates 'no effect or influence' and the highest value of a +3 indicates a 'major incentive'. Thus, each factor could be rated as a barrier, an incentive or 'no effect' on the decision to adopt and use AIS. These factors are listed in Table 1 below.

Table 1. Definitions of Variables and their Sources

Variable Name	Definition	References (examples)
	(1) **Organizational variables**	
Q1	Financial capabilities	Xu et al., (2002);Wongsim, (2013);Awosejo, et al., (2014)
Q2	Human IT resource	Sirisom,et al., (2008)
Q3	Organization structure: size	Xu et al., (2002);Wongsim (2013)
Q4	Organizational culture: willingness to adopt new technology	Naomi and Kevin (2007)
Q5	Top management support & commitments	Xu et al., (2002); Ussahawanitchakit and Phonnikornkij (2006); Omar et al. (2009)
Q6	CEO IT Knowledge	Naomi and Kevin (2007); Wongsim(2013)
Q7	CEO innovativeness	Naomi and Kevin (2007); Wongsim(2013)
	(2) **Technological variables**	
T1	Perceived AIS usefulness/value	Xu et al., (2002); Ussahawanitchakit and Phonnikornkij (2006); Omar, et al. (2009); Wongsim(2013)
T2	Perceived ease of use of AIS/flexibility	Xu et al., (2002); Ussahawanitchakit and Phonnikornkij (2006); Omar et al. (2009)
T3	Perceived complexity of AIS	Xu et al., (2002); Ussahawanitchakit and Phonnikornkij (2006); Omar et al. (2009); Wongsim (2013)
T4	Perceived cost of setup and maintain of AIS	Naomi and Kevin (2007); Wongsim(2013)
T5	Perceived reliability of AIS	Xu et al., (2002); Ussahawanitchakit and Phonnikornkij (2006); Omar, et al. (2009); Wongsim (2013)
T6	Security issues (Security)	Naomi and Kevin (2007)
T7	Adequacy of existing technology (Technology Availability).	Xu et al., (2002);Wongsim(2013)
T8	Accounting standard	Sirisom, et al., (2008)
T9	Nature of AIS	Xu et al., (2002); Wongsim(2013)
	(3) **External environmental variables**	
E1	Readiness of suppliers for electronic business	Naomi and Kevin (2007); Wongsim(2013);Awosejo et al., (2014)
E2	Availability of the appropriate partner	Sirisomet al., (2008)
E3	Accounting Firms /Competitive Pressure	Omar, et al. (2009)
E4	Government rules and regulations	Davila and Foster (2004); Ussahawanitchakit and Phonnikornkij (2006)

6. Data Analysis Techniques

In this study, different descriptive and inferential statistical methods have been used to analyze the data: (1) Cronbach Alpha to test reliability and consistency between variables (2) Percentages, standard deviation to study the characteristics of the respondents profile and factors and (3) T-test and ANOVA analysis.

6.1 Validity and Reliability

The questionnaires is assessed and evaluated prior to distribution to respondents by a number of key specialists and professionals in this business research field. However, the reliability of the study is assessed by examining the Cronbach's Alpha coefficient. The value of Cronbach's alpha is found to be 0.81. It shows the stability and consistency of the scale are acceptable. The reliability of a study tool is the degree to which the measures are free from error and therefore yield consistent results (Hair, et al., 2010). The consistency of the tool is followed when designing the questionnaire. This reflects on its results, as they are consistent. It also measures the stability of the tool. Table 2 below, shows the values of the Cronbach's Alpha for all the factors included in the study.

Table 2. Cronbach Alpha Results

The Research Domains	# of items	Cronbach Alpha
Organizational factors	7	0.854
Technological factors	9	0.792
Environmental factors	4	0.830
Totals	20	0.810

6.2 Data Analysis & Hypotheses Testing

This section presents and discusses the descriptive analysis for the collected data and hypotheses testing results.

6.2.1 Research Descriptive Analysis

This part presents results and analysis of data from two areas of the survey instrument: respondent demographics, describing the survey respondents and their businesses; and respondents' evaluation of factors that influenced their decisions, as either incentives or barriers, to adopting AIS. Some details on respondents' use of AIS are included and greater detail is included on the adoption of AIS. In particular, the current state of adoption of AIS by each business studied is used to divide the businesses into subpopulations for further analysis of perceived incentives and barriers.

6.2.2 Descriptive Analysis of the Study's Respondents

Table 3. Number of Actual and Respondent Companies by Sector

Actual Number of Companies	Size of sample (10%)	Respondent Number of Companies	Rate of Respondent 0f size of sample
1450	145	101	69.6%

From the table above 3, it can be noticed that 101 companies responded to the questionnaire. The response rate is there of 69.6 percent of the size of sample. Also Table 4 below demonstrates the descriptive analysis for the collected data about the number of employees as well as business experience for the companies participating in the study.

Table 4. Descriptive Analysis of the Study's Respondents

Characteristics	Frequency	Percentage
Size (Number of Employees)		
Less than 15 employees	11	10.0
Between 16 to 25 employees	15	14.8
Between 26 to 40 employees	25	24.7
Between 41 to 60 employees	29	28.7
Between 61 to 99 employees	21	20.7
Business Experience		
Less than 5 years	11	10.0
Between 5 to 10 years	15	14.8
Between 11 to 15 years	45	44.5
Between 16 to 20 years	19	18.8
More than 21 years	11	10.8

From the table above, it can be concluded that about half of responding companies (49.5%) have less than 40 employees, 29 companies (28.7%) have between41-60 employees, and 21 companies (20.7%) have between 61 to 99 employees. It can be also observed that the majority of companies (71) have than 15 years of experience, 19 companies (18.8%) have experience between 16to 20 years; whereas 11 companies (10.8%) have more than 20 years of experience. It also illustrates that 46.1% of respondents have already adopted AIS whereas 32% and 31% are intend to adopt and not –adopted receptively.

6.2.3 Descriptive Analysis of the Factors

Means and Standard Deviations are also used to describe the respondent's perception of the independent factors. The four following tables 5, 6, 7 and 8 represent the descriptive statistics for the results from the Likert scale measurement of perceived influence of factors as either barriers or incentives to adoption of AIS. The first table

(5) shows the results for all Respondents (i.e., the study's sample). The next three tables: Tables 6, 7 and 8 show data for the three different groups: AIS Adopters, those who intend to Adopt, and those who are Not Adopt AIS, respectively. The results shown are for the target for data values measured on a 7-point scale with high point: +3 as a significant incentive, -3 as a significant barrier, and a mid- point of zero as neutral on the adoption decision. These tables also show the results of T-tests (with the null hypothesis being there is no influence on adoption and therefore a zero value), including the resulting t-value and the level of significance.

Table 5. Mean Value in Order of Descending for all Respondents

	Factors	**N**	**Mean**	**Standard deviation**	**T-value**	**Significance level ≤ 5%**
Q7	CEO innovativeness**	101	0.668	1.536	3.825	0.000
Q10	Perceived AIS usefulness/value**	101	0.649	1.438	3.343	0.000
Q11	Perceived ease of use of AIS/flexibility**	100	0.612	1.321	2.642	0.001
D3	Competitive Pressure **	101	0.583	1.4.21	2.611	0.002
T3	Perceived reliability of AIS**	101	0.551	1.311	2.591	0.003
Q5	Top management support & commitments**	101	0.431	1.322	2.682	0.004
E1	Government rules and regulations*	101	0.382	1.311	1.889	0.013
Q6	CEO IT Knowledge*	101	0.312	1.431	1.865	0.024
Q2	Human IT resource #	101	0.292	1.221	.990	0.140
Q3	Organizational structure#	101	0.290	1.341	.876	0.155
T5	Adequacy of existing technology (Technology Availability)#.	101	0.273	1.342	.854	0.158
Q4	Organizational culture: willingness to adopt new technology#	101	0.264	1.322	.751	0.234
T8	Accounting standard#	101	0.262	1.176	.654	0.342
T9	Nature of AIS#	101	0251	1.342	.456	0.531
T6	Readiness of suppliers for IT business#	101	-0.170	1.321	-.833	0.413
T7	Availability of the appropriate partners with whom to work#	101	-0.211	1.432	-.952	0.214
T1	Perceived complexity of AIS*	101	-0.421	1.325	-3.234	0.018
Q1	Financial capabilities**	101	-0.521	1.111	-3.111	0.006
T4	Security issues**	101	-0.642	1.322	- 3.461	0.000
T4	Perceived cost of setup and maintain of AIS***	101	-0.733	1.332	-3.943	0.000

not statistically significant for any of the groups analyze

*Statistically significant at the 0.05 level for this group of all respondents

** Statisticallysignificant at the 0.001 level for this group of all respondents

Table 6. Mean Value for Significant Factors in Order of Descending for all AIS Adopters

	Factors	**N**	**Mean**	**Standard deviation**	**T-value**	**Significance level ≤ 5%**
Q7	CEO innovativeness	46	0.690	1.636	3.925	0.001
Q10	Perceived AIS usefulness/value	46	0.672	1.422	2.445	0.004
D3	Competitive Pressure	45	0.656	1.532	3.643	0.002
Q11	Perceived ease of use of AIS/flexibility	46	0.672	1.4.41	2.311	0.012
T3	Perceived reliability of AIS	46	0.531	1.321	2.291	0.017
Q6	CEO IT Knowledge	46	0.521	1.302	2.182	0.021
Q5	Top management support & commitments	45	0.422	1.341	2.179	0.022
Q5	Human IT resource	45	0.402	1.321	2.160	0.023
Q3	Organizational structure	46	0.390	1.311	2.156	0.025
E1	Government rules and regulations	46	0.412	1.431	2.165	0.034
T4	Perceived cost of setup and maintain of AIS*	46	-0.632	1.232	-3.543	0.039

*Statistically significant at the 0.05 level for this group of all respondents

Table 7. Mean Value for Significant Factors in Order of Descending for Those Who Intend to Adopt AIS

	Factors	N	Mean	Standard deviation	T-value	Significance level ≤ 5%
Q7	CEO innovativeness	31	0.646	1.536	3.345	0.010
Q10	Perceived AIS usefulness/value	30	0.626	1.432	3.544	0.012
Q11	Perceived ease of use of AIS/flexibility	30	0.552	1.622	2.433	0.014
T4	Perceived cost of setup and maintain of AIS*	31	-0.754	1.425	-3.334	0.017
T2	Financial capabilities	31	-0.775	1.332	- 3.493	0.043
T3	Readiness of suppliers for IT business#	31	-0.200	1.332	-3.642	0.045

not statistically significant for any of the groups analyze

*Statistically significant at the 0.05 level for this group of all respondents

Table 8. Mean Value for Significant Factors in Order of Descending for Those Who will not Adopt AIS

	Factors	N	Mean	Standard deviation	T-value	Significance level ≤ 5%
T4	Perceived cost of setup and maintain of AIS	34	-0,813	1.325	-3.534	0.002
T1	Perceived complexity of AIS	34	-0.560	1.111	-3.211	0.006
T3	Readiness of suppliers for IT business#	33	-0.480	1.322	- 3.252	0.008
Q1	Financial capabilities	34	-0.790	1.332	-3.143	0.001

not statistically significant for any of the groups analyze

6.2.4 Hypotheses Testing

This section presents a statistical examination for the research hypotheses. The core mechanism of the hypotheses testing is to identify whether the actual sample mean is deviated from the mean of the hypothesized sampling distribution by which a certain value that will prove that is wrong. Regarding the decision criteria which will be used as a base to compete this deviation with, the researchers have chosen the most common decision criterion which is the significance level at less or equal than 0.05, it presents the critical probability in choosing between the null hypothesis and the alternative hypothesis. The assumption that will be based on this significance level sates that "if the probability of observed data is smaller than the level of significance then the data suggests the null hypothesis should be rejected and vice versa".

T-test was used to identify significant factors. The null hypothesis considered, based upon the use of neutral factors, was that there will be no effect for each factor on the adoption decision and therefore the factor would have a zero value. Factors were considered significant if a t-Test indicated the factor did have an effect upon adoption, with a minimum confidence level ≤ 5%. The t-test result showed that out of the twenty factors that were considered Table 5, only twelve factors were shown to be statistically significant at the 0.05 level or higher. These factors included: six incentives (CEO innovativeness, perceived AIS usefulness/value, perceived ease of use of AIS/flexibility, competitive pressure, perceived reliability of AIS, top management support & commitments, government rules and regulations, and CEO IT Knowledge) and four barriers (Financial capabilities, security issues, perceived complexity and cost of setup AIS).

To further clarification the comparison of the three subgroups (Adopters, Intend to Adopt, and non-adopters) Tables 9 and 10 provide the result showing a comparison of the relative rankings of the factors based on their mean values within each group. In these tables, the factor with the largest value of the mean in each group is ranked with a value of 1 for that group, and subsequent higher rank values indicate a decreasing absolute value of the mean. While Table 9 shows the relative rankings for all of the statistically significant factors that had a positive mean value, i.e. those named as 'incentives'. Table 10 shows the relative rankings for all of the statistically significant factors that had a negative mean value, i.e. those named as 'barriers'.

Table 9. The Relative Ranking of Significant Factors that were Perceived as Incentives by the Groups

Code	Factors (incentives)	Ranking based on mean value All respondent	Adopters	Intend to adopt	Will not adopt
Q7	CEO innovativeness	1	2	1	-
Q10	Perceived AIS usefulness/value	2	3	2	-
Q11	Perceived ease of use of AIS/flexibility	3	4	3	-
D3	Competitive Pressure	4	1	-	-
T3	Perceived reliability of AIS	5	5	-	-
Q5	Top management support & commitments	6	7	-	-
E1	Government rules and regulations	7	8	-	-
Q6	CEO IT Knowledge	8	6	-	-
Q2	Human IT resource	-	9	-	-
Q3	Organizational structure	-	10	-	-

Table 10. The Relative Ranking of those Significant Factors that were Perceived as Barriers

	Factors (barriers)	Ranking based on mean value All respondents	Adopters	Intend to adopt	Will not adopt
T2	Perceived cost of setup and maintain of AIS	1	1	1	1
T1	Perceived complexity of AIS	2	-	-	2
T4	Security issues	3	-	-	-
Q1	Financial capabilities	4	-	2	3
T6	Readiness of suppliers for IT business	-	-	-	4
T7	Availability of the appropriate partners#	-	-	3	-

For more clear information about the differences between the three identified groups in terms of their perception of those factors, a one-way ANOVA was performed to illustrate those factors for which there were statistically significant differences between groups. Results for the analysis of significant differences between all AIS Adopters and all AIS Non-Adopters can be shown in Table 11.

Table 11. ANOVA Analysis of Factor for Adopters and Non-Adopters

Within group means and significance	Factors	Df	F	Between group significance≤ 5%	Adopters	Non-Adopters
D3	Competitive Pressure	101	16.564	0.000	**0.860	-0.023
	Availability of the appropriate partners #	101	12.453	0.002	**0.346	-0.650
Q10	CEO IT Knowledge	100	10.342	0.009	0.551	*-.0.582
Q11	Perceived reliability of AIS	101	9.564	0.016	**0.651	-0.443
Q1	Financial capabilities	100	7.632	0.021	0.543	*-0. 697
Q2	Human IT resource	101	6.321	0.034	0.402	*-0.532
Q5	Top management support & commitments	101	5.436	0.029	*0.422	-0.543
T8	Accounting standard	100	5.321	0.046	0.465	-0.345

not statistically significant for any of the groups analyze

*indicates a factor significant in that group at the 0.05 level,

** indicates a factor significant in that group at the 0.001 level,

Results for the analysis of significant differences between the two sub-groups of AIS Non-Adopters (i.e., those who Intend to Adopt and those who non- Adopters) are shown in Table 12. It is worth to note that all factors that showed a statistically significant difference between the groups of either Adopters versus Non-Adopters, or Intend to Adopt versus Non adopters (in Tables 11 and 12 respectively) are shown as incentives in one group but as barriers in the counter group. That is, if one of these statistically different factors was perceived as an incentive by Adopters the same factor is perceived as a barrier by Non-Adopters. The same holds true between the two groups of Intend to Adopt and Will Not Adopt, with those who Intend to Adopt viewing all factors that were a significant difference between the two groups as incentives and those who are not Adopt viewing all of the exact same factors as barriers.

Table 12. ANOVA Analysis of Factors for Intend to Adopt vs. Not Adopt of AIS

Within group means and significance	Factors	Df	F	Between group significance	Intend to adopt	Non-Adopters
Q10	Perceived AIS usefulness/value	64	14.421	0.000	0.865	-0.342
Q11	Perceived ease of use of AIS/flexibility	64	10.323	0.003	0.694	-0.453
Q7	CEO innovativeness	65	8.653	0.033	0.444	-0.421
T6	Readiness of suppliers for IT business	64	7.432	0.038	0.231	-0.532

DF indicates the Degrees of Freedom

*indicates a factor significant in that group at the 0.05 level,

** indicates a factor significant in that group at the 0.001 level.

7. Research Findings, Discussion, and Implications

The testing hypotheses have arrived to the following results and conclusions that can be compared with the previous general findings or observations: The Findings indicate that about 46% of small-medium sized companies have adopted the AIS applications, while 33% have intended to do so, but the remaining companies have not adopted them at all. The literature examining adoption of AIS by businesses discusses a very large number of factors that influence AIS adoption decisions either as barriers or incentives. This study reduces many of the factors found in the literature into twenty neutral factors. All factors are assumed to be neutral (as a null hypothesis) and a t-Test indicates that twelve of the twenty factors do have a noticeable effect on the adoption decision (with significant level at 0.05). In terms of the three groups of factors considered (Organizational Factors, Technological Factors, and Environmental Factors), and some factors are shown as significant within each category. For the three different adoption groups, the cost of setting up AIS is the only consistent factor that comes out as significant across all groups. The three groups consider this factor as a barrier against using AIS. Setup cost of AIS is, on average, the most important barrier for all groups. The effect of Government Rules and Regulations is also appeared as a significant incentive factor in this study for AIS Adopters. It is not clear at this time how Government Rules and Regulations have acted as an incentive. A competitive pressure is also found. It strongly influences the adoption decision of AIS. On average, it is the most important factor for adopters. It also shows the most significant difference between the groups of Adopters and Non-Adopters. It is well-known that competitive pressure is an important factor in whether companies adopt or do not adopt (e.g., Ussahawanitchakit and Phonnikornkij, 2006; Omar et al., 2009; Wongsim, 2013; Awosejo et al., 2014). Yet surprisingly, it is not significant for those who intend to adopt. This might be due to the importance of the type of competition structure in the market where the companies operate.

There are differences in how factors are perceived among groups at the various levels of adoption. Such differences can provide us with more information about the relative important factors that research needs to examine in applications of adoption models with AIS in SMEs. As might be expected, among the factors considered, adopters perceive many as incentives but only one is perceived as a barrier (set-up cost of AIS). For those who indicate that they do not adopt only three factors are considered as significant. Such factors are all perceived as barriers (Tables 6 and 7). For all respondents as a group, complexity of AIS is perceived as a significant barrier. However, the only separate group which perceives complexity of AIS as significant is those who do not adopt. For this group of non-adopters, complexity of AIS is the most important barrier. This result is consistent with previous studies (Ussahawanitchakit and Phonnikornkij, 2006; Omar et al., 2009; Wongsim, 2013; Awosejo et al., 2014).

A perceived lack of an available partner to work with is also found as a significant influence on the decision of adopting AIS. This factor is also reported by other researchers as a critical issue for small businesses (Xu, et al., 2002; Omar, et al., 2009). Such a variable shows up as a statistically significant difference between Adopters (who considers it as an incentive) and those who only intend to adopt (who considers it as a barrier). Three factors are perceived as incentives for those who indicate that they intend to adopt AIS. First, the perceived value of AIS to the business is perceived as an ease of using AIS and the CEO Innovativeness. Second, when the two Non-Adopters subgroups (Intend to Adopt and Non-Adopters) are compared it is found that the perceived AIS usefulness is a value and the perceived ease of use of AIS is flexibility. Third, the CEO innovativeness and readiness of suppliers for IT business appears as a significant difference between these two subgroups (Table 7). Interestingly, these factors do not show up in the significant differences between Adopters and Non-Adopters (Table 6). This result may be attributed to the fact that the group of all Non-Adopters includes the subgroup of those who intend to adopt and these three factors are very important to them.

8. Conclusion

To sum up, this study has found that of the twenty factors taken from a large number of variables mentioned in the literature, only twelve are statistically significant. Moreover, perceptions regarding incentives and barriers vary among adopters, those who intend to adopt and those with no intention to adopt AIS. Some of the significant factors found in this study have not received much attention in prior studies. They may need further attention and concern through government regulations and rules. The significant contribution of this research is that this is the first known study to focus on accountants' perceptions of the factors influencing the decision of the adoption of AIS in business companies in Jordan, as a context of a developing nation. For the adoption and usage of AIS by small-medium sized companies, there must be an increased awareness of the importance and usage of AIS in order to facilitate its proper adoption. Furthermore, IT suppliers should offer free education program, workshops and training for potential users/adopters of AIS since the cost associated with the setup of AIS was perceived as the most important barrier by many of these companies. In addition, SMEs should try recruiting qualified human resources with AIS knowledge as such will facilitate its adoption of AIS.

9. Study Limitations and Future Research

The major limitation of this study is that the sample of SMEs surveyed is limited to Jordan. Furthermore, the demographics reported by participants do not provide any evidence that is inconsistent with the typical characteristics of small and medium businesses. However, this limitation should be kept in mind when generalizing the results of this study. This study also points out the complexity of making assumptions about using these factors as variables in the quantitative analysis of the adoption models. Many factors show up as significant for only one or two of the three studied groups. However, of all 20 factors, only one, which is the perceived setup cost of AIS, is shown as significant across all groups. Also, as presented clearly in Table 5 and 6, many factors should be studied carefully because a single factor can be perceived as having both positive and negative influence on the adoption decisions for different groups. These findings might encourage other researchers to use these factors in future research.

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Support to Informal Learning at Work, Individual Performance and Impact of Training in Ampleness

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Abstract

Training activities are planned considering that the psychosocial transference environment after those activities will facilitate and maximize its impact and effect on performance. This study aims to empirically test the predictive relationships between the characteristics of customers, support for informal learning, human performance and impact of training in ampleness in two Organizations located in Distrito Federal, Brazil. Data collection was face-to-face. The sample (N=315) was predominantly female (66, 9%) and had more than a year of work in the organization (85, 6%). Data were analyzed by pattern multiple regression. The results indicate that strategies of performance self-regulation, support to informal learning provided by the supervisor and by the work unit explained 49.5% of the variance of impact in ampleness. We suggest that future studies incorporate in their models other variables related to the composition of the organizational structure and others samples are investigated, ensuring external validity and generality.

Keywords: individual performance, impact of training in ampleness, organizational behavior, support to informal learning at work, trainee characteristics

1. Introduction

In the current job scenario, where the dynamics of information stimulates the continuous acquisition of new knowledge, learning actions have been consolidated work from the greatest importance for achieving the mission of the organization. Learning in work routines in a constant tension between personal goals and organizational constraints.

The literature on organizational behavior has considered that learning is facilitating the acquisition of professional competences. These technical competences have an important effect on the performance of individuals, teams and organizations as a whole (Bjork, Toien & Sorense, 2013; Yanchar & Hamkley, 2015; Wahab Saad & Selamat, 2014).

Learning actions can be formal, conducted through the construction and maintenance of training, development and education (TD&E) programs. However, organizations can also invest in actions of informal, unsystematic, arising spontaneously and naturally learning (Coelho Jr. & Mourão, 2011; Manuti, Pastore, Scardigno, Giancaspro & Morciano, 2015).

Specifically, informal learning in the workplace is being investigated as essential for capacity in performance (Simosi, 2012). Psychosocial support for learning is essential for the effective management of people in organizations, and tactics to achieve the objectives and goals of the organization.

The scientific literature on learning in organizations, such as Coelho Jr. and Borges-Andrade (2008), and Borges-Andrade, Abbad and Mourão (2006), indicates that a supportive environment or learning support at work, especially when provided by supervisors and colleagues, generates positive effect on the results of work. This means that the environment of the organization – in terms of formal and informal organizational structure components – influences the learning process among individuals and, therefore, may influence the performance manifested (Loiola, Néris & Bastos, 2006).

In this context, training programs, formally established typical learning modality, began to have great relevance and considered fundamental to develop the competences of people with complex and extensive professional profiles (Meneses & Abbad, 2009; Salas & Cannon-Bowers, 2001). However, while the organizations spent a lot of money in high investments in training, there is little empirical research to identify the effectiveness of training activities in Brazil. The criterion variable mostly empirically investigated is impact, indicating whether the expected effects after training were achieved (Blume, Ford, Baldwin & Huang, 2010; Green & McGill, 2011).

Given that training programs have become essential for organizations, it's essential that the organizational environment stimulates its members learning and the continued application of learning at work (Yanchar & Hamkley, 2015; Kirwan & Birchall, 2006). Thus, in order that the training activities reach their goals and improve the individuals' performances it is necessary the support of the learning provided by some social actors involved in the act of learning. Usually this support involves colleagues, leadership and the work unit as a whole. Training activities depend on external conditions, such as organizational context to support, which influences the whole process of learning and action, according to Kyndt, Govaerts, Dochy and Baert (2011) and Abbad, Coelho Jr., Freitas and Pilati (2006).

Thus, the psychosocial support of the organization is necessary, though not sufficient, to the application of new competences and skills – impacting the individual job performance. Based on this context, it's essential to identify the effects of training actions in the individual performance and the influence of the learning support perceived in this process.

This article aims to identify the kind of individual and situational predictors related to the impact of training in ampleness under two organizations located in the Federal District, Brazil. One from the engineering and infrastructure sector and the other from the market research field.

Its intended here to test the effects of personal (gender, age and level of education) and professional (perceptions of learning support from colleagues, the work unit and leaderships, length of service, nature of work, occupational function and the effects of course in the performance at work) variables in the range of predicting impact of training. This impact variable refers to the results and the indirect consequences of training, as general indicators of effect on performance after training.

This article relevance is evidenced when considering that the evaluation of training has the primary function of providing valid and systematic information about the entire training process. It's critical to obtain feedback data in order to evaluate the effectiveness of training, especially in terms of the results it has been generating considering psychosocial factors in learning and their effects on performance. Moreover, despite some studies indicate a positive correlation between learning support and the impact of training on the job (eg. Balarin, Zerbini & Martins, 2014) there are just a few Brazilian empirical models that test individual performance after training.

2. Theoretical Framework

Much has been produced in Brazil and abroad regarding predictor's impact on job training (Meneses, Zerbini & Abbad, 2010; Van Den Bossche, Segers & Jansen, 2010). The main predictor of the impact is learning and transfer support (Borges-Andrade & Abbad, 1996). In their research, Brandão, Bahry and Freitas (2008) found that the variable psychosocial and material support was the most important predictor of competences and skills application at work. The variable explained 68.2% of impact. In addition, social support variables also act as moderating variables (Aguinis & Kraiger, 2009) in predicting the impact.

The global production process model requires workers increasingly better qualified. Training activities have been systematically planned as an important strategic tool and a competitive advantage (Aguinis & Kraiger, 2009 and Moreira & Munck, 2010). Formal actions relate to the planned activities based on education and instruction.

The expected results for a training action are based on predefined assessment needs through analysis of the occupant's competences in relation to the expected profile for this position (Manuti, Pastore, Scardigno, Giancaspro & Morciano, 2015). When the evaluation indicates that the profile of the occupant differs to the expected profile or need an enhancement, there's an input for a training design (Abbad, Coelho Jr., Freitas & Pilati, 2006; Tharenou, Saks & Moore, 2007).

The study of training needs refers to identify competences gaps. Once identified, need to be resolved to optimize the performance. These gaps are filled through training activities. However, not always what is trained is applied in the routines of work. According to Wahab, Saad and Selamat (2014), environmental conditions of the organization may limit the application of content learned. When one perceives support from colleagues, peers and/or superiors, it has conditions necessary for impact.

When such support does not exist, the impact of training is directly affected. The learning process combines elements of formal education (through programs provided training) and informal (by imitation, trial and error, reflections on mental work), which should be linked in this process. Thus, training refers to the systematic supply of formal concepts, knowledge, or competences standards that should be translated into better performance at work (Abbad, Pilati & Freitas, 2006; Pilati & Borges-Andrade, 2004).

Attitudes can also be developed in learning activities oriented to the formation of patterns of behavior. The central premise of the concept of "training" therefore indicates that formal learning actions will be developed based on the current performance of the activities required at work. Effective training or development depends on knowing what is required for the individual, the department and the organization as a whole.

Given its importance it's necessary to measure the effectiveness of training activities (Abbad & Borges-Andrade, 2004). The effectiveness is generally measured by the impact of training which is operationally defined as the transfer of training promoting higher performance. Transfer of training in this sense refers to the correct application, in the workplace, of skills and competences acquired in formal training situations. The measure of impact assesses whether the action instruction resulted in improvements in the behavior of individuals, groups and organizations after the training action (Abbad, Borges-Andrade, Freitas & Pilati, 2006).

Abbad (1999) and Abbad, Pilati, Borges-Andrade and Sallorenzo (2012) showed that the impact can be measured in depth or in ampleness. Impact in depth measures training effects that are related to the specific content taught in the TD&E programs while impact in ampleness measures the training effects on the overall performance expected by the organization. In this paper, the impact will be measured in ampleness, at the individual level, with emphasis on the behavior long after the action of training.

Impact in ampleness is operationally defined as the individual's perception about effects of training in their overall performance directly or indirectly related to the content learned. It measures the effects on individuals levels of motivation, self-confidence and openness to change at work.

According to Cseh, Davis e Khilji (2013), the concept of performance refers to the set of behaviors related to tasks, roles, rules, expectations, achieving goals, efficiency and effectiveness based on the organizational standards. This concept is related to the achievement of objectives, so that each given conduct must be subject to judgment of whether it is appropriate and effective. Others aspects such as efficiency and effectiveness are important too. People need the explicit support of the organization.

As stated by Sonnentag and Frese (2002), performance is a multidimensional and dynamic construct. It includes procedural aspects of behavior and results. Actions made by individuals seeking to achieve the goals and objectives of the organization. Factors such as time, cost, quality and quantity of work are essential for determining and planning of individuals' performances in the exercise of their functions. The role of leadership is crucial (Lancaster, Milia & Cameron, 2013; Pantouvakis & Bouranta, 2013; Sibarani, Tjakraatmadja, Putro & Munir, 2015).

For Coelho Jr. (2009), performance refers to the efforts of the person who intends to perform certain types of pre-planned and expected behaviors. Performance can be oriented by the indicators related to work outcomes and to behaviors exerted to achieve these outcomes. Both the impact of the work done by the manifestation of the person and the use of knowledge, skills and attitudes considered indispensable to achieve organizational goals can be used as parameters for assessing performance (Brandão & Guimarães, 2011).

The training by itself doesn't seem to be able to produce a lasting effect on individual behavior, because the transfer of learning to work after the training directly depends of the work context. The conditions of support to learning and transfer also need to be investigated empirically (Burke & Saks, 2009; Cheng & Hampson, 2008; Grossman & Salas, 2011).

Abbad, Coelho Junior, Freitas and Pilati (2006) conceptualize support to learning as collective social perceptions regarding the conditions that activate or inhibit learning and its application in the workplace. It refers to shared mental models about this support. Among other things, these concepts include peer support, supervisor support, the organization as one whole support, the quality of interaction and exchange of knowledge.

The concept of social support applied to the organizational environment leads the idea of something related to the context. Social support should happen when someone need to achieve some pre-defined goal or objective

(Coelho Jr. & Abbad, 2010; Hutchins, Berthelsen & Burke, 2010), something very common in organizations.

Learning support is defined by Coelho Jr. (2004) as the shared perceptions about incentives on informal learning initiatives by peers, colleagues and leaders. Coelho Jr. and Mourão (2011) state that this concept can support any step in the learning process (acquisition, retention, maintenance, generalization and transfer).

Therefore, the support has the sense to guide, help and support individual initiatives and the assistance and incentive for learning can come from co-workers, leaders and educators (Borges-Andrade, 2006). For Coelho Jr. (2009), among the variables of context, the support to learning provided by peers and leadership is the most influential factor in the pursuit of learning in organizations.
This is due to the basic assumption that, in organizations, informal learning occurs continuously through imitation, trial and error, conversations with colleagues, bosses and clients, among others.

The amount of empirical studies about support to informal learning at work is still low (Coelho Jr. & Mourão, 2011, for example). One reason for this is that the concept of informal learning support presents a varied profusion of meanings, which hinders the development of empirical scientific studies on this variable (Bjork, Toien & Sorense, 2013; Freitas Borges-Andrade, Abbad & Pilati, 2006).

Most empirical studies investigating aspects of the organizational context in a typical learning support environment, however, address the issue of occurrence of informal learning. It's necessary to check the predictive effects of learning social support and training in ampleness impact on subsequent performance, as proposed here.

This study investigated the differences between the type of perceived support and the consequences of the implementation of specific actions of training in global work results in two Brazilian Organizations. Considering the above, the research design followed what was recommended by Coelho Jr. and Mourão (2011). This design emphasizes the need to raise the main research questions and then perform analysis, which ultimately define the purpose of the investigation. Accordingly, the following questions and hypotheses were tested.

Question 1. Trained participants believe that the impact of training will result in improved job performance?

Hypothesis 1. Participants who apply the training in the workplace have better performance than those applied less contents learned.

Question 2. Perceptions of support to informal learning at work and impact of training in ampleness directly affects individual job performance?

Hypothesis 2. The support from managers and colleagues will be related to the impact of training in ampleness and these will predict job performance.

If the comprehension about performance involves a great number of variables, understand the difference between predictors is critical to the success of management. The design of organizational policies, procedures and valorization of performance increases organizational effectiveness. The assessment of impact of training on individual performance involve: monitoring performance before, during and after the training activity, anticipating future shortfalls or problems, and identifying the type and level of training required and analyzing how this can best be provided.

Understanding the factors that promote the effective performance is fundamental for the survival of the organization and gain of competitive advantage; failure to do so may result in much higher costs in the future of the organization and a decrease in the motivation of its members.

3. Methodological Aspects

This study aimed to test a set of individual and situational predictors that can explain the impact of training in ampleness in two Brazilian Organizations. This is a study with a quantitative approach, cross-sectional and correlational design. These organizations were selected by the availability and interest of its managers to participate in this research.

The first organization ("Opinion and Market") conducts the analysis and production of market information. This organization was founded in 1998, and has performed opinion polls and development of projects market in organizations of all sizes and sectors, public, private or sector market or third coverage. The locus of this research was the area of Call Center of the Organization, which had, when the data were collected, 175 employees.

The second organization ("Agency of development of the Federal District") is dedicated to the preparation of studies and technical projects in the areas of engineering infrastructure, buildings, urban planning and others. The population of employees was 230 employees while data were collected.

3.1 Sample Profile

The sample was intentional and not probabilistic, for accessibility. Individuals were selected according to a predetermined criterion. The criterion variable studied was the impact in ampleness of two training at work, so the sample was chosen on purpose. Participants must necessarily be entitled to, at least, one program training conducted in their organization on the last 12 months. Only in this way it would be possible to measure the impact of ampleness, regardless of the type of training the person had achieved.

More specifically, the sample consists of individuals that had completed a formal training at least 03 months ago. Importantly, the team of research didn't have access to the modality of training offered by the organizations.

We have a sample of 120 participants in first Organization, and the second, 195. The total sample (N = 315) was predominantly female (66.9%), with the predominant age group 24-30 years (67.7%) and the majority (85.6%) more than a year of work. Regarding the educational level of the participants, 78.9% had at least high school.

When asked to assign a score from 0 (no impact) to 10 (excellent impact), each participant there valued the effects of the training on their performance. We identify that 64% of participants attributed at least the score 7, indicating a lot of effects of the course in their behaviors. This is our criteria variable.

3.2 Instruments and Measures

The instrument used to measure the impact on the ampleness was developed by a Brazilian researcher, Abbad (1999). This instrument had 12 items associated with a Likert scale of 10 points, where 1 corresponded to 'disagree strongly' and 10 'Agree'. This instrument has been validated and is related to improved work performance elements, like the quality of work done, the motivation to carry out the tasks and some work attitudes, for example.

The questionnaire also consists of 28 items related to the perception of support to informal learning at work (KMO = 0.98). Specifically, items about the support provided by peers and colleagues (6 items, Alpha = 0.97, 10.3% explained variance), the unit of work (13, Alpha = 0.95, 22.6% explained variance) and supervisor or leadership (9 items, Alpha = 0.96, 42.78% explained variance). It was used an adaptation of a psychometric measure validated by Coelho Jr., Abbad and Todeschini (2005). All items were also associated with a Likert scale, ranging from 1 (never) to 10 (always).

Finally, another Brazilian measure, self-report job performance (KMO = 0.93), built and validated by Coelho Junior, Borges-Andrade, Seidl and Pereira (2010), was used. This scale is based on the perception of their work results, focusing on processes (efficiency) and products (effectiveness) of job results.

The first factor, 'Performance Regulation' (Alpha = 0.91, 37.5% explained variance), consists of 12 items that assess how the individual realizes that their work contributes to the achievement of the mission and strategy of the organization you work.

The second factor is called 'Degree of Effort and Knowledge of the Task' (Alpha = 0.60, 5.6% explained variance) consists of 3 items that relate to the perception of knowledge and professional competences about their work results.

The third factor is related to the 'Implementation, Monitoring and Review of Performance (Alpha = 0.66, 4.4% explained variance), and consists of four items. This dimension focuses on the process of communication tasks and actions counting even with the setting of objectives and broader organizational strategies and development work.

The fourth and final factor is the "Self-Management Performance Shares' (Alpha = 0.90, 3.7% explained variance) which has 8 items. This factor refers to the efficiency and performance of the individual's ability to manage the execution of their work. Furthermore, the ability of effective use of available equipment is addressed, beliefs about the effectiveness of own performance and achievement results of work, strategic view of performance and interdependence in achieving the tasks.

3.3 Data Collection Procedures and Data Analysis

Data collection was conducted in person in both organizations. The researchers explained the research objectives and given prior consent from each participant signed. Confidentiality was guaranteed. We hadn't any personal identification in the instruments.

The data obtained through the questionnaires were tabulated and analyzed using SPSS 20.0 software. To analyze the kind of individual and situational predictors of impact of actions on the job training statistical technique we used multiple regression analysis.

The data were transformed into standardized score, allowing the test model using multiple regression technique. In the multiple regression model, the responses were analyzed by means of the following background variables: average score of learning support from peers; average score of learning support provided by unit of work; average score of learning support provided by leadership; educational level (0 = Secondary, 1 = rest); sex (0 = Male, 1 = Female); time of service in the organization and age.

The dependent variable of our theoretical model proposed corresponds to the average score of the answers given by the participants to the impact of training in ampleness on performance.

4. Results and Discussion

To measure the impact in ampleness we used 12 items reproduced in Table 1, where the mean (M) and standard deviation (SD) too can be found.

Table 1. Means and standard deviations of items of impact of training in ampleness

Items of impact in ampleness	M	SD
I use in my work, what was taught in training.	8.2	1.8
I take the opportunities I have to practice what was taught in training.	8.1	2
The skills learned in training made me commit fewer mistakes in my work, in activities related to the training content.	8.1	2
When I apply what I learned in my training, I do my work faster.	8.1	1.9
I remember very well the content taught in training.	7.9	1.9
The quality of my work has improved in activities directly related to the content of the training.	7.7	1.9
My participation in this training has increased my self-confidence.	7.4	2.3
The quality of my work has improved even in those activities that don't seem related to the content of the training.	7.2	2
My participation in training serves to increase my motivation to work.	7.2	2.5
My colleagues learned new skills from application of content of training by myself.	7.2	2.6
This training have made me more receptive to changes at work.	6.9	2.5
After my participation in training, I have suggested changes in work routines.	6.6	2.6

Source: Survey data (2016).

In general, the mean values were high, indicating greater agreement by the sample. The training assessed seems to have impact on subsequent individual performance. The standards deviations were also high, mainly because the data were obtained in two different organizations. Items representing the highest average refer on the direct effects of the course done on personal performance. There is a uniform or common perception among respondents about the effectiveness of the course taken and leadership support.

With respect to the items related to support to informal learning provided by supervisor or leadership the responses were more heterogeneous. This signals that supervisors have different profile within the two organizations, or even within each organization indicating subculture. Table 2 summarizes the results.

Table 2. Means and standard deviations of support to informal learning provided by leaders

Items of support to informal learning provided by supervisor/leadership	M	DE
My supervisor is available to take my doubts about the use of new skills and knowledge at work.	7.6	2.8
My supervisor encourages me to face the challenges at work.	6.5	2.9
My immediate supervisor praises me when I apply new skills and knowledge.	6.1	3.1
My supervisor appreciates my suggestions for change.	5.9	3
My supervisor gives me the freedom to decide on how to develop my tasks.	5.9	3.1
My supervisor encourages me to apply new skills and knowledge.	5.8	2.8
My immediate supervisor takes risks with me to try new ways of doing work.	5.7	2.9
My immediate supervisor eliminates the difficulties and obstacles to the implementation of my new skills and knowledge at work.	5.7	3
My immediate supervisor considers my ideas even if different from him.	5.4	3

Source: Survey data (2016).

In general, the means are above the midpoint of the scale (5). However, they are associated with high standard deviations. This suggests that the leaders seem to be taking different lines in terms of providing support for informal learning at work. There appear to be subcultures between organizations evaluated with respect to the function of the leadership support (one, more supportive, others, more of lack of support). It's necessary to understand the reasons of this empirical found. Table 3 presents the perceptions of support from colleagues.

Table 3. Means and standard deviations of support to informal learning provided by colleagues

Items of support to informal learning provided by colleagues	M	DE
My colleagues give me directions when I have difficulties in applying new skills and knowledge.	8.3	1.9
My colleagues support my attempts to seek new learning at work.	7	2.6
My colleagues praise me when I apply my new skills and knowledge.	6.6	2.8
My colleagues feel confident when I apply new skills and knowledge at work.	6.5	2.8
My colleagues motivate me to seek new skills and knowledge related to work.	6.4	2.9
My colleagues motivate me to propose new ideas for tasks..	6.4	2.7

Source: Survey data (2016).

The peer support is more evident in the surveyed sample. This may be a sign, as stated by Manuti, Pastore, Scardigno, Giancaspro and Morciano (2015), Tynjala (2013) and Blume, Ford, Baldwin and Huang (2010), that there is a strong component of assistance provided by co-workers in the experience of post learning adversities. The support provided by peers is more homogeneous than the support provided by the unit of work and leadership. Table 4 displays the descriptive results obtained from work unit.

Table 4. Means and standard deviations of support to informal learning provided by work unit

Items of support to informal learning provided by unit of work	**M**	**SD**
In my unit, there is mutual respect.	7.9	2.1
In my unit, there is tolerance to errors in applying new skills.	6.9	2.7
In my unit, there is autonomy to organize work.	6.9	2.7
In my unit, there is exchange of information and knowledge about the application of new skills.	6.5	2.7
In my unit, there is openness to criticism when someone applies new skills.	6.4	2.8
In my unit, new ideas are valued.	5.9	2.8
In my unit, each member is motivated to expose what you think.	5.8	3
In my unit there is incentive to seek new learning.	5.7	2.9
In my unit tasks facilitate the application of new skills.	5.7	2.8
In my unit, there is an acceptance of the risks associated with the application of new skills.	5.5	2.6
In my unit, there is autonomy to question the orders given by the supervisor.	5.2	2.9
In my unit, there is time dedicated to finding new ways to do the job.	4.6	2.6
In my unit, there is autonomy to act without consulting the supervisor.	3	2.5

The highest mean values refers to the actions of perceived support provided by unit of work in terms of acquisition of competences related to performance, as discussed by Coelho Jr. and Mourão (2011). The lower mean value refers to autonomy, a component of environment organizations, especially with regard to the rationalization of work optimization and organizational performance. The results regarding the self-report performance measure, it was found that average were also very high, with smaller standard deviations. It's noteworthy that the comparative analyses of the average between the participants of the organizations surveyed were conducted. No statistically significant differences between them were identified. Thereby, we opted for the aggregation of the data.

Table 5. Means and standard deviations of self-reference performance at work

Item	Mean	Standard Deviation
General Factor 1: Implementation of Performance	8.5	1.1
1. I do my homework trying to keep the commitment to this organization.	9	1.2
3. I am committed to the goals and objectives set by the Organization.	8.9	1.4
5. My job is important for the performance of this Organization.	8.9	1.4
10. I know what is expected of me in terms of my performance at work.	8.8	1.5
2. I assess the performance of my work contributes directly to achieving the mission and goals of this Organization.	8.5	1.5
6. I keep me updated on the technical knowledge in my area of expertise.	8.3	1.7
7. I have a permanent channel of communication aiming to promote interaction with others.	8.3	1.8
11. I take initiative, taking advantage of the opportunities that can generate better results.	8.3	1.7
12 My job performance is in line with what is expected of me.	8.3	1.6
4. I redirect my actions in my work due to changes in the objectives of this Organization.	8.2	1.7
9. I implement most appropriate actions when detect an error in my work.	8.1	1.9
8. I direct my actions to carry out my work with resource savings.	7.9	2
General Factor 2: Degree of Effort and Knowledge of the Task	7.9	1.5
13. My work requires me much effort to carry them out.	8	2
15. I direct my actions from knowledge of the structure and policies of the Company.	8	1.8
14. I get appropriate guidance to perform tasks under my responsibility.	7.6	2.3

Both Factors 1 e 2 show homogeneous perceptions about degree of effort in performing the tasks (except item 14). According to Sonnentag e Freese (2002), individual performance is of high relevance for organizations and individuals alike. Aguinis e Kraiger (2009) showed high performance when accomplishing tasks results in satisfaction, feelings of self-efficacy and mastery. Task performance refers to actions that are part of the technical core, and addresses the requirements as specified in job descriptions. Task performance consists of activities that transform materials into the goods and services produced by the organization or to allow for efficient functioning of the organization.

Table 6. Means and standard deviations of the items of self-reference performance

General Factor 3: Execution, Monitoring and Evaluation	7	1.9
16. I contribute with alternatives solutions to solving problem in this Organization.	7.6	2.1
19. My actions impact on the outcome of other areas of the Organizations.	7.3	2.6
17. I stable exchanges with other teams or units where necessary to ensure the achievement of organizational objectives.	6.6	3
18. There are group meetings between me, my colleagues and leaders for discussion and evaluation of the actions and tasks performed.	6.3	3
General Factor 4: Self-Management Strategies Performance	8.4	1.3
21. I develop my work in accordance with the established rules and standards.	8.9	1.5
24. I adapt to change in my work routines.	8.6	1.7
27. Improving my performance motivates me to do a better job.	8.6	1.7
20. I evaluate successfully my performance in achieving tasks and routines related to my work.	8.3	1.5
22. I use tools and materials available for improving the results of my work.	8.3	2
23. I plan my routines in accordance with my organizational responsibilities.	8.1	2
25. I establishes priorities in my work, defining actions, deadlines and resources.	8.1	2
26. I establish the relationship between the source and the purpose of my work.	8	2

The data show that the participants demonstrate an adaptive performance (Sonnentag & Freese, 2002). They seem to develop strategies aimed at continuous improvement of its performance, impacting thus the contextual performance. The results of the statistical regression model can be observed in Table 6.

Table 7. Empirical research model

The predictors variables*	Beta	T
The average of support to informal learning provided by unit of work	0.38	2.79
The average of support to informal learning provided by supervisor	- 0.29	-2.20
The average of General Factor 4 (Self-Management Strategies Performance)	0.42	3.14
R^2 adjusted = 0,495 (49,5%)		
N = 315		

*p < 0.005

This finding indicates that a context organizational can explain impact of training on performance. The work context appears to be positive in providing learning support.

The three predictive variables explained, in the aggregate, approximately 49.5% of the variance of the criterion variable investigated (score from 0 to 10 assigned to the impact of training on performance). The support provided by the work unit (B = 0.38) and leaderships (B = - 0, 29), and strategies using auto performance tuning (B = 0.42) explained the dependent variable in the analysis. The hypothesis 1 (Participants who apply the training in the workplace have better performance than those applied less contents learned) is confirmed. The hypothesis 2 (The support from managers and colleagues will be related to the impact of training in ampleness and these will predict job performance) was partially confirmed. Only the support provided by unit of work and supervisor contributed to explain performance.

As our theoretical model hypothesized the homogeneous perceptions of the participant considers the course added to its performance. The average scores of the support provided by the unit of work and leadership, and the average score of colleagues explain the impact range of courses already made by the participants in the two organizations investigated. These three variables together explained about 49.5% of the variance criterion variable investigated.

These results are in line with pointing Manuti, Pastore, Scardigno, Giancaspro and Morciano (2015), Wahab Saad and Selamat (2014), Abbad, Freitas and Pilati (2006) and Tharenou, Saks and Moore (2007), highlighted the essential role of context in determining the application of learned content after training events. The role of leadership, as reported here, was also found by Cseh, Davis and Khilji (2013), Lancaster, Milia and Cameron (2013), Van den Bossche, Segers and Jansen (2010), Coelho Jr., Abbad and Vasconcelos (2008), Burke and Saks (2009) and Grossman and Salas (2011) as an important predictor of impact of training in ampleness.

The results indicate that the transfer of learning is directly associated with the presence of psychosocial support environment (Bjork, Toien & Sorense, 2013; Hampson & Cheng, 2008; Tynjala, 2013). Support provided by social actors who have more control over content, and is of utmost importance for the application of knowledge in the workplace (Coelho Jr. & Mourão, 2011). Thus, context exerts a decisive role in the application of learning and the leadership style is essential (Cseh, Davis & Khilji, 2013; Pantouvakis & Bouranta, 2013; Sibarani, Tjakraatmadja, Putro & Munir, 2015).

The context of the implementation of self-regulatory performance actions also explained the impact. This means that more individuals are dedicated to acting their best performance, making efforts; also they tend to apply more training content. According to Kyndt, Govaerts, Dochy and Baert (2011), Green and McGill (2011) and Salas and Cannon-Bowers (2001), when the content of the actions of instruction focuses on a preliminary needs assessment, it has the ability to generate impact. Training needs analysis identifies training needs at employee, departmental or organizational level in order to help the organization to perform effectively. The aim of training needs analysis is to ensure that training addresses existing problems, is tailored to organizational objectives, and is delivered in an effective and cost-efficient manner

Finally, psychological support of social actors is very important to the application of new skills and competences on the job. The use of performance self-regulation strategies should also be encouraged by the directors of the organization. The role of the supervisor is fundamental. The context promotes strong effects on learning and human performance in the workplace (Kirwan & Birchall, 2006; Yanchar & Hamkley, 2015).

5. Conclusions and Recommendations

This study aimed to empirically verify the influence of individual and situational predictors of training in ampleness in individual performance in two organizations located in Brasilia, Brazil. The results showed that psychosocial learning support provided by colleagues, leadership/supervisor and work unit and strategies of self-regulation of performance generate effect on post-training contextual performance. The general objective was achieved in full, since the variable criteria of empirical research was determined. Therefore, the questions were answered and the established hypothesis supported. Just hypothesis 2 was partially confirmed.

It was found that the context variables predict impact of training on the job. The results suggest that support for learning by work units and managers also played an important role in the application of the knowledge acquired during the formal training events.

An important limitation of this study relates to the failure to identify participants for each specific organization. Due to the agreed total confidentiality of information, questionnaires were not different between the organizations, which made it impossible to carry out tests comparing the average and variance between them. Perhaps the results by the organization were different, although the results demonstrate homogeneity in the perception of the participants.

For future studies, considering the pursuit of external validity or generality of the findings reported, it's recommended that participants from other organizations, whose training policy is also strongly consolidated, are also evaluated. It's recommended to compare the impact results of former students from different institutions with the aim of compare the effects of its application on performance.

Another important limitation of this study refers to the lack of validity of the parameters or characteristics of the training offered by the two institutions. The team of research did not have access to educational content, which hindered, for example, the construction of measures applied to the specific reality of each training (in depth) that could have added much to this work. It's recommended for future studies that incorporate new scales of in depth impact, comparing them with the impact in ampleness, ensuring the accuracy and reliability of the effectiveness of instructional actions.

It's expected that the results of this research can provide inputs for future management actions within the organizations surveyed. Organizational policies and human resource practices can be redesigned or designed according to the current results. The psychosocial support should be stimulated promoting informal learning between individuals and workgroups. Management development programs oriented to leaders should promote actions of informal learning.

In the context of the two organizations, support for informal learning has substantially contributed to the acquisition and expression of skills at work. These professional competences, in turn, exert influences on individual performance. We tested here, empirically, that there are relationships between informal learning gains, professional competences acquired by training programs and their effect on improved performance.

Furthermore, this study presents two major contributions, the first, academic, by means of a rereading of the main concepts related to support to informal learning at work, acquisition and expression of competences, training activities and their effects on performance; the second, managerial, as this research can contribute to the improvement and implementation of the people management in two existing Brazilian organizations and also contribute to the improvement of the formal organizational practices and routines.

It's recommended for future studies researchers to seek and apply validated diagnostic tools to measure other contextual variables such as the organizational structure and the existing organizational culture. Still, we recommend the empirical study of other organizations from other sectors about the impact of training programs and the development of managerial skills on the individual and team performance.

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An Empirical Analysis of Financially Distressed Italian Companies

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Abstract

This paper investigates the performance of forecasting models for default risk referring to the annual balance sheet information of Italian firms. One of the main issues in bankruptcy predictions is related to the selection of the best set of indicators. Therefore, our main research question concerns the identification of the determinants of corporate financial distress, comparing the performance of innovative selection techniques. Furthermore, several aspects related to the default risk analysis have been considered, namely the nature of the numerical information and the sample design. The proposed models take in consideration the above-mentioned issues and the empirical results, elaborated on a data set of financial indices expressly derived from annual reports of the industrial firms. These reports provide evidence in favor of our proposal over the traditional ones.

Keywords: bankruptcy, default risk, variable selection

1. Introduction

In recent years, the interest in the prediction of corporate financial distress has grown together with the global increase of corporate collapses. This has happened also due to the consequences of bankruptcy (Riasi, 2015).

Since the fundamental paper of Beaver (1966), which proposes for the first time the use of financial indicators as bankruptcy predictors, and the even more essential work of Altman (1968), which extended the previous intuition to a multivariate framework, there have been many contributions in this field (Agarwal and Taffler, 2008; Aloy Niresh, J. and Pratheepan, T., 2015; Altman et al., 2014; Altman E. I. and Branch B., 2015; Balcæn S. and Ooghe H., 2006; Becchetti and Sierra, 2003; Bellovari et al., 2007; Dimitras et al., 1996; Gunathilaka, C., 2014; Jackson R. and Wood,Morris A., 2013; Platt and Platt, 2002; Poddighe and Madonna, 2006; Sanchez J.A. and Sensini L., 2013).

Some authors have studied the role of the financial variables (Keasey and Watson, 1987; Amendola, et al., 2010) as predictors. Others have compared the performance of static and dynamic models to investigate the impact of time dynamics on both parameter estimations and model performance (Balcaen and Ooghe, 2004; Chava and Jarrow, 2004; Dakovic et al., 2007; Hillegeist et al., 2004).

Few authors have attempted to assess the contribution of variable selection techniques to the performance of a model (Amendola et al. 2011a; Back et al., 1994; Brabazon and Keenan, 2004; du Jardin, 2010).

In recent years, the exponential growth of micro-data availability and the development of computer techniques have recently attracted new interest on the topic.

Despite the numerous empirical findings, different research concerns still need to be addressed, such as: the definition of failure, the stability of the data, the choice of the sample design, the variable selection (Amendola et al., 2011b; Härdle et al., 2009; Sensini, 2015; Sexton et al., 2003).

Furthermore, in order to examine the effect of explanatory variables across the diverse states of financial distress, a multi-state approach has been used (Lau, 1987; Shary, 1991).

Starting from a large set of financial indicators considered as potential predictors the main purpose the study on corporate failure prediction is to select the best set of predictor in order to discriminate firms with a high probability of failure from healthy firms.

However, the problem which still deserves further investigation is how to choose the best predictors among the large number of financial indicators suitable for predicting the bankruptcy and insolvency.

The aim of this work is to investigate several determinants of bankruptcy in the Italian industry bankruptcy prediction by means of predictive approaches that take into account the variable selection problem. The use of model selection techniques based on shrinkage methods have been proposed by Amendola et al. (2011b) where the performance of this approach have been compared over traditional variable selection techniques.

In this paper the empirical setting has been extended in reference to a large sample of Italian industrial firms and the forecasting performance has been evaluated considering different optimal prediction sets and different sampling approach. The results of the comparative analysis, computed using specific accuracy measures, are in favor of the use of an innovative variable selection procedure and highlights the role of the optimal set of predictors in generate accurate default risk prediction.

This paper has six sections and it is structured as follows. The next section introduces the data and the sampling procedure. Section 3 illustrates in brief the variable selection techniques. The proposed models are described in section 4, while the results of the prediction power comparison of the different models are reported in Section 5. The last section offers some concluding remarks.

2. The Data and the Financial Predictors

The notion of business failure has been defined in many different ways in literature and it is not easy to agree on a widely accepted definition (Karels and Prakash, 1987; Crutzen and van Caillie, 2007).

A failure state has been analysed from diverse perspectives depending not only on the context and the characteristics of the firms but also on the interest of researchers (Dimitras, Zanakis and Zopounidis, 1996).

In part of the literature, business failure is defined as a sequence of several financial situations that lead to the closure of the firm (Morris, 1997). However, this definition only concentrates on the financial disease without taking into account other difficulties that can affect the firms' health in the early stages of the failure process (Argenti, 1976).

Given that the empirical literature distinguishes between economic and juridical business failure (Weitzel and Jonsson, 1989), in this study we refer to the juridical concept of business failure, considering those companies that have experienced permanent financial disease We do not take in consideration firms that incur in voluntary liquidation or have a temporary financial disease.

The data-set includes industrial companies, in the limited liability sector, that have started the juridical procedure of bankruptcy in Italy in the considered period. The information on the legal status and the annual reports have been extracted from the AIDA database of Bureau Van Dijk (BVD).

In particular, the disease set is composed of those industrial firms that have entered the juridical procedure of bankruptcy in Italy at t=2010, for a total of 5628 failed firms and five years of financial statement information prior to failure (t- i; i = [1; 5]).

The firms included in the data set which registered missing data have not been included in the analysis.

For this reason a preliminary analysis was executed and the results are reported in Table 1.

For the considered period, the population of failed firms has been divided into two sub-sets: a) firms that regularly present financial statements; b) firms that did not present their financial statements or presented incomplete information and are not suitable for the purpose of our analysis.

Table 1. Failed firms sample

Group	2005	%	2006	%	2007	%	2008	%	2009	%
A	5056	89,84	4526	80,42	4231	75,18	3468	61,62	2963	52,65
B	572	10,16	1102	19,58	1397	24,82	2160	38,38	2665	47,35
Total	5628	100,00	5628	100,00	5628	100,00	5628	100,00	5628	100,00

In Table 1, it can be easily observed that firms do not tend to present the financial statements in the years immediately before the failure or, in any case, the financial information is incomplete.

In the final data-set used for the elaboration have been included only those firms that provide a full financial statements in the five years prior to failure (2005-2009).

We indicate 2010 as the reference period, t, so as to verify in a time span of 4 years of future annual reports (at t + i; i = [1; 4]) that the company selected as healthy at time t does not get into financial diseases in the next 4 years.

The healthy set was sampled among the Italian industrial firms that were still active at the end of time t (year 2010) which have not incurred in any kinds of bankruptcy procedures, such composition with creditors, receivership, extraordinary administration etc., between 2010 and 2014; which have not changed name or structure with operations such as merger and acquisition in the years of interest and have provided full information at time (t - i; i = [1; 4]) and (t + i; i = [0; 4]).

With the aims of achieving a set of full information, i.e. each firm provides complete financial data for each time period t, the analysis has been limited to the three years of interest (2006, 2007, 2008). The main aim of the analysis is to investigate the performance of the developed default risk models over different sample designs on real data.

Concerning the selection of the sample design, despite numerous debate in literature, there has been no clear evidence in favor of a unique solution. A possible solution is to adopt a balanced-sample, by selecting the same sample size for both cluster of failure and healthy firms. The motivation is that the population proportion significantly favors active firms and so a non-balanced sample would select a small number of failed firms leading to a biased estimator. However, there are also reasons in favour of different choices, such as oversampling the failing companies with unbalanced proportion (Back, 1997).

In this analysis a cluster scheme, based on the geographical distribution as auxiliary variable, of the industrial firms have been used and both balance and unbalanced cluster sampling designs have been considered. A cross-sectional approach has been considered as benchmark.

Different approaches have been proposed into the literature to forecast default risk and the authors have used different set of variables.

In this paper, according to Bellovari et al. (2007), we believe that in order to achieve higher model accuracy the selection of the predictors has to consider different aspects.

They have had a relevant financial meaning in a failure context, they have been frequently used in failure prediction literature and, finally, the information needed to calculate these ratios is available.

Accordingly, the financial variables have been selected among the most relevant in underline current and prospective conditions of operational unbalance, in line with the main previous theoretical and empirical studies on the topic (Altman, 2000; Dimitras et al., 1996).

Finally we have 55 indicators as potential bankruptcy predictors (reported in table 2) that take into account all the relevant aspects of the firms' structure: Profitability, Size and Capitalization, Leverage, Liquidity, Operating structure, Turnover.

The predictors data-base for the considered period (2006, 2007, 2008) was derived starting from the financial statements of each firm included in the sample.

Table 2. Financial Indicators

N.	Financial Indicators	Area
1	Net Proceeds/Invested Capital	Profitability
2	Return on Equity	
3	Return on Investment	
4	Return on Assets	
5	Return on Sales	
6	Net Proceeds/Current Assets	
7	Leverage	
8	Gross Income/Financial Charges	
9	Capital Stock/Sales	
10	Sales/Total Assets	
11	Net Income/Sales	
12	Net Income/Total Assets	
13	Net Income/Total Debts	
14	Sales/Fixed Assets	
15	Finance Charges/Production Value	
16	Finance Charges/Net Sales	
17	Cash Flow/Sales	
18	Liquidity/Total Assets	Liquidity
19	Current Ratio I	
20	Current Ratio II	
21	Quick Ratio	
22	Current Assets/Fixed Assets	
23	Inventory/Current Assets	
24	Gross Working Capital/Total assets	
25	Liquid Assets/Total Assets	
26	Cash Flow	
27	Cash Flow/Total Assets	
28	Cash Flow/Net Worth	
29	Cash Flow/Capital Stock	
30	Cash Flow/Total Debts	
31	Cash/Sales	
32	Equity Ratio	Size and Capitalization
33	Net Worth/Capital Stock	
34	Equity - Intangible Assets	
35	Net Capital - Net Capital Assets	
36	Net Worth/Sales	
37	Total Debts/Total Assets	
38	Net Worth/Fixed Assets	
39	Capital Stock/Fixed Assets	
40	Capital assets/Total Assets	
41	Capital Stock/Total Assets	
42	Net Worth/Total Debts	
43	Capital Stock/Total Debts	
44	Financial Debt /Total Assets	
45	Net Worth/Total Assets	
46	Inventory/Sales	Turnover
47	Account Receivable/Sales	
48	Total Debts/Sales	
49	Sales/Advances from Customers	
50	Sales/Inventory	
51	Labour Cost/Production Cost	Operating structure
52	Labour Cost/Production Value	
53	Labour Cost/Net Sales	
54	Finance Charges/Debt	
55	Finance Charges/Financial Debt	

The explanatory variables considered reflect different aspects of the firms’ structure, as synthesized in Table 3.

Table 3. Financial Predictors

Area	Nv
Profitability	17
Liquidity	14
Size and Capitalization	14
Turnover	5
Operating structure	5

The whole sample has been divided in a training set (70% of the data) used for estimation purpose and a test set (30% of the data) used for performance evaluation.

3. Selection Techniques

A relevant problem in measuring the risk of failure is to select the optimal set of financial indicators. Since the seminal paper of Altman (1968) this issue has been largely discussed in financial literature and, over the years, different selection procedures have been proposed.

The traditional methods refer to subset regression, which aim at choosing the set of the most important predictors to be included in the model. In this class we can allow different methods: all-subset; forward (backward) selection; stepwise selection (Furnival and Wilson, 2000).

A different approach is based on the shrinkage procedure based on penalized regression methods. They allow a variable to be partly included in the model via constrained least squares optimization. Shrinkage often improves prediction accuracy, trading off decreasing variance for increased bias (Hastie et al. 2009).

Among this frame, a widely used approach is the Least Absolute Shrinkage and Selection Operator, LASSO proposed by Tibshirani (1996).

The Lasso allows for simultaneous execution of both parameter estimation and variable selection. It shrinks some coefficients in the linear regression and sets others to 0, and hence tries to retain the good features of both subset selection and ridge regression. The Lasso linear regression can be generalized to other models, such as GLM, hazards model, etc. (Park and Hastie, 2007).

4. Default-risk Models and Performance Evaluation

In this work we aim at developing default risk models for predictions and diagnosis of the risk of bankruptcy, in particular we focus on the variable selection of the best optimal set of predictors.

For this purpose we compared different selection strategies, evaluating their performances in terms of prediction accuracy considering different sample design and different time horizon.

We refer to two different approaches: the Logistic Regression with a stepwise variable selection (Model 1) and the regularized Logistic Regression with a Lasso selection (Model 2).

As benchmark we estimated a Linear Discriminant Analysis with a stepwise selection procedure (Model 3).

The logistic regression can be written as:

$$ln\left(\frac{p(y)}{1-p(y)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_p x_p$$

The Regularized logistic Regression consider the penalty term , as illustrated in the previous session, via the Lasso and can be written as

$$\hat{\beta}_{lasso} = \text{argmin} \sum_{i=1}^{n}\left(y_i - \beta_0 - \sum_{j=1}^{p} x_{ij}\,\beta_j\right)^2$$

Subject to $\sum_{j=1}^{p}\left|\beta_j\right| \leq \delta$.

For evaluation purposes the classification results can be summarized in a two-by-two confusion matrix that allows for four possible outcomes as indicated in Table 4.

Table 4. Confusion Matrix

		Predicted Class	
		Failed	Healthy
Actual	*Failed*	True Positive	False Negative
Class	*Healthy*	False Positive	True Negative

Starting from the results of Table 4 we can compute two types of error: the Type I error rate, i.e. a failing firm is misclassified as a non-failing firm, and the Type II error rate, i.e. a non-failing firm is wrongly assigned to the failing group. An overall index, the Correct Classification Rate, (CCR), i.e. correct classified instances over total instances, can be computed.

This information can be used to generate further accuracy measures widely used in a bankruptcy prediction study (Engelmann et al., 2003; Fawcett, 2006). They include some measures based on the Cumulative Accuracy Profile (CAP) and its summary statistic, the Accuracy Ratio, calculated by relating the area under the CAP plot to the area under the CAP of a hypothetical "perfect" rating system. A different approach is based on the Receiver Operating Characteristics (ROC) analysis that shows the ability of the classifier to rank the positive instances relative to the negative instances.

Although the construction of the ROC curve differs from the CAP approach, the summary measures of both curves essentially contain the same information. It can be shown that the Accuracy Ratio can be calculated referring to the Area under the ROC curve with following equation:

$$AR = 2 * AUC - 1.$$

The Accuracy Ratio is normalized between -1 and 1, while the Area under the ROC curve lies between 0 and 1. The area is 1 for a perfect model. Testing the performance of a default model means to investigate its ability to discriminate between different levels of default risk.

5. Empirical Results

The predictive performance of the developed models has been evaluated in terms of: Correct Classification Rate (CCR); Area under the ROC curve (AUC); Accuracy Ratio (AR).

The accuracy measures have been computed on the training and test sets for each forecasting model, previously described (Model 1, Model 2 and Model 3) and each sample design. For the unbalanced sample (Table 5-6), the correct classification rate of the three models increases when approaching the bankruptcy year, both in the training set and in test set.

Table 5. Unbalanced sample: Accuracy measures for training set

	Model 1	Model 2	Model 3
	2006		
Correct Classification Rate	0.83607	0.89344	0.81967
Miss Classification Rate	0.16393	0.10656	0.18033
Type I Error	0.34286	0.37143	0.57143
Type II Error	0.09195	0.00000	0.02299
AUC	0.87685	0.94713	0.80887
AR	0.75369	0.89425	0.61773
	2007		
Correct Classification Rate	0.84426	0.91803	0.87705
Miss Classification Rate	0.15574	0.08197	0.12295
Type I Error	0.40000	0.22857	0.34286
Type II Error	0.05747	0.02299	0.03448
AUC	0.86404	0.96814	0.92118
AR	0.72808	0.93629	0.84237
	2008		
Correct Classification Rate	0.93443	0.94262	0.88525
Miss Classification Rate	0.06557	0.05738	0.11475
Type I Error	0.14286	0.14286	0.28571
Type II Error	0.03448	0.02299	0.04598
AUC	0.96289	0.96880	0.94844
AR	0.92578	0.93760	0.89688

Table 6. Unbalanced sample: Accuracy measures for test set

	Model 1	Model 2	Model 3
	2006		
Correct Classification Rate	0.75000	0.86538	0.78846
Miss Classification Rate	0.25000	0.13462	0.21154
Type I Error	0.46667	0.40000	0.73333
Type II Error	0.16216	0.02703	0.00000
AUC	0.70631	0.91171	0.67748
AR	0.41261	0.82342	0.35496
	2007		
Correct Classification Rate	0.86538	0.88462	0.80769
Miss Classification Rate	0.13462	0.11538	0.19231
Type I Error	0.26667	0.26667	0.53333
Type II Error	0.08108	0.05405	0.05405
AUC	0.92793	0.97297	0.83604
AR	0.85586	0.94595	0.67207
	2008		
Correct Classification Rate	0.92308	0.98077	0.90385
Miss Classification Rate	0.07692	0.01923	0.09615
Type I Error	0.06667	0.06667	0.33333
Type II Error	0.08108	0.00000	0.00000
AUC	0.96757	0.99456	0.96757
AR	0.93513	0.98919	0.93514

Concerning the effect of the sample design it seems to be not so relevant, in fact the trend of the accuracy measures for the balanced sample (Table 7-8), is quite similar to that in the unbalanced sample. Looking at the error rates, the values for the balance sample are on average slightly worse than the unbalanced.

Table 7. Balanced sample: Accuracy measures for training set

	Model 1	Model 2	Model 3
	2006		
Correct Classification Rate	0.84286	0.87143	0.78571
Miss Classification Rate	0.15714	0.12857	0.21429
Type I Error	0.11429	0.14286	0.17143
Type II Error	0.20000	0.11429	0.25714
AUC	0.91510	0.94122	0.88571
AR	0.83020	0.88244	0.77143
	2007		
Correct Classification Rate	0.75714	0.88571	0.87143
Miss Classification Rate	0.24286	0.11429	0.12857
Type I Error	0.22857	0.11429	0.14286
Type II Error	0.25714	0.11429	0.11429
AUC	0.85633	0.94531	0.89531
AR	0.71265	0.89061	0.79062
	2008		
Correct Classification Rate	0.92587	0.97143	0.95714
Miss Classification Rate	0.07143	0.02857	0.04286
Type I Error	0.08571	0.00000	0.05714
Type II Error	0.05714	0.05714	0.02857
AUC	0.97551	0.99265	0.98367
AR	0.95102	0.98531	0.96735

Table 8. Balanced sample: Accuracy measures for Test set

	Model 1	Model 2	Model 3
	2006		
Correct Classification Rate	0.76667	0.80000	0.83333
Miss Classification Rate	0.23333	0.20000	0.16667
Type I Error	0.26667	0.26667	0.06667
Type II Error	0.20000	0.13333	0.26667
AUC	0.76889	0.92444	0.89778
AR	0.53778	0.84889	0.79556
	2007		
Correct Classification Rate	0.80000	0.90000	0.83333
Miss Classification Rate	0.20000	0.10000	0.16667
Type I Error	0.13333	0.13333	0.06667
Type II Error	0.26667	0.06667	0.26667
AUC	0.88444	0.96444	0.89778
AR	0.76889	0.92889	0.79556
	2008		
Correct Classification Rate	0.83333	0.93333	0.90000
Miss Classification Rate	0.16667	0.06667	0.10000
Type I Error	0.20000	0.06667	0.13333
Type II Error	0.13333	0.06667	0.06667
AUC	0.89333	0.99556	0.94222
AR	0.78667	0.99111	0.88444

Comparing the performance of the three models, it can be noted that the Lasso has a better performance in each year, in both sets and for both samples, compared to Logistic Regression and Discriminant Analysis.

To sum up, the analysis shows that forecasting models based on unbalanced sample and shrinkage selection methods perform better than the model based on balance sample and traditional selection procedure. As expected the Lasso procedure selects a reduced number of variables and gives advantage in terms of computational time. Overall, the performance of the model increases, as the forecasting horizon decreases even if some drawbacks can be registered for the Logistic Regression in the year 2007.

The final set of financial variables included in the three estimated models are consistent with those considered, at different levels, in large part of the empirical literature on the topic (Amendola et al., 2010; Dimitras et al., 1996).

Table 9. Cross-Sectional sample: Accuracy measures for training set

	Model 1	Model 2	Model 3
Correct Classification Rate	0.87671	0.94795	0.88767
Miss Classification Rate	0.12329	0.05205	0.11233
Type I Error	0.27619	0.15238	0.32381
Type II Error	0.06154	0.01154	0.02692
AUC	0.92919	0.97927	0.91641
AR	0.85839	0.95853	0.83282

Table 10. Cross-Sectional sample: Accuracy measures for Test set

	Model 1	Model 2	Model 3
Correct Classification Rate	0.82803	0.96815	0.85987
Miss Classification Rate	0.17197	0.03185	0.14013
Type I Error	0.31111	0.06667	0.37778
Type II Error	0.11607	0.01786	0.04464
AUC	0.83591	0.98651	0.87937
AR	0.67182	0.97301	0.75873

6. Concluding Remarks

In this study the industrial enterprise default risk models have been developed by investigating the role of variable selection procedures and sample designs in the overall forecasting performance.

The financial statements of healthy and failed Italian companies, sampled with balance and unbalance schemes, have been analysed.

In particular, we aim at evaluating the opportunity to implement variable selection techniques based on shrinkage regression. The performance of the proposed forecasting models has been evaluated at different time horizons and by means of properly chosen accuracy measures. The results of our analysis seem to support the research question which underlines the superior performance of the Lasso selection procedure over traditional methods, specifically logistic regression and discriminant analysis.

The results are quite similar for both the balanced and unbalanced sample, which underline the marginal effect of the sample design in terms of forecast accuracy.

Overall, the proposed approach seems to be a promising and valid alternative.

Given the dynamic nature of the problem, we may obtain better results in terms of forecast accuracy if we include the time dimension and the evolutionary behavior of the financial variables in the models.

Furthermore the empirical findings can be generalized by extending the analysis to a larger data set including other European countries.

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Determinants of Problem Loans: Non-performing Loans vs. Loan Quality Deterioration

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Abstract

The growing literature on credit risk determinants provides results that are based on the set of bad loans present in the bank's assets especially non-performing loans. Besides this classic proxy, the present paper examines the determinants of loan quality deterioration by using a qualitative measure. Actually, we take advantage of a detailed dataset containing information on the quality of loans contracted by banks to different Tunisian firms. The study aims to detect if credit risk determinants are different through quantitative and qualitative proxies. We take into account bank-specific indicators that are likely to affect banking credit risk. Overall, the results show that cost inefficiency and bank profitability are common determinants of the credit risk level and the loan quality deterioration, that are differently influenced by bank size and capitalization.

Keywords: loan quality deterioration, non-performing loans, ordered probit model, problem loans

1. Introduction

According to statistics from the Central Bank of Tunisia's 2014 report, the banking sector represents the main funding source to the Tunisian economy. Actually, the overall volume of credits amount to 60 million dinars ($28.91 million), where the total customer deposits have reached 51 million dinars ($24.57 million). Therefore, examining the factors determining problem loans in Tunisian banking sector is an important question that interest banks and mostly regulatory authorities anxious about financial stability. Actually, once these variables are identified, the credit risk will be manageable using these factors.

Literature on credit risk determinants has distinguished two types of factors responsible for increasing problem loans: microeconomic and macroeconomic. Bank-specific determinants are essentially the management efficiency, loan loss provision, leverage, regulatory capital, funding costs, liquidity, non-interest income, ownership concentration, bank size and profitability. However, country-specific determinants of impaired loans consist on the economic growth, unemployment, inflation, lending rates, sovereign debt, interest rate and exchange rate.

Existing studies examine credit risk determinants through different countries and group of countries. Berger and DeYoung (1997) study a sample of US banks during the period 1985–1994. Focusing on efficiency indicators, they test the links between bank-specific indicators and problem loans. They formulate prospective mechanisms, namely 'bad luck', 'bad management', 'skimping' and 'moral hazard' relating to efficiency and capital adequacy. They find that cost efficiency is likely to be a substantial factor indicating future problem loans. Fofack (2005) showed that GDP growth and the real interest rate are important indicators of impaired loans in the sub-Saharan African countries. He attributes the relationship between macroeconomic factors and non-performing loans (NPLs) to the undiversified environment of some economies in the sample and their high exposure to external shocks. Jimenez and Saurina (2006) use a sample of Spanish banks. The results of this study reveal that impaired loans are explained by economic growth, real interest rates and the credit conditions. However, Khemraj and Pasha (2009) examine the loans problem determinants in the Guyanese banking sector. They present evidence that the NPLs' ratio increase significantly with the real effective exchange rate, whereas the GDP growth is negatively associated with the doubtful accounts. Moreover, they conclude that high interest rates and leverage ratio tend to increase NPLs. Recently, Metin and Ali (2015) investigate the relationship between macroeconomic factors, bank-specific factors and NPLs' ratio in Turkey from 2007 to 2013. They engage linear regression models and cointegration approach. They find that NPLs ratio decreases significantly with industrial production index, Istanbul Stock Exchange 100 Index and inefficiency ratio of banks. Dimitrios, Louri and Tsionas (2016) examine the main determinants of non-performing loans in the euro-area banking system for the period 1990-2015. On the microeconomic and macroeconomic variables proposed by the literature, the role of income tax and output gap are for the first time investigated and found to be significant.

Another group of studies on credit risk determinants use the method of dynamic panel data. Louzis, Vouldis and Metaxas (2012) employ this approach to examine the determinants of NPLs for different category of loan for the period 2003 to 2009. They present evidence that impaired loans in the Greek banking sector are mostly explained by systematic indicators that are real GDP, growth rate, unemployment rate, real interest rates, and public debt. Moreover, they are explained by some bank-specific factors, especially performance and efficiency. Castro (2013) analyzes the link between the country-specific factors and the banking credit risk in the GIPSI countries over the period 1997–2011. Also employing dynamic panel data approach, he shows that the banking impaired loans increase when GDP growth and the share and housing price indices decrease and rises when the unemployment rate, interest rate, real exchange rate, and credit growth increase. He also observe an important increase in the impaired loans during the recent financial crisis period.

Credit risk determinants are also investigated in Tunisian banking sector. Actually, Zribi and Boujelbène (2011) provide an analysis for Tunisian banking sector and include ten commercial banks over the period 1995–2008. They conclude that the main microeconomic determinants that affect bank credit risk in Tunisia are the ownership structure, prudential regulation of capital and profitability. However, most significant macroeconomic indicators are the rapid growth of GDP, inflation, exchange rate, and interest rate. More recently, Abid, Ouertani and Zouari (2014) employ the dynamic panel data approach on 16 Tunisian banks over the period 2003–2012. They particularly investigate the determinants of households' non-performing loans. The results of this study indicate that households' NPLs in the Tunisian banking sector tend to be significantly affected by GDP growth, inflation, interest rates and management quality.

Nevertheless, the above studies use the classic non-performing loans as a measure for banking loan problem. Therefore, we aim to check whether the loan quality deterioration is determined by the same indicators that for the level of bad loans that exist in bank's assets. Non-performing loans represent our quantitative proxy assessing the level of firms impaired loans in the assets of banks. However, after exploring the information available on bank balance sheets, the impaired loans, we will try to draw some conclusions on credit risk determinants at quality level, by using micro data. Consequently, our research contributes to the existing literature on credit risk determinants by considering qualitative proxy of problem loans in addition to the classic quantitative measure, NPLs. Actually we use detailed dataset which contains information on the quality of loans given by Tunisian banks to several firms. Given that little attention has been paid to investigate the determinants of problem loans at the bank-level solely, and particularly in Tunisian banking sector, we focus on explaining the microeconomic determinants of credit risk.

Our results show that regardless of the credit risk proxy, the problem loans are significantly affected by cost inefficiency and bank profitability, while they are in no way influenced by banking diversification. Moreover, capitalization is a negative determinant of NPLs, whereas bank size is positively correlated with the quality deterioration of loans.

The paper is divided into five sections. In the next section, we formulate the hypotheses linking the bank-specific variables to the credit risk. Section 3 describes the data and the empirical specification of the study. The findings are reported in section 4 and conclusions are presented in section 5.

2. The Determining Factors of Credit Risk

Several studies in the banking literature examine the relationship between country-specific determinants and the problem loans (Nkusu, 2011; Castro, 2013). Nevertheless, a small number of papers focus solely on bank-specific determinants (Berger & DeYoung, 1997; Podpiera & Weill, 2008). Consequently, we choose to identify the bank-specific determinants of credit risk in the Tunisian banking sector.

2.1 Inefficiency: 'Bad management' and 'Skimping' Hypotheses

Credit risk can be related to efficiency through different sides that have been superbly examined by Berger and DeYoung (1997). They formulate two hypotheses that differ in the direction of the causality. First, the authors base the negative relationship between cost efficiency and risk in banks with loan problems on the 'Bad management hypothesis' that argue that inefficient banks, assessed by low level of cost efficiency, as well as devoting insufficient resources to assess borrower quality, result in the increasing in future NPLs.[1] Otherwise,

[1]We must also mention an alternative hypothesis which predicts a negative sign between cost efficiency and NPLs. Actually, Berger and DeYoung (1997) develop an exogenous reason of this negative relationship that call `bad luck hypothesis'. NPLs may take place because of unfavourable economic circumstances beyond the banks' control. Consequently, banks must devote more resources to resolve the problem loans.

Berger and DeYoung (1997) formulate the 'skimping hypothesis' if there could be a positive relationship between cost efficiency and risk in failed banks. They argue that when banks decide not to devote effort to screening borrowers, they would appear to be efficient in the short run but with a high number of NPLs in the long-run. Consequently, we can formulate the following hypotheses:

'Bad management' hypothesis: cost efficiency is negatively associated with increases in future NPLs.

'Skimping' hypothesis: high measured efficiency causes increasing number of NPLs.

We now focus on the findings of the previous studies on this topic. In the seminal paper of Berger and DeYoung (1997), the authors use Granger-causality techniques to test the cost efficiency hypothesis on a large sample of US commercial banks for the period 1985–1994. The authors find that there is a negative relationship between cost efficiency and NPLs[2], supporting the 'bad management' hypothesis. Podpiera and Weill (2008) extend the Granger causality model developed by Berger and DeYoung (1997) by applying GMM dynamic panel estimators on a panel of Czech banks, and also find strong evidence in favour of the 'bad management' hypothesis. Recently, Louzis et al. (2012) employ dynamic panel data methods to examine the determinants of NPLs in the Greek banking sector and also find support to the 'bad management' hypothesis.

2.2 Capitalization: 'Moral Hazard' Hypothesis

The moral hazard hypothesis, also developed by Berger and DeYoung (1997), presumes that thinly capitalized banks respond to moral hazard incentives by increasing the riskiness of their loan portfolio, thereby incurring higher NPLs in the future. Actually, managers in low capitalised banks are more likely to assume larger risk because these banks risk lower potential loss in terms of capital, while these managers take advantage from this greater risk in the loan portfolio if profitability increases. Consequently, moral hazard should be positively related to NPLs. Against this back-drop, we formulate and test the following hypothesis:

'Moral hazard' hypothesis: low-capitalization of banks leads to an increase in NPLs.

In this direction, Berger and DeYoung (1997) find evidence supporting the moral hazard hypothesis. They test the banks' risk attitude only for a subsample of US commercial banks with solvency ratio (equity-to-asset ratios) below the sample median. They argue that banks with significant capital likely face less moral hazard incentives. Salas and Saurina (2002) examine macroeconomic and microeconomic variables as determinants to explain NPLs on Spanish commercial and saving banks for the period 1985-1997. They estimate a statistically significant and negative effect of the lagged solvency ratio on NPLs. They support that that banks with thinner capital tend to operate with higher levels of NPLs, which is in line with the 'moral hazard' hypothesis. Nevertheless, this hypothesis does not find support in the Greek banking system in the study of Louzis et al. (2012). Actually, the solvency ratio does not have explanatory power for all NPL types (mortgages, business and consumers).

2.3 Non-interest Income: 'Diversification' Hypothesis

Hu, Yang and Yung-Ho (2004) relate Banks' diversification opportunities with loan quality. They argue that banks that can efficiently develop their sources of incomes from operations not associated to loans should be able to decrease successfully credit risk by dropping inducements to finance speculative projects. Actually, non-diversified banks have to accept some risky loans to generate revenue given that the return on loans presents its main source of income. Some studies use bank size as a proxy for diversification opportunities. They argue that having more resources and sufficient experiences and competencies to successfully assess the quality of potential loans, larger banks are less exposed to the adverse selection problems and then to credit risk. However, as bank size can be used to proxy other determinants, we choose to measure bank's diversification opportunities by the non-interest income as a share of total income. Thus, we expect a negative effect of the proportion of non-interest income as a share of total income on NPLs.

'Diversification' hypothesis: the non-interest income ratio is negatively related to NPLs.

In this line of research, Louzis et al. (2012) reject the diversification hypothesis in the Greek banking sector. Actually, the sign of the noninterest income coefficient is negative for all three types of NPLs (consumer loans, business loans and mortgages), but is not statistically significant. They explain these results by the potential "dark sides" of diversification, as noted by Stiroh (2004). Specially, managers of diversified banks can

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[2]Following this seminal research, several studies find that failed banks are usually cost inefficient (Wheelock & Wilson 1995), or that an increase in bad loans is usually preceded by an a raise in cost inefficiency (De Young & Whalen, 1994).

undertake an activity where they are not sufficiently experienced and competitive, and therefore increase their risk taking. Moreover, their results do not change even when diversification is proxied by the noninterest income ratio. They explain that size may not totally capture diversification or that large banks may undertake more risky business compared to the activities of smaller banks. However, Salas and Saurina (2002) find a negative effect of bank size on NPLs and argue that bigger size allows for more diversification opportunities, and consequently to less loan problems. Hu et al. (2004) use a panel data set of Taiwanese commercial banks over the period of 1996-1999 and also found that bank size negatively affects the NPLs. Nonetheless, by using the alternative proxy of diversification (the entropy index), the authors reject the diversification hypothesis. Based on the data set, they argue that Taiwanese commercial's bank revenue mainly comes from loans. Consequently, income source diversification cannot lower successfully the credit risk.

2.4 Size: 'Too Big to Fail' Hypothesis

Having more resources to assess loans, large banks are more able to improve the quality of loans and consequently decrease the NPLs (Hu et al., 2004). According to this argument, a bank's size is expected to be related negatively to the rate of NPLs. Nevertheless, the 'Too big to fail' (TBTF) hypothesis has been commonly exploited as one of the argument linking bank size's feature with NPLs (Louzis et al., 2012). Stern and Feldman (2004) argue that large-sized banks are more likely to take risk by granting loans even to lower quality borrowers. Actually, it is known that government protects large financial institutions and their creditors from failure. Consequently, larger banks are likely to increase their leverage, and therefore extend loans to lower quality borrowers. Thus, the following hypothesis may be formulated:

'Too Big To Fail' hypothesis: the banks' size is positively related to problem loans.

Hu et al. (2004) conclude that bank size is related negatively to the rate of NPLs, which supports their argument that large banks have more resources for assessing the quality of loans. Empirical studies do not provide a clear link for a differential performance and risk attitude of TBTF banks. For instance, Boyd and Gertler (1994) dispute that in the 1980s the tendency of US large banks towards riskier portfolios was supported by the US government's TBTF policy. Empirical results of Louzis et al. (2012) are in favour of the TBTF effect on risk-taking. However, Ennis and Malek (2005) test the US banks' performance across size groups over the period 1983–2003 and do not support the evidence for the TBTF hypothesis.

2.5 Profitability: 'Bad Management' and 'Procyclical Credit Policy' Hypotheses

The link between past bank's performance, measured by profitability (ROE), and credit risk can be explained by two opposite directions. First, the negative relation between past earnings and future problem loans is justified by bad management hypothesis given that a poorer performance reflects a signal of poor managerial performance. Thus, we test the following hypothesis:

'Bad management II' hypothesis: past performance is negatively associated with increases in NPLs.

Second, the positive sign of the relation between past earning and future problem loans may also be explained by the justification presented by Rajan (1994). Actually, the reasoning is that bank management is likely to inflate current earnings by undertaking negative NPV, especially by resources of more liberal lending policy, at the expense of future problem loans. Thus, we test the following hypothesis:

'Procyclical credit policy' hypothesis: past performance is positively related with NPLs.

Louzis et al. (2012) test both directions of the influence of past bank's earnings on NPLs in the Greek banking system. Their results confirm the negative relation between performance and NPLs, thus supporting the *'Bad management* proposition. This finding is also consistent with the majority of previous studies (Berger & DeYoung, 1997; Barth, Dopico, Nolle & Wilcox, 2002) which show, in different contexts, that the low quality of assets is the major source of credit risk problems.

3. Data and Empirical Specification

This section presents how this paper is designed in terms of sample, data collection, and analysis. We mainly try to answer to the following questions: What are the factors which influence credit risk in Tunisian banks? To which extent the credit risk determinants are affected by the measures of the problem loans?

The purpose of this paper is to explore the factors determining the credit risk in Tunisian banking sector through two measures of problem loans. The data for bank variables are collected from the Tunis Stock Exchange and the information about companies composing banks' loan portfolios are extracted from the Central Bank of Tunisia. Our sample consists of a panel of 10 commercial banks that are listed on the Stock Exchange of Tunis over the period 2001 to 2010. We stop at 2010 mainly because the Central Bank of Tunisia has changed loans' classification methodology in 2011 due to the exceptional measures adopted following the revolution. Indeed , banks are required to reschedule loans of firms whose financial situation has been affected by the revolution of January 2011. After 2012, number of observations is relatively very low.

We explain the modeling of the variables that relates credit risk to a number of assumed bank-specific variables widely used in the empirical literature (Metin & Ali, 2015 ; Louzis et al., 2012 ; Ahmad & Ariff, 2007 ; Berger & DeYoung, 1997). The model to test is:

$$CRSK_{it} = \beta_0 + \beta_1 \, INEF_{it} + \beta_2 \, CAP_{it} + \beta_3 \, NII_{it} + \beta_4 \, SIZE_{it} + \beta_5 \, ROE_{it} + \varepsilon_{it} \tag{1}$$

Where:

1. The subscripts *i* and *t* denote the cross sectional and time dimension of the panel sample, respectively.

2. CRSK is the dependent variable in the model, which aims at approximating credit risk.

At a first step, CRSK is represented by a quantitative proxy, Non-Performing Loans (NPLs):

At a second step, CRSK is valued by a qualitative proxy: the classified defaulted loans. The Central Bank of Tunisia requires banks to classify their assets. This classification is based on the risk of loss for banks obviously caused by problem loans. The table below defines each of the six classes established by the Central Bank of Tunisia.

Table 1. Asset classification Tunisian banks

Class	Description
0	Firm with risk-free loans.
1	The firm repays its credit in time. Nevertheless, its financial situation seems to become difficult.
2	The firm is facing deteriorating financial situation, and the credit repayment become uncertain with reimbursement[3] delay between 90 and 180 days.
3	The financial situation is more hard than for firm in class 2 with a reimbursement delay between 180 and 360 days.
4	Firm with a very difficult financial situation conducting to a reimbursement delay of more than 360 days.
5	The firm present a reimbursement delay exceeding 360 days. Moreover, banks engage a legal proceeding to recover the loan.

Therefore, credit risk is caused by defaulted loans, i.e. firms that are classified in classes ranging from 2 to 5.

INEF: Cost inefficiency = Operating expenses/Operating income

CAP: Ratio of capital = Equity capital/Total assets

NII: Non-interest income = Non-interest income/Total income

SIZE: Bank Size = Natural log of total assets

ROE: Profitability = Net income/Total equity

ε is the error term.

β_i: The coefficient of variable i, respectively.

Our variables are mostly represented by ratios. Nevertheless, estimating financial ratios across firms and years certainly produces extreme values. For example, I use a book measure of firm's capitalization by dividing equity capital to the book value of assets. However, this ratio can be negative, so providing extreme values. In order to avoid the effect of extreme outliers, I winsorize the sample variables and ratios at the top and bottom one percentile of their respective distributions.

In a first stage, we regress our model with a quantitative dependent variable. Consequently, CRSK variable is measured by NPLs. We estimate T statistics using White standard errors clustered by firm and by year, which account for heteroscedasticity and serial correlation (Petersen, 2009; Thompson, 2011).

In a second stage, we are interested in credit quality through the classification of non-performing loans according to the degree of degradation of repayment by the company. Therefore, we use the ordered probit approach to estimate our regression. Actually, we classify different levels of severity of problem loans by creating bad loan statuses ranging from 1 (bad loan) to 4 (very bad loan). Under the ordered probit model, our dependent variable is taking four values as following:

[3]Principal and/or interest.

CRSK = 1, when loan of firm *j* in year t belong to loan class 2;

CRSK = 2, when loan of firm *j* in year t belong to loan class 3;

CRSK = 3, when loan of firm *j* in year t belong to loan class 4;

CRSK = 4, when loan of firm *j* in year t belong to loan class 5.

4. Regression Results

Table 2 reports regression results for the determinants of credit risk in Tunisian banking sector. We report the estimation results for both measures: the credit risk form bank-level (model 1) and the credit risk for firm-level (model 2).

For both measures of credit risk, the coefficients estimates for LLP variable are not statistically significant, and indicate that the level of loan loss provisions present in assets of Tunisian banks don't predict default risk (proxied by NPLs) neither the deterioration in the quality of the counterparty (proxied by the ordered bad loans).

Regarding the cost inefficiency factor, the coefficient is positive and statistically significant in both models. This finding is consistent with the "bad management" hypothesis, and provides support to the findings of Berger and DeYoung (1997) and Louzis et al. (2012). Nevertheless, the result does not support the "skimping" hypothesis. This implies that increase in bank's management inefficiency (or decrease in bank's management efficiency) leads to higher level of non-performing loans' portfolios (model 1), and that unqualified managers are not able to choose good loans (model 2).

The ratio of banks' capital, CAP, has also an impact on the level of credit risk taken by Tunisian banks. Indeed, the coefficient of CAP, in model 1, is negative and statistically significant with risk at a level of 5%. This result reports that over-capitalized banks are less risk-taker compared with thinly-capitalized banks, supporting the "moral hazard" hypothesis of Berger and DeYoung (1997), indicating that thinly-capitalized banks deal with riskier loans, so that leads to higher NPLs. However, credit risk, as proxied by loan quality deterioration (model 2), is positively related to the ratio of capital. However, the coefficient is not statistically significant. Thus, the "moral hazard" hypothesis does not find support from the qualitative proxy. The bank's capitalization level explain the part of NPLs in Tunisian banks' assets but not the quality of borrowers.

Banks' diversification, measured by non-interest income, is negatively associated with NPLs, but positively related to loan quality. Nevertheless, the related coefficient is not statistically significant. Thus, the "diversification" hypothesis does not find support from the Tunisian banking system. This result is consistent with the finding of Louzis et al. (2012), but does not agree with the empirical evidence of Salas and Saurina (2002), which report a negative relation between diversification and NPLs.

Proxied by the natural logarithm of total assets, size is positively linked to the level of credit risk in Tunisian banking sector, but, the corresponding coefficient is not significant. This finding can be explained by the fact that the institution size is almost the same through Tunisian banks. Nevertheless, the coefficient estimate for SIZE variable is not statistically significant in model 2, and indicates that the bank size affects default risk caused by the deterioration of the loans quality present in Tunisian bank assets. This is consistent with Louzis et al. (2012), suggesting that large banks take excessive risks by increasing their leverage under the "too big to fail" presumption, and therefore have more NPLs.

Performance ratio, ROE, is found to be significant and negatively associated with NPLs and loan quality for Tunisian banks. This is consistent with the empirical results of Podpierra et Weil (2008) and Louzis et al. (2012), confirming the 'bad management II hypothesis' and infirming the 'Procyclical credit policy' hypothesis. This means that bank performance reflects the quality of management.

Table 2. Regression results

Variables	Model 1 OLS (*clustering approach*)		Model 2 Ordered probit		Expected sign
	Coefficient	*t-statistic*	*Coefficient*	*t-statistic*	
INEF	0.055^{**}	(2.41)	0.193^{***}	(5.10)	+/-
CAP	-0.151^{**}	(-2.33)	0.024	(0.81)	-
NII	-0.078	(-0.63)	-0.003	(-0.97)	-
SIZE	0.023	(0.08)	-0.112^{***}	(-9.01)	+
ROE	-0.108^{**}	(-2.18)	-0.026^{***}	(-4.38)	+/-
Constant	-0.12^{***}	(-8.27)	-3.68^{***}	(-14.22)	
Number of observations	*291*		*21 448*		
Pseudo-R^2	*0.23*		*0.17*		

The table reports the estimates of alternatives dependant variable measures of the following regression specification:

$$CRSK_{it} = \beta_0 + \beta_1 \, INEF_{it} + \beta_2 \, CAP_{it} + \beta_3 \, NII_{it} + \beta_4 \, SIZE_{it} + \beta_5 \, ROE_{it} + \varepsilon_{it}$$

Where CRSK correspond to (1) the level of NPLs present in bank assets (model 1), and (2) the ordered bad loans (model 2), INEF is the cost inefficiency , CAP is the ratio of capital, NII is the non-interest income, SIZE is the bank size, and ROE is the bank profitability.

*** Denotes significance at 1%, ** Denotes significance at 5%.

5. Conclusion

The assessment of overall asset quality in the Tunisian banking industry is an important element of prudential surveillance. Existing literature explores the set of NPLs present in banks' assets. Besides this traditional quantitative factor, this paper tries to investigate credit risk determinants through a qualitative proxy, especially the classification of defaulted loans.

Following our empirical study, cost inefficiency and bank profitability seem to be the significant determinants that affect credit risk measured by both qualitative and quantitative ways. Thereby, inefficiency and profitability factors clearly confirm both hypotheses management: 'Bad management I' hypothesis and 'Bad management II' hypothesis. This accordingly calls Tunisian banks to engage high skilled managers to mitigate risk and improve credit risk management. On the other hand, we find that a greater capitalization only increases the set of NPLs in Tunisian banks without influencing the loan's quality, which is contrariwise affected by banking size. Moreover, no evidence is found for the 'diversification' and 'Procyclical Credit Policy' hypothesis.

Our study encloses numerous policy implications. First, there is an evidence that bank’s management quality is the most important indicator for future bad loans as for potential deterioration of loans quality through time. Therefore, Tunisian regulators should require a minimum level of managerial performance so as to minimize potential increases in credit risk. Second, regulatory authorities should focus on thinly-capitalized banks with high level of NPLs to avoid potential financial crises. Third, financial analysts should also consider bank size when evaluating the loan quality of banks.

In conclusion, the factors to consider in analyzing the quality of loans that exist in the assets of Tunisian banks are different than those for assessing the overall level of credit risk. Indeed, apart from inefficiency and bank performance, as common indicators, bank capitalization is an important determinant of non-performing loans and bank size is a factor influencing the quality of bank loans.

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Cultural Influence on Strategic Human Resource Management Practices: A Jordanian Case Study

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Abstract

This study aims to investigate the impact of national culture on strategic human resource management (SHRM) practices on Pharmaceutical industries in Jordan. A quantitative research design using regression analysis was applied in this study and a total of 133 were obtained through a questionnaire distributed to pharmaceutical industries in Jordan. The results showed that national culture dimensions significantly affect SHRM practices and namely, masculinity, uncertainty avoidance, long term orientation, and individualism have an impact on SHRM practices. Except power distance has insignificant effect on SHRM practices. This study implies that HR managers must be aware of national culture of their country, and try to link it with SHRM practices to improve the company's performance. Moreover, since national culture explained 20% of the variance in SHRM practices, future researches should be directed towards examining other factors affecting SHRM practices.

Keywords: culture, national culture, Hofstede, human resource management, strategic human resource management practices, Jordan, Arab countries

1. Introduction

The impact of national culture on organization culture is reflected in several ways. Such as, the constraints imposed on organizations by the external environment and the mentality and habits of organization's members (Al-Busaidi et al., 2010; Abbasi et al., 2015). Also, organizations culture has an important impact on the strategies of organizations and their success (Alenezi et al., 2015; Masa'deh et al., 2016).

Strategic management is important and useful to any organization, since it provides a clear direction in which the organization is heading to, such as strategic plans, mission, vision, objectives and goals (Kemp and Dwyer, 2001; Hajir et al., 2015; Almajali et al., 2016). Thus, effective management of people can produce substantially enhanced economic performance in organization (Pfeffer, 1998; Masa'deh et al., 2015). In addition, strategic human resource management (SHRM) demonstrates the importance of HR practices for organization performance (Yan, 2010). Moreover, human resource (HR) practices considered to be an important element to the organizations to achieve their competitive advantage (Ismail et al., 2010). Accordingly, HR practices must be aligned to the organization strategy in order to achieve the competitive advantage and to enhance the performance in organizations (Wan et al., 2002; Masa'deh et al., 2015).

In order to effectively implement SHRM practices in any organization, it must be congruent with the national culture. Thus, we can imply that national culture play an important role in shaping SHRM practices, since these practices are implemented by managers who in turn affected by the environment where they live, which impact their perception, behavior, and their decision. Beside, societies are formed of firms, institutions and organizations that reflect the prevailing values of their culture of a country (Hofstede, 1984a).

Managers and administrators, in both private and public organizations, are becoming increasingly aware that a critical source of competitive advantage does not often come from original product or services, but from having an appropriate system of attracting and managing the organization's human resources (Al-Busaidi, 2010; Ayanda and Sani, 2011; Shannak et al., 2012; Altamony et al., 2016). Because countries often have unique cultures (i. e.

values, norms, and customs), it was widely presupposed that multinational enterprises had to understand the culture of the region in which they operate in order to effectively manage their human resources (Jackson and Schuler, 1995).

As culture tends to spend strong influence on management practices and on organizational behaviors, effective HRM practices may vary across different cultures (Abdul Hamid, 1996; Maqableh et al., 2014). Numerous theoretical discussions argued that effective SHRM practices must be matched with the social and organizational context (Aycan, 2005). Since, the national culture dimensions impact the design and implementation of SHRM policies and practices across different conditions (Reiche et al., 2009). There is a need to examine culture's impact on management practices in less developing countries, because of the rapid of business globalization and the increased of international trade with these countries (Abdul Hamid, 1996; AL-Syaidh et al., 2015).

To the best of the authors' knowledge, there are few studies that shed light on the implications of national culture on SHRM practices in Jordan. Based on the above discussion, this research aims to study the impact of national culture on HRM practices in Pharmaceutical industries in Jordan. In order to reach full potential for economic and social development, the Jordanian government has focused on developing the industrial sector, a sector which provides the majority of new jobs and produces much of the creativity and innovation that fuels economic progress (Ministry of industry and trade, 2012). The Pharmaceutical industry accounts for 20% of manufacturing GDP (Gross Domestic Product) and has had 17.5% manufacturing growth in 2006 (Jordan Investment Board, 2012). Also, the pharmaceutical industry in Jordan is the 2nd largest export industry, exporting 80% of production to 60 countries worldwide, major export markets include Saudi Arabia, Algeria, and Iraq, whereas capital investments exceeded over $500m in 2007 (Jordan Investment Board, 2012).

The rest of the paper is organized as follows. The next section review the studies related to culture and strategic human resource management. The proposed theoretical framework is then presented in section 3. The data collection method, analysis and results are then described in Sections 4and 5 respectively. Section 6 concludes the paper and discusses the implications of the findings for both theory and practice as well as the limitations and future work of this study are highlighted.

2. Literature Review

Since, Hofstede's model is the most widely known in the business and in the cross cultural field (Manrai and K. Manrai, 2011; Tarhini et al., 2016). Besides, it has been considered as the benchmark of culture analysis for the last three decades (Orr and Hauser, 2008). This study will focus on investigating the impact of national culture on SHRM practices by using Hofstede's model, thus the next subsections will review the concept of culture with a detailed explanation of Hofstede's cultural dimensions and also its relation to strategic human resource management.

2.1 Hofstede's Cultural Dimensions at the National Culture

According to Hofstede (1991), culture is the collective programming of the mind that differentiates individuals of one group from another. Thus, culture refers to the common elements within each nation (the national norm) and it is not describing individuals (Hofstede, 1991). National cultures refer to beliefs, values, and practices that are shared by the majority of people belonging to a nation, and enriched by national laws and governmental policies with respect to education, family life, business, and etcetera (Oudenhoven, 2001).

The four dimensions of national culture were found through a combination of theoretical reasoning and massive statistical analysis, with a largest survey material obtained using a single questionnaire (Hofstede, 1980). Also, this survey material was collected between 1967 and 1973 among employees of one large U.S. multinational corporation (MNC) in 40 countries around the world (Hofstede, 1980). The total data contains more than 116,000 questionnaires collected from everyone in the corporation, from unskilled workers to Ph.D.s and top managers (Hofstede, 1980). The dimensions of national culture he used represent criteria for describing national cultures (Hofstede, 1980). The four dimensions are:

Individualism versus Collectivism (IDV): Individualism stands for members who take care of themselves and their direct families only (Hofstede, 1984a). On the other hand, collectivism refers to which individuals can expect their relatives, clan, or other to look after them for unquestioning loyalty (Hofstede, 1984a). individualists tend to have a high need for personal achievements and value individual rights (Swaidan and Hayes, 2005; Tarhini et al., 2016). According to Hofstede, Jordan, with a score of 30 is considered a collectivistic society. People in Jordan tends to focus on relationships where everyone takes responsibility and take care of their families and others, the relationship between employee and employer are moral like a family link, also hiring and promotion decisions are making to the employee's in-group.

Power Distance (PD): PD is the extent to which individuals accept that power in companies is distributed unequally (Hofstede, 1984a). For this reason, people in large power distance societies accept a hierarchical order (Hofstede, 1984a). Beside, members in high power distance prefer little consultation between superiors and subordinates, while in low power distance they prefer consultative styles (Daniels et al., 2011). Whereas, people in low power distance societies strive for power equalization and demand justification for power inequalities (Hofstede, 1984a). According to Hofstede, Jordan scores high on this dimension (score of 70) which means that people accept a hierarchical order, which reflecting inequalities and centralization exists since of hierarchical (www.geert-hofstede.com).

Uncertainty Avoidance (UA): UA is the extent to which people are uncomfortable with the uncertainty and vagueness (Hofstede, 1984a). Beside, strong uncertainty avoidance cultures preserve rigid codes of belief and behavior and are unforgivable towards deviant persons and ideas (Hofstede, 1984a). Also, in cultures where UA is high, most employees prefer following set rules even if breaking them may be in the company's best interests, and they prefer the certainty of present positions over the uncertainty of potential advancement positions (Daniels et al., 2011). According to Hofstede, Jordan scores 65 on this dimension, thus Jordanians need for rules even if it never seems to work, also they value time, precision and punctuality, and they consider the security as important element in individual motivation.

Masculinity versus Femininity (MAS): Masculinity stands for achievement, courage, persistence, and material success (Hofstede, 1984a). While, femininity stands for relationships, humility, caring for the weak, and they value quality of life (Hofstede, 1984a). People in feminine cultures place a higher value on social relationship, quality of life, and concern for others (Griffin and Pustay, 2010). In other words, masculinity–femininity measures national culture according to the division of roles and values between the genders (Chiang, 2005). According to Hofstede, Jordan scores 45 on this dimension and it is considered a relatively feminine society, Jordanians focus on working in order to live, and managers pursue for consensus, also they value equality, consistency and quality in their working environment, also incentives such as free time and flexibility are preferable and they take decisions through involvement.

Long versus Short-Term Orientation: In brief, the four dimensions represent elements of culture systems of the countries, which they are based on human values and behavior (Hofstede, 1984a). In 1991, Hofstede added a fifth dimension to his model named it "Long versus Short-Term Orientation" (LTO). According to Hofstede, long-term orientation refers to the values oriented towards the future, like thrift (saving) and persistence (Hofstede, 1993). While, short-term orientation refers to the values oriented towards the past and present such as respect for tradition and loyalty social obligations (Hofstede, 1993; Manrai and K. Manrai, 2011). According to Hofstede, Jordan scores 35, which considered a short term orientation culture, this indicates there is a great respect for traditions, low, tendency to save, work for achieving quick results truth (www.geert-hofstede.com).

2.2 Strategic Human Resource Management (SHRM)

Human resources are counted to be the most significant asset of any organization, but few organizations are able to completely employ its potential (Ahmad and Schroeder, 2003; Masa'deh et al., 2015). Moreover, Human resources management (HRM) is a necessary function in organizations, it involves all managerial personnel, and it considers people as the most important single asset of the organization and enhances company performance (Schuler, 2000). HRM is defined as, the policies and practices needed to carry out the people or human resource aspect of a management position, including selection, job definition, training, performance appraisal, compensation, career planning and are encouraging employee participation in decision making and measure the organizational performance, customer satisfaction and maximize the profitability of organization (Nayyab et al., 2011). Also, "HRM practices include analyzing and designing work, determining human resource needs (HR planning), attracting potential employees (recruiting), choosing employees (selection), teaching employees how to perform their jobs and preparing them for future (training and development), rewarding employees (compensation), evaluating their performance (performance management), and creating a positive work environment (employee relation)" (Noe et al., 2010, p.4).

Strategic human resource management is a sub field of human resource management (Lee, 2011; Obeidat et al., 2014). SHRM has developed as a field of management practices and became popular since 1980s (Jain, 2005; Altarawneh and Aldehayyat, 2011; Lee, 2011; Orozco et al., 2015). Wright and McMahan (1992) defined Strategic HRM as the pattern of planned human resource deployments and activities purposed to enable the company to achieve its goals.

Delery (1998) argued that, SHRM focuses on several issues, that human resource management practices and policies are the main tools that organizations employ to develop and sustain the necessary human resources.

Furthermore, the concern of SHRM is to ensure that: (1) HRM is fully integrated with the organization through its strategy and the strategic needs of the firm; (2) human resource practices are consistent both across policy areas and across hierarchies (Schuler, 2000). Ismail et al. (2010) in their study, classified SHRM practices according to two terms the first one is instrumental practices which leads the organization to meet the strategic vision and mission such as recruitment/selection, training, performance and rewards management, and the second is administrative practices.

The goal of performance management or evaluation is to guide and encourage the employees' activities to be in line with the organization objective (Yan, 2010; Obeidat et al., 2016). Besides, it is considered a judgment decision for promotion, demotion, transfer, retention and pay; also it is a developmental guide for employees' feedback and for training needs for employees (Daley et al., 2002). Strategic pay requires that all decisions related to compensation are designed to attract and retain or motivate employees (Daley et al., 2002). Moreover, compensation is concerned with the salary increases and incentives for employee. Furthermore, compensation assists to encourage individuals, since they know they will share in the results of their work (Pfeffer, 1998).

2.3 National Culture and SHRM Practices

The era of strategic HRM was started in nearly two decades ago, and since then, a behavioral perspective has emerged as the predominate paradigm for research (Wan et al., 2002; Obeidat et al, 2012). However, in the 1990s the concept of bundling of human resource practices became popular and attracted to numerous studies (Wan et al., 2002). On the other hand, a few studies had addressed the implications of the cultural dimensions on HRM management processes and practices that can be applied to any country or organization (Milikic, 2009). However, there has been some concern about the extent to which models and practices of HRM are capable of being transferred from one country to another (Easterby-Smithy et al., 1995). For this reason, in the late 1970s, there was a concern that Japanese ideas might be adopted by US companies and to some extent there are considerable variations in the form of HRM in different settings (Easterby-Smithy et al., 1995; Al-Sarayrah et al., 2016).

In another study, Schuler and Rogocsky explored a number of relationships between the cultural dimensions suggested by Hofstede (Power Distance, Uncertainty Avoidance, Individualism-Collectivism, and Masculinity-Femininity) and specific compensation practices (four categories of compensation practices based on status, performance, social benefits and programs, and employee ownership plans). They analyzed the relationships between Hofstede's dimensions and specific HR practices (Schuler and Rogocsky, 1998). In summary, the results suggest that national culture provides an important explanation for the variance in the utilization of different compensation practices in different countries (Schuler and Rogocsky, 1998).

Moreover, a comparative study shows that managers from different national cultures hold different assumptions and values as to the nature of management and organization (Laurent, 1986). These different sets of assumptions shape different value systems and translated into different management and organizational practices which in turn enhance the original assumptions (Laurent, 1986). Another study by Myloni et. al. (2004) showed that the effect of national culture on HRM in Greece is quite prominent, for example HR practices, such as planning, recruitment and performance appraisal are to a great extent in congruence with the cultural values of Greek society.

In another study, the managerial attitudes, values, behaviors differ across national cultures and these differences call for differences in management practices (Newman and Nollen, 1996). For example, the main differences in HRM between these two countries (china and UK), appear in the 'softer' areas where relationships are important: appraisal, reward systems, the process of assessing potential and the basic stance of unions towards management, such these differences can be linked to known cultural factors such as the greater concern for relationships, for harmony and the preservation of 'face' in China (Easterby-Smithy et al., 1995). In another study, substantial use of pay and promotion should improve profitability in masculine countries, such as Anglo and Germanic countries, but worsen it in feminine countries, such as Nordic countries (Newman and Nollen, 1996). Furthermore, Aycan (2005) found out that job analysis may be affected by three of Hofstede`s cultural dimensions: Uncertainty Avoidance, Individualism vs. Collectivism, and Power Distance. In order that, these three dimensions affect the specificity of job description and job specification, the unit of analysis and the method of job analysis (Milikic, 2009).

Moreover, the culture influences many aspects of the recruitment process, so only those recruitment methods and practices that fit the culture are probably to be effective (Milikic, 2009). Also, numerous studies have focused on many aspects of recruitment, including the methods of recruitment and recruitment sources, and the plurality of studies have focused on the influence of only two of Hofstede`s cultural dimensions: Collectivism vs. Individualism and Power Distance (Milikic, 2009). Besides, recruitment/selection, and training/development show little difference in practices between the Malaysian and Japanese owned companies, these differences in the practices in terms of elaborateness, approach and process (Othman, 2009). In addition, power distance or uncertainty avoidance is positively correlated with seniority and good interpersonal relationships with higher management and important criteria for compensation and reward management (Aycan, 2005). Moreover, in high power distance, differential compensation plans are prepared based on subjective decisions of the top management (Aycan, 2005). Also, employees in feminine and collectivistic cultures prefer flexible benefit plans such as child-care, maternity leave or career-break schemes (Aycan, 2005).

Miah and Bird (2007) mentioned that the national and organization culture impact the managers who work in different companies, they conclude that a Japanese parent company's culture tends to have a much stronger influence with Japanese companies operating in Japan, also Japanese parent company culture tends to have less influence than the South Asian national culture in shaping the HRM styles and practices in Japanese subsidiaries/joint ventures operating in South Asia.

As well as, national differences are still obvious in recruitment, development and termination practice (Faulkner et al., 2002). Beside, Japanese companies were more long term than those of the other nations and they had less managerial job rotation than nations (Faulkner et al., 2002). On the other hand, US companies' HRM practices were short term on recruitment, and they remain the most likely to 'hire and fire' (Faulkner et al., 2002). While, the French emphasized formal qualifications as criteria for promotion also the Japanese still favored priority as an important criterion for promotion (Faulkner et al., 2002). In other words, there is a distinguished difference in the HRM practices employed by companies from each of the countries, influenced by the characteristic of HR practices of companies in the origin country (Faulkner et al., 2002).

Also, HRM practices that are highly successful in the industrialized society, western societies often fail in non-western societies, because they were uncritically adopted without any regard to their appropriateness in non-western cultures (Mendonca et al., 1999). However, it must be emphasized that to be effective, the organizations in every culture must fit it is HR practices with the national culture in the origin country (Mendonca et al., 1999). Therefore, it is important to consider the cultural aspects of the context which are significant to the organizational HRM practices (Joarder et al., 2011).

Oudenhoven (2001) concluded that across nations (Belgium, Canada, United States, Denmark, France, Germany, Greece, Spain, The Netherlands and United Kingdom). He found some differences in preference scores, such as a lower desired level of power distance by women, and the higher preference for femininity of young respondents, he argued that Students and employees, or men and women may differ with respect to their preferences, but they all have common experiences when working in the same organization or in the same country, also he recognized that their perceptions do not differ within one nation.

3. Theoretical Framework

The theoretical framework developed for this study is illustrated in Figure 1. This framework focuses on the impact of national culture on Human Resources Management (HRM) practices.

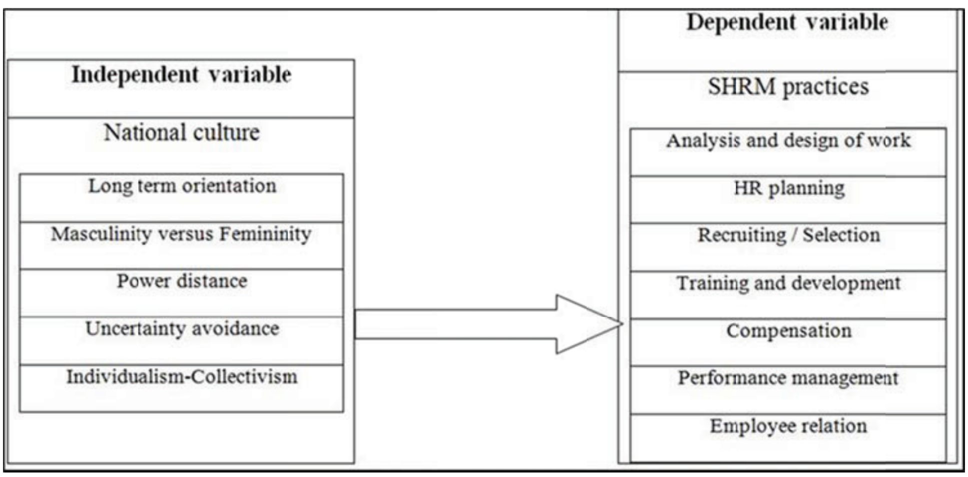

Figure 1. The proposed theoretical framework

3.1 Operational Definitions of Variables

The dimensions of national culture (Independent Variable) for this study were adopted from Hofstede (1993). National cultures are classified according to five independent dimensions and which in turn explain the differences in management of organizations (Hofstede, 1993). Moreover, a national culture is usually characterized by the values of the people who belong to that culture (Schuler and Rogocsky, 1998). Also, Hofstede suggested that culture at a national level can be classified according to five dimensions: "power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity and long-term versus short-term orientation (Leahy, 2008). Therefore, the operational measures of the national culture are: (1) power distance, (2) uncertainty avoidance, (3) individualism versus collectivism, (4) masculinity versus femininity, (5) long-term versus short-term orientation. For the purpose of this study 18- questions for measuring national culture were adopted from the value survey module 1994 by Hofstede. The operational measures of the strategic human resource management practices (Dependent Variable) are: (1) Analysis and design of work, (2) HR planning, (3) Recruiting /Selection, (4) Training and development, (5) Compensation, (6) Performance management, (7) Employee relation. Twenty nice items measuring HRM practices were adopted from (Abdul Hamid, 1996; Daley et al., 2002; Kelly, 2008; Yan, 2010; Noe et al., 2010). All items are measured using a five–point Likert scale ranging from 1-Strongly disagree to 5-Strongly agree. Appendix A and B show the questions used to measure the constructs and their items in this study.

3.2 Hypothesis

In order to test the impact of national culture on human resource management practices, the following null hypotheses were developed.

H1: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and SHRM practices.

H1.1: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and analysis and design of work.

H1.2: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and HR planning.

H1.3: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Recruiting / Selection.

H1.4: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Training and development.

H1.5: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and compensation.

H1.6: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Performance management.

H1.7: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and employee relation.

4. Methodology

This study adopted a positivist philosophy and deductive approach to accomplish the main goal of this research. Moreover, this research is quantitative and explanatory since this study is concerned with causal relationship between variables (Saunders et al., 2009; Zikmund et al., 2013). Data were collected using a convenience sampling technique from 133 employees working in the HR department from 14 of the biggest Pharmaceutical companies in Jordan using a self-administrated questionnaire.

The items selected to measure (national culture and HRM practices) were primarily derived and adopted from existing literature or prior studies to ensure content validity. A pilot study was conducted with employees from different HR departments of different companies for the questions related to SHRM practices in the questionnaire. The measurement items were refined and improved based upon their feedback and opinions; this feedback enhances the content validity of the questionnaire.

In this study, scale reliability was assessed using cronbach's alpha coefficient. The internal consistency coefficient should be minimum 0.70, and it is highly reliable if $0.80 \leqslant a < 1.00$ (Turan and Cetinkaya, 2012). The results in Appendix A and B show that cronbach's alpha coefficient range from 0.83 to 0.95. Therefore, all values are highly reliable since alpha above 0.8. This result indicates a good internal consistency among the items related to its dimensions, also to each variable, and the entire scale.

5. Data Analysis and Discussion

5.1 Respondents Demographic Profile

One hundred thirty-three respondents from pharmaceutical industries in HR department participated in this study. The data were gathered using a self-administrated questionnaire and Statistical Package for Social Science (SPSS) version 21 was used to analyze them. Among the 133 participants, there was 47.4% male. In addition, more than half of the respondents belong to the age group between 20-29 years (60.9%), followed by (21.8%) belonging to the age between 30-39 years, (9%) between 40-49 years, (6.8%) less than 20 years, and small percentage (1.5%) between 50-59, beside (0 %) of the respondents belonging to the age group above 60. When considering the educational level of the respondents, it can be noticed that majority of them hold a bachelor degree (61.7%), followed by (21.8%) hold a diploma degree and the rest of them are distributed in the other levels with (8.3%), (6.8%), and (1.5%) for master degree, Tawjihi, and Doctorate respectively.

5.2 Descriptive Analyses

The mean is a measure of central tendency that includes all data values in its calculation (average) (Saunders et al., 2009). Therefore, it provides an overview of the answers given by the respondents for each question, dimension, and variable. The standard deviation is a measure of dispersion that describes the extent to which data values differ from the mean (Saunders et al., 2009). Thus, if the data values are close to the mean, then the mean is more typical than if they vary widely from it is mean (Saunders et al., 2009). Overall, all means were greater than 2.5 which indicate that the majority of participants express generally positive responses to the constructs that are measured in this study. In addition, the standard deviation (SD) values ranged from 0.99 to 1.33 which showed a fairly narrow spread around the mean (see Appendix A and B).

The descriptive analysis showed that the respondents had negative attitude toward HRM practices and national culture. In addition, the dimensions of national culture were calculated using VSM94, Jordan scores low on power distance, high on individualism, relatively feminine, high on uncertainty avoidance and had a short term orientation, are somewhat different from Hofstede (www.geert-hofstede.com) findings that Jordan high power distance, short term orientation, relatively feminine, high uncertainty avoidance, and collectivistic society. Likewise, Alkailani et al. (2012) their data obtained from students studying for their master degrees in different universities in Jordan, they found out that Jordan appeared to be collectivistic society, low on power distance, masculine society, and high on uncertainty avoidance. Furthermore, Fischer and Al-Issa (2012) conclude from a study conducted with an Arab student sample that the scores for power distance and uncertainty avoidance were lower than expected, while scores for masculinity and individualism were higher, which conclude that there are doubts about the convenience of Hofstede procedure and dimensions.

5.3 Hypothesis Testing

Hypothesis testing is a statistical tool that provides an objective framework for decision making, using a set of rules, instead of relying on subjective impressions (Vasilopoulos, 2011). In order to test the hypotheses developed for this study, hierarchical multiple regression analysis was used in this study. The level of significance was chosen to be 0.05 and thus 95% level of confidence. Finally, according to the results of regression analysis, null hypotheses were either accepted or rejected.

5.3.1 Main Hypothesis

H0.1: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and HRM practices.

In order to test this hypothesis, multiple regression was used. National culture was tested as the independent variable (power distance, uncertainty avoidance, masculinity, Individualism, Long –term Orientation) and HRM practices as dependent variable. Table 1 shows the results of the multiple regression for the main hypothesis.

Table 1. Multiple Regression for the Main Hypothesis ‘National Culture and SHRM Practices’

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.156	1.563	0.121
Individualism				-0.394	-3.437	0.001
Masculinity	0.202	7.669	.000	0.303	2.762	0.007
Uncertainty Avoidance				0.187	2.080	0.040
Long –term Orientation				0.204	2.011	0.046

The ANOVA table shows that F=7.669 and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and HRM practices.

The adjusted R square's value of (0.202) indicates that 20% of the variation that occur in dependent variable (HRM practices) has been significantly explained by national culture. Accordingly, national culture explained 20% of the variance in HRM practices, may be due to the presence of other factor explaining the 80%. Likewise, Easterby-Smithy et al., (1995) argue that the degree of culture impact on HRM practices differs according to specific practice, with some practices being more culture-bound than others. Moreover, HRM are affected by the internal (technology, structure, size, organizational life cycle, business strategy) and external environment (legal, social, political environment, labor market conditions, industry characteristics, national cultures) (Jackson and Schuler, 1995). Furthermore, the differences between Mexico and U.S according to their human resources practices are due more to legal and economics factor than national culture (Schuler et al., 1996). Therefore, there are other factors affecting HRM practices as well as national culture, which give a clarification about the other factors explaining the 80%.

The t and P values used to decide the acceptance/rejection of Ho (Vasilopoulos, 2011). Also, t-statistic helps to determine the relative importance of each of independent variable in the model (Chadha and Kapoor, 2009). Thus, a large absolute t value and $p \leqslant 0.05$ is statistically significant and having a large impact on criterion variable. The results show that national culture dimensions have a significant impact on HRM practices. Except power distance which has insignificant impact on HRM practices, since p=0.121.

The standardized beta coefficient is a coefficient which allows comparison of the relatives on the dependent variable of each independent variable (Chadha and Kapoor, 2009). The strongest predictor for HRM practices is individualism (β= -0.394) with negative correlation, followed by masculinity (β =0.303), Long –term Orientation (β =0.204), uncertainty (β =0.187), and power distance (β =0.156).

The majority of studies argue that, most investigated of Hofstede`s dimensions are power distance and individualism, if they aligned it will influence on HRM practices, such as large Power Distance with Collectivism, and small Power Distance with Individualism (Milikic, 2009).

The findings revealed that individualism is the most important predictor of HRM practices in pharmaceutical industries in Jordan. This may be due to the fact that employees are strongly individualist, and they supposed to look after themselves and their direct family only. Moreover, employees are promoted according to their achievements. Furthermore, hiring employees is depending on their qualifications and their skills. Also, masculinity considered important predictor of HRM practice. Since employees are relatively feminine so they work to live and value equality and managers seeking to consensus.

5.3.2 Results of the Sub-Hypotheses

H1.1: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and analysis and design of work.

Table 2. National Culture and Analysis and Design of Work

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.062	0.614	0.540
Individualism				-0.180	-1.565	0.120
Masculinity	0.194	7.364	.000	0.302	2.732	0.007
Uncertainty Avoidance				0.154	1.706	0.091
Long –term Orientation				0.198	1.946	0.054

The results in Table 2 shows that F=7.364 and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and analysis and design of work.

In the model summary table, the adjusted R square's value of (0.194) indicates that 19% of the variation that occur in analysis and design of work has been significantly explained by national culture. According to t and p values, the results show that only masculinity dimension has a significant impact on analysis and design of work. While, power distances, uncertainty avoidance, long –term orientation and individualism have insignificant values. The strongest predictor for analysis and design of work is only masculinity (β= 0.302).

The findings revealed that masculinity is the strongest predictor for analysis and design of work in pharmaceutical industries in Jordan. The reason for this result may be when employees are relatively feminine; they value equality, and quality in their working environment.

H1.2: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and HR planning.

Table 3. National Culture and HR Planning

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.195	1.974	0.050
Individualism				-0.339	-2.992	0.003
Masculinity	0.222	8.531	.000	0.282	2.603	0.010
Uncertainty Avoidance				0.214	2.402	0.018
Long –term Orientation				0.199	1.984	0.049

The ANOVA table (Table 3) shows that F=8.531and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and HR planning.

In the model summary table, the adjusted R square's value of (0.222) indicates that 22% of the variation that occur in HR planning has been significantly explained by national culture. According to t and p values, the results show that all national dimensions have a significant impact on HR planning. A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for HR planning is individualism (β= -0.339) with negative correlation, followed by masculinity (β=0.282), uncertainty avoidance (β=0.214), and long-term orientation (β=0.199). The least factor influencing HR planning is power distance (β=0.195).

The findings revealed that individualism is the strongest predictor for HR planning in pharmaceutical industries in Jordan. Also, masculinity considered a strong predictor for HR planning.

H1.3: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Recruiting / Selection.

Table 4. National Culture and Recruiting / Selection

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.180	1.774	0.078
Individualism				-0.338	-2.914	0.004
Masculinity	0.182	6.858	.000	0.196	1.762	0.080
Uncertainty Avoidance				0.266	2.919	0.004
Long –term Orientation				0.179	1.744	0.084

The results in Table 4 shows that F=6.858 and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and Recruiting / Selection.

The adjusted R square's value of (0.182) indicating that 18% of the variation in Recruiting / Selection has been significantly explained by national culture. However, this percentage which may be considered as relatively low is also an indication of the presence of additional factors contributing to the explained variance in Recruiting / Selection. According to t and p values, the results show that only individualism and uncertainty avoidance dimension have a significant impact on Recruiting / Selection. While, power distances, masculinity, long term orientation and have insignificant values.

A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for Recruiting / Selection is individualism (β= -0.338) with negative correlation, followed by uncertainty avoidance (β=0.266). On the other hand, power distances, masculinity, and long term orientation have insignificant values and do not contribute in explanation of the impact of national culture on Recruiting / Selection.

The findings revealed that individualism is the strongest predictor for Recruiting / Selection in pharmaceutical industries in Jordan. Also, uncertainty avoidance considered a strong predictor for Recruiting / Selection. The reason for this result may be security, precision, and punctuality is important elements to the employees with high uncertainty avoidance. Also, hiring decisions take account according to their skills and ability since employees are strongly individualist.

H1.4: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Training and development.

Table 5. National Culture and Training and Development

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.125	1.166	0.246
Individualism				-0.211	-1.713	0.098
Masculinity	0.083	3.385	.007	0.137	1.162	0.247
Uncertainty Avoidance				0.080	0.827	0.410
Long –term Orientation				0.247	2.266	0.025

The ANOVA table shows that F=3.385 and p-value = 0.007. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. This means that there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and Training and Development.

In the model summary table, the adjusted R square's value of (0.083) indicates that 8% of the variation that occur in Training and development has been significantly explained by national culture. However, this percentage which may be considered low is also an indication of the presence of additional factors contributing to the explained variance in training and development.

According to t and p values, the results show that only long-term orientation dimension has a significant impact on training and development. While, power distances, masculinity, uncertainty avoidance, and individualism have insignificant values. A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for training and development is long-term orientation (β= 0.247). On the other hand, power distances, masculinity, uncertainty avoidance and individualism are insignificant values and do not contribute in explanation of the impact of national culture on training and development.

The findings revealed that long-term orientation is the strongest predictor for training and development in pharmaceutical industries in Jordan. This may be due to the fact employees focus on specific training to make them more responsive to the requirement of their positions.

H1.5: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and compensation.

Table 6. National Culture and Compensation

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.124	1.188	0.237
Individualism				-0.300	-2.498	0.014
Masculinity	0.126	4.812	.000	0.166	1.446	0.151
Uncertainty Avoidance				0.182	1.937	0.055
Long –term Orientation				0.227	2.140	0.034

The results in Table 6 shows that F=4.812 and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and compensation.

In the model summary table, the adjusted R square's value of (0.126) indicates that 12.6% of the variation that occur in compensation has been significantly explained by national culture. However, this percentage which may be considered as relatively low, it is also an indication of the presence of additional factors contributing to the explained variance in compensation.

According to t and p values, the results show that only individualism and long-term orientation dimension have a significant impact on compensation. While, power distances, masculinity, and uncertainty avoidance have insignificant values. A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for compensation is individualism (β= -0.300) with negative correlation, followed by long –term orientation (β=0.227). On the other hand, power distances, masculinity, and uncertainty avoidance are insignificant values and do not contribute in explanation of the impact of national culture on compensation.

The findings revealed that individualism is the strongest predictor for compensation in pharmaceutical industries in Jordan. Followed by, long- term orientation considered a strong predictor for compensation. This may be due to that salary increases and incentives are based on achievement of the employees in their works.

H1.6: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and Performance management.

Table 7. National Culture and Performance Management

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.106	0.973	0.333
Individualism				-0.257	-2.056	0.042
Masculinity	0.099	3.687	.004	0.373	3.114	0.002
Uncertainty Avoidance				0.029	0.298	0.766
Long –term Orientation				0.069	0.621	0.536

The ANOVA table shows that F=3.687 and p-value = 0.004. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and performance management.

In the model summary table, the adjusted R square's value of (0.099) indicates that 9.9% of the variation that occur in performance management has been significantly explained by national culture. However, this percentage which may be considered low is also an indication of the presence of additional factors contributing to the variance in performance management. According to t and p values, the results show that individualism and masculinity dimension have a significant impact on performance management. While, power distances, masculinity, and uncertainty avoidance and long-term orientation have insignificant values.

A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for performance management is masculinity (β= 0.373) with positive correlation, followed by individualism (β=-0.257) with negative correlation. On the other hand, power distances, long-term orientation, and uncertainty avoidance have insignificant values and do not contribute in explanation of the impact of national culture on performance management.

The findings revealed that masculinity is the strongest predictor for performance management in the pharmaceutical industry in Jordan.

H1.7: There is no statistically significant relationship (at $\alpha \leqslant 0.05$) between national culture and employee relation.

Table 8. National Culture and Employee Relation

	Adjusted R Square	F	Sig.	Beta	T	Sig.
Power distance				0.115	1.102	0.273
Individualism				-0.519	-4.319	0.000
Masculinity	0.149	5.535	.000	0.340	2.935	0.004
Uncertainty Avoidance				0.120	1.274	0.205
Long –term Orientation				0.097	0.910	0.364

The ANOVA table shows that F=5.535 and p-value = 0.000. Since the p-value is less than 0.05 the significance level, the null hypothesis is rejected at $p \leqslant 0.05$. Hence, there is a statistically significant relationship between national culture (power distance, individualism, masculinity, uncertainty avoidance, long term orientation) and employee relation.

In the model summary table, the adjusted R square's value of (0.149) indicates that 14% of the variation that occur in employee relation has been significantly explained by national culture. However, this percentage which may be considered as relatively low is also an indication of the presence of additional factors contributing to the explained variance in employee relation. According to t and p values, the results show that individualism and masculinity dimension have a significant impact on performance management. While, power distances, uncertainty avoidance and long-term orientation have insignificant values.

A large value of β indicates that the independent variable has a large effect on the dependent variable in the model. The strongest predictor for employee relation is individualism (β= -0.519) with negative correlation, followed by masculinity (β=0.340) with positive correlation. On the other hand, power distances, long-term orientation, and uncertainty avoidance have insignificant values and do not contribute in explanation of the impact of national culture on employee relation.

The findings revealed that individualism is the strongest predictor for employee relation in pharmaceutical industries in Jordan. Since employees are strongly individualist. Thus they take care of themselves, also value individual rights. Therefore, they have a real interest in the welfare and overall satisfaction, also have interest in welfare services and support for the employees' families. Furthermore, they care about their jobs.

6. Conclusion

This study aimed to examine the impact of national culture on strategic human resource management practices among employees of pharmaceutical industries in Jordan. The results showed that most of the hypothesised relationships were accepted. More specifically:

The results of multiple regression analyses for the main hypothesis showed that there is a statistically significant relationship between national culture and HRM practices. While, power distance has no impact on HRM practices. Thus, different studies found that national culture dimensions have a significant effect on HRM practices such as Abdul Hamid (1996); Namazie (2003); Aycan (2005); Milikic (2009); Reiche et al. (2009); Zhiwei Bi (2012); Myloni et al. (2004).

The results also showed that there is a statistically significant relationship between national culture and analysis and design of work. Furthermore, only masculinity dimension has a significant impact on analysis and design of work. Aycan (2005) found out that job analysis may be affected by uncertainty avoidance, individualism versus Collectivism, and power distance. Furthermore, these dimensions influence the specificity of job description and job specification, the unit of analysis and the method of job analysis (Milikic, 2009).

Accordingly, there is a statistically significant relationship between national culture and HR planning. Also, the findings revealed that individualism is the strongest predictor for HR planning in pharmaceutical industries in Jordan. According to Milikic (2009), indicates that high Power Distance and Collectivism are likely to have the strongest influence on HR planning. However, these results are not consistent with our findings. Furthermore, HR planning, recruitment and performance appraisal are to a great extent congruent with the culture values of Greek society (Myloni et al., 2004).

The results also showed that there is statistically significant relationship between national culture and recruiting / selection, training and development, compensation, performance management, employee relation. The findings revealed that individualism and uncertainty avoidance dimensions are the strongest predictor for recruiting / selection in pharmaceutical industries in Jordan. While, Diponegoro (2009) found out that national culture does not influence staffing practices in Indonesia. Accordingly, with regard to Serbian large power distance, high Collectivism and high uncertainty avoidance dimensions are the strongest predictor for recruitment, while the most criteria for selection are Femininity, large power distance and collectivism (Milikic, 2009).

The finding of our study revealed that only long-term orientation dimension has a significant impact on training and development. While, power distances, masculinity, uncertainty avoidance, and individualism have an insignificant value. Our findings is inconsistent with the results of Aycan (2005) who found that high power distance, high uncertainty avoidance, collectivism dimensions have an influence on training and development.

The results show that only individualism and long-term orientation dimension have a significant impact on compensation. While, power distances, masculinity and uncertainty avoidance have insignificant values. Whereas, Aycan (2005) found out that power distance and uncertainty avoidance dimensions are the important criteria for compensation. Also, the results show that individualism and masculinity dimension have a significant impact on performance management. While, power distances, masculinity, and uncertainty avoidance and long-term orientation have insignificant values. These results are somewhat different since Aycan (2005) argued that power distance and individualism dimensions have an influence on performance management.

The findings also revealed that individualism and masculinity dimension have a significant impact on employee relation. While, power distances, uncertainty avoidance and long-term orientation have insignificant values.

In conclusion, this study provides a support evidence of the implication of national culture on SHRM practices, and provides a finding that some of national dimensions are stronger than others in predicting SHRM practices. This implies that, SHRM practices are linked with national culture and each practice has a national culture dimension or more to predict. Thus, SHRM practices are a culture bound and it is affected by Hofstede dimensions. Moreover, the results showed that masculinity, uncertainty avoidance, long term orientation, and individualism dimension have an impact on SHRM practices.

6.1 Contribution of the Study

Despite the fact that this study was conducted based on existing literature, the previous researches was done with different context. Such as, most of the studies within multinational companies in one country, and some of them study differences of SHRM practices across different countries, also study HRM practices in one country. Moreover, most of the previous studies investigate some of the SHRM practices according to national culture. While this study examined the eight practices and presented the national culture dimensions and it is implication on each of SHRM practices. In addition, this study examined the impact of national culture on SHRM practices. Thus, using multiple regression analysis, the effect of each of the five of the independent variable on each of the seven dimensions of the dependent variable was determined.

This study also differentiates itself by investigating the national culture in Jordan, and determines the Hofstede dimension since there are no previous studies investigating this field in Jordan except Alkailani et al. (2012) they study Hofstede dimensions across different universities of students who hold a master degree.

6.2 Managerial Implication

The useful findings produced by this study can be utilized by HR managers towards the development and implementation of SHRM practices and tries to link them with national culture of Jordan. This will lead to improve the performance of employees and the whole company, since the employees will be satisfied with the practices that their company adopts. According to Myloni et al. (2004) the results of how HRM practices reflect Greek national culture, could be helpful to multinational company's decision makers in deciding which practices are more easily transferred into the Greek context and which practices have to be adapted this culture. Therefore, this study will help HR managers in their decisions of how such practices will be developed and what are they.

According to the results of this study, it may suggest that HR managers must be aware of Jordan culture and linked it with SHRM practices. Besides, the national culture is critical factor for the design of SHRM practices; therefore, there is a need to propose strategies to ensure that the SHRM practices better match the cultures of these countries (Mendonca et al., 1999).

6.3 Limitations of the Study and Recommendations for Future Research

As with any other study, this research has some limitations. Firstly, it was not possible to collect data from all pharmaceutical companies due to constraints on time and resources in Jordan; it is advised that the generalizability of the results should be treated with cautious. Since the results of this study are based on national culture and it is effect on SHRM practices, future researches should investigate the effect of moderating variable which is also affect SHRM practices. Also, future researches should study the employees' preference toward SHRM practices to help their companies to adapt these practices with their needs. Moreover, it must recognize the relationship between SHRM practices and performance of the organization, which is also recommended for future researches. Furthermore, it is recommended to study the effect of religions on SHRM practices beside the effect of national culture, also there are another factors affecting SHRM practices, thus future researches must shed light on theses and investigate it is impact.

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Appendix A. Mean and standard deviation of SHRM practices

Item	Mean	SD
In my company, the duties of job are clearly defined.	2.79	1.26
In my company, the job description contains all of the duties performed by individual employees.	2.86	1.25
In my company, the job duties are shaped more by employees than by a specific job description.	2.62	1.16
Analysis and design of work (Cronbach's alpha = 0.940)	**2.76**	
My company forecasting the future shortages or surpluses in employees.	2.67	1.01
In my company, there is a program that can be utilized to reduce labor surpluses (such as downsizing and early retirement programs).	2.92	1.09
In my company, there is a program that can be utilized to eliminate a labor shortage (such as bringing in temporary workers or expanding over time).	2.72	1.11
HR planning (Cronbach's alpha = 0.92)	**2.76**	
In my company, we use structured test in order to properly assess the candidates (skills, competencies, personality).	3.02	1.29
In my company, we use structured interviews to assess correctly the selected candidates (skills, competencies, personality).	2.89	1.15
Recruitment decision is determined by, applicant ability to do technical things related to the job.	2.58	1.14
In my company, the relationship (family, friend, religion, etc) between applicant and the company is used as determinant for recruitment decision.	3.11	1.14
My company uses external recruitment in order to recruit potential employees.	2.91	1.11
Recruiting /Selection (Cronbach's alpha = 0.941)	**2.90**	
In my company, we use specific training to make employees more responsive to the requirement of their positions (e.g. specialist courses in their field).	2.78	1.18
In my company, we use training programs to make employees more responsive to future needs of the company (e.g. courses of leadership or continue training).	2.71	1.24
In my company, there are formal training program to teach new hires the skills they need to perform their job.	2.80	1.19
Training and development (Cronbach's alpha = 0.933)	**2.77**	
Salary increases in my company are based on individual's seniority qualification, and/or work experience.	2.99	1.21
The salary in my company is adjusted for cost-of-living increases.	3.07	1.23
My company offers many types of incentives to employees besides their basic wages.	3.05	1.28
Salary increases are based on job performance at our company.	2.96	1.26
Compensation (Cronbach's alpha = 0.937)	**3.01**	
We use rating scale to compare and rank employees' performance.	2.96	1.24
We evaluate performance by matching employees behaviors with the work behaviors described on the appraisal form.	2.87	1.16
Our performance appraisal system focuses more on how things are done as opposed to how many things are done.	2.88	1.11
We use specific and measurable goals such as sales targets, units produced or number of customers served in evaluating employees.	2.83	1.13
Our performance appraisal system emphasizes qualities such as loyalty, cooperation and initiative.	2.87	1.16
Performance management (Cronbach's alpha = 0.925)	**2.88**	
My company has a real interest in the welfare and overall satisfaction of those who work here.	3.02	1.33
My company frequently sponsors social and cultural events for our employees and their families.	3.26	1.25
My company makes special efforts to improve the working conditions.	2.90	1.22
My company provides general welfare services and support for the employees' families.	3.27	1.26
In my company, It is difficult to dismiss an employee from his/her job.	3.12	1.29
In my company, there is a commitment to protect jobs of workers, in spite of all the predictable changes.	3.02	1.19
Employee relation (Cronbach's alpha = 0.938)	**3.10**	
HRM practices (Cronbach's alpha = 0.935)	**2.91**	

Appendix B. Mean and standard deviation of national culture

Item	Mean	SD
In an ideal situation, it is important to have a good working relationship with your direct superior	2.25	1.33
In an ideal situation , it is important to be consulted by your direct superior in his/her decisions	2.55	0.99
Subordinates afraid to express disagreement with their superiors	2.87	1.22
An organization structure in which certain subordinates have two bosses should be avoided at all costs	2.48	1.25
Power Distance (Cronbach's alpha = 0.841)	**2.53**	
In an ideal situation, it is important to have sufficient time for your personal or family life.	2.08	1.19
In an ideal situation, it is important to have good physical working conditions (good ventilation and lighting, adequate work space, etc)	1.99	1.26
In an ideal situation, it is important to have security of employment	2.05	1.17
In an ideal situation, it is important to have an element of variety and adventure in the job	2.19	1.10
Individualism (Cronbach's alpha = 0.830)	**2.09**	
In an ideal situation, it is important to work with people who cooperate well with one another	2.12	1.36
In an ideal situation, it is important to have an opportunity for advancement to higher level jobs	2.05	1.19
Most people can be trusted	2.89	1.16
When people have failed in life it is often their own fault	2.89	1.09
Masculinity (Cronbach's alpha = 0.837)	**2.48**	
you feel nervous or tense at work	2.83	1.09
One can be a good manager without having precise answers to most questions that subordinates may raise about their work	3.02	1.22
Competition between employees usually does more harm than good	2.83	1.10
A company's or organization's rules should not be broken not even when the employee thinks it is in the company's best interest	2.47	1.10
Uncertainty Avoidance (Cronbach's alpha = 0.845)	**2.79**	
In your private life ,thrift is important to you	2.56	1.20
In your private life , respect for tradition is important to you	2.43	1.18
Long –term Orientation (Cronbach's alpha = 0.82)	**2.51**	
National culture (Cronbach's alpha = 0.846)	**2.47**	

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Contagion between Islamic and Conventional Banking: A GJR DCC-GARCH and VAR Analysis

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Abstract

This study aims testing the presence of contagion through Islamic and conventional banking systems during the subprime crisis. Specifically, we examine how far a shock striking conventional or Islamic banks is exported from one group to another or remain limited. Therefore, we adopt a GJR DCC-GARCH model to study the dynamic conditional correlation and the vector auto-regression VAR model in order to identify causality direction and the impact of a shock on the returns of each banking index. Hence, our results indicate that Islamic banks are not isolated from conventional banks while there is a contagion phenomenon between these two financial systems. Furthermore, we determined that during the crisis, Islamic banks could not absorb this effects and ensure stability because these banks were also affected by the crisis.

JEL Classification: G21, G32, G33

Keywords: Islamic finance, financial stability, volatility, GJR-DCC, VAR

1. Introduction

While Islamic banking system has improved throughout these years, the level of competition with conventional system has intensified too. Regarding the co-existence of Islamic and conventional banking and such differences in their foundations, the question of contagion risk between them in case of shocks become a major concern. The period of financial crises are a perfect experimental context to identify the relationship between these two industries in the event of financial distress. The series of crises faced by international financial institutions have raised several questions about the ability of each banking system (Islamic and conventional) to withstand financial and economic shocks. Most studies in the literature have compared Islamic to conventional banking separately and assume that there is no interaction between them. In this study, we try to fill in this gap by examining contagion risk between Islamic and conventional banks so as to see how far a shock that strikes conventional or Islamic banks is exported to the other system, or remain constrained.

Thereby, our paper is structured as follows. We first present a theoretical overview of banking contagion focusing on the different definitions proposed in the literature and the methods of its detection. Then, we present the methodology used to test the presence of this phenomenon on domestic and cross-country levels. Finally, we report the results.

2. Theoretical Context

In fact, the concept of contagion has been defined in several ways. According to Masson (1998), Kamisnsky and Reinhart (2000), contagion can be defined as the spread of financial market disturbances from one country to financial markets of other countries. This definition is used very frequently insofar as it takes into account shock transmission mechanisms. Other definitions have been proposed in the literature such as that of Pericoli and Sbracia (2001). For these authors, contagion is defined as a significant increase in co-movement of prices and quantities across markets following a crisis in a market or a group of markets. This definition places contagion as an excessive increase in co-movements against a certain standard. It is important to distinguish between normal co-movements due to simple excessive interdependences and co-movements due to financial turbulence. In the same way, Forbes and Rigon (2002) stated that contagion is explained by a change in transmission mechanisms during financial turbulence. Consequently, this change can be expressed as a significant increase in correlation across markets. Under this perspective, contagion is detected through investors' and speculators' behavior.

Indeed, financial crises are a relevant experiment to test the presence of financial or banking contagion. In late of 2007, the global economy experienced a severe financial crisis produced in the American real estate market and then spread to the rest of the world. This financial turbulence caused the failure and bankruptcy of several financial institutions in many countries. Therefore, there are two main channels contributed to the spread of this crisis. The first one is the direct exposure of financial institutions around the world to the mortgage market, through securitization transactions. The second one is the common shocks on asset markets, particularly real estate markets.

The presence of the interbank market was the source of banking contagion. The mission of an interbank market is to transfer liquidity between banks. Contagion risk is said to be triggered by liquidity shocks to the market, enabling the transmission of crises. According to Van and Weder (2001), in the presence of liquidity shocks or a financial crisis, investors rally to reconstruct their portfolios. Through share purchases and sales, they transfer risk from one institution to another or from one market to another. It is this kind of behavior that triggers contagion. According to Forbres and Rigobon (2001), this process causes an increase in correlation between financial assets. Worth noting is that this mechanism does not occur during financial stability but only during crisis periods. Nevertheless, Van Rijckeghen and Weder (2000) examined the notion of liquidity in the banking system. Indeed, banks react to a crisis in a country by a generalized reduction in credit granting depending on the borrowing countries. Therefore, investors will rebalance their portfolios, causing the spread of crises.

According to Hartmann et al (2004), bank contagion may be possible through two channels. The first leads to the bank's direct exposure to the interbank market. The second is information dissemination. In fact, banks resort to financial markets for liquidity if needed and for risk management too. Consequently, failure of a bank may have negative repercussions on the liquidity of other banks.

Banking contagion has been the subject of several studies. Furfine (2003) examined a database reflecting bilateral exposure to the US banking market and studied the impact of individual banking failures on other banks. This study proved that the concept of systemic risk exceeds that of interconnection of the interbank market. Upper and Worms (2004), who studied contagion in the German banking market, found that contagion risk in the interbank market mainly affects small German banks.

To study the vulnerability of the German banking system, Memmel and Stein (2008) examined data on bilateral exposure between all banks. They assumed that the interbank market itself is a contagion mechanism since contagion occurs when a bank fails. The results indicate that banking contagion depends in large part on the size of the failing bank and its interrelationships with other banks.

Moreover, among the factors behind banking contagion, the literature identifies information asymmetry. Information asymmetry is a very important factor in triggering contagion. During banking panics, depositors worry about their deposits, and they start to retain their deposits causing banking failures. Indeed, bankruptcy of a large number of banks suggests that dissemination of information to financial markets has deteriorated.

Finally, contagion may depend on the structure of interbank links. According to Allen and Gales (2000), the interbank market may take three structures. First is, the entire structures, in which banks are symmetrically related to any other bank. Second, the incomplete structure is where banks are related only to neighboring banks. Third, there is the incomplete and offline market structure. Several studies agree on the importance of the interbank market structure. Indeed, Elsinger and al (2002) used a model of complex networks for interbank market exposure and examined the consequences of macroeconomic shocks on the Austrian banking system. Interbank market structure and exposure size are important elements in determining contagion risk. Specifically, degree of completeness and heterogeneity of the interbank market are closely linked to contagion risk.

3. Method

To meet our research objectives, we use GJR-DCC model to identify the presence of contagion across these two banking industries on a domestic scale. We follow Forbes and Rigobon (2002) to identify contagion in that correlation which is a measure of contagion during a crisis. Indeed, an increase in correlation coefficient indicates contagion. These authors compared the intensity of financial links, before and after the crisis, between different markets. We do the same to examine co-movements between these two banking industries (Islamic and conventional) at the domestic level during the study period.

To identify contagion across the two banking systems during the crisis period, we introduce a return index for

Islamic and conventional banking industries for each country. This index represents the weighted average returns of banks according to their market capitalization to see the effect of bank size on the banking system.

Then we use the GJR-DCC model to examine dynamic conditional correlation between the return index of Islamic banks and that of conventional banks during the entire study period. We opted for the GJR-DCC model because the DCC-MGARCH model has been criticized for its symmetrical nature and its non-accountability of the asymmetric reaction of past shocks for current volatility. However, such researchs in the 1970s indicated that negative past returns increase volatility more strongly than past positive returns. Hence, reasons explaining this phenomenon come with a lot of controversy. According to Black (1976), decrease in the stock price of a leveraged firm worsens its solvency ratio. This increases intrinsic risk and therefore stock volatility. This is leverage theory.

To overcome this critical appraisal, we propose to use the GJR-GARCH model introduced by Glosten, Jagannathan and Runkle (1993). This is a nonlinear GARCH model to account for asymmetry in the conditional variance of a response to innovation. The principle of the GJR-GARCH model is the dynamics of conditional variance which admits a change regime and depends on the sign of past innovation. The difference between these two models lies in conditional variance. For the GJR-GARCH model, variance is written as:

$$\sigma_t^2 = \omega + \alpha_i \varepsilon_{t-i}^2 + \lambda \mathbb{I}_{[\varepsilon_{t-1<0}]}\, \varepsilon_{t-i}^2 + \beta_j \sigma_{t-j}^2 \quad (1)$$

Where $\mathbb{I}_{[\varepsilon_{t-1<0}]}$ denotes an indicator function such that $\mathbb{I}_{[\varepsilon_{t-1<0}]} = 1$ si ε_{t-1}<0, $\mathbb{I}_{[\varepsilon_{t-1<0}]} = 0$ otherwise. The parameter λ can model an asymmetric effect related to signs of past innovations ε_{t-1}. If $\lambda > 0$ (respectively if λ <0), a positive shock on past innovations at time t-1 is translated at time t by an increase (respectively decrease) in conditional variance, i.e. volatility of an r_t process. From the variance equation, we can directly distinguish coefficients specific to positive residuals $\alpha_{pos}= \alpha_1$ or to negative residuals $\alpha_{neg}= \alpha_1+ \lambda_1$.

The model can also be written as follows:

$$\sigma_t^2 = \omega + \alpha_{pos} \mathbb{I}_{[\varepsilon_{t-1>0}]}\, \varepsilon_{t-i}^2 + \alpha_{neg} \mathbb{I}_{[\varepsilon_{t-1<0}]}\, \varepsilon_{t-i}^2 + \beta_j \sigma_{t-j}^2 \quad (2)$$

In what follows, we try to apply analysis tools recently introduced in applied finance. These are the family of Dynamic Conditional Correlation models (DCC), which allow for the correlation matrix to be dynamic over time while retaining few parameters. GJR-DCC introduces equations describing the evolution of correlation coefficients between the banking index (Islamic or conventional) with that of the market index. Through this model, we can deduce dynamic conditional correlation between Islamic and conventional banking indices.

This model is proposed by Engle (2002) and Tse and Tsui (2002) and is written as follows:

$$\begin{cases} H_t = D_t R D_t \\ D_t = diag\,(\sqrt{h_{11t}}, \sqrt{h_{22t}}, \dots, \sqrt{h_{NNt}}) \\ R_t = (diagQ_t)^{\frac{-1}{2}} Q_t (diagQ_t)^{\frac{-1}{2}} \end{cases} \quad (3)$$

Where

- $H_t = D_t R D_t$ represents the variance and covariance matrix of the two assets.
- D_t is a diagonal matrix of time-varying standard deviations collected from the estimated two univariate GJR -GARCH,
- The elements contained in D_t are generated by a GJR-GARCH (p, q), which also gives:

$$H_t = \begin{pmatrix} \sqrt{h_{it}} & 0 \\ 0_{P_i} & \sqrt{h_{0t}} \end{pmatrix} \begin{pmatrix} 1 & \rho_{i0,t} \\ \rho_{i0,t} & 1 \end{pmatrix} \begin{pmatrix} \sqrt{h_{it}} & 0 \\ 0 & \sqrt{h_{0t}} \end{pmatrix} \quad (4)$$

$$h_{it} = c_i + \sum_{p=1} (\alpha_{ip}\, \varepsilon^2{}_{it-p} + \lambda \mathbb{I}_{[\varepsilon_{t-1<0}]} \varepsilon_{t-i}^2) + \beta_j \sum_{q=1} \beta_{iq}\, h_{it-q} \;; \quad i = 1,2 \quad (5)$$

$R_t = [\rho_{ij,t}]$ represents the matrix of constant conditional correlation coefficients, $Q_t = [q_{ij,t}]$ is the covariance matrix of standardized residuals, of (N x N)dimension, symmetric and positive definite.

$$q_{ijt} = \bar{\rho}_{i,j} + \alpha\big(Z_{i,t-1} Z_{j,t-1} - \bar{\rho}_{i,j}\big) + \beta(q_{ijt-1} - \bar{\rho}_{i,j}) \quad (6)$$

$\bar{\rho}_{i,j}$ represents the unconditional correlations and $\rho_{ij,t} = \frac{q_{ijt}}{\sqrt{q_{iit}q_{jjt}}}$ represents dynamic conditional correlations.

In what follows, we use VAR developed by Christopher Sims, to examine dependence between the two banking industries in the different countries studied. (Cross-country contagion risk analysis)

The VAR (p) model is presented by:

$$X_t = c + \varphi_1 X_{t-1} + \varphi_2 X_{t-2} + \dots\dots\dots. \varphi_p X_{t-p} + \epsilon_t \quad (7)$$

Or equivalently:

$$\varphi\,(L)\,X_t = c + \epsilon_t \quad (8)$$

Where c, (n, 1) dimension, is a vector of constants, $\varphi\,(L) = \sum_{i=0}^{\infty} \varphi\, L^i$ or matrices φ_i, whatever i [0, p] of (n, n) dimension, fulfill $\varphi_0 = I_n$ and $\varphi_p \neq 0_n$. The vector (n, 1) of innovations ϵ_t is i.i.d.

In general, for x_{jt}, whatever j ϵ [1, n], we have:

$$\begin{aligned} x_{jt} &= c_1 + \varphi^1{}_{j1}\, x_{1\,t-1} + \varphi^1{}_{j2} x_{2\,t-1} + \dots + \varphi^1{}_{jj} x_{j\,t-1}. + \cdots . + \varphi^1{}_{jn}\, x_{n\,t-1} \\ &+ \varphi^2{}_{j1}\, x_{1\,t-2} + \varphi^2{}_{j2}\, x_{1\,t-2} + \dots + \varphi^2{}_{jj}\, x_{j\,t-2} + \cdots + \varphi^2{}_{jn}\, x_{n\,t-2} + \cdots \\ &+ \varphi^p{}_{j1}\, x_{1\,t-p} + \varphi^p{}_{j2}\, x_{2\,t-p} + \dots + \varphi^p{}_{jj}\, x_{j\,t-p} + \cdots + \varphi^p{}_{jn}\, x_{n\,t-p} \end{aligned} \quad (9)$$

This model captures interdependencies between multiple time series since the variables are treated symmetrically so that each series is explained by its own past values and the past values of the other variables. This allows us to examine the causal link between returns of Islamic banks and those of conventional banks and also to study the impulse response function to see whether the impact of a shock on the returns of conventional banks will instantly impact the returns of Islamic banks and vice versa.

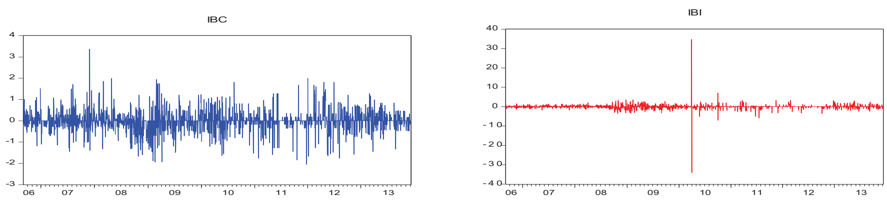
4. Data

Our sample consists of (51) listed banks in six Middle Eastern countries. These are Bahrain, Saudi Arabia, Kuwait, Qatar, Egypt and Turkey, with (12) Islamic banks and (39) conventional banks. The study period stretches from 04/09/2006 until 04/12/2013. We eliminate from the sample countries with no listed Islamic banks. Individual bank data are collected from the Datastream database.

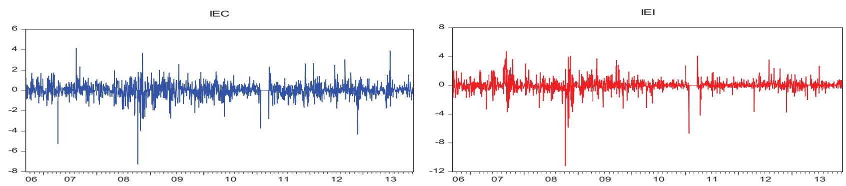
Table 1. Distribution of the sample according to type of bank

	Conventional banks	Islamic banks	Total
Bahrein	4	3	7
Saoudi-Arabia	6	2	8
Kuwait	4	3	7
Qatar	4	1	5
Egypt	8	1	9
Turkey	13	2	15
Total	39	12	51

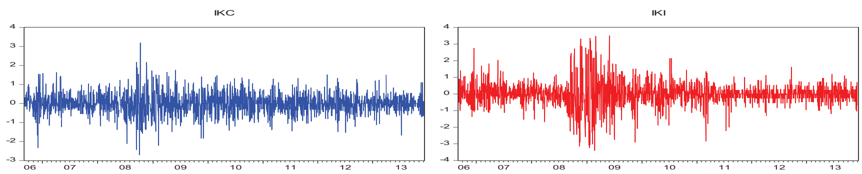
The figures below report the various indices' return series for conventional and Islamic banks. We notice that the two banking industries were affected by the subprime crisis, as there is a higher fluctuation of returns during the crisis period in each of the countries studied.



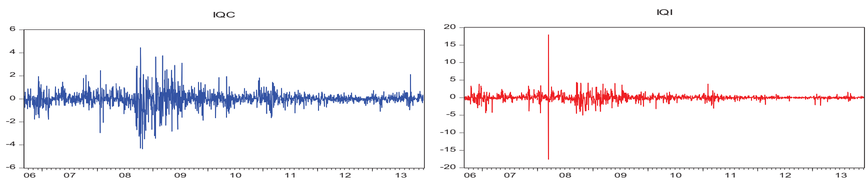
Bahrain banking index



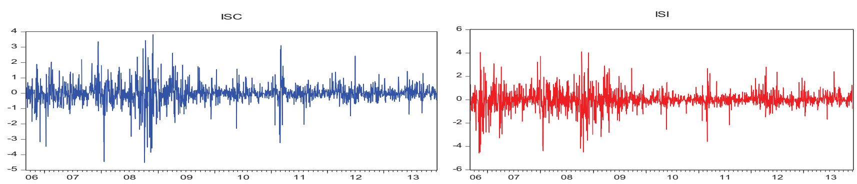
Egypt banking index



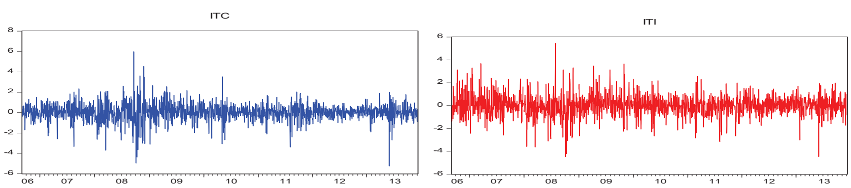
Kuwait banking index



Qatar banking index



Saoudi-Arabia banking index



Turkish banking index

Figure 1. Evolution of indices' returns for conventional and Islamic banks by country

* Blue represents returns of conventional banks, red represents returns of Islamic banks.

Table 2. Descriptive statistics of the indices returns for conventional banks by country

	Maximum	Minimum	Mean	Std. Dev.	Skewness	Kurtosis	JB	Q(12)	Q^2(12)	ARCH(12)
IBC	3,367677	-2,041751	-0,00603	0,49316	0,09825	6,91742	1178,861	15,415	107,70***	25,46864***
IEC	4,178965	-7,258714	-0,00107	0,72977	-0,85824	13,2023	8201,414	16,012*	29,677**	4,899138***
IKC	3,189077	-2,713107	-0,00319	0,54319	0,049886	5,13548	350,1929	12,212	357,33***	42,65021***
IQC	4,450436	-4,352939	0,00157	0,65674	-0,3246	12,0272	6276,482	24,089**	1491,2***	453,1254***
ISC	3,820643	-4,520034	-0,01384	0,65701	-0,50352	11,8641	6098,309	35,613***	_	_
ITC	5,987471	-5,243961	0,00862	0,83636	-0,34019	8,39039	2261,907	19,747**	521,39***	31,21118***

Table 3. Descriptive statistics of the indices returns for Islamic banks by country

	Maximum	Minimum	Mean	Std. Dev.	Skewness	Kurtosis	JB	Q(12)	Q^2(12)	ARCH(12)
IBI	34,69038	-34,11789	-0,03927	1,4185	0,346952	378,656	10813132	7,3338	248,52***	273,1774***
IEI	4,721702	-11,22019	-0,00031	0,88351	-1,35544	24,5155	36033,95	30,084**	141,97***	24,76301***
IKI	3,503147	-3,404023	0,00264	0,72666	-0,03081	7,47145	1532,318	24,24**	2519,2***	327,5458***
IQI	17,9431	-17,6031	-0,00502	1,0323	0,038313	100,623	730257,1	12,77	416,88***	415,3141***
ISI	4,107692	-4,573	-0,01057	0,78357	-0,34342	10,127	3928,245	12,232	416,88***	80,46517***
ITI	5,442047	-4,467844	0,01033	0,90719	-0,02498	5,93021	658,1014	8,1436	139,37***	46,65257***

According to Tables 1 and 2, return series are not normally distributed, hence the null hypothesis of normality is rejected because the probability of Jarque Bera test is less than 0.05. Skewness coefficients show that the marginal distributions are asymmetric; skewed to the right when values are positive and to the left when values are negative. We note first that kurtosis is very high, well above 3. Such a high kurtosis indicates that these banks have fat-tailed distributions. This phenomenon of excess kurtosis confirms the strong leptokurtic character of stock returns series. Similarly, the stationarity analysis shows that all return series are stationary. In addition, the heteroscedasticity test points to some ARCH effects, and that the null hypothesis of no autocorrelation is accepted because probability levels are greater than 5%, except for the Saudi Arabia conventional banking index.

5. Results

After estimating the univariate GJR-GARCH model for the Islamic and conventional banking indices in the presence of asymmetry effects, we found the parameters ($\lambda + \alpha$) and (α), which represent respectively the impact of the negative and positive shocks on variance. In other words, the more important they are, the more volatility increases after the shock. The results show that returns of Islamic banks are more volatile than those of conventional banks, whether the impact is positive or negative. Similarly, for the (β) coefficient, which represents return speed to minimum volatility, the results indicate that this coefficient is higher for conventional banks than for Islamic banks. Therefore, we can conclude that returns of conventional banks are less volatile than those of Islamic banks and conventional banks are more resistant to shocks than Islamic banks.

The results on dynamic conditional correlation between returns of Islamic and conventional banks using the GJR-DCC model present a positive correlation for the entire period of study for the different countries in our sample. Moreover, we also found that correlation between these two banking industries differs from one country to another with an unstable trend over time. This difference depends on co-movement between the two banking systems in each country. After a filtering test, we note that during the crisis correlation between returns of Islamic and conventional banks increased significantly in all studied countries, providing evidence of contagion between these two banking industries during the crisis period. However, after the crisis, correlation records a downward trend. We also found that the estimated parameters of the univariate GJR-GARCH models check the validity conditions of the model [$c>0$, $\alpha>0$, $\alpha+\lambda>0$, $\beta>0$ and theta (1) + theta (2) < 1]. Moreover, the parameters are statistically significant, suggesting that the adoption of a GJR-GARCH model is appropriate.

Table 4. Dynamic Conditional Correlation between Islamic and conventional banking indices GJR-DCC

	Conventional banking index				Islamic banking index				DCC	
	c	α1	λ1	β1	c	α2	λ2	β2	theta(1)	theta(2)
Bahrain	0.019970	0.089351	0.013236	0.823590	0.258388	0.139347	-0.223834	0.561004	0.015603	0.973191
	0.0147**	0.0009**	0.6764	0.0000***	0.2967	0.2174	0.0871**	0.1071	0.0306**	0.0000***
Egypte	0.054678	0.240538	0.058972	0.691672	0.120720	0.262256	0.033650	0.452981	0.041195	0.744948
	0.0000***	0.0000***	0.3298	0.0000***	0.0002***	0.0007***	0.8757	0.0000***	0.0490**	0.0000***
Kuwait	0.019330	0.102221	0.086698	0.800062	0.007970	0.119761	0.068046	0.839462	0.049154	0.924934
	0.0001***	0.0002**	0.0368	0.0000***	0.0004**	0.0000***	0.0412	0.0000***	0.0000***	0.0000***
Qatar	0.004640	0.137760	0.084659	0.841242	0.013842	0.386945	-0.001883	0.776538	0.058495	0.925867
	0.0009**	0.0000***	0.0226**	0.0000***	0.0021**	0.0002**	0.9804	0.0000***	0.0000***	0.0000***
Saoudia	0.012010	0.118885	0.167450	0.845823	0.014406	0.162157	0.194697	0.847104	0.030839	0.960195
	0.0015**	0.0005**	0.0050**	0.0000***	0.0086**	0.0033**	0.0203**	0.0000***	0.0005**	0.0000***
Turquie	0.024649	0.098307	0.082847	0.830225	0.145125	0.132260	0.135281	0.645653	0.041303	0.929718
	0.0001***	0.0000***	0.0083**	0.0000***	0.0000***	0.0002**	0.0126**	0.0000***	0.0001***	0.0000***

**Stability condition theta (1)+theta (2) < 1 is met*

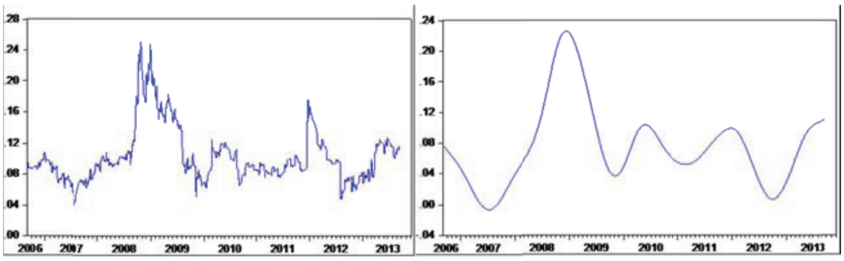


Figure 2. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Bahrain

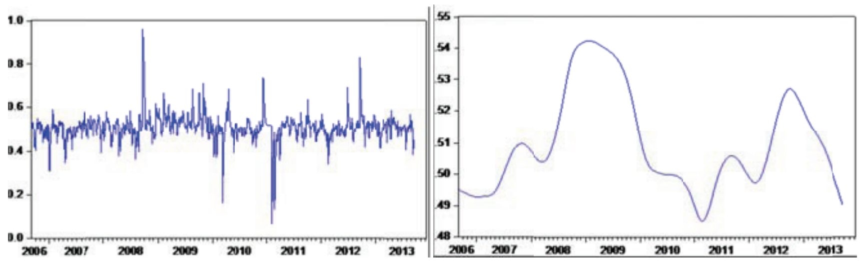


Figure 3. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Egypt

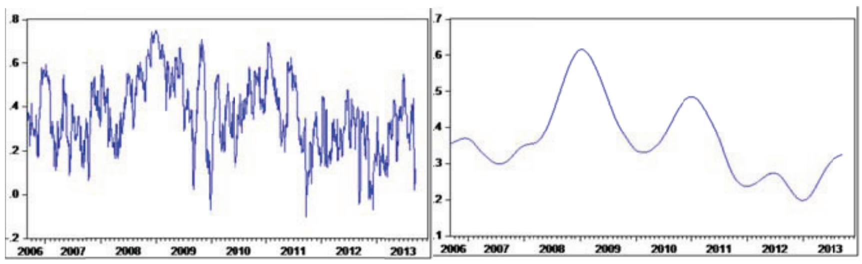


Figure 4. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Kuwait

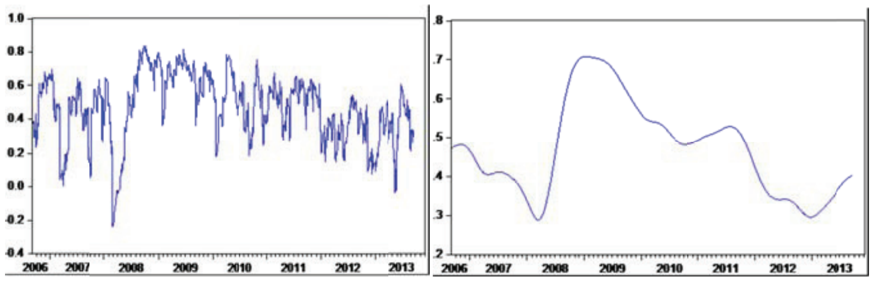


Figure 5. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Qatar

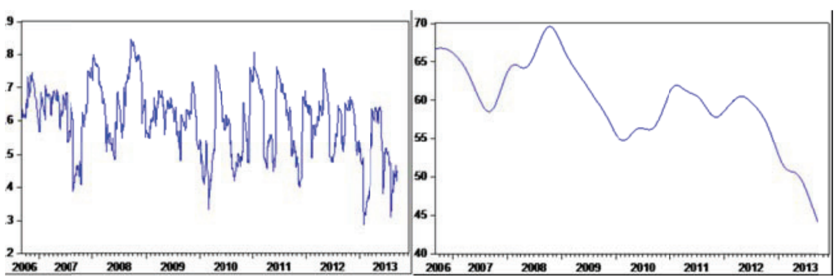


Figure 6. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Saudi Arabia

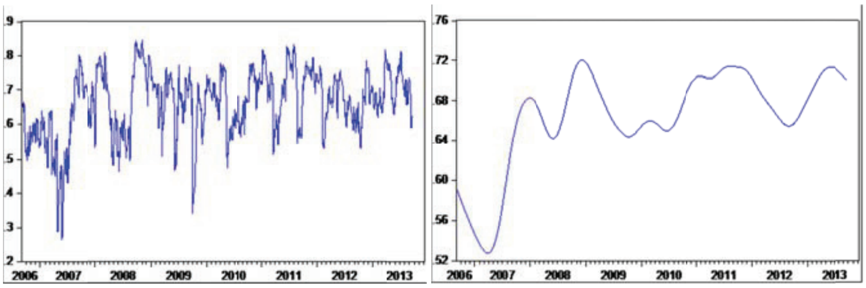


Figure 7. Dynamic conditional correlation between returns of Islamic and conventional banking indices of Turkey

We proceed then to examine cross-country contagion risk and assess the impact of the shock across these two banking industries as well as on the other banking industries of the countries studied. In order to confirm the relationship between Islamic banks and conventional banks across the different banking markets of the countries studied, we estimate a multi-step VAR model. First, it was deemed necessary to estimate our VAR and check for its stationarity. Next, we proceeded with causality tests and then with estimating impulse response functions.

Step 1: Estimation of VAR's stationarity

We should make sure that the two processes that are incorporated in our VAR model are stationary and we should decide on an optimal number of lag.

Table 5. Optimal number of lags

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-23070.04	NA	0.000145	25.21250	25.24863*	25.22582
1	-22653.03	828.0976	0.000107*	24.91429*	25.38396	25.08751*
2	-22515.95	270.4229	0.000108	24.92184	25.82506	25.25497
3	-22417.05	193.7995	0.000114	24.97111	26.30787	25.46413
4	-22295.93	235.7616	0.000116	24.99610	26.76640	25.64902
5	-22191.56	201.7734	0.000122	25.03939	27.24324	25.85222
6	-22082.31	209.7942	0.000126	25.07735	27.71473	26.05007
7	-21987.84	180.1773	0.000133	25.13144	28.20237	26.26407
8	-21872.73	218.0234*	0.000138	25.16300	28.66747	26.45552

* indicates lag order selected by the criterion

The unit root test shows that the series are stationary. We determined the order of the VAR model by minimizing the Akaike and Schwartz Information Criteria. As for daily data (only on the first working day of the week), we will estimate models up to an order of 1.

We retain a model with $p^* = 1$, which minimizes Akaike and Schwarz Information Criteria. We now proceed to estimating the VAR model.

Step 2: Estimation of the VAR model

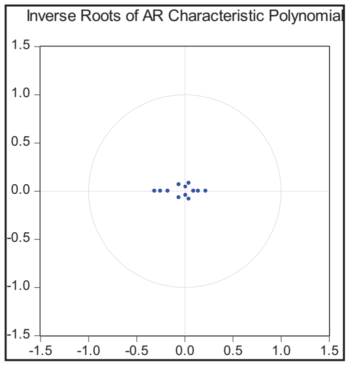
According to Table 5, we obtained an order 1 VAR. However, we notice that the coefficients associated with the lagged terms are significant at $\alpha = 5\%$, which may suggest a causal relationship between Islamic banks and conventional banks across the different studied countries.

Step 3: VAR stability

Now, we can check the stability of the VAR using the reverse roots associated with the AR of each variable. AR-associated reverse roots belong to the complex unit disc. VAR is therefore stationary. Similarly, we notice that all module roots are below 1, hence our VAR is stationary.

Table 6. Checking VAR's stability

Root	Modulus
-0.313453	0.313453
-0.251612	0.251612
0.219271	0.219271
-0.176720	0.176720
0.141236	0.141236
0.042660 - 0.082554i	0.092925
0.042660 + 0.082554i	0.092925
0.091907	0.091907
-0.060577 - 0.068210i	0.091226
-0.060577 + 0.068210i	0.091226
0.009856 - 0.043752i	0.044849
0.009856 + 0.043752i	0.044849



No root lies outside the unit circle.

VAR satisfies the stability condition

Step 4: Causality Analysis

The causality analysis will allow us to determine the statistically significant interaction of the variables in the model. This analysis is a necessary prerequisite to study the dynamics of the model. Causality tests, being bivariate, are two types that should be Granger tested. We therefore proceed to a Granger causality test using the previously-estimated VAR (1). Recall that Granger considers that a variable causes another if predictability of the former is improved when information on the latter is incorporated into the analysis. We obtained the following results.

Table 7. Causality Analysis (VAR Granger Causality)

rob	**IBC**	**IBI**	**IEC**	**IEI**	**IKC**	**IKI**	**IQC**	**IQI**	**ISC**	**ISI**	**ITC**	**ITI**
IBI	0.0526	0.5014	0.9017	0.5634	0.0523	0.9358	0.7820	0.6071	0.6948	0.1257	0.8446	0.4666
IEC	0.7002	0.8310	0.7705	0.8798	0.5603	0.7461	0.3243	0.3621	0.5743	0.1802	0.7074	0.9920
IEI	0.1225	0.7029	**0.0186**	0.1024	0.0736	0.0782	0.1898	0.5519	0.9997	0.5107	0.5083	0.0838
IKC	0.1409	0.9997	**0.0145**	**0.0252**	0.9984	0.7423	0.2561	0.2688	0.9238	0.5277	0.4538	0.9462
IKI	**0.0260**	**0.0000**	0.7443	0.3397	**0.0000**	**0.0001**	0.6539	0.8097	0.6557	0.4153	0.5901	0.1286
IQC	0.8335	0.1567	**0.0182**	0.1600	0.1103	0.0589	**0.0000**	**0.0002**	0.4619	0.5286	0.8267	0.4295
IQI	0.8510	0.2895	0.2349	0.8132	0.5620	0.0591	0.9038	**0.0000**	0.1208	0.6819	0.0992	0.5479
ISC	**0.0017**	0.4603	**0.0192**	**0.0027**	0.0635	0.0645	**0.0000**	**0.0382**	**0.0005**	**0.0226**	**0.0106**	**0.0094**
ISI	0.3038	0.3677	0.3289	0.5442	0.7397	0.2962	**0.0452**	**0.0013**	0.1892	**0.0238**	0.1370	0.3362
ITC	0.5569	0.9341	0.0670	0.1856	0.2885	**0.0084**	0.3802	0.3105	0.1359	0.9301	0.2919	0.5135
ITI	0.3931	0.2609	0.2974	0.1365	0.2869	0.0551	0.8717	0.9186	**0.0226**	**0.0319**	0.0937	0.4483
All	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0001**	**0.0030**	**0.0221**	0.0688

Hypothesis testing:

Y_{2t} does not cause Y_{1t}, if the following hypothesis is accepted H0 : $b_{11} = b_{12} = \ldots = b_{1P}$

Y_{1t} does not cause Y_{2t}, if the following hypothesis is accepted H0 : $a_{12} = a_{22} = \ldots = a_{2P}$

Decision rule at $\alpha = 5\%$:

If p > 5%, then H0 is accepted.

The Granger causality analysis of returns of conventional and Islamic banks operating in the different countries studied indicates that causality is bidirectional across the different banking markets, whether Islamic or conventional. Accordingly, the null hypothesis of no causality between Islamic banks and conventional banks is rejected and the opposite is true as well. Under GRANGER and with a threshold of 1 to 5% and during the studied period, reverse causality is statistically accepted. This allows us to conclude that Islamic banks are not isolated from conventional banks and there is contagion across these two industries since one depends on the other.

Table 8. Causality Analysis between returns of Islamic and conventional banking global indices (VAR Granger Causality)

Dependent variable: BC			
Excluded	Chi-sq	df	Prob.
BI	19.84821	4	0.0005
All	19.84821	4	0.0005
Dependent variable: BI			
Excluded	Chi-sq	df	Prob.
BC	70.77766	4	0.0000
All	70.77766	4	0.0000

In conclusion, we confirm the presence of a bilateral relationship between returns of Islamic and conventional banks. Determining causality direction allowed us to prove the existence of a contagion risk across the two banking systems. The presence of this phenomenon may be explained by the fact that Islamic banks are forced to adjust their profit rate based on the interest level applied by conventional banks to gain a competitive advantage. During a period of financial distress, such behavior can affect negatively Islamic banks. Furthermore, investors' behavior changes after a change in the dynamics volatility of Islamic and conventional banking index. These results are consistent with the results of Fakhfeh and Hchicha (2014). The authors found that the dynamics volatility of Islamic banks of the GCC countries is explained by contagion. This phenomenon is detected by increasing conditional correlation using a DCC MGARCH model.

Step 5: Impulse response functions

Following Granger causality tests, we highlighted two relationships. The first, return series of Islamic banks influence those of conventional banks. The second, return series of conventional banks influence those of Islamic banks. Hence, the fact of finding bidirectional Granger causality is very interesting in terms of banking risk analysis and forecasting. Bearing on the previous results, we are required to analyze shock effects on average returns of the two types of banking industry to see whether there is an effect between the two. The aim is to detect the magnitude of a shock in a banking system that strikes conventional or Islamic banks, its spread and its repercussions. We examined the shock effect over 10 periods.

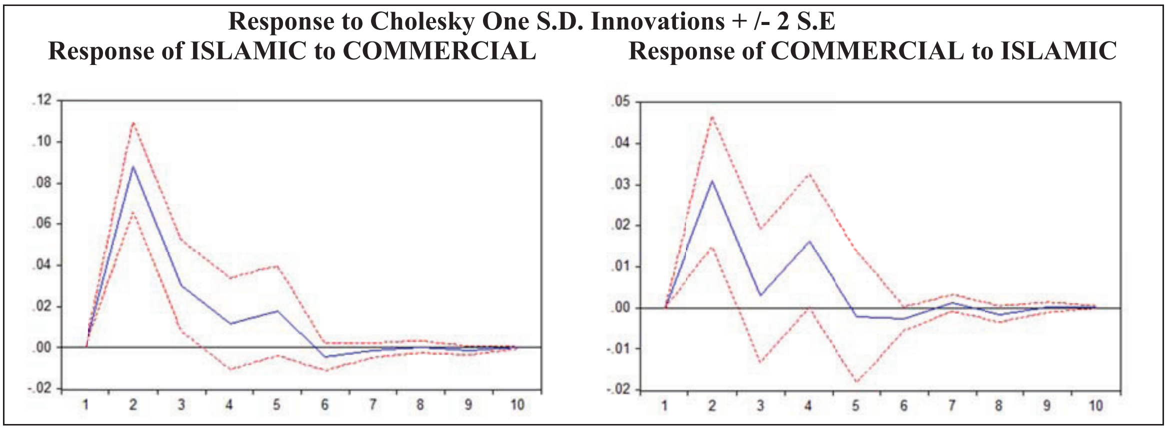


Figure 8. Impulse response functions: index returns for the entire sample

The chart below indicates that a shock in a conventional bank system causes significant repercussions, which result in increased volatility of returns. Returns of Islamic banks increased very significantly to disappear in the (6th) period. However, when Islamic banking is affected by a shock, we notice less important repercussions in terms of volatility of returns. The graph shows that the returns of conventional banks fluctuate less than those of Islamic banks. This trend vanishes after the (5^{th}) period. We may conclude that during a shock, striking conventional or Islamic banks, its effect is not limited and spreads with different consequences on volatility. Returns of Islamic banks are more sensitive to shocks than those of conventional banks. These results are consistent with those reported using a univariate GJR-GARCH.

To better understand and deepen our knowledge of Islamic banking and its role in financial stability, systemic risk and contagion needs to be considered. In order to make Islamic banks systemically visible, their rapid increase in terms of size and interaction with conventional banks need to be examined. Similarly, the absence of Islamic hedging instruments may cause global instability that may have negative effects on the international banking system.

6. Conclusion

Regarding two types of banking industries which are Islamic and conventional banking, and with take into account different activities and different foundations, a special focus should be given to this field in order to analyze the effect of the two banking systems on financial stability and the relationship between them in case of distress. Thus, We obtained the following main results:

First, we estimated the univariate GJR-GARCH model on Islamic and conventional banking index in the presence of an asymmetry effect, we found that the returns of Islamic banks are more volatile than those of conventional banks, whether the shock is positive or negative. Similarly, for the (β) coefficient, which represents the return speed to minimum volatility, the results show that this coefficient is higher for conventional banks than for Islamic banks. Therefore, we may conclude that the returns of conventional banks are less volatile than those of Islamic banks and those conventional banks are more resilient to shocks than Islamic banks.

Second, we used the GJR-DCC model and the VAR model to examine contagion risk on a domestic and cross-country scale and analyze the effect of a shock to each banking system and its repercussions on the other in the different countries studied. The results pointed to the presence of contagion risk across both systems. We notice that during the crisis, correlation between the returns of Islamic banks and those of conventional banks increased significantly in all countries studied and providing evidence of contagion across these two banking systems during the crisis period. Similarly, the analyses cross-country contagion risk and the results of the VAR Granger causality test argue that there is a bilateral relationship between both systems in different banking markets.

In conclusion, during the crisis period, Islamic banking was not able to absorb its effects and ensure stability because it was also affected by the crisis.

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Appendix

Table 9. Estimation of Model VAR

	IBC	IBI	IEC	IEI	IKC	IKI	IQC	IQI	ISC	ISI	ITC	ITI
IBC(-1)	-0.010975	0.043650	-0.004257	0.024173	-0.050421	0.002772	-0.008456	0.024642	0.012269	-0.057457	-0.007882	0.031725
	(0.02359)	(0.06493)	(0.03445)	(0.04184)	(0.02598)	(0.03439)	(0.03056)	(0.04792)	(0.03127)	(0.03752)	(0.04022)	(0.04358)
	[-0.46522]	[0.67228]	[-0.12356]	[0.57774]	[-1.94076]	[0.08061]	[-0.27670]	[0.51420]	[0.39237]	[-1.53121]	[-0.19597]	[0.72802]
IBI(-1)	0.015910	-0.316266	-0.003497	0.002201	0.005265	-0.003874	-0.010482	-0.015196	0.006112	0.017500	-0.005254	-0.000151
	(0.00821)	(0.02259)	(0.01199)	(0.01456)	(0.00904)	(0.01196)	(0.01063)	(0.01668)	(0.01088)	(0.01306)	(0.01400)	(0.01516)
	[1.93827]	[-13.9985]	[-0.29172]	[0.15116]	[0.58242]	[-0.32380]	[-0.98573]	[-0.91130]	[0.56170]	[1.34025]	[-0.37542]	[-0.00998]
IEC(-1)	0.007166	-0.010930	0.069233	-0.053913	-0.036676	-0.047782	-0.031615	-0.022495	8.00E-06	0.019472	-0.020991	0.059443
	(0.01861)	(0.05123)	(0.02718)	(0.03301)	(0.02050)	(0.02713)	(0.02411)	(0.03781)	(0.02467)	(0.02961)	(0.03173)	(0.03438)
	[0.38502]	[-0.21337]	[2.54709]	[-1.63323]	[-1.78929]	[-1.76131]	[-1.31121]	[-0.59495]	[0.00032]	[0.65773]	[-0.66150]	[1.72898]
IEI(-1)	0.023351	-0.015873	0.051959	0.129744	-3.42E-05	-0.007248	0.022246	0.033971	-0.001916	-0.015189	0.019312	0.001885
	(0.01512)	(0.04162)	(0.02208)	(0.02682)	(0.01665)	(0.02204)	(0.01959)	(0.03072)	(0.02004)	(0.02405)	(0.02578)	(0.02793)
	[1.54427]	[-0.38140]	[2.35292]	[4.83781]	[-0.00205]	[-0.32886]	[1.13565]	[1.10593]	[-0.09562]	[-0.63150]	[0.74908]	[0.06750]
IKC(-1)	0.035729	2.66E-05	0.086646	0.096340	-0.091503	0.140413	-0.014096	0.011872	0.014343	0.031448	-0.022290	-0.068126
	(0.02427)	(0.06680)	(0.03544)	(0.04304)	(0.02673)	(0.03537)	(0.03144)	(0.04930)	(0.03217)	(0.03860)	(0.04138)	(0.04483)
	[1.47228]	[0.00040]	[2.44472]	[2.23824]	[-3.42361]	[3.96939]	[-0.44836]	[0.24080]	[0.44586]	[0.81467]	[-0.53872]	[-1.51969]
IKI(-1)	0.041182	0.212777	0.008812	-0.031329	0.082976	0.019216	0.108781	0.140225	-0.018041	-0.018544	0.006905	0.027002
	(0.01850)	(0.05092)	(0.02702)	(0.03281)	(0.02037)	(0.02697)	(0.02397)	(0.03758)	(0.02452)	(0.02943)	(0.03154)	(0.03417)
	[2.22606]	[4.17871]	[0.32614]	[-0.95478]	[4.07253]	[0.71260]	[4.53882]	[3.73113]	[-0.73569]	[-0.63016]	[0.21892]	[0.79012]
IQC(-1)	-0.004633	0.085931	-0.076039	-0.054937	0.038764	0.060698	-0.020500	0.200667	-0.045334	-0.014372	-0.061961	-0.024468
	(0.02204)	(0.06067)	(0.03219)	(0.03910)	(0.02428)	(0.03213)	(0.02856)	(0.04478)	(0.02922)	(0.03506)	(0.03758)	(0.04072)
	[-0.21016]	[1.41633]	[-2.36198]	[-1.40514]	[1.59673]	[1.88908]	[-0.71785]	[4.48112]	[-1.55152]	[-0.40989]	[-1.64860]	[-0.60089]
IQI(-1)	0.002535	0.039335	0.023407	-0.005655	-0.008615	0.037118	0.002113	-0.240945	0.062038	0.048944	0.058760	0.064727
	(0.01349)	(0.03713)	(0.01970)	(0.02393)	(0.01486)	(0.01967)	(0.01748)	(0.02741)	(0.01788)	(0.02146)	(0.02300)	(0.02492)
	[0.18791]	[1.05927]	[1.18794]	[-0.23631]	[-0.57981]	[1.88740]	[0.12087]	[-8.79100]	[3.46897]	[2.28058]	[2.55444]	[2.59712]
ISC(-1)	0.080901	0.052280	0.087974	0.136998	0.052579	0.069320	0.189401	0.108303	0.125225	0.092531	0.065230	0.045704
	(0.02573)	(0.07081)	(0.03757)	(0.04563)	(0.02833)	(0.03750)	(0.03333)	(0.05226)	(0.03410)	(0.04092)	(0.04386)	(0.04752)
	[3.14457]	[0.73831]	[2.34143]	[3.00233]	[1.85569]	[1.84850]	[5.68266]	[2.07222]	[3.67206]	[2.26108]	[1.48709]	[0.96169]
ISI(-1)	-0.022070	0.053204	0.030598	0.023086	-0.007853	0.032678	0.055682	0.140113	-0.037350	-0.009792	0.038563	-0.025901
	(0.02146)	(0.05907)	(0.03134)	(0.03806)	(0.02364)	(0.03128)	(0.02780)	(0.04360)	(0.02845)	(0.03414)	(0.03659)	(0.03964)
	[-1.02836]	[0.90071]	[0.97624]	[0.60650]	[-0.33224]	[1.04461]	[2.00273]	[3.21377]	[-1.31297]	[-0.28683]	[1.05391]	[-0.65335]
ITC(-1)	-0.011401	-0.004414	0.051921	0.045573	0.022688	0.074570	0.022066	0.039991	0.038367	0.002706	-0.008259	0.027185
	(0.01941)	(0.05342)	(0.02835)	(0.03442)	(0.02138)	(0.02829)	(0.02514)	(0.03943)	(0.02573)	(0.03087)	(0.03309)	(0.03585)
	[-0.58741]	[-0.08263]	[1.83169]	[1.32384]	[1.06138]	[2.63579]	[0.87759]	[1.01425]	[1.49128]	[0.08766]	[-0.24956]	[0.75824]
ITI(-1)	0.015004	0.054371	0.026740	0.046402	0.020608	-0.049130	-0.003675	0.003648	0.053094	0.059951	0.050208	0.049326
	(0.01757)	(0.04836)	(0.02566)	(0.03116)	(0.01935)	(0.02561)	(0.02276)	(0.03569)	(0.02329)	(0.02795)	(0.02996)	(0.03246)
	[0.85399]	[1.12432]	[1.04212]	[1.48903]	[1.06500]	[-1.91838]	[-0.16146]	[0.10221]	[2.27975]	[2.14511]	[1.67604]	[1.51981]
C	-0.004494	-0.051641	-0.000534	0.001123	-0.003670	0.004113	0.003980	-0.004641	-0.012406	-0.008285	0.009302	0.010445
	(0.01141)	(0.03141)	(0.01667)	(0.02024)	(0.01257)	(0.01663)	(0.01478)	(0.02318)	(0.01513)	(0.01815)	(0.01946)	(0.02108)
	[-0.39383]	[-1.64406]	[-0.03203]	[0.05548]	[-0.29202]	[0.24726]	[0.26921]	[-0.20017]	[-0.82014]	[-0.45639]	[0.47805]	[0.49545]
R-squared	0.024409	0.106460	0.048287	0.043411	0.024694	0.045336	0.076741	0.081179	0.034103	0.019439	0.013902	0.016230
Adj. R-squared	0.017995	0.100585	0.042029	0.037121	0.018281	0.039058	0.070670	0.075137	0.027752	0.012991	0.007418	0.009762

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Influences of Macau Visitor Expectations on Purchase and Behavioural Intention: Perspectives of Low-cost Carrier Passengers

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Abstract

In today's highly competitive environment, air transport is crucial to tourism development. A destination marketer must understand the reasons that affect visitors' purchase behaviour to facilitate service quality. This study aimed to provide specific clues to understanding the low-cost airline (LCA) business in a broad context and to present a holistic perspective of the buying behaviour of low-cost carrier (LCC) passengers. Through its investigation of the motivations of LCC passengers, it found that the main determinants of passengers' behavioural intentions rested on the values of these passengers and their satisfaction with the destination. This study adopted a qualitative approach in which 30 individuals who travelled to Macau within the last 6 months were interviewed. According to the results, the destination of Macau had a significantly positive effect on the visitors' purchase intentions. Recommendations for destination marketers are identified in this study.

Keywords: visitors, Macau, expectation, purchase and behavioural intention, low-cost carriers

1. Introduction

Over the last two decades, the tourism industry has become one of the largest industries and introduced economic, environmental and social advantages. The tourism industry in Macau mainly focuses on the gaming, hotel, leisure and event markets. Macau's background can be traced back to the 16th century, when it first opened its harbour to visitors. The rapid development of casino gaming in a growing industry has become a crucial area in tourism research. Studies have particularly focused on industry development and regulations (Siu, 2006), measurement of casino businesses and ownership patterns (Moseley, Schewer & Thompson, 2003) and resident perspectives on the economic and social effects of the industry (Vong & McCartney, 2005) in addition to the viewpoints of casino owners and residents. A review of the literature indicates a lack of investigation into the purchase and behavioural intentions of visitors (Chen & Hsu, 2001; Hsu, 2000; Vong & McCartney, 2005). Visitor arrivals in Macau increased by 4.9% year-on-year to 2.35 million in June 2016. Large numbers of those tourists arrived from Hong Kong, Taiwan and China (Macau Statistic and Census Services, 2016).

Table 1. Passenger Figures (2009-2014)

Passengers Figures (2009-2014)

	2014	2013	2012	2011	2010	2009
Jan	422,434	374,917	362,379	301,503	358,902	342,323
Feb	420,229	393,152	312,405	301,259	351,654	297,755
Mar	447,012	408,935	334,000	318,908	360,365	387,879
Apr	451,243	408,858	358,198	339,060	352,976	400,553
May	435,387	374,560	329,218	321,060	330,407	335,967
Jun	438,873	401,917	356,679	343,006	326,724	296,748
Jul	492,885	445,250	423,081	378,993	356,580	351,110
Aug	528,920	496,662	453,391	395,883	364,011	404,076
Sep	441,955	435,889	384,887	325,124	308,940	317,226
Oct	463,371	414,094	383,889	333,102	317,040	355,935
Nov	458,672	418,838	379,065	327,803	303,186	372,104
Dec	480,461	453,987	413,873	359,313	348,051	388,573
Total	5,481,442	5,027,059	4,491,065	4,045,014	4,078,836	4,250,249

Source: Macau International Airport, 2016

Table 2. Passenger Figures (2015 to 2016 January-June)

Passengers Figures (2015-2016 Jan -Jun)

	2015	2016
Jan	435,805	539,024
Feb	479,738	589,917
Mar	448,661	516,586
Apr	480,254	535,828
May	486,527	528,461
Jun	456,002	542,051
Jul	510,793	
Aug	575,849	
Sep	441,342	
Oct	479,036	
Nov	488,724	
Dec	548,728	
Total	5,831,459	3,251,867

Source: Macau International Airport, 2016

Table 1 and 2 show the findings of Macau International Airport (MIA), indicating a stable growth in the usage of MIA from 2009 to 2016 (Macau International Airport, 2016). Although a large number of passengers travelled by ferry, MIA determined that June 2016 was its busiest month, exceeding the 600,000-passenger movement mark for the first time in the airport's 21-year history. This mark is a new record for the passenger traffic in a single month, with an average daily passenger volume of over 19,000 that increased by 20% compared with the record from the previous year. Over 4,900 aircraft movements were recorded in July, an increase of 2% over the same period last year. Southeast Asia routes continued to perform well in July, covering 43% of the overall market. The Southeast Asia routes were followed by the mainland China and China Taiwan routes, accounting for 30% and 27%, respectively. The three major markets recorded 36%, 3% and 18% increases over the records from the same period last year (Macau International Airport, 2016). These findings provided solid evidence that MIA can handle a large number of flights coming from Southeast Asia and that the number of air travel passengers is expected to exhibit stable growth. At MIA, 72% of short-haul flights are operated by different low-cost carriers (LCCs) (Macau International Airport, 2016). Thus far, the passenger traffic volume, such as that in the Chinese Taipei market, has increased significantly to 34%, and that in the mainland China market has recorded a slight reduction. Moreover, the Southeast and North Asia markets have remained stable. Transfer passenger traffic has maintained a rising trend. Therefore, LCC visitor arrivals from Macau, in addition to their expectations of purchase intention and perception of the service quality of Macau as a destination, should be investigated to improve the service quality of LCCs and provide insights into the management level.

1.1 Background of Macau

In 2002 and 2003, the central government relaxed the 'Hong Kong and Macau Tour' and the 'Free Individual Traveler Scheme' regulations, respectively. This scenario restructured the visitor profile such that mainland China visitors replaced Hong Kong visitors as the largest tourism market in Macau (Pao, 2004).

The liberalisation of the gaming license in 2002 opened the golden gate for foreign investors. The monopolised gaming era ended, and the tourism industry began. Numerous brand new casinos, hotel complexes and resorts with different themes and atmospheres were constructed (The Cultural Affairs Bureau, 2005). Domestic hotels were refurnished and reconstructed. Different facilities and entertainment were combined into packages to add value to service experience, thereby improving overall service quality in the tourism sector.

On July 15, 2005, The Historic Centre of Macau was successfully inscribed as a World Heritage Site, becoming the 31st in China. Its 25 sites encompass historical and cultural architecture and landscapes that fully demonstrate Macau as a unique city blending Eastern and Western cultures. This event highly popularised the city and attracted culture lovers to visit Macau (The Cultural Affairs Bureau, 2005). Thus, Macau was successfully transformed from a small colony of Portugal into a well-known world-class tourism destination.

1.2 Rationale of the Study

However, Macau is now experiencing an economic downturn because of China's economic slowdown, and the Macau government aims to reposition the region as a leisure center instead of a gambling destination. Macau has shifted away from relying on gambling revenue, and it will soon drive towards sustaining the cultural tourism hub through growths in the hotel, catering, retailing and wholesale sectors (South China Morning Post, 2016). Macau visitors and their perception of service quality in Macau should be investigated; however, minimal attention has been devoted to the purchase intentions of passengers taking LCCs to Macau. This study aims to provide specific clues to understand the low-cost airline (LCA) business in a broad context and present a holistic perspective of the buying behaviour of LCC passengers. The rationale of the study is to investigate the motivation of LCC passengers. The main determinants of passengers' behavioural intentions rest on the values and satisfaction of these passengers towards the destination. The motivation, values, satisfaction and behavioural intentions of LCC passengers in addition to service quality are proposed based on a comprehensive literature review. Most previous studies have focused on creating a conceptual model of service quality (Parasuraman et al., 1985) or identified the critical attributes for the SERVQUAL dimensions (Carman, 1990; Parasuraman et al., 1991). This study develops and empirically examines an integrated model that uniquely depicts the expectation of values, satisfaction and behavioural intentions of LCA passengers in relation to Macau. Therefore, this study aims to fill the gap in the literature. It attempts to achieve Macau's strategic goal of understanding tourist behaviour (Chui, 2005) through the following objectives:

1. To identify visitors' perceptions of Macau as a destination;

2. To examine visitors' purchase intentions and expectations;

3. To provide managerial recommendations for several approaches to enhancing service quality.

1.3 Strategies of Low-cost Carriers

LCCs boast no-frill travel provisions among their features. In economically difficult times, the demand for slightly less expensive travel increases, which is advantageous for LCCs (Bel, 2009; Euromonitor, 2008, Mintel, 2007). The LCC pioneers, in which the Southwest's disruptive business model serves as a benchmark, have been successfully popularised and proliferated across the airline sector globally (e.g., Europe: Ryanair, Germanwings, EasyJet and Snowflakes; Middle East: Jazeera Airways; Asia: Air Asia and Tiger Airways; Oceania: Jetstar Airways, Freedom Air and Air Australia Airways; America: Webjet Linhas Aereas, REDjet and Spirit Airlines; Africa: 1Time, Kulula, Air Arabia Egypt, Aero Contractors, Fly540 and Asky Airlines). These LCCs have common core denominators, such as disruptive and adoption innovation in addition to efficiency, productivity and cost leadership, which lead to inexpensive fares (Lawton, 2003; O'Connell & Williams, 2005; Ryan & Birks, 2005; Wong & Musa, 2011). These airlines respond to low-cost competition by lowering their overhead costs (e.g., cutting employee costs and selling tickets over the Internet). Furthermore, many new LCC firms enter the mass low-fare market. In particular, the trends in Hong Kong and Macau indicate sustainable growth (Centre of Aviation, 2016). The rivalry may erode the market share of some LCC firms and intensify competition (Doganis, 2006; Wong & Musa, 2011). The LCCs in Asia have expanded to serve both Macau and Hong Kong in the booming Pearl River Delta region over the last few decades. A large number of LCCs have expanded in Macau. Although Macau may be geographically close, the division of the South China Sea dictates different catchment areas on the mainland, with Hong Kong serving Shenzhen and Macau serving Zhuhai, whose airport serves only domestic flights. However, as Asia's population and economy continue to grow, the airports in the Pearl River Delta region have become Asia's equivalent of the London, New York City or Sao Paulo airport networks. LCCs provide passenger visits to Macau, thereby benefiting it as a tourism destination (CAPA Center for Aviation, 2016).

2. Literature Review

2.1 Tourist Motivation from Low-cost Carriers

Previous scholars (Johnson & Devonish, 2008) have indicated that tourist motivations, attitudes and perceptions are important for establishing a clear understanding of the destination choice process. Understanding travel motivation and the factors affecting destination choice can benefit tourism planning and marketing (Lam & Hsu, 2006). Travel motivations cover a broad range of human behaviour and experiences; they may include relaxation, excitement, social interactions with friends, adventures, family interactions, statuses, physical challenges and escape from routine or stress (Esichaikul, 2012). Yoon and Uysal (2005) identified push factors among the internal factors that motivate visitors to travel, although they are also pulled by external forces behind the attributes of a destination, such as promotion from marketers. The most common push factors in previous studies have included escape from routine everyday life, relaxation, exploration, social interaction, relationships and prestige (Jensen, 2011).

Saha and Theingi (2009) examined the quality and satisfaction derived from LCC service that influence the behavioural intentions of passengers, including the repurchasing of airline tickets. Limited studies have discussed the motivations derived from a destination. The spread of LCCs has helped to boost tourism products and regional attractiveness for tourism (Donzelli, 2010). The packages or products provided by a destination influence customers' perceptions of service quality, value and satisfaction. Therefore, the rationale behind consumer motivation and involvement should be understood.

2.2 Motivation and Traveller Involvement

Involvement is a motivational state caused by the perception of travellers that a product, destination image or promotion is relevant or interesting. Need plays a strong role in determining what is relevant or interesting to travellers (Hawkins & Mothersbaugh, 2010). In a number of situations, travellers may influence involvement. For example, some travellers have an on-going on-line involvement, and others may be involved in a particular situation only, such as an upcoming purchase; this determination is crucial for marketers to understand the buying behaviour of travellers. Tourist behaviour includes consumer involvement, increased attention, analytical processing, information searches and word of mouth. High involvement purchasers of tourism products tend to be product experts and are persuaded by advertisements and detailed product information. In contrast, low involvement purchasers tend to lack product expertise and are persuaded by images, emotions and message sources. Users of LCCs are high involvement purchasers. Therefore, destination marketers should understand the link between tourists' buying behaviour and their freely admitted motives.

According to the service marketing perspective, customer value is a critical element in consumer consumption and decision making (Zeithaml, 1998; Bolton & Drew, 1991; Sweeney et al., 1999). Scholars have determined that a utilitarian perspective of customer value is acceptable because value is measured as a trade-off between benefits and sacrifices (Zeithaml, 1998; Dodds et al., 1991). The following literature review recognised the importance of customer value from a marketing perspective and examined the construct in customer value satisfaction and behavioural intention.

2.3 Customer Values

Traditional value research has taken a utilitarian perspective with the value construct measured as the net ratio of benefits to costs (Cravens et al., 1998; Dodds et al., 1991; Sinha & DeSarbo, 1998; Sweeney et al. 1999). The meaning of 'value' indicates that a buyer and a seller infer value if the benefits received are greater than what is given up. Both parties feel they are at an advantage because each receives something more useful than what was relinquished (Sinha & DeSarbo, 1998).

Several dimensional value perspectives are often considered appropriate in service contexts (Zeithaml, 1998, Sheth et al., 1991; Wetzel & Bloemer, 1997). Scholars have reported that value perceptions differ from those made for goods because of increased risk and uncertainty (Murray & Schlacter, 1990). Many researchers have begun to address the need for service value and to investigate the relationship with other post-consumption factors, such as satisfaction and behavioural intentions (Murphy, Pritchard & Smith, 2000; Petrick, 2002). Gallarza and Saura (2006) adopted a value framework with eight dimensions including efficiency, excellence, status, esteem, lay, aesthetics, ethics and spirituality. They also defined a weak or insignificant relationship and acknowledged some operationalisation difficulties affecting the categories. Sweeney and Soutar (2001) adopted the PERVAL framework to measure customer value. This framework has been used in various tourism contexts and included functional value, value for money and other value dimensions such as social, epistemic and emotional value.

2.4 Functional Value

Functional value is 'the perceived utility acquired from an alternative's capacities for functional, utilitarian or physical performance' (Sheth et al., 1996); it is considered a major driver of consumer choice. Furthermore, it indicates the common conceptualisation and exchange value of the price paid or value for money (Zeithaml, 1998; Dodds et al., 1991). The common aspects of functional value include quality, reliability, durability and price. In the tourism context, for instance, a destination is considered to have a comfortable and reasonable price, with safety issues influencing functional value perceptions (William & Soutar, 2005).

2.5 Emotional Value

Emotional value indicates that a product's social psychological dimension depends on its ability to arouse feelings or affective states (Sheth et al., 1991). Emotional responses are common in various tourism sectors. Otto and Ritchie (1996) identified this often-ignored factor that accounts for a portion of the explained variance in satisfaction evaluations. The emotions that precede and lead to the emotional highs of exhilaration and excitement in a destination are often fear, hesitation and apprehension. Thus, emotional value tends to be a major factor in the consumption of tourism products.

2.6 Social Value

Many scholars have defined social value as the perceived utility acquired from an association with one or more specific social groups (Sheth et al., 1991). Social value often drives one's choice of goods or services shared with others. In tourism, elements such as interactions between people on a tour, relationships between passengers and service staff and individual recognition or prestige obtained from undertaking the trip may create social value. Social value may be strong in a small group, similar to the 'communitas' and the bonding of river rafting participants highlighted by Arnould and Price (1993).

2.7 Epistemic Value

Epistemic value is created when a product arouses curiosity, provides novelty and/or satisfies a desire for knowledge (Sheth et al., 1991). In the tourism and hospitality industry, novelty and the search for new knowledge are significant motives for adventure travels (Weber, 2001; Walle, 1997; Crompton, 1979; Bello & Etzel, 1985). Epistemic value is a key factor in many tourism products due to tourists' desire for exploratory, novelty-seeking and variety-seeking behaviour (Zuckerman, 1994). A destination should change and adapt its product to ensure that an epistemic value is obtained by creating new and special experiences for travellers.

2.8 Customer Values, Perceived Quality, Satisfaction and Behavioural Intentions

2.8.1 Customer Values

Previous studies have explored customer value attention in relation to the retailing sector, pre-purchase value perceptions and their links with purchase decisions or willingness to buy (Dodds et al., 1991; Zeithaml, 1988; Sweeney et al., 1999). Woodruff (1997) argued that value concepts differ according to the situations in which customers consider value (e.g., customer-perceived value varies before and after purchase). This experience is crucial if a repeat purchase is sought. Post-purchase behaviour creates a value perception that should be in line with pre-purchase expectations. Patterson and Spreng (1997) indicated the unclear effect of values on repurchase intention due to the lack of experience and familiarity that affects their repurchase intentions. Customer satisfaction is apparently positively influenced by value, and this value is negatively affected by perceived price (Chang & Wildt, 1994; Zeithaml, 1988; Sweeney et al., 1999).

2.8.2 Perceived Quality

Tourism product and service quality evaluations are predominantly based on cognitive processing mechanisms (Vida & Reardon, 2008). Service quality is defined as customers' expectations of the service provided and their perceptions of the service processes they experience (Carman, 1990; Gronroos, 2007; Parasuraman et al., 1985). Satisfaction is a psychological outcome derived from experience (Lee et al., 2007). Therefore, the underlying processing mechanism used to evaluate quality and satisfaction is important. Many studies have arrived at findings related to customer satisfaction through destination attributes (Kozak, 2001; Troung & Foster 2006) that pose some difficulties on conceptual and empirical grounds. Satisfaction measurement should be aligned with the quality consistent with the mainstream marketing conceptualisations (Oliver, 1997). A direction has been suggested to show that the conceptual order of service quality-satisfaction-behavioural intention supports the temporal setting (Parasuraman et al., 1994; Brady et al., 2005). A destination should improve services to gain a competitive advantage by attracting the attention of visitors and by maintaining loyalty and a positive image. Such a desirable result can create customer satisfaction when achieved. Brady et al. (2005) identified multi-industry and multi-country settings and determined that service quality, satisfaction and service value directly affect behavioural intentions when followed by service quality and value. Of the three constructs, satisfaction exerts the strongest effect on behaviour, followed by service quality and value. Customer value and satisfaction also mediate the relationship between service quality and behavioural intention (Zabkar et al., 2010).

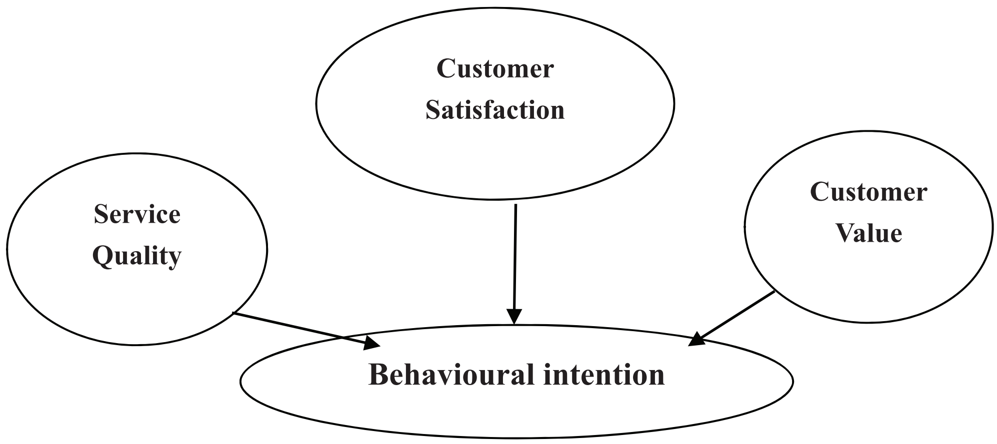

Figure 1. A customer-perceived service offering in relation to the customer's behavioural intentions

Source: adopted by Brady et al. (2005).

2.8.3 Customer Satisfaction

Questions about satisfaction and its relationship with other constructs are often raised when satisfaction is considered as a cognitive process (through disconfirmed expectations) (Gronin & Taylor, 1992; Bolton & Drew, 1991; Staelin & Zeithmal, 1993) or an emotional state associated with post-purchase feeling. In a previous study, Woodruff et al. (1983) argued that customer satisfaction should be defined to reflect and align with cognitive and emotional processes, as customer satisfaction or dissatisfaction is an emotional feeing developed in response to confirm or disconfirm. The cognitive and affective models may be appropriate to describe satisfaction that justifies different approaches (Pfaff, 1977). The cognitively oriented service quality and value constructs precede the emotionally oriented appraisal of satisfaction (Bagozzi 1992; Oliver 1997). Value is apparently a more complete antecedent to satisfaction than quality (Woodruff, 1997; McDougall & Levesque, 2000; Gallarza & Saura, 2006).

Numerous studies have been undertaken in tourism sectors (Ryan, 1995; Crompton & Love, 1995; Chadee & Mattson, 1996; Baker, Crompton & Love, 1995; Crompton, 2000), and the majority have focused on measuring the quality of tourist experience and the effect of various quality performance factors on tourist satisfaction. In tourism, satisfaction is the emotional state of mind of a tourist after an experience. This is not attribute-based, as it is 'experiential' (Baker & Crompton, 2000), and emotion may intervene or act as a mediator between performance and satisfaction. Bojanic (1996) identified a strong positive correlation between perceived value and satisfaction in a tourism context.

2.8.4 Behavioural Intentions

Numerous scholars have examined the direct and indirect relationships between value, quality, satisfaction and post-purchase consequences, such as customer loyalty, positive word of mouth, price premiums and repurchase intentions (Cronin & Taylor, 1992; Bolton, 1998; Chang & Wildt, 1994). Brady and Hult (2000) claimed there is a significant divergence of opinion about the relationships, direct and indirect quality, value, satisfaction and behavioural intentions. The strong link between satisfaction (e.g., perceived quality and value) and repurchase intention is widely recognised (Bitner, 1990). Consumer value perceptions apparently drive future purchase intentions (Brady & Cronin, 2001). Satisfaction has also been determined as a predictor of post-purchase behavioural intentions (Zeithaml, 1998; Patterson & Spreng, 1997). In the pre-purchase context, Chang and Wildt (1994) determined that value is mediated by quality and that price is related to repurchase intentions. They also identified that price has a direct effect on purchase behaviour and that quality has a direct effect on purchase intention. Furthermore, satisfaction is positively influenced by value (Bolton & Drew, 1991; Woodruff, 1997), and value is negatively affected by price (Zeithaml, 1998; Chang & Wildt, 1994). Anderson and Sullivan (1990) reported that service satisfaction is strongly related to repurchase intention. Thus, a consensus has been established, indicating that satisfaction is an antecedent to future intentions in the service environment (Gronin & Taylor, 1994; Patterson & Spreng, 1997). Satisfaction significantly influences future intentions. Its relationship with value should be closely monitored because there are structural links between the two concepts (Murray & Howat, 2002).

In the tourism industry, word of mouth communication is crucial because it is trustworthy and reliable.

Consumers gather their information about the service and offer insights into some of these relationships in the tourism context. Scholars have determined the linkage of value, satisfaction and loyalty (Bolton & Drew, 1991; Gronroos, 1990; Zeithaml et al., 1993). Therefore, consumer value of perception, satisfaction and behavioural intentions should be examined from the perspective of LCC passengers. This investigation could benefit Macau as a successful destination in the long run.

3. Methodologies

A descriptive qualitative research design was adopted in this study, with LCC passengers who visited Macau in the past six months serving as the target respondents. The data were collected through in-depth interviews with the various visitors from different countries. The interviews started at the end of May 2016 and ended in July 2016. The descriptive research designs collected evidence that helped the researcher to determine the 'who', 'what' and 'where' of single or multiple cases (Yin, 2003). These designs were usually the best method to collect information that could demonstrate the relationships and describe the world as it exists. The interviews used open-ended questions, and the data were analysed using a grounded theory framework. Thirty visitors who used LCCs were selected through purposive sampling, as this sample size was considered sufficient to reach information saturation (Webber & Huxley, 2007). The interviews took 45 minutes to 1 hour. The scripts were fully translated from Chinese to English. The interview questions were offered in English and traditional Chinese using a back-translation method. The questions (based on the study objectives) were open-ended.The interviews took place in the departure hall at MIA on Taipa. The data were summarised and organised according to the themes generated by the documentary review. The summaries of the interviews were also prepared to highlight the main concepts that emerged and to set the context for the quotes to be selected and used as examples in the research report (Table 3).

Table 3. Summary of Visitor Expectations of the Purchase and Behavioural Intention Themes in This Study

Dimension	**Themes**		
Customer satisfaction	●	Overcrowding	(−)Functional value
	●	Quality of life	(+)Epistemic value
	●	Friendly people	(+)Social value
	●	Sophisticated cuisines	(−)Functional value
	●	Eastern culture meets Western culture	(+)Epistemic value
	●	Gaming facilities	(+)Emotional value
	●	Variety of accommodation choice (Las Vegas-style hotel and resort)	(+)Functional value
	●	Clean	(+)Functional value
	●	High security	(+)Functional value
	●	Expensive	(−)Functional value
	●	Warm hospitality service	(+)Emotional value
	●	Beautiful scenery	(+)Emotional value
	●	Limited of attraction facilities	(−)Functional value
Service quality	●	Service differentiation	
	●	Insufficient services	
	●	Effective hotel services	
	●	Language barriers	
	●	Lack of standardisation	
Behavioural intentions	●	Family	
	●	Unique aspect	
	●	Catchment area in the Pearl River Delta region	
	●	Variety of casino and hotel choice	
	●	Gambling	
	●	Short-haul journey	
	●	Time factor distance decay	

Data analysis and coding were conducted in several stages. The generated codes were categorised and displayed in themed charts. Domain analysis was used to describe and analyse each theme separately. The coding results at different levels were compared to explore differences in opinions and suggestions. The findings at different levels were synthesised afterwards, and the coding results at different levels were compared to explore differences in opinions and suggestions. The resulting explanations and discussions were compared with the results of the previous research. In the present study, in-depth interviews and various secondary data sources (i.e., company websites, journals and industry reports) were used. The secondary data sources used in this study included articles from universities, government and nongovernmental organisations, reports obtained from company websites, on-line information and promotional materials. The in-depth interviews provided a rich, first-hand data source, and the secondary materials allowed the researcher to retest the contributions of the respondents.

The primary and secondary data and the supporting literature provided a comprehensive, longitudinal and highly reliable information source that others could easily recheck.

4. Results and Discussion

Following a study by Strauss and Corbin (1998), 30 participants were interviewed following the theoretical saturation concept. Overall, 13 male and 17 female visitors aged between 18 and 42 years were included in this study. Of the 56% of visitors who stayed in Macau from 1 to 2 days, 34% stayed in Macau for 5 days to a week and 10% stayed in Macau for 3-4 days only. The interviewees mainly came from China (63.3%), and the other visitors came from Hong Kong (13.3%), Taiwan (20%) and other Asian countries (3.4%). The total expenditures of the visitors during their stay in Macau ranged from less than USD200.00 to more than USD1,000.00

4.1 Customer Satisfaction in Macau

The majority of the interviewees identified Macau as a lovely destination. Of the 30 interviewees, 3 were dissatisfied with the city environment due to problems such as overcrowding and limited facilities (e.g., shortage of public facilities such as toilets and tourism attractions); however, the rest provided positive comments. Numerous visitors believed that the destination was good value for money. Macau itself as a destination created social value; in particular, visitors thought that the people in Macau were friendly and presented a positive image. Other interviewees identified Macau with warm hospitality services in the tourism industry, thereby creating emotional value for those who may revisit Macau in the future. Macau is where Eastern culture meets Western culture, and the impression of quality of life creates epistemic value. Some of the interviewees expressed a desire to explore and the importance of their quality of lifestyle. Epistemic value is created when a product arouses curiosity, provides novelty and/or satisfies a desire for knowledge (Sheth et al., 1991).

Functional value includes quality, reliability, durability and price. In Macau, comfort, good food, safety and security issues influence perceptions of the destination’s functional value. However, others believe that Macau lacks good attractions and that the area is overcrowded in the service environment for tourists, thereby harming the functional value of the destination. The comments from the interviewees indicated that the hotels and expenditures in Macau were expensive, thereby creating a negative impression of its functional value. The interviewees thought that gambling and the beautiful scenery provided emotional value to visitors. Emotional value tends to be a major factor in the consumption of a destination’s tourism product. These reasons mainly motivate tourists to revisit Macau.

4.2 Service Quality to Satisfaction

Visitors generally reported a positive service impression of Macau. According to the findings, some visitors believed they were provided with services different from those of the other cities in the Pearl River Delta region in China. A number of visitors mentioned that the services met their high quality standards, and others said that they lacked standardisation. Three of the interviewees mentioned that Macau provided poor services; however, the rest appreciated the service quality. Nearly 90% of the interviewees claimed that their services needed enhancement such as product knowledge and language training to be delivered effectively. Some of the interviewees claimed they were amazed that large hotel groups in Macau provided free shuttle buses, high quality ambience and services from large casino resorts.

4.3 Purchase and Behavioural Intention

Four of the interviewees mentioned they would not revisit Macau because their perceptions of it were limited to gambling. The rest of the interviewees provided positive comments and stated they would return to Macau in the future. Their motivation to revisit and their purchase intentions resulted from their satisfaction with the attractions and accommodations provided in the city. The diverse attractions in Macau include heritage sites, unique cuisines and ease of accessibility due to the popularity of the English language. The interviewees mentioned various resorts and hotels that provided perfect family vacation plans. Macau’s gambling facilities differentiate it from other cities in China. In Macau, those interested in gambling have a wide range of options. Other interviewees thought they could spend a weekend in Macau, which they viewed as one of the catchment areas in the Pearl River Delta region for those who aimed to break away from home. Other interviewees from Southeast Asia believed that Macau provided a unique destination for short-haul travel. The total travel time budgets and value that tourists place on travel exert a moderating effect on the rate of decay. Some tourists’ considered travel times result in a decreased amount of time that can be spent in a destination (Walsh, Sanders & McKean, 1990). Therefore, time value is important to visitors and destinations (McKercher, 2008). Short-haul visitors still consider revisiting the area.

5. Implications and Conclusion

This study examined LCC visitors' expectations and perceptions of the services in Macau. These expectations and perceptions can influence the future buying intentions of visitors. Understanding visitor expectations of customer satisfaction can offer a competitive advantage to Macau as a leisure destination. The perceptions of Macau by the majority of visitors are built on uniqueness, ease of accessibility, various hotel choices and diverse tourism products that can motivate their intentions to revisit.

The quality and reliability of these services can enhance positive word of the mouth and influence visitors' future behavioural intentions. Customers apparently perceive reliability (e.g., error-free records and security) and convenience-related services (e.g., free shuttle bus services and ease of accessibility in attractions) in Macau.

Price orientation and particularly hotel room rates were the only concerns voiced by the visitors interviewed in this study. This suggests that LCC visitors expect all of the services to be organised and offered in Macau. These LCC visitors also preferred the right service with the right price.

These findings suggest that the hospitality of human resources is a crucial element to delivering service satisfaction to visitors. However, service training and education should be conducted and enhanced in Macau. Transportation and its facilities require additional improvement. Visitors expect to obtain customer value for good experience, which is relevant to service factors and visitor expectations of hospitality services and diversity and not limited to gambling. The cognitive approach of some visitors lead them to believe that Macau provides gambling activities only, and its marketers must promote Macau as a diversified destination in many other areas.

Several important strategic implications emerged in this study for destination marketers. A number of the visitors interviewed perceived Macau solely as a gambling destination. Therefore, marketers should be aware of the great variability in customers' expectations, their views related to service offerings and related opportunities to grow their customer base and destination image through service strategies that meet visitor expectations.

Practitioners should be aware that service quality is a focused evaluation reflecting visitors' perceptions of reliability, assurance, responsiveness, empathy and tangible satisfaction. Furthermore, service quality is inclusive and influenced by perceptions of service quality, prices and functional factors. Visitor satisfaction with a destination is a broad concept that can certainly be influenced by perceptions of service quality; perceptions of product quality such as human resource support, price and personal factors (e.g., experiences from the last visit); or whether the product itself meets visitors' needs (e.g., diversity of attractions or family-oriented products). Overall loyalty to a destination can be predicted by understanding the perceptions of visitors based on their experiences and service encounters.

The overall resulting expectations serve as a baseline for the formation of visitors' service quality satisfaction and intentions to be loyal to a destination. Perceptions are primary drivers of satisfaction that motivate visitors to revisit Macau. Thus, it can be concluded that visitors' expectations of services and service quality are key to determining the salient indicators of satisfaction and intentions to revisit a destination. Unpleasant perceptions of the quality of a destination can lead to a negative image and evaluation of that destination. Thus, the purchase intentions of customers can be discouraged.

In conclusion, destinations enable an accurate prediction of satisfaction and behavioural intentions. Quality perceptions stem from the attributes of destinations that affect behavioural intention. Therefore, marketers should exert effort to improve the service quality of destinations and establish added value for customers. This effort should be directed toward creating visitor satisfaction and loyalty in the long run.

6. Limitations and Future Research

This study evolved from the observation that much of the related literature, including its use of secondary data analysis and in-depth interviews, is apparently constrained. However, the findings of this study were limited due to the size of the sample (30 participants) and the form of approach used by visitors. Therefore, any conclusions about the findings should be drawn within the framework of these constraints.

Future studies could use a different approach, such as a quantitative approach, to investigate the perceptions of visitors in Macau and their purchase intentions. They could conduct more in-depth investigations of the post-purchase expectations of customers and their levels of dissatisfaction with service failure to improve the services in Macau. They could also investigate the purchase intentions of visitors in different countries.

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Corporate Governance Quality and Cash Conversion Cycle: Evidence from Jordan

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Abstract

This study aims at examining the impact of corporate governance quality on cash conversion cycle (CCC) in Jordan. Using OLS regression for a sample of all industrial companies listed on Amman Stock Exchange during the period (2009-2013). The results revealed that CCC is affected negatively by corporate governance quality, which provides an implication to industrial companies in Jordan to boost their compliance with corporate governance code in order to improve their working capital management efficiency. Furthermore, the outcomes showed a variation in corporate governance categories between sub-samples, which supports contingency theory that rejects the approach of “one size fits all”. The findings provide implications for future studies to deal with firm characteristics as context dependent rather than simply as control variables. The results also provide implications for regulatory bodies in Jordan that highlight the importance of “comply or explain” approach to some corporate governance rules embracing the “one size does not fit all” approach. This study fills a gap in the existing literature by studying the quality of corporate governance and by using the context dependent approach.

Keywords: corporate governance quality, working capital management efficiency, cash conversion cycle, contingency theory

1. Introduction

The purpose of this study is to examine the impact of corporate governance quality on cash conversion cycle of all industrial companies in Jordan. This study is mainly motivated by the global attention to corporate governance and the focus on working capital management (WCM) by researchers that followed the global financial crises. In this regards, the Organization for Economic Co-operation and Development, OECD (2009) indicated that the corporations' working capital was affected by the global financial crises since these corporations faced increasing in their receivables collection period and inventories conversion period due to the decreasing in the demand for their products, which reflected negatively their working capital and hence their liquidity (Abuzayed, 2012). Particularly, (Garcı ´a-Teruel & Martı ´nez-Solano, 2007) indicated that cash conversion cycle, which considered as a key factor in working capital management, refers to “the average number of days between the date when the firm must start paying its suppliers and the date when it begins to collect payments from its customers”.

Working capital management has significant role in corporate finance since efficient WCM is significant for business going concern and its profitability (Siddique & Khan, 2008). Furthermore, efficient WCM will lead a company to respond quickly and favorably to unexpected change in the variables of the market and to obtain competitive advantages over its competitors (Appuhami, 2008). However, inefficient WCM will lead a company to liquidity crisis through lessening the firm’s profitability and credibility. Particularly, the management of working capital requires a tradeoff between risk and return; higher risk and higher return are associated with aggressive WCM while the lower risk and lower return are associated with conservative WCM (Afza & Nazir, 2007). The board of directors is responsible for formulating policies related to accounts receivable, inventory purchases and maintenance, accounts payable and other policies in the company where weak policies related to accounts receivable, accounts payable and inventory management have a negative impact on the cash conversion cycle (Gill & Biger, 2013). The conflict of interest between managers and shareholders, as examined in the agency theory, could have an impact on the level of working capital (Jensen & Meckling, 1967). As well, weak corporate governance will lead to inefficient working capital management which has a negative impact on shareholder wealth (Isshaq, et al., 2009).

The global attention to corporate governance included Jordan. On one hand, regulator in Jordan (i.e. Jordan

Securities Commission) issued Corporate Governance Code for Shareholding Companies Listed on the Amman Stock Exchange and indicated that "to give companies flexibility in implementing the corporate governance rules and sufficient time to adapt to them, in order to enhance awareness of these rules and to achieve full compliance gradually; the application of these rule would initially be through comply or explain approach". On the other hand, researchers in Jordan paid much attention to the issue of corporate governance where several empirical studies linked corporate governance with company performance, dividend policy and earnings management (Marji, 2010; Zedan & Abunassar, 2014; Abd al-Halim, 2013; Al-Halahlah, 2013, Abbadi et al., 2016). However, most of these studies measured corporate governance through limited mechanisms, and few of them studied the quality of corporate governance and the context dependent approach. As well, less attention has been paid to the area regarding the linkage between corporate governance quality and cash conversion cycle in Jordan, which resulted in a gap in the existing literature. This study tries to fill this gap by investigating the impact of corporate governance quality, measured based on governance index, on the cash conversion cycle of all industrial companies in Jordan during the period (2009-2013) using context dependent approach (i.e. large and small firm size; high and low sales growth; high and low net profit margin ratio). The findings of this paper may be useful to the researchers in explaining the inconsistency and ambiguity in corporate governance literature through shedding a light on the context dependent approach. As well, this study may be useful to the regulatory bodies in Jordan through proving evidence that supports the "comply or explain" approach to some corporate governance rules.

The rest of the study is organized as follows. Next section includes a review of related previous literature on the effect of corporate governance on cash conversion cycle. Section three presents the study methodology including the study sample and period, the variables under examination, and models of the study. The final section reports the empirical results and conclusions of the study.

2. Literature Review

There are a very few studies investigated the impact of corporate governance on working capital management efficiency (Gill & Biger, 2013). In contrast, the impact of corporate governance as well cash conversion cycle as a proxy of working capital management on performance has been widely examined and yielded to mixed results. However, Tingbani (2015) argued that the association between working capital management and profitability may not be linear, where his argument was motivated by the contrasting results regarding the impact of corporate governance as well working capital management on profitability. To determine this association based on a sample of 225 companies listed on London Stock Exchange for the period 2001-2011; the paper adopted a contingency theory approach and interacted three contingent variables (environment, resources and Management). Particularly, industrial characteristic was used as proxy of environmental variable, company's cash flow as a proxy of resources variable and company's board size as a proxy of management variable. The results of the regression analysis showed that the interaction of environmental, resources and management factors significantly moderates the association between cash conversion cycle and profitability. The study suggested that working capital management has an indirect impact on profitability, and its impact is constrained and modified by organizational contingencies (environment, resources and management factors) of the firm.

Gill & Biger (2013) selected a sample of 180 American manufacturing firms listed on the New York Stock Exchange (NYSE) during the period from 2009-2011 and employed general least squares model with cross section weight of seven industries to test the impact of corporate governance on working capital management efficiency. Corporate governance, which measured through board size, CEO tenure, CEO duality and audit committee, was the independent variable, and WCM efficiency, which measured through cash conversion cycle, cash holdings, current ratio and cash conversion efficiency was the dependent variable. Whereas, the sales growth, internationalization of the company, company size and company performance were used as control variables. The results showed that board size has a negative coefficient, CEO duality, CEO tenure and audit committee have a positive coefficients however all the coefficients were insignificant related to cash conversion cycle.

Kajananthan & Achchuthan (2013) conducted a study to test the effect of corporate governance, measured through percentage of independent director, CEO duality, board committee and board meeting, on working capital management efficiency, measured through cash conversion cycle and current ratio, for a sample of 25 listed manufacturing firms in Colombo Stock Exchange during the period from 2007-2011. The results of the regression analysis indicated that all corporate governance mechanisms used in the study were insignificant related to cash conversion cycle.

Gill, et al. (2015) tested the impact of corporate governance on cash conversion cycle for a sample of 189

American manufacturing firms listed on the New York Stock Exchange (NYSE) for the period 2009-2013. Corporate governance was measured through, board size, percentage of independent directors, audit committee, CEO duality and CEO tenure, and company size, sales growth and net profit margin ratio were used as control variables. The results of weighted least squares (WLS) with cross section weight of seven industries showed that cash conversion cycle is affected negatively by percentage of independent directors and positively by CEO tenure. Whereas, board size, CEO duality, audit committee, firm size, sales growth and net profit margin were insignificant related to cash conversion cycle.

Goel, et al., (2015) studied the impact of corporate governance on working capital management efficiency for a sample of 127 large industrial companies in India for the period 2004-2013. The results showed that board size has a positive impact on working capital management efficiency. Percentage of independent directors and percentage of independent member in the audit committee have a negative significant impact on working capital management efficiency.

Aghajari et al., (2015) examined the impact of corporate governance on working capital management efficiency for a sample of 75 companies listed in Tehran Stock Exchange during the period (2009-2014). Corporate governance was measured through CEO duality, institutional shareholders ownership and CEO tenure. Whereas, working capital management was measured though cash conversion cycle, current ratio and cash conversion efficiency. The paper used three control variables namely; firm size, sales growth and net profit margin ratio. The findings of the regression analysis showed that cash conversion cycle is affected positively by CEO duality and negatively by institutional shareholders ownership and by CEO tenure. However, the three control variables namely; sales growth, firm size and net profit margin ratio were insignificant related to cash conversion cycle

3. Research Design

3.1 Study Sample

The study sample consisted of all industrial companies listed on Amman stock exchange (ASE) that have publically available annual reports during the period (2009-2013), which considered the most recent data available prior to the publication of this paper. In order to include the company in the study sample, required data to calculate all study variables should be available for two consecutive years. A sample of 60 companies out of 69 companies (the study population) met the required criterion. To avoid the impact of the extreme values, the top and bottom 1% of the observations on each of the study variable were excluded. The final number of companies included in the analysis was 59 companies with 257 firm-year observations.

4. Variables measurement

4.1 The Dependent Variable: Cash Conversion Cycle

Consistent with Richards & Laughlin (1980), Deloof (2003), Raheman & Nasr (2007); García-Teruel & Solano (2007) and Al-Debi'e (2011), Cash Conversion Cycle (CCC) is measured as follows:

- Cash Conversion Cycle

$$CCCit = OCit - PDPit \tag{1}$$

Where:

CCCit: Cash Conversion Cycle for company *i* in year *t;*

OCit: Operating Cycle for company *i* in year *t;*

PDPit: Payables Deferral Period for company *i* in year *t*.

$$OCit = RCPit + ICPit \tag{2}$$

Where:

RCPit: Receivables Conversion Period for company *i* in year *t;*

ICPit: Inventories Conversion Period for company *i* in year *t.*

- The Receivables Conversion Period

$$RCP = 365(AvRecit / Sit) \tag{3}$$

Where:

Sit: Net credit sales for company *i* in year *t;*

AvRecit: Average of receivables for company *i*, calculated by dividing (2) into the sum of Receivable at the end of year *t-1* and Receivables at the end of year *t.*

- The Inventories Conversion Period

$$ICPit = 365(AvInvit / CGSit) \tag{4}$$

Where:

CGSit: Cost of goods sold for company *i* in year *t;*

AvInvit: Average of inventories for company *i,* calculated by dividing into (2) the sum of

Inventories at the end of year *t-1* and Inventories at the end of year *t.*

- The Payables Deferral Period

$$PDPit = 365(AvPayit / Pit) \tag{5}$$

Where:

Pit: Net credit purchases for company *i* in year *t;*

AvPayit: Average of payables for company *i*, calculated by dividing (2) into the sum of Payables at the end of year *t-1* and Payables at the end of year *t.*

4.2 The Independent Variable: Corporate Governance Quality

Corporate governance quality is measured based on governance index that used by (Prommin et al., 2014) in measuring corporate governance quality. Consistent with (Abbadi et al., 2016), the index is modified in accordance with the rules required by corporate governance code issued by Jordan Securities Commission (JSC). The governance index is classified into 4 categories with a total of 10 standards where one point is awarded for each standards that is satisfied and hence zero point otherwise. All these standards are required by corporate governance code issued by JSC under "comply or explain" approach except standards 9 which is voluntarily adopted. Table 1 provides the governance standards that ranges from 1 to 10 as well the table also provides the rule on each standard that is required by corporate governance code for shareholding companies listed on the ASE.

The paper also employs three control variables;

- **Sales growth** *(SG_{it})*, is the percentage change is sales of company *i*, ((sales$_t$ – sales$_{t-1}$) / sales$_{t-1}$),
- **Firm size** *(FS_{it})*, is the logarithm of total asset of company *i* in year *t*,
- **Net profit margin ratio** *(NPM_{it})*, is net income divided by sales of company *i* in year *t*.

4.3 Study Model

The following OLS regression is utilized to examine the impact of corporate governance quality on the cash conversion cycle, taking into consideration firm size, sales growth and net profit margin:

$$CCC_{it} = \alpha_0 + \alpha_1 \, Governance\ quality + \alpha_6 SG_{it} + \alpha_7 FS_{it} + \alpha_8 NPM_{it} + e_{1it}$$

Where:

$\boldsymbol{\alpha_0}$ the constant,

$\boldsymbol{\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7}$ and $\boldsymbol{\alpha_8}$ are the slope coefficients,

$\mathbf{e_{1it}}$ the error term.

Table 1. Corporate governance quality index

Category	Governance standard	Rule in Corporate governance Code
Board of directors	1) Member of board of directors are not less than five and not more than thirteen	"The administration of the Company is entrusted to a board of directors whose members shall be not less than five and not more than thirteen"
	2) One-third of the directors are independent directors	"at least one third of the board members are independent members."
	3) Chairman and CEO positions are separated	"It is not allowed for one person to hold the positions of chairman of the board of directors and any executive position in the company at the same time"
Board meetings	4) Disclosure about number of the board meetings 5) The number of board meetings is not less than six	"The board of directors shall meet at least once every two months, provided that the number of meetings in the fiscal year must not be less than six and the number of meetings shall be disclosed in the company's annual report"
Audit	6) Existence of Audit Committee	The board of directors shall form the following permanent committees: The Audit Committee that shall undertake the task of overseeing and monitoring accounting and internal control and auditing activities in the company
	7) Disclosure of frequency of Audit Committee meetings	The Committee shall meet regularly, not less than four times a year, and minutes of its meetings must be taken appropriately
	8) Expertise of Audit Committee	All members of the Audit Committee must have knowledge and experience in finance and accounting, and at least one of them must have worked previously in accounting or finance fields, and that person must have an academic or professional certificate in accounting, finance or related fields
	9) Engagement of Big 4 auditors (PWC, KPMG, E&Y or Deloitte)	The company's external auditor should: A. Possess a valid license to practice the profession. B. Be a member of the Jordan Association of Certified Public Accountants. C. Have practiced the profession on a full time basis for at least three consecutive years, after receiving his license to practice the auditing profession. D. Have in his firm at least one partner or employee who must also meet the above- mentioned requirements.
Nominations and remunerations	10) Existence of Nominations and remunerations Committee	The board of directors shall form the following permanent committees: The Nominations and Compensations Committee, whose main tasks are: 1. Ensuring the independence of independent members on a continuous basis. 2. Setting the policy of compensations, privileges, incentives, and salaries and to review them on a yearly basis. 3. Defining the company's needs of qualifications at the upper executive management and employees levels, and the criteria for their selection. 4. Drawing the company's human resources and training policy, monitoring its implementation, and reviewing it on an annual basis

5. Analysis and Results Discussion

5.1 Descriptive Results

Table 1 presents descriptive statistics for the study variables regarding 257 firm year observations of 59 industrial companies listed on ASE during the period (2009-2013). The average sales growth of these companies is -0.01 (median -0.004), which suggests that companies within the sample over the study period face on average a decrease in sales volume relative to the previous years. Furthermore, the average net profit margin ratio of these companies is -0.02 (median 0.02), which indicates that companies within the sample over the study period face on average a bad period with negative percentage of net income to sales.

As can be noticed from the table, companies within the sample over the study period take on average 101.75 days (median 74.99 days) to collect payments on sales from their customers, sell their inventory on average after 186.87

days (median 173.77 days) and pay to their supplier on their credit purchases on average after 81.65 days (median 68.78 days). The cash conversion cycle is on average 206.959 days (median 176.54 days). From a liquidity perspective, the companies within the sample do not have a strong liquidity position since they have to pay suppliers before collecting from customers. Whereas, the governance quality ranges from 3 to 10 with an average of (5.612) an indication that part of companies within sample over the study period violate the rules of corporate governance code. So far, Jordanian companies have not yet reached the phase of full compliance with corporate governance code issued by JSC.

Table 2. Descriptive statistics of the industrial companies variables, 2009-2013, 257 firm-year observations

Variables	Percentile 1	Minimum	Mean	Median	Maximum	Percentile 99	Std. Deviation
RCP	5.288	1	101.75	74.99	589	478.95	84.89
ICP	1.162	1	186.87	`173.77	681	564.87	111.5
PDP	1	0	81.65	68.78	534	408.19	72.29
CCC	-16.47	-50	206.959	176.54	733	660.66	138.6
GOV	3	3	5.612	6	10	10	1.815
SG	-0.685	-0.89	-0.01	-0.004	1.28	0.849	0.289
FS	6.03	5.93	7.27	7.24	8.82	8.66	0.527
NPM	-1.17	-1.37	-0.02	0.02	0.785	0.698	0.253

Note: Table 2 presents descriptive statistics of the study main and control variables after deleting outliers defined as the top and bottom 1% on each of the study variables

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), GOV is governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

5.2 Correlation between Study Variables

Table 4 presents correlation coefficients between the study variables. One could argue that corporate governance quality could be associated with only one or two components of CCC, to examine this argument and to gain more insight about the relationship between governance quality and the components of CCC; each component is included separately in the correlation analysis. As can be noticed, the governance quality has a significant negative coefficient with CCC, which implies that strong governance quality is associated with short CCC and hence efficient WCM. Furthermore, governance quality is significantly associated with the three components of cash conversion cycle.

As can be observed, sales growth, firm size and net profit margin ratio have significant negative correlation coefficients with CCC, which indicate that the larger the firm size, sales growth and net profit margin ratio, the shorter the CCC, which reflects positively on the efficiency of WCM. As can be noticed, the significant positive coefficient between governance quality and firm size is an indication that large companies perform better governance quality relative to small companies.

Table 3. Correlation between study variables

Variables	RCP	ICP	PDP	CCC	GOV	SG	FS
ICP	0.105						
PDP	0.300**	0.245**					
CCC	0.540**	0.741**	-0.141*				
GOV	-0.203**	-0.229**	0.140*	-0.382**			
SG	-0.225**	-0.210**	-0.233**	-0.187**	0.103		
FS	-0.225**	-0.223**	-0.107	-0.262**	0.132*	-0.012	
NPM	-0.323**	-0.164**	-0.365**	-0.139*	0.061	0.336**	0.223**

Note: Table 3 provides Pearson correlation coefficients for the main variable of the study after deleting outliers defined as the top 1% on each of the study variables

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), Gov is Governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

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

* Correlation is significant at the 0.05 level (2-tailed).

5.2 Regression Analyses and Results Discussion

Table 4 presents the results of the benchmark model, which aims to examine the impact of corporate governance quality on cash conversion cycle for the full sample without taking into consideration any company characteristics as well the table provides the results of sub-samples after portioning the full sample according to company size, sales growth and net profit margin ratio. These sub-samples of the full sample are motivated by the results of the previous studies which reported a significance difference between small and large firm size; high and low sales growth; high and low net profit margin ratio.

Table 4. OLS regression results for industrial companies (2009-2013), 257 firm-year observations

	Benchmark model (CCC)	**Large firm size**	**Small firm size**	**High sales Growth**	**Low sales growth**	**High net profit margin ratio**	**Low net profit margin ratio**
GOV	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**	0.000**
	(-6.594)	(-4.682)	(-4.253)	(-4.839)	(-3.808)	(-4.576)	(-4.243)
Constant	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(14.215)	(8.643)	(9.858)	(8.958)	(9.455)	(9.124)	(9.846)
F value	43.481	21.922	18.084	23.417	14.498	20.940	18.000
Sig. of F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Adj-R^2	0.142	0.172	0.145	0.182	0.118	0.165	0.144

Note: Table 4 provides the OLS regression results of the study model, the model is:

$$\mathbf{CCC_{it} = \alpha_{0\,+}\,\alpha_1\ Governance\ quality + \alpha_6 SG_{it} + \alpha_7 FS_{it} + \alpha_8\,NPM_{it} + e_{1it}}$$

RCP is receivables conversion period ((365*(Average receivables/Net credit sales)), ICP is inventories conversion period ((365*(Average inventories/Cost of goods sold)), PDP is Payables deferral period ((365*(Average payables/Net credit purchases)), CCC is cash conversion cycle (RCP+ICP-PDP), GOV is governance quality measured based on governance index as shown in table (1), FS is firm size (natural logarithm of total assets), SG is sales growth ((current year sales-previous year sales)/previous year sales), NPM is net profit margin ratio (net income/sales).

The results of the benchmark model showed that cash conversion cycle is affected negatively by governance quality, which indicates that the stronger the governance quality the shorter the cash conversion cycle and hence the more efficient management of working capital. This results support the results of (Goel, et al., 2015; Aghajari et al., 2015; Gill et al., 2015) and contradict the results of (Gill & Biger, 2013; Kajananthan, & Achchuthan, 2013).

The results across large and small firm size sub-samples confirmed the benchmark model results in that cash conversion cycle is affected negatively by governance quality. However, the explanatory power rose to 0.172 across large firm size and remained 0.14 across small firm size, which suggests that the efficiency of working capital in case of large firm size is better explained by corporate governance quality relative to small firm size. Furthermore, the results across high and low sales growth sub-samples confirmed the benchmark model results. However, the explanatory power rose to 0.182 across high sales growth sub-sample and dropped to 0.118 across low sales growth sub-sample, which suggests that the efficiency of working capital management in case of high sales growth is better explained by the quality of corporate governance relative to low sales growth sub-sample. As well, the results across high and low net profit margin ratio sub-samples confirmed the benchmark model results in that cash conversion cycle is affected negatively by governance quality. However, the explanatory power across high net profit margin ratio sub-sample rose to 0.165 and remained 0.144 across low net profit margin ratio sub-sample.

5.2.1 Categories of Governance Index

To gain more insight about which category of governance index has more impact on CCC and hence the efficiency of working capital management, the analysis was run on each category of governance index separately. Table 5 depicts the results of categories of governance index

Table 5. OLS regression results for industrial companies (2009-2013), 257 firm-year observations

	Benchmark model (CCC)	Large firm size	Small firm size	High sales Growth	Low sales growth	High net profit margin ratio	Low net profit margin ratio
Board of directors	0.006** (-2.776)	0.007** (-2.742)	0.056 (-1.932)	0.005** (-2.871)	0.087 (-1.727)	0.04* (-2.082)	0.093 (-1.697)
Adj-R^2	0.026	0.061	0.026	0.067	0.019	0.032	0.018
Board meetings	0.000** (-5.035)	0.002** (-3.159)	0.000** (-4.661)	0.011* (-2.608)	0.000** (-3.629)	0.003** (-3.018)	0.001** (-3.291)
Adj-R^2	0.087	0.082	0.17	0.054	0.108	0.074	0.089
Audit	0.000** (-4.534)	0.003** (-3.095)	0.084 (-1.747)	0.002** (-3.157)	0.01** (-2.636)	0.002** (-3.134)	0.001** (-3.561)
Adj-R^2	0.071	0.078	0.02	0.082	0.056	0.08	0.104
Nominations And remunerations	0.002** (-3.119)	0.004** (-2.908)	0.226 (-1.217)	0.000** (-4.069)	0.266 (-1.119)	0.028* (-2.233)	0.017* (-2.437)
Adj-R^2	0.033	0.069	0.005	0.133	0.002	0.038	0.047

The results of the benchmark model showed that all governance categories have negative impact on cash conversion cycle and hence positive impact on the efficiency of working capital management. The outcomes across large firm size sub-sample confirmed the benchmark model results. However, across small firm size sub-sample the results confirmed the benchmark model only in that standards regarding board meetings have significant negative impact on CCC. Whereas, standards regarding audit and board of directors became weakly significant at 10% level of significance. As can be noticed, the explanatory power for board meetings rose across small firm size sub-sample from 0.087 to 0.17, which suggests that small companies benefit from adopting board meetings standards in improving the efficiency of WCM more than large companies since board meetings standards explained 17% of the working capital management efficiency across small firm size sub-sample.

The findings across high sales growth sub-sample confirmed the benchmark model results. Whereas, the results across low sales growth sub-sample confirmed the benchmark model results only in that board meetings and audit standards have significant negative impact on CCC. As can be noticed, the explanatory power of nominations and remunerations committee across high sales growth sub-sample rose to 0.133 and dropped to 0.002 across low sales growth sub-sample, which indicates that in case of high sales growth companies benefit from the existence of this committee in improving the efficiency of WCM more than in case of low sales growth; since the existence of nominations and remunerations committee explained 13.3% of the working capital management efficiency across high sales growth sub-sample.

As can be reflected in the table, the results across high net profit margin ratio sub-sample confirmed the outcomes of the benchmark model. As well, the results across low net profit margin ratio sub-sample confirmed the benchmark model results except for the board of directors category which became weakly significant at 10% level of significance. As can be noticed, the explanatory power of the audit standards rose to 0.104 across low net profit margin ratio sub-sample, an indication that in case of low net profit margin ratio, companies benefit from adopting audit standards in improving the efficiency of WCM more than in case of high net profit margin ratio; since the audit standards explained 10.4% of the working capital management efficiency across low net profit margin ratio sub-sample.

It can be concluded that there is a variation between corporate governance categories across the sub-samples, and a category of standards that benefits or harms the efficiency of WCM in case of large firm size, high sales growth or high net profit margin ratio does not necessarily benefits or harms the efficiency of WCM in case of small firm size, low sales growth or low net profit margin ratio respectively. These variations support the contingency theory that rejects the idea of universal best practices of corporate governance and rejects the approach of "one size fits all" (Donaldson 2001). In this regards, Filatotchev et al. (2007) suggested that this inconsistency and ambiguity in corporate governance literature might be referred that corporate governance mechanisms seem to differ with respect to organizational context. Scott (2003) suggested that corporate governance mechanisms might be less or more effective depending upon the context of different organizational environments. Aguilera et al., (2008) indicated that the effectiveness of governance mechanisms might depend on firm size or age, the phases of growth or decline in the company's development, the character of innovation in different markets and sectors, and the regulatory and institutional constraints on business activity. Accordingly, Aguilera et al., (2008) recommended future studies to deal with firm characteristics not simply as "control variables" that result in universal relationships, but to deal with firm characteristics as context-dependent. Black et al., (2012) conducted a study across (Brazil, India, Korea and Russia) and portioned the full sample according to size, growth and profitability. The results of (Black et al., 2012) showed a variation in the association between corporate governance and firm market value between sub-samples across firms and countries where they referred the reason of these variations to the approach "one size does not fit all".

5.2.2 Corporate Governance Quality

The awareness on corporate governance in Jordan has been increasing over time, and the compliance of corporate governance code by industrial companies in Jordan is also increasing over time which implies that corporate governance quality is increasing over time. From this view; it is expected that corporate governance quality in the latter part of the sample i.e 2012-2013 higher than in the earlier part of the sample i.e 2009-2010 taking into consideration that there is no reason to assume that CCC is decreasing over time or working capital management efficiency is increasing over time. As exploitation to this fact, in order to determine whether the increase in the governance quality has a direct impact on the efficiency of WCM; the earlier part of the sample is distinguished from the latter part of the sample by portioning the full sample into two sub-samples namely; recent year sub-sample and early year sub-sample. These sub-samples of the full sample are motivated by the results of previous studies who agreed that corporate governance quality increased over time (Sawicki 2009; Prommin et al., 2012; Prommin et al., 2014, Abbadi et al., 2016). Table 6 depicts the results of OLS regression analysis for the full sample and the sub-samples based on year.

Table 6. OLS regression results for full sample and sub-samples based on year

	Benchmark model (CCC)	**Recent year 2012-2013**	**Early year 2009-2010**
GOV index	0.000**	0.000**	0.001**
	(-6.508)	(-5.260)	(-3.554)
Constant	0.000	0.000	0.000
	(14.214)	(9.743)	(8.198)
F value	42.360	27.667	12.629
Sig. of F	0.000	0.000	0.001
Adj-R^2	0.14	0.216	0.10

The difference between the explanatory powers across sub-samples supports the argument that corporate governance quality has increased over time and its ability to increase the efficiency of working capital management has also increased over time.

6. Conclusions

The results of the benchmark model, which aims to examine the effect of corporate governance quality on cash conversion cycle, revealed that cash conversion cycle is affected negatively by governance quality which reflects positively the efficiency of working capital management. As well, the results of the sub-samples, which distinguished between large and small firm size; high and low sales growth; high and low net profit margin ratio, showed that CCC is affected negatively by governance quality.

The results also documented that a category that benefits or harms the efficiency of WCM to one sub-sample does not necessarily benefits or harms the efficiency of WCM to the other sub-samples which supports contingency theory that rejects the idea of universal best practices of corporate governance and rejects the approach of "one size fits all". Moreover, the results of the descriptive analysis showed that part of companies within the sample over the study period violate the rules of corporate governance code. So far, Jordanian companies have not yet reached the phase of full compliance with corporate governance code, which may mainly attributed to the flexibility given to these companies under "comply or explain" approach. However, the results of the recent year sub-sample and the early year sub-sample pointed out that corporate governance quality has increased over time, and its ability to improve the efficiency of working capital management has also increased.

Accordingly, industrial companies in Jordan particularly in case of large firm size, high sales growth or high net profit margin ratio should boost their compliance with corporate governance code in order to improve their efficiency of WCM. However, small companies should exploit the board meetings standards; companies in case of low sales growth should exploit the board meetings and audit standards; companies in case of low net profit margin ratio should exploit the board meetings, audit and nominations and remunerations committee standards in order to improve their efficiency of working capital management. It is recommended to future studies to deal with firm characteristics as context dependent rather than simply as "control variables". As well, the limitations of the study are considered as implicit recommendations for future studies where the study index was limited to

10 standards and the study period was limited to 2009-2013. Finally, this study highlights the importance of "one size does not fit all" concept. Therefore, regulatory bodies in Jordan particularly Jordan Securities Commission should take into consideration the "one size does not fit all" approach when issuing corporate governance rule and to continue with "comply or explain" approach to some corporate governance rules is better than indicating "the application would be initially be through comply or explain approach".

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Towards Extending the Ethical Dimension of Human Resource Management

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Abstract

Enduring interest in the 'social' aspect of the ethical dimension of Human Resource Management (HRM) on employees and society is a positive trend towards humanity. To maintain justice, fairness and well-being towards its stakeholders, it is necessary for an organization to perform HRM functions ethically. Authors identified two possible meanings to the ethical dimension of HRM. In addition to the above, a second possible connotation was recognized, and labeled as 'Ethical Orientation of HRM or EOHRM'. This is 'to direct HRM functions to create, enhance and maintain ethicality within employees, to make an ethical workforce in the organization'. EOHRM is conceptualized based on three dimensions: acquire, develop and retain. Elements of EOHRM are the functions of these three HRM fields. Ethical characteristics would be embedded into elements and question items of the instrument, in order to measure EOHRM. It seems that this concept has been unexplored by scholars in the existent HRM literature. This article attempts to bridge this knowledge gap to a significant extent. EOHRM is offered as a novel concept to HRM architecture, and it gives favorable directions towards future research.

Keywords: ethical dimension of HRM, ethical HRM, CSR-HRM, ethical orientation of HRM

1. Introduction

Human Resource Management (HRM) is a vast academic discipline as well as a crucial practice. HRM has been defined as "a strategic, integrated and coherent approach to the employment, development and well-being of the employees in an organization (Armstrong, 2014)." If HRM is viewed as a construct, it has several dimensions such as personnel, strategic, international and green. Based on the existent literature, it is possible to identify another dimension of HRM called 'ethical dimension' which is about ethics in managing people at work. Many scholars have established and extensively argued that, there is an ethical dimension to HRM (e.g., Greenwood 2002; Guest, 2002; Heery, 2008; Jack 2012; Khan, 2014; Wright & Snell, 2005). Boxall, Purcell, & Wright, 2007, cited in Armstrong, 2014 highlighted that, in addition to the role in supporting commercial outcomes, HRM also exists to serve organizational needs for social justice. According to Winstanley and Woodall (2000), the texts in HRM had almost ignored the ethical dimension of HR policy and practice, as a result of shifting its attention towards 'strategic fit' and 'best practices' approach. Basically, HRM is reflected as an ethical activity, where its core values are connected with the treatment of humans, thus conceptualizations of HRM automatically raises ethical concerns (Greenwood, 2013). Scholar further questioned, "What does it means to us as humans to manage humans as resources?" Thus, authors identified a common view among scholars: 'it is essential to perform HRM functions ethically in an organization in order to maintain justice, fairness and well-being towards its stakeholders'. This is a well-recognized view of the ethical dimension of HRM for many years.

While giving due recognition to the above established meaning and the valuable contributions made by the earlier scholars to 'ethics-HRM' literature, authors identified a second possible connotation to the 'ethical dimension of HRM', and labeled as 'Ethical Orientation of HRM' or EOHRM. It is 'to direct HRM functions towards creating, enhancing and maintaining ethicality within employees, in order to maintain an ethical workforce in an organization'. EOHRM is a new construct, thus has not been theoretically or empirically researched in an academic setting in the past, specifically in Sri Lanka, and it appears to be in the international context too. Thus, authors identified a knowledge gap in HRM literature, and proposed a new construct to HRM literature. It is crucial and timely to investigate the EOHRM in detail. The problems of unethical behavior of employees and unethical decision-making in organizations have received much scholarly attention over the past three decades (Trevino, 1986). Corrupt business practices and frauds have been identified as a growing concern, globally (Antonakas, Konstantopoulos, & Seimenis, 2014). Scholars argued that, integrity of employees is crucial in the corporate world (MacDougall, Martin, Bagdasarov, & Mumford, 2014). Ethical issues are common in a complex organizational context as a result of uncertainty prevailing in the environment (Trevino, 1986). Corrupt business practices and employees' unethical behaviors in organizations have become common incidents over the years (Treviño, Butterfield & McCabe, 1998). Increased media focus on this concern had exposed many frauds and corrupt incidents in the past, internationally (e.g., Arthur Anderson & Health South Corp., Enron, WorldCom, Toshiba Company Accounting fraud; Volkswagen Company emissions scandal etc.), as well as locally (e.g., Golden Key Company scandal and collapse of the Ceylinco Group; Sakvithi Ranasinghe money scam; the Pramuka Bank fraud etc.).

Managers in organizations are engaged in unethical practices and discretionary decision-making behavior, which affect the lives and well-being of others. Their unethical decisions and behaviors can bring many social concerns, mainly in the areas of health, safety, and welfare of the employees, consumers, society and ecological stability of the environment (Ulrich & Dulebohn, 2015). Increased concerns have been focused recently over a range of unethical business activities happening globally, such as abuse of physical resources disturbing the global ecological balance; violation of human rights; abusing animal rights etc. Researchers have tried to understand why employees behave unethically or engage in corrupt business practices at work (Kish-Gephart, Harrison & Trevino, 2010). Thus, issues on ethical and unethical behaviors of employees in organizations have become stimulating research topics in HRM and HRD literature in the recent past (Antonakas et al., 2014; Ardichvili & Jondle, 2009; Arulrajah, 2015; Debode, Armenakis, Field, & Walker, 2013). Researchers have identified that ethical problems are caused due to ethical ignorance, unethical decision- making and ethical failure or evil intent in business organizations.

In the present business context HRM is facing various pressures for change, due to fluctuations in the economy, globalization, domestic diversity, rapid change in technology (Stone & Deadrick, 2015). As a result, new demands have been created for organizations, pushing the HR field to new directions. These developments have created many challenges, as well as opportunities to HRM (Stone & Deadrick, 2015). The latest challenge to HRM is the changing phase of work relationships and nature of work in organizations. In the past, the employees in organizations focused only on their individual tasks, separated from coworkers in other functions. But, now organizations have started to change in response to the changing nature of work. Working from home, flexible working hours, learning through networking etc., are common work practices in the modern office environment. The novel work relationships had exposed many security threats and ethical dilemmas in the current corporate world. Further, researchers have identified that increased aging workforce and generational diversity has brought many new challenges to HRM in organizations (Stone & Deadrick, 2015). Shortage of skilled workers in organizations due to increase in the retiring of skilled baby boomers is just one example.

Thus, it is a crucial and a timely need to find new theories in HRM and Organizational Behavior (OB), in order to address these ethical problems in organizations.

This article attempted to achieve three objectives:

1) To explore the existent meaning of the ethical dimension of HRM.
2) To propose a distinct, new facet to the ethical dimension of HRM, labeled EOHRM.
3) To conceptualize and operationalize the new construct, EOHRM.

2. Methodology

The existing literature in HRM, Human Resource Development (HRD), Ethics, Business Ethics and Organizational Behavior (OB) were systematically reviewed. The archival method recommended by Tranfield, Denyer and Smart (2003) was used to develop a comprehensive understanding of the research theme and the key concepts of the study. The literature review initiated with a general search of key research articles published over the past 30 years in refereed journals, conference proceedings and edited book chapters in on-line databases such as, JSTOR, SpringerLink, ScienceDirect, Wiley Online Library, SAGE journals, Taylor & Francis Online, Emerald Insight etc. Search terms: ethics, ethics-HRM, ethical dimension of Human Resource Management, ethical/unethical behavior of employees, ethical culture, social HRM, CSR-HRM etc. were used in the literature search. After reading through the abstracts of about 75 articles, authors selected 40 articles directly relevant to the topic with reasonable number of citations, to be studied in detail. In addition, few edited book chapters and about five printed books of prominent authors, directly relevant to the research topic were studied in detail.

3. Ethics

In order to understand the concept of EOHRM it is appropriate to know the meaning of 'ethics' first. There are many scholarly definitions to ethics as summarized in Table 1 below.

Table 1. Definitions of Ethics

Source	Definition
The Compact Oxford Dictionary, as cited in Armstrong (2014)	- Ethics are related to morals, or treating of moral problems. Thus, 'ethical' is denoted as relating to morality.
The Oxford Dictionary	- Ethics deals with moral principles and considered as a branch of knowledge; moral philosophy (singular). - Ethics are moral principles that govern an individual/group behavior or conduct of an activity (plural).
Collins English Dictionary	- Ethics is the philosophical study of the moral values of human conduct and, about the rules and principles that should govern it (singular). - Ethics are social, religious, or civil codes of behavior of an individual, particular group or profession, that are considered correct (plural).
Opatha (2009)	- Ethics are moral beliefs and, rules or obligations with regard to right and wrong.
Armstrong, (2014, p. 96)	- Ethics is concerned with decision-making and rulings about what is the right course of action to take.
Luthans (2013, p. 46)	- Ethics are related to moral issues and choices, and they deal with right and wrong behavior.
Dessler (2013, p. 461)	- Ethics are principles of conduct governing an individual or a group. Ethics are mainly the standards you use to decide what your conduct or behavior should be.
De Silva & Opatha (2015, p. 9)	- Ethics are principles about right and wrong or good and bad behavior of the individuals or groups.

Ethics has been defined in many different ways (Table 1). Scholars have used the word 'moral' in many forms in the definitions: moral principles, moral values, moral beliefs, moral rules or obligations, moral judgment etc. Thus, authors identified a common thread: 'ethics are moral beliefs and rules or obligations with regard to right and wrong. Further, ethics deal with moral principles and values, which govern human behavior/conduct of individual or groups on what is 'right and wrong'.

However, in the day-to-day business, the words 'ethical' and 'moral' are used interchangeably. To denote people considered good and their right actions, word 'ethical' is used instead of 'moral'. Similarly, to imply bad people and their wrong actions, the word 'unethical' is used instead of 'immoral'. Although 'ethical' and 'moral' are used interchangeably in the daily use to explain individual or group behavior/conduct, scholars argued that they are two different concepts (Beauchamp & Bowie, 1983, cited in Armstrong, 2014).

4. HRM and Its Role in the Context of Ethics

Authors reviewed few Scholarly definitions of 'HRM' in order to understand its role in creating an ethical workforce in the organization. Scholars have defined HRM in many different ways:

In the international context, Dessler (2013) defined HRM as a process of key HR functions, such as acquiring, training, appraising, rewarding employees, seeing to labor relations and welfare needs of employees. Armstrong (2014) defined HRM as a strategic, combined and clear approach to the development and welfare of employees at work. According to Boxall and Purcell (2003), cited in Armstrong (2014), HRM is the management of all activities concerned with employees in the organization. An early researcher in HRM, Lado and Wilson (1994) defined HRM as a set of unique activities, functions and processes, which are aimed at attracting, directing and maintaining the organization's Human Resources.

In the local context, Opatha, (2009) defined HRM as "the efficient and effective utilization of human resources to achieve the goals of an organization." Further argued that only HRM could make things happen, where as other resources in the organization only make things possible. A similar view was noted in the local context: 'Human Resource (HR) or the people factor (PF) is considered as the most valuable resource out of many other resources (financial, physical, information etc.) in an organization' (Dharmasiri, 2015).

HRM is about 'all aspects of how people are being employed and managed in organizations'. Human Resource (people factor) is the most vital resource out of all other organizational resources such as money, machines, materials, methods etc., because the establishment, modification and fulfillment of organizational goals happen only if there is Human Resource available. Thus, HRM is considered as a critical factor in an organization.

Over the past three decades, many researchers have stressed the importance of HRM functions and practices in creating an ethical context in an organization (Ardichvili & Jondle, 2009; Buckley et al., 2001; Foote, 2001; Hosmer, 1994; Palomino & Martinez, 2011; Parboteeaha, Seriki & Hoegl, 2014; Thite, 2013). To highlight few insights from the researchers: Hosmer (1994) argued that, the organizations which are engaged in moral precepts have a greater chance of success than the organizations which are involved in corrupt and immoral behavior; Buckley et al.(2001) believed that, HRM could lead the organizations towards conducting business in an ethical manner, hence, HRM practices could play a major role in development of an ethical organization; Foote (2001) believed, the standing of an organization's HRM functions has a high impact on its HRM's ability to influence ethical behavior of employees; Ardichvili & Jondle (2009) stated that, HRM and HRD's role as a key player is important in several activities in the organization, for example, to develop an ethical culture favorable to ethical behavior, ethical training for employees of all levels, development of codes of ethics etc.; Parboteeaha et al. (2014) too agreed that, HRM functions can play an active role in building an ethical culture and climate in an organization. Hence, research on HRM in promoting ethics in organizations had become a key research topic, as HRM practices are believed to have a heavy influence on employees (Palomino & Martinez, 2011). Thus, HRM plays a crucial role in promoting ethics in an organization. Despite the critical, and proactive role of HRM in instilling ethics and values into HR policies, procedures and philosophy, research on HRM and HRD roles in ethics have been found still limited (Thite, 2013). Hence, it is timely to draw academicians' and professionals' attention to re-think, what has been already done and what innovations could be introduced to HRM and HRD literature in the future, to address the increasing ethical issues in the corporate world.

5. Ethics-HRM Debate

The Harvard analytical model for HRM (Beer et al, 1984, cited in Armstrong, 2014) proposed that HRM should be concerned with the enrichment of individual and communal well-being. Further argued that any emphasis on ethics and employee well-being in the HR debate has been challenging. They claimed that the ethical aspect of HR policy and practice has almost been ignored in the recent texts on HRM, as a result of the focus of HRM being shifted to other areas such as `strategic-fit' and `best practice' methods, rather than well-being of employees. However, the idea: 'HRM should be concerned itself with the enrichment of individual and societal well-being', is evolving for many decades (Kant, 1956, cited in Jack, Greenwood & Schapper, 2012). Apart from the society's well-being, the employees' welfare aspect of the organization had received much scholarly attention over the years. Early scholars in the 'ethics-HRM' debate (e.g., Greenwood, 2002; Greenwood, 2007; Legge, 1998; Winstanley & Woodall, 2000) reviewed and developed the current position of the ethical dimension of HRM, initially differentiating the ethical outlook of HRM from its critical viewpoint and the key framework. For example, according to Greenwood (2002) the ethical analysis of HRM has taken two forms: (i) the application of Kantian and utilitarian ethical theories to the whole of HRM, and (ii) the application of justice and fairness theories to specific HRM practices. Immoral HRM practices and unethical treatment towards employees in organizations, have contributed to the long-standing 'ethics-HRM' debate (Greenwood, 2002; Greenwood, 2005; Greenwood & De Cieri, 2007; Heeray, 2008; Jack et al, 2012; Legge 1998; Winstanley, Woodall & Heery, 1996; Winstanley & Woodall, 2000; Van Buren, Greenwood & Sheehan, 2011). Researchers have identified that, HR ethical issues were mostly connected with lack of respect and concern for the employees and their sustainable well-being. For example, extended working hours had increased work stress and poor health problems of employees at work, leading to many social problems. Early scholars (Kant, 1956, cited in Jack et al., 2012) too were concerned about how the organizations have been treating their employees. Hence, Armstrong (2014) argued that to avoid such ethical HR issues and dilemmas in organizations, it is important to apply social responsibility towards their employees' and the society.

Many researchers have added valuable insights to the enduring 'ethics-HRM' debate (Beer et al, 1984, cited in Armstrong, 2014; Greenwood, 2002; Greenwood, 2005; Greenwood, 2007; Greenwood & De Cieri, 2007; Greenwood & Freeman, 2011; Heery, 2008; Jack et al., 2012; Khan, 2014; Legge, 1998; Van Buren et al., 2011; Winstanley & Woodall, 2000). To explain this in just one sentence: the 'ethics-HRM' debate is principally about the organization's attention on treating their employees in an ethical manner, and being concerned about their well-being.

6. First Meaning to the Ethical Dimension of HRM

"To perform HRM functions ethically, in order to maintain justice, fairness and well-being towards its stakeholder"

This is the present well-established facet of the ethical dimension of HRM, or the 'social' aspect of it. Scholars (Guest, 2002; Greenwood, 2002; Greenwood & Freeman, 2011; Jack et al., 2012; Legge, 1998; Winstanley et al., 1996) have established a common view with regard to the ethical dimension of HRM in organizations. They agreed that HRM plays a critical role in organizational needs for social justice, including employees' and societal wellbeing, in addition to its supportive role in the financial outputs. (Beer et al., 2007, cited in Armstrong, 2014)'. Thus, to maintain justice, fairness and well-being towards an organization's stakeholders, it is crucial to perform the HRM functions ethically.

The idea, 'HRM should be concerned with the enrichment of employees and societal well-being', has been evolving over many decades. This aspect is highlighted in Carroll (1979) as the Corporate Social Responsibility (CSR) of an organization. It is also labeled as Corporate Social Performance (CSP) of an organization. Literature revealed that, this concept has been growing for many decades as early as since 1930s (Berle & Means, 1932, cited in Carroll, 1979). The society expects from an organization something over and above its lawful requirements, which is reflected as the 'ethical social responsibility' of an organization (Carroll, 1979). Organizations display CSR when they conduct their business in an ethical manner, considering the overall impact of their functions (internal, social, environmental and economic), going beyond compliance. Armstrong (2014) noted that, CSR is generally concerned with how companies function in a responsible manner towards their stakeholders, including how they manage their people ethically.

Luthans (2013) argued that, since ethics influence how the employees are being treated ethically and their well-being in organizations, they in turn affect employee job performance. Opatha (2009) stated that the evaluators must give due consideration to the ethics of performance evaluation (PE), and failure in this responsibility would lead to many organizational issues. Conducting HRM functions ethically towards the society and the environment is crucial for the benefit of the organization and its employees. In a recent survey (Schmidt et al., 2012) on HRM efforts for environmental sustainability, researchers identified that organizations' interest towards 'greening' is beneficial not only for the environment, but it also influences organizations' increasing of financial performances and engaging of employees.

Many researchers (Ardichvili & Jondle, 2009; Arulrajah, 2015; Greenwood, 2013) have identified that the probable areas causing ethical concerns in HRM, in terms of unethical business practices in organizations are: canvassing and favoritism in hiring, training and development; sexual harassment; inconsistent disciplinary measures; discrepancies in maintaining confidential records of employees; gender discrimination in hiring and promotion; recording of incorrect performance factors in appraisals; health hazards of consumers and environmental green issues etc.

Through the above literature, authors identified that there is a traditional, well-established 'social' aspect to the ethical dimension of HRM. This phenomenon highlighted a unique feature of the HRM functions, which is concerned about the social well-being of the organization's stake holders: employees, customers, shareholders, society and the environment. Scholars have already labelled this feature as 'CSR-HRM' or 'CSP-HRM' (Carroll, 1979; Greenwood, 2013) of the ethical dimension of HRM. Thus, conceptually, authors established that the 'Social' aspect or 'CSR-HRM' aspect of an organization is the first meaning to the ethical dimension of HRM.

7. Proposed Second Meaning to the Ethical Dimension of HRM

"To direct HRM functions to create and enhance ethicality within employees, in order to make an ethical workforce in the organization".

The theme of this article is 'towards extending the ethical dimension of human resource management'. The authors argued that, there are two possible meanings to the ethical dimension of HRM. The first meaning, 'social' aspect of the ethical dimension of HRM has already been discussed in detail. HRM has been analyzed at many different approaches over the past several years (e.g., Strategic HRM, Green HRM, e-HRM, Strategic-fit, High Performance Work Practices, Bundles of HRM Practices etc.). In addition, many existent scholars have explored the ethical dimension of HRM from its social aspect (CSR-HRM) or the welfare needs of their stakeholders. Ironically, this facet has been called ethics-HRM in many instances, whereas only the CSR aspect in the ethical dimension of HRM has been discussed. Literature revealed, no theoretical or empirical investigation has been conducted, specifically in Sri Lanka, and perhaps globally, to explore how HRM functions could be ethically oriented, or how HRM functions could be directed to create, enhance and maintain ethicality within employees, in order to make an ethical workforce in the organizations. Authors propose this feature as the second connotation to the ethical dimension of HRM, and labeled it as 'Ethical Orientation of HRM' or EOHRM. The new concept, EOHRM differs from the 'social' aspect of the ethical dimension of HRM, or CSR-HRM in its conceptualization as well in its operationalization.

EOHRM is 'to direct functions in the major HRM fields (acquire, develop and retain) to create, enhance and maintain ethicality within employees, to make an ethical work force in the organization'. 'Ethicality' is a related form of the word 'ethical' which means 'pertaining to the principles of morality or morals, or dealing with right and wrong behavior or conduct (dictionary.com)'. Thus, EOHRM guides HRM functions towards creating, enhancing and maintaining principles of morality within employees or their moral beliefs on the distinction between right and wrong, or good and bad behavior/conduct at work. EOHRM incorporates ethical aspects into key HRM functions, to make an ethical work force in the organization. This is in contrast to the CSR-HRM or to perform HRM functions ethically, in order to maintain justice towards the organization's stakeholders.

This vital aspect of the ethical dimension of HRM has been given less attention in the existent literature, and not been researched theoretically or empirically in the past locally, and perhaps globally. The need to create, maintain and retain ethical employees in organizations has been discussed in many global forums. Creating an ethical workforce in organizations through EOHRM would add many valuable implications to the organization's stakeholders. For example, 'The Inside Business' the Hampton Roads Business Journal (pilotonline.com) highlighted the roles of HRM functions in generating, maintaining and retaining ethical employees in organizations. It emphasized, hiring process is the starting point of maximizing ethical behaviors in employees at work. Further, it stressed the importance and need of complimenting the potential employees' knowledge, skills and abilities with moral values (respect for others and rules and regulations), and states, "personal integrity and high ethical standards are indispensable qualities to possess." Dessler (2013) argued that, when there are no strong ethical standards in place, simple financial performance-oriented incentives may cause unethical behavior in organizations. Hence, to establish strong ethical standards in organizations, this renewed focus on the ethical dimension of HRM or EOHRM is a critical and a timely need.

This article established that there are two possible meanings to the ethical dimension of HRM:

(i) *To perform HRM functions ethically*, in order to maintain justice, fairness and well-being towards the stakeholders. This facet is the 'social' aspect of ethical dimension of HRM, and labeled as the CSR, CSP or 'CSR-HRM'.

(ii) *To direct HRM functions to create, enhance and maintain ethicality* within employees, in order to make an ethical workforce in the organization. This is the proposed second meaning to the ethical dimension of HRM, and labeled as the Ethical Orientation of HRM or 'EOHRM'.

8. Conceptualization of Ethical Orientation of HRM (EOHRM)

Understanding how EOHRM differs from the existing CSR-HRM is vital to operationalize EOHRM. It is identified as a new concept in HRM literature, and operationalized based on the major fields of HRM: acquire, develop and retain. EOHRM differs from the existent 'social' aspect of the ethical dimension of HRM, which is aimed at conducting HRM functions ethically in an organization towards the well-being of its stakeholders. The EOHRM is based on the second meaning: to direct functions in the major HRM fields (acquire, develop and retain) to create, enhance and maintain ethicality within employees, in order to generate an ethical work force in the organization.

'Ethicality' is about the extent to which current employees deal with moral standards or principles of morality, relating to right and wrong behavior, when performing their official roles and other roles apart from the work settings. Ethicality is defined as 'the extent to which employees in a particular organization think, decide, act and react morally'. In other words, it is the degree of moral goodness of employees. Ethicality can exist at two levels: (i) individual level, which can be labeled as 'personal ethicality' and (ii) group level, which can be labeled as 'collective ethicality'.

Since EOHRM is a new concept, there are no established definitions available in the existent literature. Hence, authors constructed a working definition for EOHRM based on the influence of three aspects: (i) the existing scholarly definitions of ethics and HRM; (ii) HRM and its role in the context of ethics, and (iii) the proposed second meaning to the ethical dimension of HRM.

8.1 The Working Definition of EOHRM

"Ethical Orientation of HRM or EOHRM is the extent to which HRM functions have been directed to create, enhance and maintain ethicality within employees, in order to make an ethical work force in the organization."

Further, the EOHRM may alternatively be called as 'Moral-HRM'. It is about embedding ethical or moral aspects into HRM functions, in order to transform normal employees into ethical or moral employees. EOHRM exists to provide the organization with an ethical workforce.

9. Operationalization of Ethical Orientation of HRM (EOHRM)

EOHRM is "the extent to which HRM functions have been directed to create, enhance and maintain ethicality within employees, in order to make an ethical work force in the organization". It includes incorporation of ethical aspects into the main HRM functions. The operationalization of EOHRM is based on the key HRM functions and prominent HRM literature (Armstrong, 2014; Dessler, 2013; Jackson & Schuler, 1995; Opatha, 2009). Accordingly, EOHRM comprises of three dimensions: Acquire, Develop and Retain. The three dimensions are further expanded into their respective elements, as detailed below.

Dimensions	**Elements**
Acquire	Job Analysis, Recruitment, Selection, Hiring, Induction.
Develop	Performance Evaluation, Training & Development.
Retain	Pay Management**,** Welfare Management, Incentives Management, Management of Promotions, Discipline Management, Grievance Management

Following example describes how ethical aspects could be incorporated into HRM functions, in the process of operationalization of EOHRM.

'*Acquiring'* is a main field in the HRM architecture, with five HRM functions: job analysis, recruitment, selection, hiring and induction (Armstrong, 2014; Dessler, 2013; Jackson & Schuler, 1995; Opatha, 2009). EOHRM, is to direct HRM functions to create, enhance and maintain ethicality within employees in organizations. As the initial step in this process, HRM functions would be directed to *attract, select, hire and induct ethical candidates* into the organization. To ensure this, EOHRM functions should include systematic ethics screening aspects in the process of 'Acquiring', or to the functions of acquiring (Job Analysis, Recruitment, Selection, Hiring and Induction, as proposed below.

Job Analysis: To include ethical qualities as a duty in Job Description, and ethical competencies as an exceptional element in Job Specification.

Recruitment: To include ethics-related aspects in the recruitment policies of the organization, and to communicate the employer's ethical concerns through recruitment.

Selection: To select applicants who are sufficiently aware of ethics to fill job vacancies, and to select applicants who have been ethical as citizens under their private life domain. Techniques such as, examination of behavioral information from resumes or behavioral-interviews, reference/background checks, integrity screening tests and posing ethical dilemmas in the interview can be used as methods of the selection.

Hiring: To include ethical standards expected from the new employee in a pledge, explain and get it signed, and to include ethical standards expected from the new employee in the offer letter.

Induction: To include components in the induction programs to make new employees familiar with ethics and the organizational goal in making employees ethical. Also programs are developed to show ethical behavior of current employees or their ethical role models.

In the same manner, ethical aspects could be included into the other two domains, Develop and Retain. In the process of operationalization, the three dimensions of EOHRM, acquire, develop and retain, are further expanded into elements and sub-elements. The sub-elements indicate the ethical aspects of the respective elements (Table 2) and would direct through to prepare the respective question items from EOHRM.

Table 2. EOHRM- Dimensions, Elements and Sub-elements

Dimensions	Elements	Sub-elements
Acquire	Job Analysis	- to include ethical dimensions as a duty in Job Description - to include ethical competencies as a special requirement in job specification.
	Recruitment	- to include ethics-related criteria in the recruiting messages of the company. - to communicate the employer's concern about ethics through recruitment efforts.
	Selection	- to select applicants who are sufficiently aware of ethics to fill job vacancies. - to select applicants who have been ethical as citizens under their private life domain.
	Hiring	- to include ethical standards expected from the new employee in a pledge, explain and get it signed. - to include ethical standards expected from the new employee in the offer letter.
	Induction	- to make new employees familiar with ethics and organizational efforts in making employees ethical. - to develop induction programs showing ethical behavior of current employees.
Develop	Performance Evaluation	- to evaluate employee's job performance according to ethics-related criteria. - to include a separate component for progress on ethicality in the performance feedback interview.
	Training & Development	- to impart right knowledge and skills about ethics (societal, professional and individual ethics etc.) to each employee through a training program exclusively designed for making employees ethical. - to do training needs analyses to identify training needs of employees in respect of ethics.
Retain	Pay Management	- to integrate ethical standards, in addition to performance levels when considering pay. - to connect 'input equity' of pay to ethical performance and ethical competence.
	Incentives Management	- to give financial incentives to employees for their ethical performance of job. -to give non-financial incentives such as praises and recognitions to employees for their ethical behavior.
	Welfare Management	- to provide certain welfare services, such as time-off services, advances and loans, transport services etc., to only those who are ethical.
	Management of Promotions	- to consider ethicality of the employee as a main criterion for giving promotions. - to appoint members who are highly ethical to promotion committees.
	Discipline Management	-to formulate and publish rules of conduct relating to ethics. -to develop a progressive disciplinary system to punish employees who violate the rules with regard to right and wrong.
	Grievance Management	-to allow 'whistle-blowing' in the organization. -to appoint an 'ethics officer' to deal with claims of unethical behavior.

The above dimensions, elements and sub-elements would guide towards developing an instrument to measure the novel construct, EOHRM in an organization. In the measuring instrument, ethical aspects should be included in each element and question item of EOHRM. The ethics related details under sub-elements would guide towards constructing the question items in the measurement instrument of EOHRM.

10. Conclusion

This article attempted to achieve three objectives: (i) to explore the existent meaning of the ethical dimension of HRM; (ii) to propose a distinct, new facet to the ethical dimension of HRM, labeled EOHRM and (iii) to conceptualize and operationalize the proposed construct EOHRM, guiding towards a measurement instrument. Firstly, the authors explored the ethical dimension of HRM and identified that there are two possible meanings to it. The first meaning is 'to perform HRM functions ethically, in order to maintain justice, fairness and well-being towards the stakeholders'. This is the well-established, existing meaning of the ethical dimension of HRM, or the 'social' aspect of ethical dimension of HRM. Scholars (Carroll, 1979; Greenwood, 2013) labeled this concept as the CSR or CSP of HRM. Secondly, the authors identified a possible second meaning to the ethical dimension of HRM, and labeled it as Ethical Orientation of HRM or EOHRM. This construct is 'to direct HRM functions to create, enhance and maintain ethicality within employees, in order to make an ethical workforce in the organization. This is a distinct aspect of the ethical dimension of HRM, in contrast to the existing 'social' aspect. Ethical Orientation of HRM or EOHRM is proposed as a new construct to address issues connected with ethicality within employees, and unethical behavior of employees at work. Finally, the authors constructed a working definition for EOHRM, conceptualized and operationalized the concept towards developing an instrument to measure EOHRM.

Originality of this article is it identified a second connotation to the ethical dimension of HRM and proposed a new construct to HRM literature labeled 'Ethical Orientation of HRM (EOHRM), which can be considered as a valuable contribution to the HRM and Organizational Behavior (OB) literature. Hence, this paper has a significant utility for future research.

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Gender Based Utilization of Microfinance: An Empirical Evidence from District Quetta, Pakistan

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Abstract

This study examines the impact of microfinance on gender based income generating activities of the Khushhalli Bank Ltd client's in urban zone of district Quetta during year 2011. The Primary data was collected through structured questionnaire from 80 clients (60 beneficiaries and 20 non-beneficiaries) by adopting cross sectional experimental design.

In order to analyze the collected data the t-tests were applied. The results show that the microfinance has a positive impact on both male as well female beneficiaries as compare to non-beneficiaries in term of increase in business performance. It has non-significant impact on average sale revenue of both male as well as female micro-entrepreneurs. Whereas it has a significant impact on average net profit, average fixed assets as well as average net worth of the male but having non-significant impact on female established micro-entrepreneurs. Comparison of gender based business performance reveals that the microenterprises operated by male are able to generate better revenue and net income performance also the same results are obtained in case of enhancement in fixed assets as well as net worth. So we may confidently say that male clients are able in utilizing the microfinance services more effectively as compared to female.

Keywords: microfinance, micro-enterprise, micro-entrepreneur, sale revenue, net profit

1. Introduction

In the Balochistan province of Pakistan woman are particularly responsible for household activities such as raising kids, cooking and maintaining house. Most of the women are bound to stay within home premises, but few are involved in some income generation activities too. However, income generation by women has never been recognized by the society. Women of Balochistan have potential to play a vital role in economic growth of families and communities if financial hurdles are removed and societal discriminations are overcome. It is a need of the time that female should share equally with male counterparts in economic activities and to support families more effectively in monitory terms.

The Governments of developing countries are providing microfinance services through Microfinance Institutions (MFIs) to the deserving communities of the societies. By this strategy Governments are trying to improve people access to financial services, such as microcredit and insurance facilities in order to empower them financially. In absence of government support members of the poor communities continue to rely on meager self-finance or financial assistance from informal sources to initiate microenterprises at local level. This ultimately reduces their profitability and entrepreneurial thrill. The poor women, as a major portion of our population are affected from abject poverty. But such a marginal section of a society might be effectively assisted and empower through provision of microfinance services (ADB, 2009).

The Government of Pakistan considers the extension of microcredit as its "frontline strategy" in order to fight poverty. Among others one of the Government's objects is to stabilize its economy by promoting microenterprises. To achieve this, the Government of Pakistan has launched various integrated rural support programs. It has, also, allowed various NGOs and granted licenses to various Microfinance Banks to start operations. Government has also encouraged commercial Banks to open windows to promote microfinance to eradicate poverty. As a result, number of MFIs, NGOs and Microfinance Banks are operative in Pakistan in general and Balochistan in particular. However, the impacts of microfinance institutions on its user need to be evaluated. The main focus of this research study is to evaluate whether the men or women are more positively benefited from microfinance credit facilities provided by the Khushhalli Bank Ltd in district Quetta of Pakistan.

2. Literature Review

2.1 Microfinance

The concept of microfinance is initiated by well-known economist and noble laureate Dr. Mohammad Younas founder of the Grameen Bank in Bangladesh. The basic motive of microfinance is provision of finance to the poor for developing small enterprises. The small amount of loans is extended to the poor borrowers typically for a short term (a year or less), and are collateral free in nature requiring repayments in weekly installments. The main characteristic of microfinance is its ability of providing collateral free microloan (Asia Focus, 2010). The poor who can't operate or initiate businesses due to the shortage of capital may get benefit from microfinance services provided by microfinance organizations (Khandker, S., 2001). The researcher had agreed on this point that access to financial services is essential for the poor to enhance productivity, assets creation, income generation and achieve food security. So in comprehensive words Microfinance is basically a provision of small scale credit, and insurance to fulfill needs of poor entrepreneurs (Thapa, 2006). But lack of income and resources force the poor to take loans to meet basic necessities of life whereas the number of collateral leaves them at the mercy of the informal money lenders (The state of Pakistan's Economy, 2005). It has been observed that informal creditor's charges very high markup leaving borrowers highly indebted. In such a situation the poor definitely looks towards the government established microfinance institutions or financial intuitions runs by the nongovernment organization as they charge very nominal interest rate.

2.2 The Khushhali Bank Limited: An Overview

The Khushhali Bank Limited was established in year 2000 by the Government of Pakistan as part of its poverty reduction strategy and Microfinance Sector Development Program (MSDP). The government has developed MSDP with assistance of Asian Development Bank. The Khushhali Bank Limited work under supervision of the State Bank of Pakistan and major commercial banks are its shareholders (Khushhhali Bank Limited, 2012). It is the country's first licensed microfinance institute and has a mandate to provide retail microfinance services within country. It acts as facilitator for stabilizing the government newly launched microfinance projects.

The Khushhali Bank Ltd is today consider as country's largest microfinance bank in Pakistan in terms of its operations, coverage and impact in all four provinces of the country, Jammu and Kashmir and tribal areas.

2.3 Gender Based Performance

Magill and Meyer (2005) have revealed in an empirical study at Ecuador that majority of women micro-entrepreneur in the study area are economically active as compared to male. The main reason for higher participation of women in microenterprises; is the only opportunity available for them to participate as compare to men. A Sri-Lankan study by Pushpakumara (2011) reveals that microfinance has more positively impacted women entrepreneur then men in terms of capital gains, monthly income and saving levels. Similar results are also found in the research study conducted by Akram & Hussain (2011) at district Okara, Pakistan and Planet Finance study at Egypt (2008) that higher percentages of women clients as compare to men clients have revealed a positive impact from microfinance on their businesses performance.

Khandker, (2001) has reported that women generally experience relatively higher increase in business income because women are more credit constrained than man. Karlan & Zinma (2010), in a study conducted in Manila, identify early entrepreneurial involvement as a main reason for women success as compare to male counterparts. So the experience of the entrepreneur also contributes in the performance of business operations. Whereas, a Bangladeshi study has shown quite contradictory results as participation in the microfinance programs did not improve ownership of the women clients as compare to men (Chowdhury, 2009). The main reasons for improvement in men's ownership is the male dominance in Bangladeshi society as most of the women handover their loans and business assets to their husbands and do not run businesses by themselves. Similarly it has been identified by Severine, K., (2009) in a research study at Tanzania that microfinance activities has more positively affected male owned enterprises as compared to female enterprises. The male entrepreneurs have generated higher level of assets, sale revenue and number of employment opportunities.

The research study at Nigeria has revealed that microfinance could not helpful in enhancement of growth and expansion capacity of microenterprises (Babajid, 2012).

The above reviewed literature showing mixed results of microfinance impact on male or female enterprises highlights to further investigate whether men have benefited and empowered more as compare to women in different context. The present study focuses in obtaining answer to the following research questions from

Balochistan Perspective:

I. Does the access to microfinance services more helpful for men as compare to women in boosting of microenterprise's revenue?

II. Does the access to microfinance services more helpful for men as compare to women in growth of microenterprise's net income?

III. Does access to microfinance services more helpful for men as compare to women in increasing microenterprise's fixed assets?

IV. Does access to microfinance services more helpful for men as compare to women in enhancement of microenterprise's net worth.

3. Methodology

The cross sectional survey design is used for this study. The households having micro enterprises are taken as a unit of assessment. A sample comprising 80 respondents (40 males and 40 (females) who obtained loan from the Khushhali Bank Ltd are selected by using multistage cluster sampling. At first stage 60 respondents (30 males and 30 females) who obtained microcredit facilities at least two years prior to the conduct of the survey i.e. December 31st, 2011 are treated as beneficiaries (treatment group) and at second stage 20 respondents (10 males and 10 females) are selected from new entrants who have just obtained the microcredit facilities and developed enterprises treated as non-beneficiaries (control group).

The population of the study consists of all such borrowers of the Khushhali Bank Ltd, who have obtained loans and invested for microenterprise startups or supporting a running business. These clients belong to the urban zone of the district Quetta as the Khushhai Bank provides microfinance facilities only in urban area and does not extended its' services to the rural areas as per information provided by the regional office.

The study at first stage, compares changes in enterprise performance by comparing beneficiaries with non-beneficiaries to see microfinance impact. The study anticipates better status of beneficiaries in term of enterprises' sale revenue, net income, increase in fixed assets and net worth of business as compare to controlled group. In order to reveal the final conclusion at the second stage, the differences of performance among the two groups are studied on the basis of gender (males and females).

The primary data is collected through structured questionnaires from a sample of 80 Bank clients. These are those clients who have invested microcredit in microenterprises; these clients are identified with the help of the bank field staff. An experienced team of MBA students having research knowledge have helped in data collection through self-administered questionnaires.

For ensuring completeness and quality of data, a field data editing is carried out at the end of the each day after analyzing the each questionnaire to minimize the chances of errors. The collected data is entered into software Statistical Package for Social Scientists (SPSS) version 16 for analysis purpose on daily basis.

4. Findings of the Study

4.1 Demographic Profile

Marital Status

Majority of the respondents under study are males i.e. 62.5% while 55.0% are female, whereas, 37.5% male and 45.0% female are un-married. From the data it is inferred that the high percentage of both married male and female are interested in seeking microfinance services as compared to unmarried.

Table 1. Demographic Information of Respondents

Demographic Variables:	Gender Male (n = 40)	Female (n = 40)
Marital Status		
Married	62.5 %	55.0 %
Un-married	37.5 %	45.0 %
Level of Education:		
Uneducated	12.5 %	37.5 %
Primary	35.0 %	30.0 %
Middle	17.5 %	10.0 %
Matric	15.0 %	12.5 %
Intermediate	07.5%	10.0 %
Graduate	07.5 %	00.0 %
Master	05.0 %	00.0 %
Family Size:		
Less than 2 members	00.0%	00.0%
3 to 5 members	25.0 %	37.5 %
More than 5 Members	75.0 %	62.5 %
Income Level:		
Rs. 2000 – 4000	05.0 %	15.0 %
5000 – 7000	30.0 %	20.0 %
8000 – 10000	27.5 %	35.0 %
11000 – 15000	17.5 %	17.5 %
16000 – 20000	10.0 %	07.5 %
21000 or more	10.0 %	05.0 %

Level of Education

The education level of respondents indicates (Table 1) that the high percentage (37.5%) of females as compare to males (12.5%) are un-educated and more than half (62.5%) of the females having primary to intermediate level of education., None of them have graduate or master level of education. Whereas, for the males, majority of the respondents (87.5 %) are educated and only 12.5% are uneducated. This status shows that females are lacking behind in the level of education in Balochistan province.

Family Size

Composition of family pattern revels that 75.0% males and 62.5% female belong to family having more than 5 household members, whereas, 25.0% male and 37.5% female have 3-5 household members. This means that majority of the male are bearing burden of larger family as compare to female. The main reason for the large number of married male involvement in business operations and seeking microfinance services is that they are the sole bread earner for their family.

Income Level

Majority of the respondents 57.5% males and 55.0% females belong to Rs. 5,000-10,000 income brackets, while 27.5% male and 25.0% females belong to Rs. 11,000 – 20,000 income brackets. Some 15.0% females and 5.0% male, also, belong to very low income bracket i.e. Rs. 2,000 – 4,000. Analyzing the different income levels reveals that majority of the respondents availing microfinance services belongs to very low income level.

4.2 Impact of Microfinance on Micro-enterprise Performance

In this research study the micro-enterprise performance is judged by measuring microfinance impact on four variables i-e Average Annual Sale, Net Income, Fixed Assets and Enterprise Net Worth. Firstly, the changes in client's micro-enterprise's performance on the basis of beneficiaries versus non-beneficiaries are analyzed to check the microfinance impact. The study infers that beneficiaries business have shown better performance in term of micro-enterprise's sale revenue, net income, fixed assets and net worth as compared to that of non-beneficiaries. In order to reveal the gender impact, at the second stage, the enterprises' performance difference on the basis of male and female is analyzed.

Table 2. Impact of Microfinance on Average Annual Sale

Gender	Average Annual Sales		Mean Difference		
	Beneficiaries	Non-Beneficiaries	*Amount	%	t-test Value
Male	1,91,193	1,52,600	38,583	25.29	0.819
	n=30	n=10			(0.418)
Female	1,57,973	1,39,000	18,973	13.64	0.458
	n=30	n=10			(0.650)

*All Amounts are in Pak. Rupees. Values in parenthesis represent significance level.

Table 2 indicates gender wise average annual sale by the business activities developed by clients of both groups (beneficiaries and non-beneficiaries). The results show that the average annual sale generated by male and female (beneficiaries) is higher than (non-beneficiaries) micro-entrepreneurs. The average annual sale of male beneficiaries is 25.29% higher than male non-beneficiaries and in case of female beneficiaries business it is 13.64% higher as compare to female non-beneficiaries. The means difference (t-value = 0.819) of average annual sales among male beneficiaries and non-beneficiaries is non-significant (*P*=0.418) and for female (t-value = 0.458) non-significant too (*P*=0.650). So we may infers that the increase in average sale revenue generated by both male & female beneficiary's micro-entrepreneur shown a no-significant impact in term of increase in revenue as compare to male and female non-beneficiaries.

By comparing average annual sale on gender basis it is inferred that the male developed businesses have generated higher average revenue than female micro-entrepreneurs. It is clear from the data given in the Table 2 that male micro-entrepreneurs are able in generation of high average annual sale from their microenterprises, which is almost double as compare to their female counterparts.

Table 3. Impact of Microfinance on Annual Net Income

Gender	Average Annual Net Income		Mean Difference		
	Beneficiaries	Non-Beneficiaries	Amount*	%	t-test Value
Male	88,143	43,880	44,263	100.87	2.222
	n=30	n=10			(0.032)
Female	86,200	81,893	4,307	05.26	0.115
	n=30	n=10			(0.288)

*All Amounts are in Pak. Rupees. Values in parenthesis represent significance level.

The Table 3 reveals information about average annual net income earned by business enterprises developed by clients after acquiring funds from the Khushhalli Bank and making investment in microenterprises. The average annual net income of male & female beneficiaries is higher than non-beneficiaries. The results show the microfinance has positive impact on the clients' business performance. The male beneficiaries are able to increase average annual net income by 100.8% as compared to male non-beneficiaries whereas female beneficiaries are successful in enhancing average annual net income by only 5.26% as compare to female non-beneficiaries.

The mean difference (t-value = 2.222) of average net income between male beneficiaries and non-beneficiaries is significant at 0.032 level of significance, whereas for female (t-value = 0.115) is not significant at 0.288 level of significance. From statistical analysis we may infer that both male & female micro-entrepreneurs are able in controlling cost of business activities which results in enhancement of average net income.

By comparing the business performance on the basis of gender it is inferred that female micro-entrepreneur could not show better performance in generation of average annual net income as compare to male micro-entrepreneur. This enhancement in net income may create drastic improvement in male business performance as compare to female.

Table 4. Impact of Microfinance on Fixed Assets

Gender	Annual Average Fixed Assets		Mean Difference		
	Beneficiaries	Non-Beneficiaries	Amount*	%	t-test Value
Male	50,700	9,400	41300	439.61	2.827
	n=30	n=10			(0.008)
Female	20,200	18,933	1267	6.69	0.127
	n=30	n=10			(0.904)

*All Amounts are in Pak. Rupees. Values in parenthesis represent significance level.

The Table 4 shows overall enhancement in average fixed assets of both male and female (beneficiaries) as compare to male and female (non-beneficiaries) micro-entrepreneurs. The male and female beneficiaries are successful in enhancing fixed assets at the rate of 439.61% and 6.69% respectively as compare to non-beneficiaries. The t-test value (2.827) for means comparison for fixed assets of male beneficiaries and non-beneficiaries entrepreneurs show significant difference at 0.008 significance level, whereas the same is not significant for female. So, we may infer from these results that males are more successful in enhancement of fixed assets of business as compare to female micro-entrepreneur. The enhancement in the value of average fixed assets of male micro enterprises are creating more positive role as compare to female micro-enterprises.

Table 5. Impact of Microfinance on Net Worth

Gender	Annual Average Net Worth		Mean Difference		
	Beneficiaries	Non-Beneficiaries	Amount*	%	t-test Value
Male	54,900	6,000	48,900	815	3.696
	n=30	n=10			(0.001)
Female	18,817	17,220	1,597	9.27	0.189
	n=30	n=10			(0.851)

*All Amounts are in Pak. Rupees. Values in parenthesis represent significance level.

The Table 5 indicates enhancement in average net worth of micro-entrepreneurs by both male and female beneficiaries as compare to male and female non-beneficiaries. Both male and female beneficiaries' microenterprises are successful in increasing average net worth at the rate of 815% and 9.27% respectively as compare to non-beneficiaries businesses. The mean difference (t-value = 3.696) of average net worth between beneficiaries and non-beneficiaries for male is significant at 0.001 significance level, whereas for female (t-value = 0.189) is not significant because of 0.851 level of significance. This shows that enhancement in the value of average net worth of male micro enterprises will create more positive impact on their business performance as compare to female micro-enterprises.

5. Discussion and Conclusion

The present study examines impacts of microfinance facilities obtained by microenterprises from the Khushhalli Bank, Quetta, Pakistan. The results indicate that the beneficiaries are well in position to utilized microfinance to enhance businesses growth as compare to non-beneficiaries. It is also inferred that microfinance has positively impacted business performance of both male and female microenterprises. We can conclude that both male and female micro-entrepreneur are successful in showing positive performance of their micro-entrepreneur after acquiring microfinance facilities from microfinance bank. The present study has inferred same results in line with previous studies showing that male entrepreneur's businesses perform better as compare to female (Chowdhury., 2009). But the male micro entrepreneur are unable to show significant impact on average net sale and average net income whereas they are able to create significant impact on average fixed assets and average net worth of businesses. Whereas, women are unable to show significant on all four variables which is against of the results shown by Akram & Hussain (2011) at district Okara, Pakistan and Planet Finance study at Egypt (2008).

While comparing the microenterprises performances on gender basis, the male as compare to female micro-entrepreneurs have generated higher sale revenue, net profit. They are also able in enhancement of fixed assets and net worth of their enterprises. The female micro-entrepreneurs are unable to show better business performance as compare to male counterpart. The main reasons revealed in this study are; that the female's microenterprises have shown low business performance because majority of female clients are either uneducated or having low level of education as compare to male. Also, most of the female are married and belong to low income group. As female of Balochistan are responsible for taking care of family members along animal rearing which negatively affects business performance as compare to male micro-entrepreneurs.

Besides the above mentioned reasons female entrepreneurs get very less opportunity to flourish business activities because of being the part of such a culture which is mainly male dominated. The female micro-enterprises could not developed and grow business activities as compare to male due to lack of business skill and access to the wholesale market to purchase merchandise on comparative prices. Un-ability to get business outlets in a proper market is also hampering to generate proper sale revenue and due percentage of return on investment. Due to above mentioned reasons female entrepreneurs are not able to increase fixed assets and generate net worth from invested funds whereas male are able to show much better performance in growth and development of their business activities.

6. Recommendations

I. The most of the female clients have initiated their business but could not run it more effectively due to lack of business related training and sufficient financial assistance. So it is recommended all MFIs should arrange essential micro business related training and provide sufficient funds to women for establishment of businesses.

II. Most of the female entrepreneurs spend their business funds for domestic needs as they are responsible to take care of family too. It is recommended that the government should provide special loan to support domestic expenses in addition to business loan.

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The Economic Impact of the Qualifying Industrial Estates in Jordan on the Jordanian Economic Activity: A Case Study on Al-Hassan Industrial Estate, Jordan, (2000-2014)

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Abstract

This study aims at exploring the impact of exports, employment,, investment size, and the number of companies in Industrial estate and the economic activity in Jordan from 2000-2014. The economic activity was represented by the Gross Domestic Product (GDP). Statistical analysis for the model of the study demonstrated that there is a positive relationship, with statistical significance, with regard to the exports of the industrial estates in Al Hassan Industrial estate. This means that the export of Al Hassan industrial estate positively contributes to enhance the economic activities in Jordan. However, the study found a negative correlation, with a statistical significance, between employments in the industrial estates of Al Hassan industrial estates with the Gross Domestic product (GDP) since most employees at the estate are from different Jordanian nationalities. The study has also found a positive correlation between the industrial companies' size in Al Hassan Industrial estate with the GDP, but with no significance statistical significance because the inputs of productivity are imported from outside of the country based on the partnership agreement with the United States of America, which also doesn't reflect positively on the economic activity in Jordan. The study has come up with some significant recommendations. There is an urgent necessity to enact regulations and rules for the companies in Al-Hassan industrial estate to employ local Jordanian citizens and motivate the national investment through the financial policies and adopting the policy of diplomacy of the Jordanian investor.

Keywords: exports, employment, investment size, number of companies, gross domestic product

1. Introduction

In general, industrial estates play a great role in increasing the level of investment and productivity in the private sector, through providing a suitable and attractive environment for investment, the notion that will definitely lead to opening channels of investment to export products and goods for foreign markets.

Jordan, like rest of the countries in the world, seeks to magnetize investments in the industrial sector through providing regions in Jordan in an attempt to attract investment and increase industrial exports, as investing in the industrial sector plays a great role in pushing the economic process ahead.

Jordan has witnessed unique experiments in the field of qualifying industrial estates in Jordan by stressing the significance of investment where investors in these estates got lots of investing privileges, worthy features and a preference of exporting the products abroad in addition to exempting factories, companies and grand projects in industrial qualified estates raw materials, locations and parts from custom fees.

Currently, there are 10 industrial areas distributed over different regions to serve all investors and fulfill their needs. Jordanian Industrial Estate Corporation was founded based on article no. (34) of the year 1980 adopting article no. 59 of the year 1985. This corporation seeks to achieve its goals represented by establishing and developing industrial estates by distributing them all over the country in an attempt to increase the level of productivity and profit.

Al Hassan industrial estates are considered the first qualified estates it was founded in 1991 and is located in Irbid Governorate 75 Kms away from Amman, the capital. It was fully considered the first industrial estate in 1998 to export to American market. Its total area is almost three acres with around 137 companies in the 2014.

The total volume of investment is about 405.72 Million JDs. It has created more than 21292 job opportunities distributed as: 6584 for Jordanians, 14708 for foreigners, when the value of exports for the same year has reached 399, 26 Million JDs. Therefore, it is considered the second in light of the volume of investment in Jordan. Accordingly, the current study is intended to assess the economic impacts of the qualified Industrial zones on the Jordanian economy.

2. The Problem of the Study

Qualified industrial estates play a great role in supporting the national economy and pushing the processes of development ahead through providing motivations to investors. It also works on enhancing the level of competitiveness of the domestic products in international markets in addition to providing lots of job opportunities for local residents.

Due to the significance of the private sector in the national economy, being one of the most significant and strategic one in any economy, the problem of the current study was summed as thus:

1. Is there any positive impact for the volume of investment in Al Hassan industrial estate on the Gross Domestic Product (GDP)?
2. Is there any positive impact for the volume of companies in Al Hassan industrial estate on the Gross Domestic Product?
3. Is there any positive impact for the employees' number in Al Hassan industrial estate on the Gross Domestic Product?
4. Is there any positive impact for the volume of exports in Al Hassan industrial estate on the Gross Domestic Product?

3. Objectives of the Study

This study aims at achieving the following objectives:

1. Studying the present status of Al Hassan industrial estate.
2. Showing the level of economic variables impact on (investment, exports, employment volume, and the number of companies) on GDP during the study period.

3.1 The Population and Data of the Study

The present study adopted the official data archived and published in formal documents in addition to the annual reports and brochures for a number of industrial estates provided by the Public Department of Statistics and the Central Bank of Jordan.

3.2 Method of the Study

The study has adopted an analytical approach through the variables of the volume of investment, the number of companies, the number of exports, and the volume of employment in Al Hassan industrial estate to identify the impact of these variables on the GDP.

4. Review of Related Literature

Al Godrah (2007) tackled a study about the impact of investment in the industrial estates in Palestine on increasing job opportunities. This study revealed that there were no satisfaction in investors' views about the administrative performance of investment-related institutions in Gaza strip industrial estate, thus weakening the potential to attract foreign and local investment, a thing that leads to weakening its chances in creating abundant job opportunities and combating the matter of unemployment. The study recommended that there should be a review for all the legal and official regulations, legislations, and agreements that encourage investing in such industrial estates.

Al Garalah (2006) studied the impact of the Jordanian industrial estates and their impact on the Jordanian economic activities from 1996 through 2005. The study found that there is a positive impact on the volume of investment, employment and companies' number on the GDP. The study further recommended that the government needs to provide lots of support to those industrial estates and encourage establishing new qualified estates.

The Private Economic Sector Affairs conducted a study on the horizons of applying industrial collections and its impact settlements in the Kingdom of Saudi Arabia. The study concluded that there should be a great need for the existence of some main pillars for industrial estates in any country and that they need to be directed towards providing lots of job opportunities, providing raw material and the appropriate infrastructure, planning rules and legislation that encourage investment, and providing local service to support the institutions and enable them to take part in the series of the international value. The study recommended reviewing the present rules, regulations, and decisions to support the local industrialization and plan a number of public awareness-campaigns to introduce the local products and establishing a database for introducing the local products for foreign investors in KSA.

Sohaib's study (2012) focused on the role of industrial zones in alleviating sustainable development in the Euromeditranian region. The study concluded that the industrial regions are considered the major modern methods for Industry settlement. Also, the study concluded that founding industrial zones achieves for economic, social and cultural objectives. The study also founded that when establishing any industrial region, many factors should be taken into consideration some basic factors so as to become much more effective in achieving economic development. The study had a set of recommendations: ensuring the participation of all participants in running the industrial estates in addition to the collaboration between all the specialized parties when choosing a site for such industrial estate and providing industrial estates with all necessary services.

Awad (2006) studied the impact of industrial Jordanian qualified zones in terms of performance, economic impact and future perspectives. The study concluded that investor's tendency towards the volume of investment, without focusing on quality, led to the concentration of these industries in sewing and clothing, with little interest and value. The study revealed that there is a limit for the impact of industrial qualified zones' agreement on the domestic economy with fields of investment, employment and exports. The study has shown that the reason for the hindrances mentioned above is attributed to the scarcity of raw material in the local market. The study also recommended that an increase in the investment varieties should be noted in light of the recourse, attitude, and field with a concentration on attracting foreign investment of a high value and with promising features for the national economy. The study further recommended qualifying the local employees through proper training programs to increase their professional expertise to meet the domestic market requirements.

4.1 Establishment and Development of Industrial Estates in Jordan

Building the company of the industrial estates in 1980 is considered the most significant economic projects conducted in Jordan. This project is the biggest attraction for industrial investments. This is attributed to the establishment of industrial qualified estates, which are considered the most significant supporters of the national economy due to the support it provides to investors as these estates have become a local, regional and international model due to the attractive environment for investment in such areas which counted until 2015 around 6 areas. In light of the success of the first industrial estates in Jordan, Al Hassan Industrial estate, other industrial estates were adopted to fulfill the increasing requirements of investors. These zones include[1]:

1. Al Hassan Qualifying Industrial Zone
2. Al Hussein bin Abdullah II Qualifying Industrial Zone
3. Al-Dleel Qualifying Industrial Zone
4. Complexes Estate Qualifying Industrial Zone
5. Jordan Valley entrance Qualifying Industrial Zone
6. Cyber Estate Qualifying Industrial Zone

4.2 Al Hassan Qualifying Industrial Zone

Al Hassan Industrial Estate qualifying zone is considered the first Industrial Estate qualifying zone in Jordan as it was established in 1991. It is located in the north of Jordan, 75 Kms away from the capital, Amman, with an area roughly 1178 acres[2].

Among the most important reasons for the distinction and power of Al-Hassan Industrial Estate zone is that it is a qualifying zone. That is, its products enter the market of the USA without restrictions and confinement and they are exempted from custom fees, thus leading to an increase in the volume of investment in Al-Hassan Industrial Estate qualifying zone. Investment rate amounted 405, 72 Million Jordanian Dinars until the end of 2014 distributed on 137 companies[3] compared with the period study in 2000 where the volume of investment reached around 168, 01 Million Jordanian Dinars while the number of companies reached 70 ones. This increase is

[1]The Hashemite kingdom of Jordan- The official site of the Electronic Government, 2015.

[2]Industrial Estates Company-Annual Report, 2014

[3]Ibid

attributed to the efforts exerted by the government to support and develop the Jordanian economy through establishing Industrial estate zones which is considered the general company State Company for industrial zones and it works on establishing qualified estate zones that are highly qualified with standards and international criteria for the sake of attracting foreign investment in addition to providing lots of facilities and motives that attract investment.

Development of export and investment volume, Companies number, and Employment at Al Hassan Industrial estate qualifying zone

Table 1. Development of export and investment volume, Companies number, and Employment at Al Hassan Industrial estate qualifying zone (2000-2014)[4]

Year	Companies' No	Investment Vol./MJD	Export Vol. MJD	Employment
2000	70	168,01	171,84	13550
2001	74	200.654	181,200	15744
2002	79	211,770	229,71	16920
2003	80	218,370	227,39	17739
2004	84	228,37	294,20	19645
2005	92	237,78	263,200	22035
2006	99	238,78	290,00	22434
2007	106	240,40	278,32	21274
2008	104	247,05	279,12	21055
2009	98	183,23	215,93	11557
2010	103	187,45	235,86	13848
2011	106	215,85	277,80	14054
2012	114	368,13	298,27	14056
2013	124	381,68	344,15	17493
2014	137	405,72	399,26	21292

Throughout table one, we notice that the number of companies have increased during the period from 2000 through 2007 as it reached 70 companies in 2000 but increased to (106) companies in 2007. As for the volume of investment, it amounted 168, 01 Million Jordanian Dinars in 2000m but it increased in 2007 to 240, 40 Million Jordanian dinars. As for the volume of exports, it reached 171, 84 million Jordanian dinars in 2000 and increased to 278, 32 million Jordanian dinars in 2007. The increase in the volume of investment and number of companies have reflected on the volume of employment as it reached 13550 employee in 2000 and it increased to 21274 employees in 2007.

As for the years 2008 and 2009, we notice that the number of companies have decreased to 104 and 98, respectively, and that reflected on the volume of investment and exports' volume, thus negatively affecting the volume of employment compared with the previous period. The volume of investment in the years 2009 and 2010 have decreased to 183,400 million Jordanian dinars in 2010 and it reached 240.40 million Jordanian dinars in 2007. This decrease in the volume of investment and number of companies is attributed to the impact of international financial crisis on the Jordanian economy, thus leading to a decrease in the volume of investment because most exports of this investment target the American market based on QZI.

As for the period from 2011 through 2014, we notice that the volume of investment and the number of companies have increased remarkably. The number of companies increased in 2011 to become 106 companies with an investment volume of 215, 85 million Jordanian dinars and with export volume of 277, 80 million Jordanian dinars to register an increase of 137 companies in 2014, an investment volume of 405, 72 million Jordanian dinars and export volume of 399, 260 million Jordanian dinars, the thing that reflected on the increase on the employees number to become 2014 in 21292 employees.

5. Analytical Framework

So as to meet the objectives of the current study, a mathematical approach was designed to explore the level of impact of independent variables represented by the number of companies, investment volume, export volume, and employment volume along with their influence on the dependant variable, GDP.

$Y = a_o + a_1 z_1 + a_2 z_2 + a_3 z_3 + a_4 z_4 + u$

Where a_1, a_2, a_3, and a_4 are the parameters that will be estimated,

Y: GDP

[4] Industrial Estates Company-Annual Report, different volumes.

Z1: The number of companies, Z2: the volume of investment, Z3: the volume of exports, Z4: the volume of employment, U: Dummy variable

This study surveys the period 200-2014 for the independent variables that include the volume of employment, the volume of investment, and the number of companies)in Al Hassan Industrial Estate Qualifying Zone. The study also investigates its role in influencing on the dependent variable of the GDP. The researcher depended on the annual reports of Al Hassan Industrial estate qualifying zone. However, as for the dependent variable, GDP, we depended on the statistical brochures of the annual reports issued by the central bank of Jordan.

Dependent Variable

1. The Gross Domestic Product

5.1 Independent Variables

1. Foreign companies exports at Al Hassan Industrial Estate qualifying zone
2. Volume of employment at Al Hassan Industrial Estate qualifying zone
3. Volume of investment at Al Hassan Industrial Estate qualifying zone
4. Number of foreign companies at Al Hassan Industrial Estate qualifying zone

We will depend on the regression approach by using the program E-views to study the impact of the independent variables on GDP as the following sample was formed.

$$GDP = F(X, L, I, NC)$$

Where,

X: the value of industrial companies' exports, Million Dinars/per year.

L: the volume of employment in industrial companies during the year (T).

I: Investment in industrial companies Million Dinars/per year.

NC" Number of companies during the year, (T).

Based on these results reached by the researchers, the multi-deviation linear equation can be written as thus,

$$DDP= a |+ \ B1X + B2L + B31 + B4NC +E$$

Where B4, B3, B2, and B1 represent partial correlation of independent variables, whose signal can identify the direction between the dependant and independent variables.

Hypothesis One: There exists a positive correlation with a statistical significance between companies' exports in Al Hassan Industrial estate and the GDP.

Hypothesis Two: There exists a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP.

Hypothesis Three: There exists a positive correlation with a statistical significance between the volume of investment in Al Hassan Industrial estate and the GDP.

Hypothesis Four: There exists a positive correlation with a statistical significance between the number of companies in Al Hassan Industrial estate and the GDP.

Regression Analysis

We adopted the regression linear analytical approach to study the impact of the independent variables on GDP with the help of E-views program. The following results were noticed.

$$GDP = 3895.902 + 116.6\ X – 1.56L + 12.41 + 22.6NC.$$

Table 2. Dependent Variable: GDP

Variable	Coefficient	T-statistics	Prob.
X	116.4652	2.861082	0.0169
L	-1.579090	-4.042455	0.0024
I	12.40405	0.429632	0.6766
NC	22.64523	0.355075	0.7299
C	3895.902	0.469416	0.6488

R-Squared: 82%, Adjusted R-Squared: 74.9%, F-Statistics: 11.49, Prob. (F-statistics): 0.00,

Durbin-Watson stat: 2.74

Apparently, from the table above we found that the adjusted R-Squared demonstrates that the changes in independent variables altogether explain 75% of the changes that took place in the dependent variables. As for the F-statistics, it amounted 11.5 with a proportion statistics F of zero value. This means that the sample is statistically significant. Also, DW coefficient mounted 2.74, which means that the sample is suitable and statistically significant as there was not any self-correlation systematic error or between what is real and what is expected for the dependent variable.

The researcher has also conducted some forecast sample tests to ensure the stability test as well as the validity of the study that can be shown as illustrated by the diagram below where the bias proportion was zero while the variance proportion was 5 % and the covariance proportion equals 95%, a percent indicative that the error proportion was random.

Based on the forecast sample above, it can be inferred the following:

Hypothesis One: There exists a positive correlation with a statistical significance between companies' exports in Al Hassan Industrial estate and the GDP. It was shown through the forecast sample that the relation between the change of 116.6452 and the change that has taken place in the GDP is positive as the estimated coefficient for the impact of the estate companies in Al Hassan Industrial estate has reached 116.6452, which means that the relation between the impact of the estate exports at Al Hassan qualifying zone on the GDP. This result, in general, matches with financial and economic theories that concluded a n existence of a positive correlation between of the estate exports at Al Hassan qualifying zone on the GDP which means that the exports of the Al Hassan estate companies lead to an increase in the GDP because these industries are specified for the purposes of export to foreign American markets, a thing that led to increasing the volume of Jordanian exports and consequently increasing the GDP.

Based on T-test results, it was found that such results enjoys a statistical confidence at level 5%, meaning that trust level for this variable equals 95 % and this means an acceptance for the theory that assumed an existence of a positive relationship between the estate exports at Al Hassan qualifying zone on the GDP.

Hypothesis Two: There exists a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP.

Apparently, it was found through the forecast sample that the relation between the numbers of the employees in Al Hassan industrial estate qualifying zones and the changing proportions in the GDP was negative, as the estimated coefficient for the impact of the employees in the industrial estates amounted – 1.579090, which means that the relation was adverse between the impact of the change in the number of employees in these estates at Al Hassan industrial to that of the change in the GDP. However, such result didn't match with the standard financial and economic theories that concluded the existence of a positive relationship between the number of employees in industrial estates and the GDP in Al Hassan industrial estates as most of the employees at Al Hassan estates are foreigners whose number amounted 14708 in 2014 compared with the Jordanians whose number amounted 6584 for the same year. It is known that the foreign employment normally transfer their monthly wages to their countries the thing that reflected negatively on the economy of the country.

Based on the t-test, this result adopts the statistical proportion of 5% which means that trust level equals 95%, and then the hypothesis that claims the existence of a positive correlation with a statistical significance between employees' number in Al Hassan Industrial estate and the GDP is totally declined.

Hypothesis Three: There exists a positive correlation with a statistical significance between the volume of investment in Al Hassan Industrial estate and the GDP.

Apparently, it was found through the forecast sample that the relation between the volume of investment in Al Hassan Industrial estate and the GDP was positive but with no statistical significance at 5% because almost all the inputs of productivity including the equipment, raw material were all imported from abroad based on the partnership agreement with the USA Qualifying Industrial Zone. This, in turn, will reflect negatively on the GDP in Jordan thus resulting with very little added value for those investments on the Jordanian economy because all pillars of productivity are imported in addition to the fact that these products are exempted from fees and taxes, based on the partnership agreement with the USA.

Hypothesis Four: There exists a positive correlation with a statistical significance between the number of companies in Al Hassan Industrial estate and the GDP.

Apparently, it was found, through the forecast sample, that the relation between the number of companies in Al Hassan Industrial estate and the GDP was positive but with no statistical significance at 5% because some companies are off work currently and their productivity proportion is zero especially in the last years which will reflect negatively on the GDP.

6. Results

1. There is a positive relationship between companies' exports in Al Hassan Industrial estate and the GDP, which means that these exports are highly effective which reflects positively on the GDP.

2. There is a negative relationship between employees' number in Al Hassan Industrial estate and the GDP because most of the employees there are foreigners.

3. There is a positive relationship between the volume of investment in Al Hassan Industrial estate and the GDP but with no statistical significance because all the inputs of productivity including the equipment, raw material were all imported from abroad based on the partnership agreement with the USA Qualifying Industrial Zone.

4. There is a positive relationship between the volume of companies in Al Hassan Industrial estate and the GDP but with no statistical significance because some companies are off work currently and their productivity proportion is zero especially in the last years which will reflect negatively on the GDP.

Recommendations

1. There should be rules and regulations for Al Hassan industrial estate qualifying zone that enforce them to employ local employees and motivate the national investment through offering lots of motifs.

2. Enhancing the policy of polite and diplomatic conviction towards the Jordanian investor so as to get involved in developmental investments.

3. Using the most proper investment paraphernalia so as to attract more foreign investors through promoting the economic activity of the country and providing it with the modern financial tools such as partnership, leasing and other tools that fit the Jordanian investment environment.

4. The study also recommends that the government reconsiders the agreements with the foreign investors by forcing them to employ a specific number of local people.

5. The government should offer lots of motifs for the Jordanian investor because he is capable of hiring more local people and also he will be able to using productivity tools, once available.

6. Studying the possibility of reviving the statuses of broken estates by providing lots of suggested solutions for them which will later reflect positively on the Jordanian economy.

7. Holding binary agreements with all countries of the world so as to combat the shortage and defects in the Jordanian commercial field.

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Learning Organization Impact on Internal Intellectual Capital Risks: An Empirical Study in the Jordanian Pharmaceutical Industry Companies

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Abstract

The intellectual capital with its different dimensions (Social Capital, Structural Capital, Human Capital, Creative Capital and Relational Capital) is a part of the strategic assets, which helps organizations to survive in the changing globalization environment. The intellectual capital is exposed to many risks at the level of internal environment, which require to be studied and to know their origins and diagnose their causes in order to dealing with its. The continuous learning, supporting leadership, organizing social activities that support self-learning and collective learning that contribute to the enhancement of knowledge leading to generate creativity as a part of the most important handling factors of the intellectual capital risks. This study aims to clarify the contribution mechanism of learning organization to dealing with internal intellectual capital risks. As well as, making recommendations to the decision-makers in this sector, which would contribute to the development of their organizations and help to convert them into learning organizations, and contribute to achieve their objectives efficiently and effectively. Four companies were chosen from (24) companies as a sample for this study. This study found a set of results focusing on that the learning organization can work on dealing with of intellectual capital risks with its different kinds through practicing the philosophy of learning organization. The study also found a set of recommendations that serve the purpose of the study.

Keywords: learning organization, Intellectual capital, social capital, structural capital, human capital, creative capital, relational capital, learning, training, developing and knowledge

1. Introduction

The intellectual capital is a part of strategic assets that help organizations to survive in the changing globalization environment (Ahangar, 2011). Despite the growing interest by researchers, academics and business organizations in the subject of intellectual capital. But the studies and scientific indicators and evidences confirm that the intellectual capital is exposed to many risks at the level of internal environment, which has imposed the need to study these risks, in order to know their origins and diagnose their causes for the purpose of dealing them from the organizations (Alnidawi, 2013).

When researchers reviewed the accurate scientific researches and theoretical literature on the subject, it appears that there are a set of factors dealing with these risks, mainly the continuous learning, leadership supporting and organizing social activities that support self and collective learning that contribute to enhance knowledge leading to generate creativity and that the managing philosophy contributing to provide these factors is the philosophy of the learning organization (Alexiou, 2005).

The Jordanian pharmaceutical companies is a sector that has a significant role in the Jordanian economy, and this sector needs the continuous development in order to keep pace with the developments happening in the world linked locally, regionally and internationally to this sector, so this study will answer the main question: (Is there a statistically significant impact of the learning organization to deal with the internal intellectual capital risk (social capital, structural capital, human capital, creative capital and relational capital) in the sector of Jordanian pharmaceutical industry companies)?

A set of objectives related to this study was identified based on this question, including the definition of the learning organization, intellectual capital and clarification of the mechanism by which learning organization contributes to deal with the internal intellectual capital risks, as well as, making recommendations to the decision-makers in the sector, which would contribute to the development of their organizations, and help to convert them into learning organizations and contribute to achieve their objectives, efficiently and effectively.

This study is also, characterized by its scientific importance, as it provides a scientific value-added to researchers and academics in the context of this subject. In regard to the economic importance of the study, it lies in the deal with internal intellectual capital risks helping in the construction of new relationships with customers and attract new customers, which will reflect positively on the organization growth and expansion their market share , also, improve and increase its current and future profits and strengthen its competitive position.

2. Methodology of the Study

2.1 Model of Study

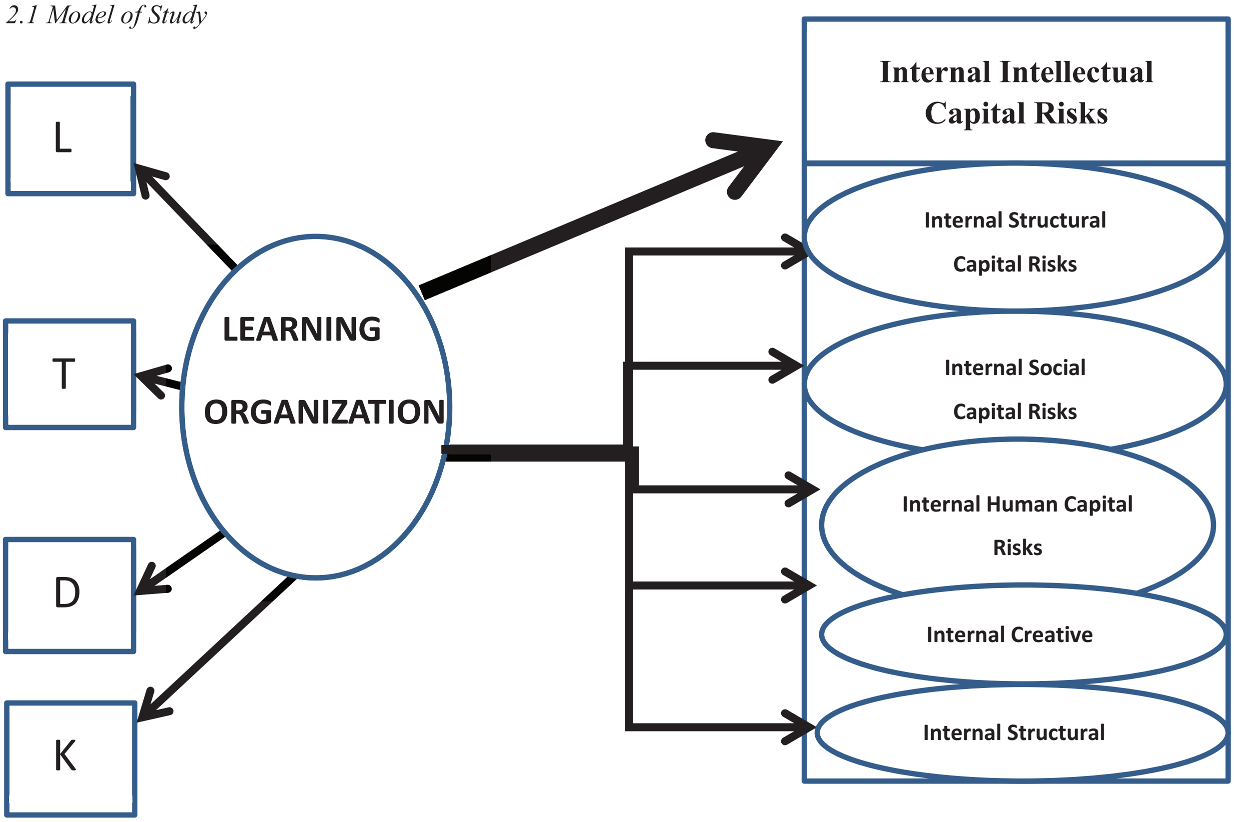

Figure 1. Model of Study

Reference: prepared by researchers

2.2 Hypotheses of the Study

Hypotheses of this Study have been formulated according to the general framework and model of the study as the following:

Ho1: There is a statistically significant impact of the learning organization on the internal intellectual capital risk (social capital, structural capital, human capital, creative capital and relational capital) in the Jordanian pharmaceutical industry companies.

The following sub-hypotheses are ramified from this hypothesis:

Ho1-1: There is a statistically significant impact of the learning organization on the internal social capital risk in the Jordanian pharmaceutical industry companies.

Ho1-2: There is a statistically significant impact of the learning organization on the internal structural capital risk in the Jordanian pharmaceutical industry companies.

Ho1-3: There is a statistically significant impact of the learning organization on the internal Human capital risk in the Jordanian pharmaceutical industry companies.

Ho1-4: There is a statistically significant impact of the learning organization on the internal creative capital risk in the Jordanian pharmaceutical industry companies.

Ho1-5: There is a statistically significant impact of the learning organization on the internal relational capital risk in the Jordanian pharmaceutical industry companies.

2.3 Population and Sample of the Study

The population of the study is represented by all of the Jordanian Pharmaceutical Industry Companies amounted to (24) companies, where (4) main companies have been selected as a sample of the study and (200) questionnaires were distributed to the employees in these companies by 50 questionnaires for each company. The following table clarifies that:

Table 1. Number of distributed questionnaires

Name of the Company	Number of distributed questionnaires
Amman Pharmaceutical Industries Company	50
Arab Pharmaceutical Manufacturing Company	50
Hayat Pharmaceutical Industries Company	50
United Pharmaceuticals Manufacturing Company	50
Total	200

As for the used statistical methods, the Statistical Package for Social Sciences (SPSS) has been used as it serves the study objectives.

3. Theoretical Framework

3.1 Learning Organization

The subject of learning organization has earned the attention of a lot of thinkers and researchers (Bontis, 2002) to the fact that the philosophy of learning organization is one of the modern methods that forces many of the traditional organizations to convert into a learning organization. The researchers have used synonym terms for the learning organizations including (knowing organization, thinking organization, and purposeful organization) (Lozano, 2015; Holt, and Harris, 2007). The learning organization is defined by a set of definitions, but the definition that serves the objectives of this study is the following: (Is the organization that works to create, exchange and transfer knowledge, according to the reciprocal, participatory and complementary relationships which leading to modify its behavior, for starting to collective learning , development of the existing thinking patterns, creation of new thinking patterns and development of creativity to achieve adaptation, change and development, as well as achieving the collective aspirations and strategic objectives) (Bryan, 2009) .

The learning organization is characterized by a set of strategic characteristics represented in (common educational vision, adoption of diversified learning program , developing strategies, and monitoring of environmental variables), as well as administrative characteristics being represented in (Supportive leadership of learning, promoting the concept of self-directed learning, and the concept of collective learning in addition to the continuous learning). As for the organizational characteristics are represented in (organizational design tools, self-management teams, organizational flexible structure and open communications), finally the cultural characteristics that are (providing moral framework for the organizational and learning culture, provide a supportive environment for the organizational learning) (Lozano, 2015; Bryan, 2009). The learning organizations tend to formulate their strategies to be distinct from other traditional organizations. Among the most prominent of these strategies (organizational thinking strategy, organizational education strategy, leadership strategy, build and support the learning teams strategy, knowledge management strategy, dealing with the mental models strategy, developing personal empowerment strategy, individual and collective learning strategy, strategy for the development of modern modes of thinking) in addition to a set of models that focus on (organizational thinking, common vision, collective learning, participation, leadership, dialogue, motivation and empowerment (Yang, et al., 2004).

3.2 Intellectual Capital

The intellectual capital is a modern concept, which began in the nineties of the last centuries, the researchers and writers multiplied its own concepts, according to their attitudes, whether economic, administrative or accounting. The concept that serves the objectives of this study is the following (The intellectual capital is a combination of cumulative total of the knowledge, talents, skills, substantive competencies, creative capabilities, internal and external relations and organizational cultures that can be invested to create wealth and value to achieve the competitive advantage (Dobni, 2011). The researchers have agreed on the substance and importance of the intellectual capital and indicated that the intellectual capital consists of several dimensions interacting with each other in order to, create a value for the organization and disagreed on the classifications of these dimensions, according to their interests and the background of their competences. The dimensions that serve the objectives of this study are the following, (social capital, structural capital, human capital, creative capital, and relational capital). (Basuki, 2012).The intellectual capital is characterized by a group of characteristics which represented in, first: behavioral characteristics represented in the following: (initiative, ability to take decisions, perseverance, high self-confidence, openness to third parties). Second: organizational characteristics represented in the following: (flexible organizational structure, decentralization, administrative levels, and informal relationships). Third: professional characteristics embodied in (attention to the organized education, distinction, high and varied skill). (Makki & Lodhi, 2008). In spite of the attention of the researchers, academics and business organizations to the intellectual capital, but it faces many internal risks related to the organization environment, culture and its leadership in addition to, its association with the employees' capacities and skills. Also, that the knowledge generation approach is a way to use for achieving creativity in organization. (Alnidawi, 2013). These risks are represented by the capital types, as the following:

First: The structural capital risks that include the organizational obstacles within the organization, which reflect negatively on its performance as a whole and represented in the incompatible organizational vision with the principle of learning continuity and pyramidal organizational culture supporting individual action, without the collective action and non-supporting organizational leadership to the employees' self-development, in addition to, the organizational structures incompatible with the employees aspirations (Rastogi, 2010).

Second: The internal social capital risks, which represented in the barriers related to the issues and implications of human relations in the social work environment, such as, the communication limitations and internal conflicts between the employees in the organization (Ibrahim, 2011).

Third: The internal human capital risks, which represented in the obstacles related to the employees knowledge to their skills and capabilities, which indirectly reflected on their tasks performance such as, the progress of employees' skills and experiences in the organization and the employees knowledge obsolescence in connection with the incapacity to generate the knowledge collectively (Alnidawi, 2013).

Fourth: The internal creative capital risks which influencing negatively on the employees motivation to present new ideas for the organizational creativity, in addition to psychological barriers that related to the creative process (Rastogi, 2010).

Fifth: The internal relational capital risks which embodied in the obstacles related to the organization capabilities to constitute positive relations with the clients and represented in the traditional vision of the organization relations with their customers, and the incapacity to determinate the clients' needs and desires accurately in addition to, the workers fear to deal boldly with the organizational change for keeping pace with alteration in the customers wishes (Chin, et al., 2015).

4. Linking Mechanism between the Study Variables

The linking mechanism between the study variables is represented by that the learning organization constitutes one of the most important factors helping to handle the Internal Intellectual capital risks , where the learning organization carry out the risk handling related to the incompatible organizational vision with the principle of organizational learning sustainability by setting a new vision based on participative drafting that grant freedom to employees at all administrative levels in the dialogue process related to the organizational learning (Swee, 2003), where this vision is understood, common and believes in learning and its positive role in addition to, demonstrate this vision in the form of plans and programs that support learning process (Hussein, 2012). But the risk related to the organizational culture that support isolated individual action without the collective action, the learning organization carry out creation of new organizational culture that support, encourage collective action and promote the spirit of teamwork and collective responsibility leading to create confidence between the organization and their employees themselves, which contributes to the creation of a work environment featured with the desire for collective action (Rodin, 2012). As for as, the risk aspect related to the organizational leadership non-supporting the development of employees, the leadership in the learning organization operate to exercise a series of roles represented in learning roles and direct the employees to follow the environment analysis strategy (SWOT) that helps the employees to achieve auto-communication in order to create a mental image that helps to identify the strengths and weaknesses they have (Basuki, 2012), and contributing to build incentive strategy characterized by clarity, comprehensiveness, justice, promote positive motivation and handle the negative aspects associated with self-development (Buckley & Kathy, 2008). Regarding the risk on the organizational structures that do not fit with the employees aspirations, the learning organization operate to handle this risk to design a flexible organizational structures, and operate to remove barriers, provide effective communication channels for the exchange of knowledge information without any obstacles, also, contribute to grant employees freedom of action to complete their work and provide training programs to give them a set of new information and knowledge that helps in the development of employees and achieve the organization objectives efficiently and effectively (Mehralian, et al., 2013).

With regard to the learning organization handling of the internal social capital risk, it operates to face the official internal communications risk between leaders and their employees through the application of the open communications organizational strategy, which based on a set of policies that contribute to the provision of easy and clear communication channels and give employees more freedom to successfully express themselves , also, it is working to create a positive relationship between the leaders and employees in the organization (Swee, 2003; Basuki, 2012). Regarding what is associated with the risk of communications limitations between employees themselves in the organization, we can see that the learning organization operate on the creation of the administrative communications department for the purpose in order to find a working relationship between the employees and the creation of the successful means of communication contributing to establish human interaction instead of technology interaction which will reflect positively on the employee's work relations in the organization (Olariu, 2011). On the other hand, the risk on the internal conflicts handling between employees, the learning organization operate to make an organizational balance based on strategies (Yang, et al., 2004) through make the roles, powers and authorities are clarified, which achieve integration and harmony to prevent conflicts (MaKKi, et al., 2008) Regarding of what is associated with risks handling related to the human capital represented in the risk obsolescence of employees' capabilities and skills, the learning organization operates to use the open training strategy that includes a set of training programs that contribute to make change in the new and advanced methods of work (AleXiou, 2005). Regarding the aspect of risk handling of knowledge obsolescence among the employees, the learning organization is working to create learning and interactive climates by adoption of the work teams strategy based on approved social acceptance strategy that will help to collectively generate knowledge, through a set of learning and interactive methods such as, (brainstorming method, fishbone method and the Delphi method). (Bryan, 2009).

The learning organization handling of the internal creative capital risk operates to handle the risk related to promote business routine rather than creative works through the empowerment strategy adoption and its applications including (Smart) style, which adopts on support, motivation and creative employees through granting of authority and confidence in the organization (Holt et al., 2007). As for the risk related to the cognitive obstacles, the learning organization is working to adopt intellectual flexibility strategy by which the organization operates to provide training programs linked to the modern thinking strategies represented in (the critical thinking, creative thinking, mental models, organized thinking, and the six thinking hats strategy) (Omerzel, et al., 2012). But the risk related to the psychological risks, the organization adopts the persuasion strategy, which helps the organization to achieve creativity between their employees. (Kasasbeh, et at, 2010).

Finally, the learning organization handling of the relational capital risk, where the organization must operates to handle the risk associated with the traditional vision of the organization relationship with its customers that requires the organization adoption of the client leadership pattern based on customer (Najm, 2010), but the risk concerning the inability to determine the needs and desires of the clients, it requires the adoption of scientific research strategy and communication networks strategy that requests brainstorming sessions holding to discuss the information and take the appropriate decision to determine the customers' needs Strategy (Alnidawi, 2015). And finally, handling the risk related to employees apprehension to confrontation the organizational changes to keep pace with the developments and changes in the market place and customer needs requires the adoption of change leadership, which leads to reassure employees and remove their fears with focusing on a set of rehabilitative training programs that help making employees abreast of the change process to achieve the positive results.

5. Data Analysis and Results

For data analysis, and testing the hypotheses of the research. Simple regression and multiple regression will be used as follows:

* Main Hypothesis Test:

H1: There is a statistically significant impact of the learning organization on the internal intellectual capital risk in the Jordanian pharmaceutical industry companies.

Table 2. Results of analysis for the first Main Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.55	0.30	- 0.55	28.82	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal intellectual capital risk in the Jordanian pharmaceutical industry companies amounted to (0.55) and the value of (F) amounted to (28.82), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (-0.55), which reflects that the higher practice of the learning organization philosophy, the lower internal intellectual capital risk. The results indicate that the determination value is of (0.30), which reflects that its rate average from the explained variation is due to the learning organization and (0.70) of the unexplained variation is due to other factors.

* First sub-hypothesis test:

H1-1: There is a statistically significant impact of the learning organization on the internal structural capital risk in the Jordanian pharmaceutical industry companies.

Table 3. Results of analysis for the First Sub-Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.47	0.22	- 0.47	96.07	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal structural capital risk in the Jordanian pharmaceutical industry companies amounted to (0.47) and the value of (F) amounted to (96.07), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (- 0.47), which reflects that the higher practice of the learning organization philosophy, the lower internal structural capital risk. The results indicate that the determination value is of (0.22), which reflects that its rate average from the explained variation is due to the learning organization and (0.78) of the unexplained variation is due to other factors.

* Second sub-hypothesis test:

H1-2: There is a statistically significant impact of the learning organization on the internal social capital risk in the Jordanian pharmaceutical industry companies.

Table 4. Results of analysis for the Second Sub-Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.39	0.15	- 0.39	8.31	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal social capital risk in the Jordanian pharmaceutical industry companies amounted to (0.39) and the value of (F) amounted to (8.31), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (- 0.39), which reflects that the higher practice of the learning organization philosophy, the lower internal social capital risk. The results indicate that the determination value is of (0.15), which reflects that its rate average from the explained variation is due to the learning organization and (0.85) of the unexplained variation is due to other factors.

* Third sub-hypothesis test:

H1-3: There is a statistically significant impact of the learning organization on the internal human capital risk in the Jordanian pharmaceutical industry companies.

Table 5. Results of analysis for the Third Sub-Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.60	0.36	- 0.60	40.70	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal human capital risk in the Jordanian pharmaceutical industry companies amounted to (0.60) and the value of (F) amounted to (40.70), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (- 0.60), which reflects that the higher practice of the learning organization philosophy, the lower internal human capital risk. The results indicate that the determination value is of (0.36), which reflects that its rate average from the explained variation is due to the learning organization and (0.64) of the unexplained variation is due to other factors.

* Fourth sub-hypothesis test:

H1-4: There is a statistically significant impact of the learning organization on the internal creative capital risk in the Jordanian pharmaceutical industry companies.

Table 6. Results of analysis for the Fourth Sub-Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.63	0.37	- 0.63	64.45	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal creative capital risk in the Jordanian pharmaceutical industry companies amounted to (0.63) and the value of (F) amounted to (64.45), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (- 0.63), which reflects that the higher practice of the learning organization philosophy, the lower internal creative capital risk. The results indicate that the determination value is of (0.37), which reflects that its rate average from the explained variation is due to the learning organization and (0.63) of the unexplained variation is due to other factors.

* Fifth sub-hypothesis test:

H1-4: There is a statistically significant impact of the learning organization on the internal relational capital risk in the Jordanian pharmaceutical industry companies.

Table 7. Results of analysis for the Fifth Sub-Hypothesis Test

Correlation Coefficient R	Determination Coefficient R2	Beta Coefficient B	Value F	Signification Sig
0.50	0.25	- 0.50	44.92	0.00

It is appeared through the above table that the Correlation Coefficient value for the impact of the learning organization on the internal relational capital risk in the Jordanian pharmaceutical industry companies amounted to (0.50) and the value of (F) amounted to (44.92), which is significant at the level of (0.05) or less and thus the hypothesis is accepted with its established formulation. Also it turned out that the beta value is of (- 0.50), which reflects that the higher practice of the learning organization philosophy, the lower internal relational capital risk. The results indicate that the determination value is of (0.25), which reflects that its rate average from the explained variation is due to the learning organization and (0.75) of the unexplained variation is due to other factors.

6. Conclusions of the Study

This research investigated the influence the impact of the learning organization on internal intellectual capital risk (structural capital, social capital, human capital, creative capital and relational capital) in the sector of Jordanian pharmaceutical industry companies. The research finding indicated that the learning organization can dealing with the intellectual capital risk through exercising the learning organization philosophy, where the increased use of the learning organization philosophy leads to the reduction of the intellectual capital risk in the organization. However, the learning organization helps to dealing with various types of risks of intellectual capital through an increase in using the philosophy of learning organization applications which leads to, reduce or end the various types of risks of intellectual capital, such as (structural capital risk, social capital risk, human capital risk, creative capital risk, relational capital risk).

7. Recommendations of the Study

According to the conclusions of the study, some future recommendations may be suggested .To increase in using and exercising the learning organization philosophy to dealing with the intellectual capital risk, we take the measures as follows:

First, build a participative organizational vision supporting the learning process and its sustainability.

Second, supporting and promoting organizational culture for the collective and team spirit work and focusing of collective responsibility in the organization.

Third, administration adoption of new roles represented in the educational and developmental roles.

Fourth, the administration adoption of modern and flexible organizational structures for the purpose of helping employees to exchange knowledge, experiences and information without obstacles, and follow the open communications organizational strategy.

Fifth, create organizational balance and create an organizational unit for administrative communications to reinforce the communication and exchange of information with create learning and interactive climates and adopt applicable and training methods that contribute to transfer experiences, knowledge and information among the employees.

Sixth, adopt strategies operating to reinforce the employees' empowerment process, create intellectual and knowledge flexibility inside the organization and enhance the use of the change leadership pattern.

Seventh, the organization must operate to remove cognitive and psychological obstacles associated with the creative process through the construction of a marketing vision based on the customer as main variable.

Eighth, adopt a set of strategies that help to strengthen communication between the employees and enhance the scientific research (such as the communication networks strategy and scientific research strategy).

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Innovative Behavior: Relations with Developmental Culture, Psychological Empowerment, Distributive Justice and Organizational Learning Capacity

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Abstract

Competitive advantage has a significant role in organizations' survival and the key path to achieve that advantage passes through innovation. Organizations need employees who do not just create new ideas but also implement them. These innovative behaviors may provide great contributions to both organizational performance and success. There are certain factors which motivate employees to exhibit such behaviors. Concordantly, the present study aims to discover how innovative behaviors of employees are related with developmental culture and psychological empowerment as well as distributive justice and organizational learning. The study sample included 276 participants from the aviation sector. The study data were collected through the survey method and data analysis was performed via SPPS and AMOS programs. The results showed that developmental culture and psychological empowerment had positive relationships with innovative behavior, whereas distributive justice and organizational learning capacity positively affected developmental culture.

Keywords: innovative behavior, developmental culture, psychological empowerment, distributive justice, organizational learning capacity

1. Introduction

Innovativeness is highly important for organizations to ensure productivity, efficiency and organizational competition (Osterloh and Frey, 2000). To create better and novel processes for a dynamic and competitive workplace environment, organizations have to benefit from the innovative potential of their employees. Innovative behavior of an employee is defined as deliberatively adopting or applying new ideas about products and processes to the job position, job group or whole organization (West and Farr, 1989). Examples may include behaviors toward discovering new technologies, suggesting novel ways for goal achievement, implementing new working methods, securing resources required to apply new ideas and finding new resources (Yuan and Woodman, 2010). Innovative behavior is discussed in several aspects in relation to the phases of innovation process. According to Scott and Bruce (1994), innovative behavior is a process involving multiple phases. Every stage is associated with different individual behaviors and actions.

Innovative behavior is likely to relate with certain variables affecting employee perceptions, attitudes and behaviors such as psychological empowerment and organizational culture. Empowerment, the first variable discussed in the present study, is a psychological process based on the multidimensional conceptualization developed by Spreitzer (1995). It represents a set of employee perceptions resulting in a sense of motivation and capability, mostly based on work conditions (Spreitzer, 1995). Another variable that may affect innovative behaviors is organizational culture. A developmental culture is one of the external-oriented cultures from 4 subdimensions of organizational culture based on the approach of Quinn and Spreitzer (1991). The developmental culture supports flexibility and transformation while focusing especially on the external environment. Such culture emphasizes development, novelty and adjustment to the external environment.

A developmental culture may be enhanced by organizational learning capacity and organizational justice. The organizational learning capacity and adaptation ability are believed to increase the organizational lifetime and performance (Dibella et al., 1996; Stata, 1989) and are also associated with innovation (Forrester, 2000; Liao et al., 2008). Employees working in an organization providing such capacity are likely to have greater job satisfaction, which would foster the performance of that organization. Employees are also particularly concerned with justice in an organization because organizational justice is related with organizational outcomes such as motivation, organizational atmosphere, employee satisfaction, effectiveness and devotion (Forret and Love, 2008), and therefore it may have an impact on developmental culture. In this regard, the present study discusses innovative behavior by examining its relationships with psychological empowerment, developmental culture, distributive justice and organizational learning capacity.

2. Innovative Behavior

Change is essential to organizations of this modern era, and it is realized through innovation. Organizations aim not just to provide products and services, but also to survive through changes. During such process, innovation capacity stands out as a significant factor affecting organizations' future. Therefore, organizations are especially interested in innovation as they struggle to survive through their lifespan.

Innovative business is usually realized through the innovative behaviors of employees. Employees contribute to this process by presenting creative ideas, processes and methods, which is generally called innovative behavior (Mura et al., 2012). Innovative behavior is about providing and then applying novel ideas to the current business setting. Such behaviors are generally expected to yield innovative outputs. These behaviors specifically come out in case of a work issue, unsatisfactory performance or necessity for creativity (De Jong and Den Hartog, 2010).

Innovative behavior is a concept originated from the research on innovation. Based on the innovation theory, innovation is not just human creativity, but also involves implementing ideas (King and Anderson, 2002; De Jong and Den Hartog, 2008). The literature on innovative behavior consists of several descriptions and conceptualizations by various scholars. According to West and Farr (1990), innovative behavior refers to generating, improving and realizing novel ideas concerning a job role or an organization toward better performance. Scott and Bruce (1994), based on the study by Kanter (1988), described 3 dimensions for innovative behavior: idea generation, promotion and implementation. De Jong and Den Hartog (2008) suggested that innovative behavior concerns with behaviors about creativity such as searching opportunities and producing novel ideas and behaviors of implementation such as applying changes, novel information or advancing processes for better performance of the individual and the organization.

The literature contains various researches studying the determinants of innovative behavior from organizational, individual and contextual angles (Mumford et al., 2002; Sanders et al., 2010; Taştan, 2013). One of the leading works, the study by Hurt et al. (1977) investigated individual innovative behaviors from a personality perspective using generalized desire to change. The individual differences mostly examined include individual characteristics such as innovative propensity and intrinsic interest (Janssen and van Yperen, 2004; Yuan and Woodman, 2010), cognitive characteristics such as style of solving issues and ownership of issues (Scott and Bruce, 1994; Dorenbosch et al., 2005), and self-efficacy (Farr and Ford, 1990; Bandura, 1997). Among the organizational and contextual factors studied, behaviors of the supervisor have been reported as a significant factor affecting innovative work behaviors (Scott and Bruce, 1994; Mumford et al., 2002).

The present study focuses on personal innovative behaviors and discusses innovative behavior as behaviors of employees such as easily solving problems within an organization, taking risks, creating innovative ideas, having a vision (Lee and Peterson, 2000; Antoncic and Hisrich, 2003), taking initiative and having the desire for achievement, while investigating the effect of developmental culture, psychological empowerment, distributive justice and organizational learning capacity.

3. Psychological Empowerment

Psychological empowerment has recently gained considerable interest of organizational scholars and practitioners because it has an important influence on both employee work outcomes (e.g. job satisfaction, commitment and productivity), and organizational outcomes (e.g. corporate performance and reputation) (Conger et al., 2000; Staw and Epstein, 2000). Psychological empowerment is one of the recent managerial approaches used by organizations to keep up with the dynamism, competition and transformation manifested in employees and customers of today's business world. In a general sense, psychological empowerment refers to providing power to employees representing an employee's sense of motivation and capability regarding the fulfillment of expectations at work (Spreitzer, 1995).

Psychological empowerment has its origins in the self-efficacy work by Bandura (1977, 1982). It basically refers to the cognitions or perceptions of employees. Psychological empowerment is defined by Thomas and Velthouse (1990) as intrinsic motivation revealed in changing cognitions. Advancing this perspective, Spreitzer (1995) conceptualized psychological empowerment as an adaptive motivation with 4 cognitive elements: meaning, competence, autonomy and impact. Meaning is the sense that the goal of the work is important and meaningful to the individual; competence refers to the efficacy feelings of the individual toward skill performance; autonomy refers to determining one's own actions; and impact refers to the degree to which an individual has effect on the work-related consequences. Accordingly, psychological empowerment is not a permanent personality trait but rather involves a number of perceptions based on work conditions (Spreitzer, 1995). Work environments providing empowerment trigger having a greater sense of meaning, autonomy and impact (Faulkner and Laschinger, 2008).

Psychological empowerment causes individuals to have a sense of a certain level of autonomy, a lower extent of restriction by the rules and a certain degree of competency in work achievement, all of which result in innovative behaviors when combined (Amabile and Grykiewicz, 1989; Spreitzer, 1995). Knight-Turvey (2006) established a strong association between empowerment and innovation. Innovation capability and an organizational innovation culture have been demonstrated to boost when employees are involved in decision-making processes and information is shared all around the organization (Ogbonna and Harris, 2000). The study by Ford and Randolph (1992) suggested that new product performance and innovation highly depends on successful empowerment. Brunetto and Farr-Wharton (2007) indicated that psychological empowerment produces significant consequences such as reciprocal trust and greater cooperation, which are vital components of innovation.

This theoretical background led us to develop our first hypothesis as follows:

H1: Psychological empowerment has a positive effect on innovative behavior.

4. Developmental Culture

A culture of an organization is the body of values, the basic assumptions of which are developed by a certain group, instructing the ways of overcoming external adaptation and internal integration issues with accepted validity, and therefore employees are required to learn in order to feel, perceive and think properly. In this regard, organizational culture consists of certain beliefs and values commonly shared by the employees of an organization regarding a solid strategy for noticing and resolving problems (Sigler and Pearson, 2000). Such organizational beliefs and values create a bond among the employees and form a perspective to accomplish organizational goals (Marcoulides and Heck, 1993).

Organizational culture is described in 4 subdimensions: hierarchical, group, rational and developmental (Quinn and Spreitzer, 1991). Several aspects of organizations determine the culture type, such as leadership, reward system, etc. The group culture is based on empowerment, consideration and participation. The hierarchical culture refers to control, formality and stability. These two cultures, group and hierarchy, are internal-oriented with no focus on the environment. The rational culture concentrates on task achievement with specific emphasis on quality and productivity. The development culture requires flexibility and creativity for maintaining growth and changes. These two cultures, in turn, are external-oriented, referring to competition and marketing.

A developmental culture is an external-oriented subculture based on flexibility that includes change, openness, adaptability and responsiveness (Quinn, 1988). The flexibility values of organizations enable the clarification of certain factors such as encouraging free information flow that involves open and wide-range communication channels, loose and informal controls and all hierarchical degrees. The primary motives of this culture are development, creativity, encouragement and assortment.

The present study discusses only developmental culture from the organizational culture based on the conceptualization by Quinn and Spreitzer (1991). As a sub dimension of organizational culture, a developmental culture is based on development, adaptability, innovation and creativity and positively contributes to employee motivation specifically on learning (Scott et al., 2003; Lok et al., 2005).

The literature contains several studies directly investigating the relationship between developmental culture and innovation. For instance, Lau and Ngo (2004) established a positive impact of developmental culture on innovation. Wei et al. (2011) found a positive impact of developmental culture on product innovation. Accordingly, the second hypothesis of the present study is formulated as follows:

H2: Developmental culture has a positive effect on innovative behavior.

5. Distributive Justice

In recent years, management researchers have shifted their attention to organizational justice, which considerably contributes to shaping employee attitudes and behaviors (Clay-Warner et al., 2005). Organizational justice is the fairness to employees in an organization (Randeree, 2008). The term was first conceptualized by Greenberg in 1987 and reflects the employees' perceptions of the extent to which an organization is fair to its employees.

Justice is a concept of moral or ethical correctness. It can be associated with ethics, religion, rationality and law. Organizational justice or fairness may manifest itself in employees' perceptions of fair treatment regarding financial conditions, promotion opportunities and employment requirements (Tabibnia et al., 2008). Therefore, it is considered as a complex whole of different components. Nevertheless, organizational justice is usually discussed as consisting of 3 basic elements: distributive, procedural and interactional justice. Interactional justice also covers informational and interpersonal justice dimensions (Adams, 1965; Bies and Moag, 1986).

The present study discusses only distributive justice from the organizational justice perspective. Fairness studies have emerged from the equity theory by Adams (1965), discussing the fairness perceptions of consequences, which is now called distributive justice.

Distributive justice concerns whether the properties and resources that are socially valuable are distributed justly and whether a person gets a just outcome (Frohlich, 2007). In other words, distributive justice addresses the fairness perceptions about reward-cost sharing among the members of an organization (Forsyth, 2006). The said resources and outcomes can be both tangible such as payment and intangible such as appreciation. The extent to which employees perceive distributive justice can be increased when outcome implementation is equal (Adams, 1965).

Distributive justice is likely to have significant implications in the organizational context, which has led scholars to investigate how organizational outcomes such as promotion decisions and payment criteria are perceived in terms of fairness, and how such perceptions are linked to different variables such as work quality and quantity (Walster et al., 1978). Since it emphasizes consequences, distributive justice is usually considered as related to affective, cognitive and behavioral responses to certain consequences. Accordingly, when an employee's perception of a certain consequence is unfair, it creates an impact on his/her feelings such as delight, guilt or dignity (Weiss et al., 1999), cognitions such as distorted thoughts of himself/herself or others (Walster et al., 1978) and behaviors such as performance.

Due to this theoretical background, the third hypothesis of the present study is developed as follows:

H3: Distributive justice has a positive effect on developmental culture.

6. Organizational Learning Capacity

The process of organizational learning is a significant line of research in management literature. Organizational learning process is important to organizations because they produce, distribute and use knowledge and turn that knowledge into innovation through this process (March, 1991). Such process is considered related with both conscious and unconscious components of the self, knowledge acquisition, information access and information assessment (Easterby and Lyles, 2003). It involves 4 sub processes, the first of which is obtaining knowledge. The organization acquires information during this process. The second is the knowledge dissemination, during which knowledge is shared by the employees with the organization. The third sub process is knowledge construction, during which individuals construct the knowledge and turn it into new but common information, and the fourth sub process is to store such information for future use.

Due to the increasing dynamism and highly advanced information technologies in today's businesses, knowledge has become the critical resource for gaining a competitive edge (Grant, 1996). The literature on organizational studies emphasizes the need to foster the intellectual potential and knowledge dissemination among employees in an organization (Huber, 1991; Hult et al., 2001). A unique value can be created by the intangible resource, which is the knowledge specific to the organization. Accordingly, knowledge and knowledge-developing potential can be considered as the major resources of added value creation. Such potential is called organizational learning capacity.

Organizational learning capacity is the organizational and managerial characteristics of the elements that enable an organization to learn and encourage processes of learning, and this capacity is significant for organizations to have a sustainable competitive edge through better organizational performance (Jiménez- Jiménez and Sanz-Valle, 2011). In the learning process of an organization, employees are major actors who are likely to have a strong impact on organizational behaviors and growth potential due to their common experiences and perceptions of producing novel information (Senge, 1990; Slater and Narver, 1995).

Individuals' capability to benefit from learning opportunities can be induced by enhanced capacity of learning (Aydin and Ceylan, 2009). Accordingly, organizations with greater organizational learning capability can drive their employees to experience greater satisfaction that will create a better organizational performance. Besides, such organizations are likely to possess more resources of information, which would manifest itself both in themselves and their employees. The study by Lien et al. (2007) reported that organizational learning is a further step of organizational development and suggested that organizational learning is a way to transform organizations. The study by Shoid and Kassim (2012) demonstrated that employees have similar and moderately positive perceptions of organizational culture, teamwork collaboration and information performance. The authors also found that organizational culture and teamwork collaboration are strongly related.

Prior studies suggest that organizational learning capacity is one of the major components of innovation because it is based on producing novel ideas and inducing creativity in case of organizational support for innovation (Liao et al., 2008). In a similar vein, Argyris and Schon (1978) indicated that an organization's capacity of innovation is improved by organizational learning. The study by Forrester (2000) also established that organizational learning positively affects innovation.

According to this theoretical background, the fourth hypothesis of the present study is developed as follows:

H4: Organizational learning capacity has a positive effect on developmental culture.

7. Methodology

7.1 Research Goal

The objective of our study is to discover the relationships among innovative behavior, developmental culture, psychological empowerment, distributive justice and organizational learning capacity. For this purpose, we developed a model supposing that innovative behavior is positively related with psychological empowerment and developmental culture, and developmental culture is positively related with distributive justice and organizational learning capacity.

7.2 Participants and Procedure

The study included a sample of 276 participants (144 female and 132 male) who were aviation employees. Convenience sampling method was used to select such participants and the survey method was used to collect study data. The questionnaires included 56 items and were filled out online. The collection of data took 4 weeks.

7.3 Measures

The questionnaire consisted of 2 groups of questions. The first one addressed participant demographics including age, gender, education and work experience. The second group, in turn, involved scale items related to innovative behavior, psychological empowerment, developmental culture, distributive justice and organizational learning capacity.

Innovative behavior was measured via an instrument introduced by Scott and Bruce (1994). The instrument is a 5-point Likert scale (1=strongly disagree; 5= strongly agree) and includes 6 items. (e.g. “I generate creative ideas” and “I am innovative”). The reliability coefficient of the original scale was 0.89.

Psychological empowerment was measured using an instrument with 12 items. It was first developed by Spreitzer (1995). The instrument is a 5-point Likert scale (1=strongly disagree; 5= strongly agree) and involves 4 subdimensions: meaning (e.g., “The work I do is very important to me”), competence (e.g., “I am confident about my ability to do my job”), self-determination (e.g., “I have significant autonomy in determining how *I* do my job”) and impact (e.g., “My impact on what happens in my department is large”).. The reliability coefficient of the original overall scale was 0.89.

Developmental culture was measured using an instrument with 8 items. It was first developed by Tseng and Lee (2009). The instrument is a 5-point Likert scale (1=strongly disagree; 5= strongly agree) with examples such as “Our company emphasizes on creativity for the new productivity and service” and “Our company flexibly gets the new challenge”. The reliability coefficient of the original scale was 0.73.

Distributive justice was measured using an instrument with 9 items. It was developed by Niehoff and Moorman (1993) as a 5-point Likert scale (1=strongly disagree; 5= strongly agree) with examples such as “Job decisions are made by the manager in a biased manner” and “To make job decisions, my manager collects accurate and complete information”. The reliability coefficient of the original scale was 0.91.

Organizational learning capacity was measured using an instrument with 21 items that were developed by Teo et al. (2006) as a 5-point Likert scale (1=strongly disagree; 5= strongly agree). Examples include “All activities that take place in business transaction processes are clearly defined” and “My firm is susceptible to new technology and/or method to do business”. The reliability coefficient of the original scale was >0.70.

8. **Results**

8.1 Statistical Analysis

The survey responses collected in the research were analyzed and interpreted using SPSS Statistics 22.00 and AMOS 22.0 programs. Factor analyses were performed for the study instruments and the reliability coefficients were found above 0.7. The adequacy of the 5 scales for the factor analysis was analyzed, and AMOS software was used to conduct individual confirmatory factor analyses (CFA) as well as to make the path analysis related to the model developed via structural equation modeling.

8.2 Participants' Demographics

Table 1. Participants' Demographics

		n	%
Gender	Male	132	47.8%
	Female	144	52.2%
Age	<25	55	20.1%
	25-29	115	42.1%
	30-34	64	23.4%
	≥35	39	14.3%
Educational Status	Primary School	102	38.8%
	High School	144	54.8%
	Bachelor's degree	12	4.6%
	Graduate	5	1.9%
Position	Manager	156	57.8%
	Deputy Manager	15	5.6%
	Chief	19	7.0%
	Supervisor	25	9.3%
	5.00	11	4.1%
	6.00	44	16.3%
Corporate Seniority	<1 year	84	31.2%
	1-2 years	51	19.0%
	2-3 years	60	22.3%
	≥3 years	74	27.5%
Work Experience	<1 year	56	20.9%
	1-5 years	106	39.6%
	5-10 years	74	27.6%
	≥10 years	32	11.9%

8.3 Confirmatory Factor Analysis of Study Scales

Using AMOS 22.0 software, confirmatory factor analyses were conducted for each study scale to analyze the individual significance of the measurement models. Accordingly, the models were found significant. Afterwards, fit indices were used to assess if the whole model was adequate.

8.3.1 Distributive Justice Scale

The 8-item scale of distributive justice was evaluated by implementing a confirmatory factor analysis and the data were found to exhibit an excellent fit as it had a single-factor structure with KMO=942 and Bartlett's test p-value ($p<0.05$). The rate of variance explanatoriness was 76.7%.

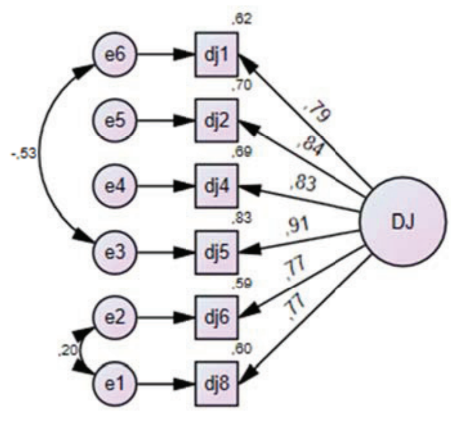

Figure 1. CFA of Distributive Justice Scale

The confirmatory factor analysis was significant based on the model test values [x^2 *(20.37)*, x^2/df *(2.862) and p<0.05*]. Besides, the fit indices [***GFI*** *(.921),* ***CFI*** *(.956),* ***RMSEA*** *(.068)*], which were within the acceptable limits, suggested that the analysis result was applicable (Fig.1).

8.3.2 Developmental Culture Scale

The 8-item developmental culture scale was tested by implementing a confirmatory factor analysis and the data were found to exhibit an excellent fit as the scale had a single-factor structure with KMO=.940 and Bartlett's test p-value (p<0.05). The rate of variance explanatoriness was 77.89% (Fig.2).

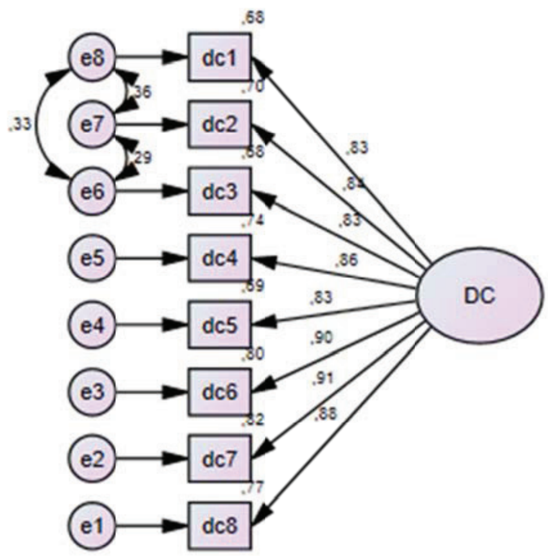

Figure 2. CFA of Developmental Culture Scale

The confirmatory factor analysis was statistically significant based on the model test values [x^2 *(80.204)*, x^2/df *(4.718) and p<0.05]*. The fit indices [***GFI*** *(.910),* ***CFI*** *(.940),* ***RMSEA*** *(.078)],* which were within the acceptable limits, indicated that the analysis result was applicable.

8.3.3 Innovative Behavior Scale

The 6-item innovative behavior scale was assessed by implementing a confirmatory factor analysis and the data were found to exhibit an excellent fit as it had a single-factor structure with KMO=.911 and Bartlett's test p-value (p<0.05). The rate of variance explanatoriness was 77.2% (Fig. 3).

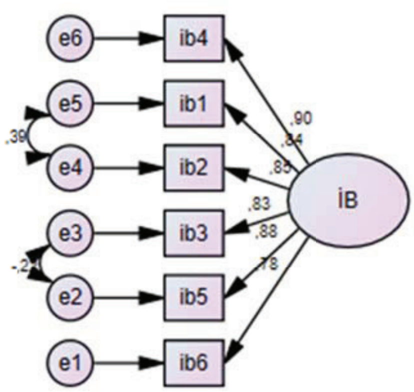

Figure 3. CFA of Innovative Behavior Scale

The confirmatory factor analysis was significant based on the model test values [x^2 *(16.819)*, x^2/df *(2.403) and p<0.05]*. The fit indices [***GFI*** *(.945),* ***CFI*** *(.994),* ***RMSEA*** *(.071)*], which were within the acceptable limits, indicated that the analysis result was applicable.

8.3.4 Organizational Learning Capacity Scale

Figure 4 shows the CFA of the organizational learning capacity scale with 4 dimensions as in the original scale. The confirmatory factor analysis of the organizational learning capacity scale with 21 items showed that the data exhibited an excellent fit as it had a three-factor structure with KMO=.964 and Bartlett's test p-value (p<0.05). The rate of variance explanatoriness rate was 75.16%.

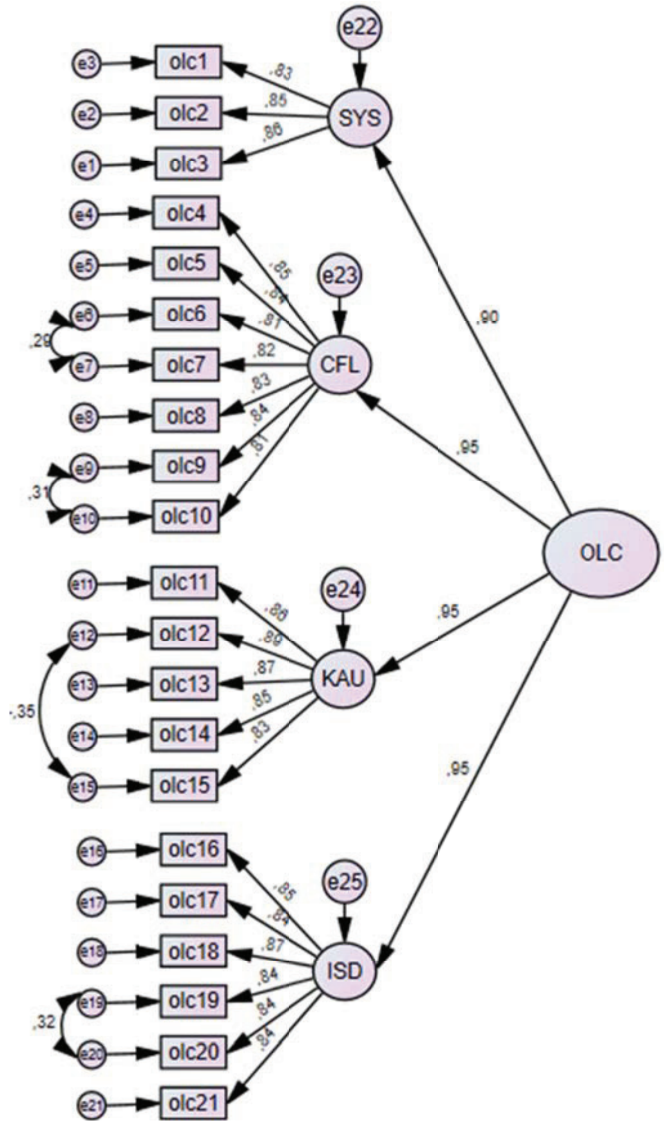

Figure 4. CFA of Organizational Learning Capacity Scale

The confirmatory factor analysis of the organizational learning capacity scale was significant based on the model test values [x^2 *(606.45)*, x^2/df *(3.351) and p<0.05*]. The fit indices [***GFI*** *(.902),* ***CFI*** *(.9503),* ***RMSEA*** *(.073)*], which were within the acceptable limits, suggested an applicable CFA result.

8.3.5 Psychological Empowerment Scale

The 12-item scale of psychological empowerment was assessed by implementing a confirmatory factor analysis which showed an excellent fit with a three-factor structure, KMO=.903 and Bartlett's test p-value (p<0.05). The rate of variance explanatoriness was 82.102%.

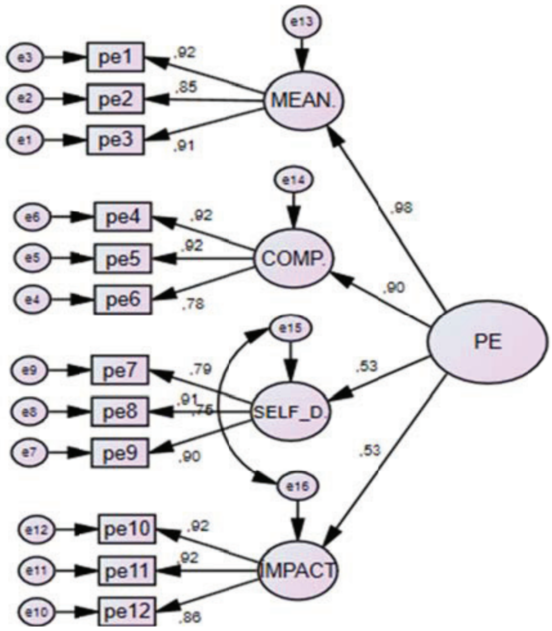

Figure 5. CFA of Psychological Empowerment Scale

The confirmatory factor analysis was statistically significant according to the model test values [x^2 *(150.587)*, ***x^2/df*** *(3.0703) and p<0.05]*. The fit indices [***GFI*** *(.923),* ***CFI*** *(.968),* ***RMSEA*** *(.078)*], which were within the acceptable limits indicated an applicable CFA result for this scale (Fig.5).

8.4 Path Analysis of Structural Equation Model (SEM)

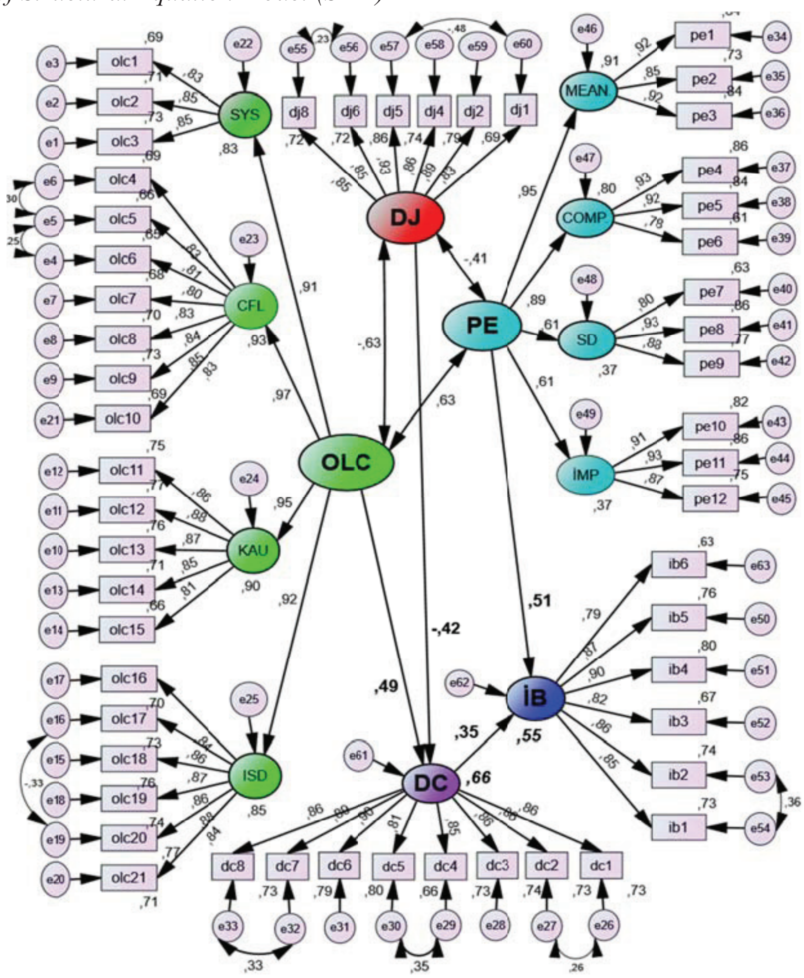

Figure 6. Path analysis of the model created via structural equation modeling

A path diagram was drawn with the help of AMOS 22.0 software to examine the relationships assumed in the hypotheses, and the structural parameters were estimated via the method of Maximum Likelihood. The path diagram of the model is presented in Fig. 6. The AMOS SEM program provides analysis results separately as standardized and non-standardized coefficients. The standardized coefficients were used in this analysis for understandability.

Since the chi-square value calculated for the model fit in the structural equation modeling may lead to incorrect decisions as it is affected by the sample size and the number of variables, the decision is made based on (x^2/ df.) criterion instead of this value (Schermelleh-Engel et.al., 2003).

Table 2. Standard Good Fit Indices and the Fit Indices Calculated for the Model

no	**Fit Indices**	**Good Fit**	**Acceptable Fit**	**Model**		
1	***x2***	-	-	2650,36	(df=1302)	p<0.05)
2	x^2/sd	$0 < x^2/df < 2$	$2 < x^2/sd < 3$		2.036	
3	**RMSEA**	0< RMSEA <0.05	0.05< RMSEA < 0.08		0.061	
4	**GFI**	0.95 < GFI < 1.00	0.90 < GFI < 0.95		0.902	
5	**CFI**	0.97 < AGFI < 1.00	0.95 < AGFI < 0.97		0.951	
6	**SRMR**	0< SRMR <0.05	0.05< SRMR <0.10		0.069	

The model was found statistically significant as x^2/ df= 2.036 and p<0.05. This value is within the "acceptable fit" limits. RMSEA was 0.061, GFI was 0.902, CFI was 0.951 and SRMR was 0.069. Fit indices related to the model fit are presented in Table 2. These values indicate that the research model is within the acceptable limits.

In the model, it was found that organizational learning capacity (OLC) and distributive justice (DJ) affect developmental culture (DC), whereas these variables do not have any direct effect on innovative behavior (IB). Psychological empowerment (PE) was found not to affect developmental culture (DC); however, this variable has a direct effect on innovative behavior (IB). Additionally, it was found that developmental culture (DC) has a direct effect on innovative behavior (IB).

Regarding mutual correlations, there is a negative significant correlation between distributive justice (DJ) and organizational learning capacity (OLC) (.063), a negative significant correlation between psychological empowerment (PE) and distributive justice (DJ) (.41), and a positive significant correlation between psychological empowerment (PE) and organizational learning capacity (OLC) (.63).

The following table was prepared to have a better understanding of the results obtained from the model.

Table 3. Regression and determination coefficients calculated from the model

Affected	**Effect**	**Affecting**	**Standardized coefficients**	**Non-standardized coefficients**	**z**	**p**
DC	**<---**	**DJ**	.408	.054	7.604	**
DC	**<---**	**OLC**	.475	.056	8.407	**
IB	**<---**	**DC**	.252	.040	6.334	**
IB	**<---**	**PE**	.344	.042	8.135	**
Structural Equations						$\mathbf{R^2}$
DC= .408*DJ+0.54*OLC						66%
IB=.252*DC+.344*PE						54%

***p<0.001*

- The standardized regression coefficient indicating the effect of distributive justice (DJ) on developmental culture (DC) was .408 (p<0.001), which is significant. Distributive justice (DJ) has a positive effect on developmental culture (DC).
- The standardized regression coefficient indicating the impact of organizational learning capacity (OLC) on developmental culture (DC) was .478 (p<0.001), which is significant. Organizational learning capacity (OLC) positively affects developmental culture (DC).
- The standardized regression coefficient indicating the effect of developmental culture (DC) on innovative behavior (IB) was .252 (p<0.001), which is significant. Developmental culture (DC) has a positive effect on innovative behavior (IB).
- The standardized regression coefficient indicating the effect of psychological empowerment (PE) on innovative behavior (IB) was .344 (p<0.001), which is significant. Psychological empowerment (PE) has a positive effect on innovative behavior (IB).

- In the model; developmental culture (DC) could be explained by organizational learning capacity (OLC) and distributive justice (DJ) at a rate of 66%, and innovative behavior could be explained by developmental culture (DC) and psychological empowerment (PE) at a rate of 54%.

9. Discussion and Conclusion

The present study examined the relationships among innovative behavior, developmental culture, psychological empowerment, distributive justice and organizational learning capacity. The results indicated that both developmental culture and psychological empowerment have a significantly positive impact on innovative behaviors. Additionally, the results showed that developmental culture is significantly and positively affected by distributive justice and organizational learning capacity. We believe that this study advances the available literature by demonstrating how innovative behaviors are linked to the culture and empowerment settings in an organization as well as how justice and learning capacity can foster a developmental culture of an organization.

The first finding of the present study indicated a positive relationship between psychological empowerment and innovative behaviors, as assumed in Hypothesis 1. More specifically, it was found that the meaning and competence subdimensions had the strongest relationship with innovative behavior, compared to other subdimensions. This suggests that employees who consider their work meaningful and believe they can accomplish tasks are more likely to engage in innovative behaviors. This result is in agreement with Spreitzer (1995) and Faulkner and Laschinger (2008). This finding contributes to the understanding of individual variables underlying innovative behaviors. Organizations may use this finding to create a sense of meaning in their employees' mind and provide support to foster their efficacy beliefs, and thereby, they can gain a greater competitive edge in the business world. In this regard, future studies may examine why meaning and competence have stronger influence on employees compared to self-determination and impact.

The second finding of the present study contributes to the extant knowledge on innovative behaviors. Innovative behaviors have been investigated from several perspectives (e.g. Sanders et al., 2010; Janssen and van Yperen, 2004), and supervisor actions have been significantly associated with such behaviors in the organizational context (e.g. Scott and Bruce, 1994; Mumford et al., 2002). As assumed in Hypothesis 2, developmental culture, as an organizational variable, was found to have a significant positive influence on innovative behaviors. This finding is in line with the studies by Lau and Ngo (2004). Based on this result, we recommend organizations to enable flexibility and information-sharing within their structure in order to create such organizational culture. Besides, the relationship of innovative behavior with other organizational subcultures can be investigated by future studies to reveal the various effects of cultures on employee behaviors in an organization.

The third finding, consistent with the Hypothesis 3, showed that developmental culture is significantly and positively associated with distributive justice. This finding can advance the literature on organizational culture as well as innovation. Within the authors' knowledge, there is no pre-existing study on the direct relationship between distributive justice and developmental culture. Therefore, the present study can contribute to the literature which is scarce on such relationship. Since a developmental culture is related to innovative behaviors, the organizational mechanisms leading to a developmental culture can play a huge role in encouraging innovation among employees. As the perception of fair treatment is linked to individual and organizational outcomes (Weiss et al., 1999), organizations may investigate whether their employees perceive their treatment as fair and take necessary actions according to the results. In this context, future studies may explore what employees perceive as fair and unfair, and their links to other employee attitudes.

The fourth finding, as consistent with the Hypothesis 4, illustrated that organizational learning capacity has a significantly positive effect on developmental culture. This can contribute both to the organizational and management literatures. The literature provides support for the idea that intellectual potential and information distribution are required to increase among employees (e.g. Huber, 1991; Hult et al., 2001). Organizations would have employees with a greater sense of satisfaction when they enhance learning capacity (Aydin and Ceylan, 2009), which may result in several favorable outcomes for organizations such as development, innovation and competition. Therefore, we recommend organizations to invest in training their supervisors or human resources departments on how to develop this ability and drive employees' capabilities of learning. Additionally, future studies may attempt to determine the dimensions of organizational learning capacity by considering different variables such as reward systems or career development.

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Does Shopping Preparation influence Consumer Buying Decisions?

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Abstract

Changes in consumers' environment, specifically the economic crisis and the growing penetration of digital technologies, have produced significant changes in shopping habits, designed to gradually reduced the effectiveness of in-store marketing levers in influencing shopping behaviour. On one hand, due to the global economic downturn and the associated diminished disposable income, more shoppers are now searching more information before entering a store and evaluating more alternatives before to decide where and what to shop. On the other hand, the deep penetration of technological developments, such as digital media and mobile devices, among the population, has opened up new opportunities to influence shopper attitudes and behaviour in the retail environment. A new scenario seems to be opening up where more planning and preparation for shopping is carried out before customers entering the store. In this new environment, to formulate and execute effective shopper marketing strategies, managers need to better understand the complete picture of how online, offline, mobile and in-store marketing influence shoppers in the path-to-purchase-and-beyond cycle. Starting from recent research avenues, our work intends to explore the relationship between pre-shopping behaviour and shopping behaviour in-store, with the aim to understand how pre-trip activities have influenced shopping behaviour in-store. In order to get this purpose, we conducted a survey in three stores belonging to a leading Italian grocery retailer. Shoppers were intercepted in front of the display, when the chosen product was placed in the shopping cart. Through a structured questionnaire, respondents were asked about the nature of the purchase (planned vs unplanned) and the degree of out-of-store preparation (number and type of activity carried out). Data were processed using SPSS statistical software. The degree of grocery shopping preparation is found to influence shopper behaviour inside the store in terms of planned/impulse buying: the higher is the degree of preparation, the greater is the tendency to plan purchases and the lower is the tendency to make impulse purchases. Our findings could suggest retailers and manufacturers new ways to innovate the practice of shopper marketing, considering that marketing levers cannot still affect consumers' decisions in-store as in the past.

Keywords: grocery retailing, in-store behavior, pre-trip activities, shopper marketing, shopping preparation

1. Introduction

In the last decade, the trade spending aimed to condition consumer behaviour in-store has considerably grown. Industrial companies have gradually shifted their strategic focus from a traditional marketing approach to a shopper marketing approach in the belief that in-store marketing levers are more effective than the traditional ones. At the same time, grocery retailers have invested increasing marketing resources in in-store promotions and marketing activities. The main idea is that it is possible to influence consumers' behaviors and decisions inside the store. According to many researches, the type of the food category purchased (Inman, Winer & Ferraro, 2009), the features of the shopping trip (Kollat & Willet, 1967; Bell, Corsten, & Knox, 2011) and the characteristics of the point of sales (Inman et al., 2009; Shankar & Muruganantham, 2013) could shape shoppers' decisions and stimulate purchases not planned before the shopping trip. In Italy, at least two out of three purchase decisions were made in store and this data would strengthen the growing strategic importance of the point of sale (Popai, 2012).

Today, otherwise, we face with a different scenario. The economic crisis has produced significant changes in shopper and consumer habits, designed to gradually reduce the effectiveness of in-store marketing levers. According to a recent research conducted on the Italian market by ShopperVista (IGD, 2012), 43% of consumers always reads the flyers (compared to Europe, where the percentage is around 33), 29% redeems coupons (19% in Europe), 66% usually compares the price of single products (61% in Europe) and 59% of shoppers collects information before entering the store (compared with 51% of the rest of European consumers). This phenomenon is supported by the growing penetration of digital technologies. Consumers now are able to collect a large amount of information, to compare different retailers' offers and catch the best offer at the best price in a simple and fast way (Food Marketing Institute, 2012). Consumers are now planning their budget carefully, rely on a variety of information sources at all stages on the process.

In this new context, important questions are arising: what is the relationship between pre-shopping behaviour and in-store shopping behaviour? Can in-store marketing levers still influence consumers as generally assumed or their new planning attitudes limit the impact and the effectiveness of in-store shopper marketing levers?

Starting from these considerations, our work intends to explore the relationship between pre-shopping behaviour and shopping behaviour in-store, with the aim to understand which pre-trip activities are developed and how they influence impulse purchases. The paper is organized as follows. First, a literature review about consumer's decision making process and the influence on in-store marketing levers on purchasing behaviour is presented (par. 2). Secondly, we present the research questions (par. 3) and the methodology used (par. 4). We, then, present and discuss our findings (par. 5 and 6). Finally, last sections are devoted to conclusion and managerial implications (par. 7) and limitations and future direction (par. 8).

2. Theoretical Framework

The decision making process is a complex and long path characterized by different stages which take place both in and out of store (Puccinelli, Goodstein, Grewal, Price, Raghubir, & Stewart, 2009): it starts when consumer's needs emerge, goes on with information seeking and evaluation of different alternatives and ends up with purchase decision and post-purchase considerations.

Starting from the '90s, the marketing literature began to highlight the importance of shopping behaviour inside the store. Many researchers supported the idea that consumers' involvement with the store has not only a rational dimension, but also an emotional one (Hirschman & Holbrook 1982). In this context, the store started to be considered as a means of communication, an environment rich of sensory stimuli (Donovan, Rossiter, Marcoolyn, & Nesdale, 1994), able to remember consumers' needs temporarily forgotten, suggest or stimulate latent needs, rather that stimulate new purchases or purchases not decided before the shopping trip (Inman et al., 2009).

The strand of literature which focuses on the influence of in-store marketing levers on shopping behaviour is known as "Shopper Marketing" and some authors have focused their attention on some specific marketing levers (Kahn & Schmittlein 1989; Chandon, Hutchinson, & Young, 2002; Inman & Winer, 1998; Sinha & Uniyal 2005; Larson, Bradlow, & Fader, 2005; Larson, Bradlow, & Fader, 2006; Neff, 2008; Chandon, Hutchinson, Bradlow, & Young, 2006; Inman et al., 2009; Dulsrud & Jacobsen, 2009; Suher & Sorensen, 2010; ECR Europe, 2011; Bell, Corsten, & Knox, 2011). Several authors started to recognize that many decisions are not made until consumers enter the store (Agnew, 1987; McIntyre, 1995; Inman et al., 2009) and began to define and analyse the phenomenon of impulse buying.

Several are the definitions given to the concept of 'impulse buying' (Stern, 1962; Kollat & Willet, 1967; Bellenger, Robertson, & Hirschman, 1978; Cobb, 1986; Iyer & Ahlawat, 1987; Iyer, 1989; Bucklin & Lattin, 1991; Beatty & Ferrell, 1998; Bayley & Nancarrow, 1998; Block & Morwitz, 1999). The most complete one seems to be the one which distinguishes impulse purchases into four categories (Iyer, 1989): pure impulse buying (purchases characterized by a complete absence of planning); suggestion impulse buying (which occur when the store suggests new product alternatives to meet a need); reminded impulse purchases (which occur when consumer remembers to buy a product that is needed only in front of the shelf) and planned impulse purchases (purchases partially planned before entering the store, e.g. the category has already been decided).

There are three main exogenous variables that have been recognized to affect the behaviour inside the store and the probability to buy on impulse: type of the food category, features of the shopping trip and characteristics of the point of sales. In particular, Inman, Winer & Ferraro (2009) have demonstrated that the higher the level of edonicity of the category bought and the longer the interpurchase cycle, the higher is the probability to buy on impulse. In the same way, the larger the number of items bought during the shopping trip and the larger the total amount spent, the higher is the probability to buy something not planned before (Kollat & Willet, 1976). Furthermore, a shopper is more likely to buy on impulse when the goal of the shopping trip is abstract (Bell et al., 2011), when the frequency of shopping is low (Kollat & Willet, 1976) and when the time spent in the store in high (Inman et al., 2009). Finally, impulse buying behavior depends on the quantity and quality of the space attributed to the category, on the display arrangement, in store communication, colors (Shankar &

Muruganantham, 2013), store atmosphere, service, store layout and in store promotion (Fam, Merrilees, Richard, Josza, & Li, 2011). The promotional lever, in particular, is managed with the aim to drive the purchase decisions inside the store to products not planned before (unplanned purchases) in order to modify both the composition and the amount of the shopping (Abratt & Goodey, 1990). In the same way, merchandising' lever is managed in order stimulate unplanned purchases towards profitable products and/or categories (Inman et al., 2009). This means that both retailers and manufacturers could gain their profit target by managing instore marketing levers.

In a context where the unemployment rate grows, the family income decreases, the taxes incidence increases (Istat, 2013), consumers begin to adopt strategies to reduce the incidence of food expenditure (IGD, 2011). As described by IGD (2012), consumers are now much more prepared than in the past and collect information before the shopping trip about promotions, prices, products in order to reduce in-store impulsive purchases.

Shoppers recognize the ability of retailers to generate immediate desires and they try to limit this effect by activating some "self-control strategies", which are strategies oriented to control impulsiveness in order to be less conditioned by instore stimuli (Hoch & Loewenstein, 1991; Cheema & Soman, 2006). In particular, in literature, two are the main activities that consumers realize in order to prevent deviant behaviour: reduction of desire and increase of willpower (Hoch & Loewenstein, 1991; Cheema & Soman, 2006). Self-control is the result of a psychological conflict between desire and willpower, considered as the strategy used to reduce cravings. According to the psychological theory, conflict is an oscillation between a process driven by the impulse, largely irrational, that wants immediate gratification at any price, and a logical, rational process, which tends to postpone the rewards in the long run in order to get more benefits. The ability to maintain self-control and successfully take long-term decisions depends on the strength of these two opposing processes. If we consider the grocery context, there are two ways to control shopper impulsivity: define a mental budget to be followed during shopping expedition (Heat & Soll, 1996; Stilley, Inman, & Wakefield, 2010), and devote time to the preparation of the trip (Heckhausen & Gollwitzer, 1987; Iyer & Ahlawat, 1987; Thomas & Garland, 1993; Thomas & Garland, 2004). According to Stilley, Inman, & Wakefield (2010) shoppers have a mental budget composed of two parts: a section dedicated to planned purchase and a part not assigned to any product in particular, in order to anticipate the possibility of making impulsive purchases. This happens because consumers are aware that they have neither the time nor the mental ability to plan everything, or because they want to have the possibility to spontaneously decide what to buy in the store. By defining a mental budget, consumers consider the purchase of products whose memory is stimulated in the store and get ready for the impulsive purchases, expecting to "deviate" from what has been planned. As regard shopping preparation, according to Block and Morwitz (1999), the presence of a written shopping list increases the probability to buy planned products. The shopping list is considered an "external memory aid" (Block & Morwitz, 1999) as it increases the probability of a correspondence between intentions and actions. Similarly, the fact of writing products on a list can help the memory of shoppers, even if they do not bring it during the trip.

The tendency of self-regulation is emphasized by the growing penetration of digital technology, which enables consumers to prepare the shopping expedition with different tools: digital shopping list, on-line price comparison, consultation of digital flyers and usage of apps. According to a global research made by IGD (2011), 61% of online consumers use the Internet to do research related to spending (about 45 % searches for grocery products information, 43% searches offers, 33% reads information relating to stores' promotions, 33% looks for on line coupons, 26% visits the brands website, 18% uses social network to give feedback about food products, 11% uses digital shopping list).

Because of the importance of the pre-trip activities, some authors began to review the definition of "Shopper Marketing" by considering it as a whole process which can affect consumers' decisions not only in-store, but also out-of-store when they develop a need to buy (Oxford Strategic Marketing 2008; Retail Commission on Shopper Marketing, 2010; Shankar, 2011; Shankar, Inmam, Mantrala, Kelley, & Rizley, 2011). According to this perspective, Shopper Marketing could be defined as "the planning and execution of all marketing activities that influence a shopper along, and beyond, the entire path-to-purchase, from the point at which the motivation to shop first emerges through to purchase, consumption, repurchase, and recommendation" (Shankar, 2011). The main goal is to influence shoppers throughout the shopping cycle that comprises different stages such as motivations to shop, search, evaluation, category/brand/item selection, store choice, store navigation, purchase, repurchase and recommendation (Shankar, 2011). This means that decisions does not necessarily occur in store, in front of the display, but they can occur also out-of-store, during the pre-trip activities. For this reason, both retailers and manufacturers need to consider not only the behaviour inside the store, but also what consumers do before the shopping trip.

Considering that consumers who draw up a shopping list are less prone to being influenced by instore stimuli, what future can we expect in a context where the shopper has many tools to collect information and plan the purchases before entering the store? How important are digital technologies in the Italian market in helping consumers to prepare the shopping trip? Does shopping preparation influence instore consumer behaviour?

These questions lead us to rethink about the traditional paradigm driving shopper behaviour instore and about the efficacy of all those marketing levers managed to influence consumers' choice instore.

3. Research Questions

Based on the considerations above, our work intends to explore the relationship between pre-shopping behaviour and shopping behaviour in-store in the Italian market. The aim is to understand how pre-trip activities have changed in the new market scenario and how they could influence in-store shopping behaviour.

Specifically, the present work intends to answer the following questions:

Q1 – What kind of pre-trip activities consumers carry out before entering the store?

Grocery shopping preparation is a self-control strategy which is adopted by consumers in order to limit impulse purchases (Iyer & Ahlawat, 1987; Thomas & Garland, 1993; Thomas & Garland, 2004; Heckhausen & Gollwitzer, 1987). In the new market scenario, characterized by the presence of multiple tools - online and offline - which allow customers to collect information, it is interesting to investigate what kind and how many pre-trip activities consumers carry out in order to control their budget

Q2 – Does the grocery shopping preparation influence the shopping behaviour in-store?

Bettman (1979) stated that out-of-store collection of information has an impact on the degree of planned purchases. In the new context, it is interesting to understand to what extent the degree of pre-trip preparation influences in-store decisions in terms of planned versus unplanned purchases.

Q3 – To what extent the degree of preparation influences the ability to remember the price?

Price is one of the retailing mix levers which retailers managed mostly to influence purchasing decisions towards products not previously planned (Abratt & Goodney, 1990; Dickson & Sawyer, 1990). In those circumstances, it is interesting to understand to what extent the degree of preparation of shopping trip affects the ability to remember the price and, consequently, risks to reduce the effectiveness of promotional activities.

4. Methodology

In order to answer the above research questions, we used a single-stage mall-intercept survey method to collect data using a process similar to previous studies (Beatty & Ferrell, 1998; Sharma, Sivakumaran, & Marshall, 2010; Mohan, Sivakumaran, & Sharma, 2013). A leading Italian grocery retailer gave us the permission to conduct our survey in its stores. A broad set of categories was selected to cover planned versus unplanned shopping categories as defined by literature (Inman et al., 2009), on the hypothesis that shopper behavior varies among different categories.

Shoppers were intercepted in front of the display, when the product was placed in the shopping cart, and requested their participation in the survey. A total of 804 shoppers were interviewed. Overall, the convenience sample fairly represents the target population of urban adult Italian shoppers.

The interviews, based on a structured questionnaire, were aimed to measure the degree of preparation out of store. Having recorded the purchases made by each participant in the categories analyzed, we asked the shoppers whether each of these purchases was planned or unplanned. In case of planning, we asked them to indicate the degree of planning (they could have planned the brand, the product or the category) and the reasons (they could have planned the purchase for a need or for catching a promotional offer). In case of unplanned purchase, the consumers were asked to indicate the reason (presence of price-cut over the product or store environment influence). After that, the same sample was asked to list if and what kind of pre-trip activities he had done before the shopping expedition. In particular, five activities were considered, accordingly to previous market research (IGD, 2012): writing of a shopping list, examination of papery flyer, examination of digital flyer, comparison of different stores' price using on line aggregator and flyers.

Data were processed using SPSS statistical software. The analysis tool used was the contingency table that allowed us testing the association between phenomena if at least one of them is measured on a nominal or ordinal scale. The chi-square test had been used in order to test the null hypothesis of absence of associations between them, at a .05 significant level.

5. Findings

5.1 Pre-trip Activities

In order to answer to the first question (Q1), the research investigated the number and the type of pre-trip activities carried out by the consumers.

The results show that 38 percent of consumers interviewed had prepared a written shopping list, 15 percent had read off-line flyer, 8 percent had read digital flyer before entering the shop, 21 percent had compared different stores' flyers and, finally, 6.5 percent had examined on-line aggregators.

Starting from these findings, we have identified three groups of shoppers, based on the number of pre-trip activities carried out before entering the store. The first group, called "not prepared shoppers", includes individuals who had not made any pre-trip activities (they only had a mental shopping list); the second group, called "prepared shoppers", refers to individuals who had made 1-2 pre-trip activities; finally, the "professional shoppers" (third group) are individuals who had made 3 or more pre-trip activities. The first group represents the 43 percent of the sample, the second the 48 percent and the third the 9 percent of the total number of individuals interviewed.

5.2 Degree of Shopping Preparation and In-store Behaviour

In order to answer to the second question (Q2), we explored shopping behaviour instore in terms of products search mode and reasons of purchase.

The statistical output (Table 1) shows the presence of a significant association between "degree of preparation" and "in-store behaviour" at a significance level of .001.

In particular, the results show differences between the "not prepared shoppers" and the others groups: the first seems to be more influenced by instore stimuli. 21.9% of "not prepared shoppers" have made impulse purchases (a higher percentage than the other two groups and almost double compared to those who perform more than three activities): they declared to have bought the products because they were attracted. Thus, the lower is the degree of preparation, the higher is the impulse tendency. In any way, their degree of planning is limited to the category. On the other hand, the "professionals" seem to have a deep knowledge about retail promotion since they had planned their purchases based on promotions (15.5% of them declared to have bought products because they knew they were in promotion). In sum, professionals are guided by promotion in planning their purchases and they are less influenced by instore stimuli.

Table 1. Degree of preparation In-store behaviour

Contingency table_ Degree of preparation * In-store behavior									
			In-store behavior						Tot
			I've planned the purchase of a specific product	I've planned the purchase because I knew it was on promotion	I have bought the product on impulse, because of the promotion	I've planned the purchase of a specific brand	I've planned the purchase of a specific category	I have bought the product on impulse because I was attracted	
Degree of preparation	Not prepared	Number	141	6	24	30	70	76	347
		% of Degree of prep.	40.6%	1.7%	6.9%	8.6%	20.2%	21.9%	100.0%
		Std. resid.	-.6	-2.9	-1.1	.1	1.8	1.5	
	Prepared	Number	173	26	37	32	54	64	386
		% of Degree of prep.	44.8%	6.7%	9.6%	8.3%	14.0%	16.6%	100.0%
		Std. resid.	.6	1.2	.7	-.1	-1.1	-.8	
	Professional	Number	31	11	8	6	7	8	71
		% of Degree of prep.	43.7%	15.5%	11.3%	8.5%	9.9%	11.3%	100.0%
		Std. resid.	.1	3.7	.8	.0	-1.3	-1.4	
Tot		Number	345	43	69	68	131	148	804
		% of Degree of prep.	42.9%	5.3%	8.6%	8.5%	16.3%	18.4%	100.0%

(Chi-square 37.739 p<.001; Phi .217 p<.001; V Cramer .157 p<.001)

5.3 Ability to Remember the Price of the Product

The last area of investigation has focused on the relationship between the degree of preparation and the ability to remember the price of the product(s) purchased (Q3). In order to investigate the ability to remember prices, subjects were asked to precisely indicate the reminded price of each product purchased (belonging to the category investigated). The price mentioned was, then, compared with the real price (directly detected in store) and it was calculated the percentage difference using the following formula:

(remembered price - real price) / (real price)

In the case of multiple purchases within the category investigated, the value was calculated as a simple average of deviations of all the products. We considered the percentages obtained in absolute value. We collect this information for 616 shoppers.

The values obtained were classified into 4 groups based on the size of the deviation: the first group includes cases where no deviation is present (exact memory), the second one ranges from 0 to 5% (accurate memory), the third take into account the deviation from 5% to 30% (fairly accurate memory) while the fourth group includes deviations larger than the 30% (inaccurate memory).

In the sample analysed, the percentage of those who know exactly the real price of the purchased products is around 35%, while if we consider those who do not deviate, in absolute terms, more than 5% from the real price, the percentage rises to 56.8% (exact and accurate memory). The percentage of those who deviate more than 30% is equal to 12% (inaccurate memory).

It is interesting to understand if there are significant differences between the clusters identified (based on the degree of preparation) in terms of ability to remember the price. Despite the ability to remember may depend on various factors such as the visibility of the prices on the shelves, the time spent in front of the same and the cognitive abilities of each subject, we cannot reject the hypothesis of a relationship with the degree of preparation (p<.05) as shown in Table 2.

There is strong evidence that shoppers who realize more than 2 preparatory activities (professionals) have a greater capacity to remember the exact price of the product than the other two groups.

Table 2. Degree of preparation Ability to remember products' price

Contingency table – Degree of preparation * Ability to remember product's price							
			Ability to remember products' price				Tot
			Exact memory	Accurate memory	Fairly accurate memory	Inaccurate memory	
Degree of preparation	Not prepared	Number	84	53	86	27	250
		% of Degree of prep.	33.6%	21.2%	34.4%	10.8%	100.0%
		Std. Resid.	-.3	-.3	,3	.5	
	Prepared	Number	97	72	104	32	305
		% of Degree of prep.	31.8%	23.6%	34.1%	10.5%	100.0%
		Std. Resid.	-.9	.6	,2	.3	
	Professionals	Number	33	11	15	2	61
		% of Degree of prep.	54.1%	18.0%	24.6%	3.3%	100.0%
		Std. Resid.	2.6	-.7	-1.2	-1.6	
Tot		Number	214	136	205	61	616
		% of Degree of prep.	34.7%	22.1%	33.3%	9.9%	100.0%

(Chi-square 12.846 p<.05; Phi .144 p<.05; V Cramer .102 p<.05)

6. Discussion

Our research aimed to investigate the relationship between the degree of preparation and shopping behaviour instore in grocery retailing. Specifically, we have tried to explore how pre-trip activities could influence purchases decisions instore and the ability to remember the price. The findings bring out important considerations on the effectiveness of in-store marketing levers, managed by retailers with the aim to influence consumer decisions at the point of sale.

Firstly, the research highlights the presence of a prepared shopper, who looks for information by using different sources: more than half of the sample (57%) performs one or more activities before the shopping expedition and uses both on-line and off-line channels. Considering digital tools, only 8 percent of the sample had read digital flyer before entering the shop and only 6.5 percent had examined on-line aggregator. Comparing these data with the shoppers global tendency (IGD, 2012), we note that Italian consumers are less likely to use the technology for the shopping preparation. However, this data also means that there is space for digital technologies to grow in the Italian retailing market. The usage of technologies in the pre-shopping phase could help shoppers to make better decision and being less influenced by the environment while expending less effort inside the store. According to Haubl & Trifts (2000), the interactive tools designed to facilitate in-depth comparisons among alternatives in an online shopping environment may have positive effects on both the quality and the efficiency of purchase decisions.

The degree of grocery shopping preparation is found to influence shopper behaviour inside the store in terms of planned/impulse buying: the higher is the degree of preparation, the greater is the tendency to plan purchases and the lower is the tendency to make impulse purchases. Consumers tend to consider the promotion as a guide during the out-of-store preparation phase. This phenomenon is new in the in-store marketing framework where promotion was traditionally seen as a lever designed to stimulate impulse purchases inside the store (Abratt & Goodey, 1990; Dickson & Sawyer, 1990). Today, instead, the promotion is known out-of-store, mostly through off-line flyers, and it becomes a guide in-store: when consumers plan the purchase promotional products, the promotional lever risks losing its capability to generate impulse purchases.

The effectiveness of the promotional lever is likely to be questioned by another phenomenon, which is also a consequence of the degree of preparation: the ability to remember the price. The greater the degree of preparation out of store, the higher the consumer's ability to recall more accurately the prices of the products purchased. The research highlights the presence of an informed consumer, aware of the average price of retailers' assortments and able to evaluate the effective cheapness of promotional offers. In this research, the 34.7 percent of the sample was found to recall the exact price of the products just bought and the 56.8 percent to recall a price within the 5% of the real price. These results seem to be in line with the ones found in similar researches. Conover (1986) has suggested that about 50 percent of shoppers know the exact price of items they have purchased. In the same way, Dickson & Sawyer in 1990 found that 55.6% of the sample gave a price within 5% of the real price. But the innovative contribution of this study was to link the price recall accuracy with the pre shopping activities carried before the shopping trip. In fact, many studies (Monroe & Lee, 1999; Estelami &

Lehmann, 2001) have stressed that the factors that may influence price recall accuracy are product category used, respondent demographics, respondent psychographics and economic environment (e.g. inflation and unemployment).

In summary, the results of research show a new framework for the Shopper Marketing and, in general, for all marketing strategies aimed to influence shopper behaviour.

7. Conclusions and Managerial Implications

In the past, retailing marketing levers were managed primarily with the aim to influence consumer behaviour inside the store. Today, the growing importance of the preparatory activity and the amount of decisions planned before entering the store, lead companies to catch and influence consumers' decisions before entering the store.

Therefore, retailers need to assume a wider marketing perspective considering not only in-store behaviour, when the consumer is in front of the shelf, but also out of store, when purchasing needs emerge and consumers collect information to prepare the shopping expedition. Retailers and manufacturers have to evolve from focusing on "in-store" to all the stages in the shopping cycle, as suggested by recent literature (Shankar, 2011; Ståhlberg & Maila, 2012), recognizing that the key trigger points in the shopping cycle con occur both outside and inside the store.

We are facing with a phenomenon that questioning part of the traditional paradigms which had guided most studies on shopping behaviour and instore marketing. The store is no longer the only means of communication or information-seeking place, because the consumer is now able to evaluate the convenience of the retailers' offer by using a variety of sources. Thus, retailers and manufacturers have to evaluate how distributing marketing resources among different tools (online and off line). In particular, is important for market players to understand the importance of developing new applications and tools in order to help shoppers carrying out the activity of shopping preparation.

Finally, a new scenario seems to open up also for promotion. Our research shows that the 'professionals' use the promotion as a sort of guide in store (like a shopping list) for searching products and brands. Promotion, thus, risks losing its efficacy in influencing consumers' decisions instore and retailers have to find new ways to increase the amount of expenditure. For example, by using apps that allow the customization of promotions, they could meet the needs of consumers who are more prepared and informed.

As suggested by Shankar (2014), shopper marketing is entering a new era (the so called 2.0 phase) that will bring researchers and marketers to consider all the tools, online and offline, that can influence consumer choices along the different stages of the decision making process. Considering that not all decisions are made in the store, retailers and manufacturers have to redistribute resources between instore and out of store levers.

8. Originality, Limitations and Future research

Previous studies have focused on the in-store factors influence (Inman et al., 2009; Stilley et al., 2010; Mohan et al., 2013), while out-of-store factors have been considered only recently (Bell et al., 2011) and without specific reference to pre-trip activities in the digital context. Our study, thus, addresses this gap in the extant literature by studying the impact of preparatory activities on planned buying behaviour in the new market scenario by considering both on-line and off-line activities.

Despite these considerations, our research has some limitations associated with the store-intercepted survey research. First, respondents may have been influenced by the presence of interviewers and then distorted in order not to appear impulsive buyers. Second, our sample - interviewed in three regional stores - is probably neither truly random nor necessarily representative of any larger population. However, given our interest in relationships between variables rather than population descriptions, this may not be a relevant problem. Third, data could be analysed with more advanced tools. Nevertheless, this research wanted to be a first attempt to demonstrate the existence of a relationship between pre-shopping activities and instore behaviour.

Future research could consider demographic variables in order to understand how gender, age, country of origin and family composition influence the degree of preparation and the probability to buy on impulse. While some authors have established that gender, age and family composition may influence shopper's behaviour instore (Kollat & Willett, 1976; Blaylock & Smallwood, 1987; Cobb, 1986; Inman et al., 2009), nothing has been said about their impact on pre-shopping tendency.

Finally, it could be interesting to investigate how the relationship between out of store preparation and in store behaviour is related to store format. It has been demonstrated that shoppers prefer to visit hypermarket to conduct major trips while supermarkets are preferred for fill-in trips (Reutterer & Teller, 2009). At the same time, the larger the number of items bought, the larger the total amount spent, the higher is the probability to buy something not planned before (Kollat & Willet, 1976). Shoppers recognize the ability of retailers to generate immediate desires and try to limit this effect (Hoch & Loewenstein, 1991; Cheema & Soman, 2006). Considering these findings, we could expect a greater shopping preparation for consumers who shop at the hypermarket.

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Organizational Culture and Performance Measures in Greek Telecommunication Industry

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Abstract

The paper shall examine the relationship between organizational culture and performance measures and the relation of specific cultural types with performance indicators (such as profitability, growth and qualitative factors), in order to support managerial efforts to cultivate an inimitable operational strategy. Based on data from both, fixed and mobile operators in Greece and the use of ANOVA methodology, key findings have been revealed with reference to organizational culture and economic performance. A control-oriented tendency in telecommunication industry has been indicated as a whole, with cultural variations among fixed and mobile operators, along with significantly important differences on performance indicators.

Keywords: organizational culture, OCAI, telecommunication industry, telecommunication business management, indicators' performance management

1. Introduction

During the last thirty years, different events have changed the form of national economies and have created a new global economy, leading to new ages of competitive advantage (Jacome et al., 2002) and revealing the role of organizational culture (Evans et al., 2002). In particular, operational success is currently related with organizational strengths and weaknesses (awareness of own organizational culture), with business environment (competitors' culture) and with market's conditions (national cultural context). As a result, there is a growing interest towards the direction of finding out whether there is a relationship between organizational culture and the effectiveness in organization management. Despite the growing interest for organizational culture, as a means of achieving competitive advantage and superior performance (Evans et al., 2002), there is still confusion about the way it affects telecommunication companies' management.

Since the Second World War, telecommunication companies have evolved into national monopolies in a protected environment in order to respond to the national requirements for telecommunication products and services. Lack of competition, political interventions, bureaucracy and internal orientation influenced most operators' cultures in such a degree that they indicate similarities regardless the country of origin. As a result, telecoms' organizational culture was characterized by hierarchical norms (Blazevic et al., 2003) and top – down hierarchical structures, which both improve performance in stable environments (Lawrence & Lorsch, 1967; Moorman & Miner, 1997). Employees followed bureaucratic procedures, whereras consumers' needs have not always been in the forefront. In addition, operational cost was usually very high and every effort to cut it down met reactions.

The radical developments in legislative, financial and technological level have changed this situation. The telecom market was henceforth characterized by a dynamic and constantly changing environment, which demanded decentralized and flexible decision making structures (Mendelson & Pillai, 1999; MacCormack et al., 2001). Market liberalization and state–owned companies' privatization started in UK during 80's and until 2001 all European Union's members reformed their telecommunication markets, whereas USA was the pioneer in antitrust legislation in 1983. Following that point, market competition growed up and telecoms started to concentrate on financial and non–financial information (such as culture, market orientation strategies and total quality) in order to gain competitive advantage (Amir & Lev, 1996).

Majumdar (1999) studied the American telecommunication market for a period of sixteen years (1975 – 1990) in order to find out whether the AT&T's separation changed the overall performance and efficiency of the whole telecommunications' sector. He revealed that one of the leading factors for efficiency and performance was cultural change. The separation produced differentiation in the existed monopolistic culture and this fact had a positive effect in the overall performance of the sector.

Another cultural analysis has been conducted by Claver et al., (2000), who studied the case of Telefonica Group. The firm was a state–owned monopoly until 1998 when the market liberalization was reached. Senior management understood in time that organizational change was needed almost 9 years before market's liberalization. Cultural change aimed on explaining to the employees, how to do things correctly, from the customer's point of view, at the lowest possible cost (Claver et al., 2000). Nowadays, Telefonica Group is one of the leading telecommunication companies worldwide, with more than forty million clients and still maintains its leadership in Spain. A more recent study was conducted by Sivananthiran & Venkata (2004), who studied Sri Lanka Telecom privatized in 1996, but despite structural changes, culture remained unchanged to past legacies of governmental bureaucratic administration. Cultural change's results led to faults' rate decrease from 16% to 4%, whereas employees' involvement has increased as well as their corporate commitment.

Nowadays, organizational culture is recognized as a primary failure factor in cases of off-shore investments (Bjerke, 1999; Gesteland, 2002; Joynt & Warner, 2002; Schneider & Barsoux, 2003). Operating in a globalized and competitive business environment, incorporate cultural complexities. Moreover, according to D' Averi (1994) no firm can maintain a sustainable competitive advantage in an over – competitive industry such as the telecommunication industry. Competitors never stay inactive for long but tend to imitate or adopt new entrepreneurial strategies and technological developments. One of the few unique characteristics that cannot be emulated is culture, according to Onken (1999).

All these explain why companies spend resources in order to develop a desirable organizational culture and why it is essential to investigate organizational culture and its effect on performance indicators aiming to record organizational culture in telecommunication industry in accordance with business environment and entrepreneurial strategies. The rest of the paper shall be organized as follows. In Section 2, the methodology of the research is analyzed, whereas in Section 3 general findings and main results are presented. Finally, the analysis presented and discussed shall be concluded in Section 4.

2. Method

2.1 Cultural and Performance's Data

The **Competing Values Framework** (CFV), created by Quinn & Cameron (1999), has been used in order to collect data via interviews from middle line managers and employees in telecommunication companies. The answers from employees with different demographic and working characteristics grouped according to operators and the stabilized summary of answers were used for the clarification of fixed and mobile telephony's cultural type. The model is built upon two dimensions: a) flexibility versus control and b) external versus internal orientation. Such dimensions are creating four distinct cultural types:

- Clan culture supports an open and friendly place to work where people share a lot of themselves. Group's loyalty and a sense of tradition are strong. There is an emphasis on long term benefits of development and great importance is given to group cohesion. There is a strong concern for people and the organization places a premium on teamwork, participation and consensus.

- Adhocracy culture supports a dynamic, entrepreneurial and creative place to work. Innovation and risk-taking are embraced. A commitment to experimentation and thinking differently is what unifies the organization. Long-term emphasis is placed on growth and acquiring new resources. Success means gaining unique and new products or services.

- Market culture supports a results-driven organization focused on job completion. People are competent and goal orientated. Leaders are demanding, hard-driving and productive. The emphasis is placed on winning conducive to the group's unification. Long-term focus is on competitive action and achievement of measurable goals and targets. Success means market share and penetration.

- Hierarchical culture supports a highly structured and formal place to work. Rules and procedures govern behavior. Leaders strive to be good coordinators and organizers and efficiency-minded. Stability, performance and efficient operations are the long term goals. Success means dependable delivery, smooth scheduling and low cost.

Performance measurement is based on both quantitative (economic – financial indices) and qualitative variables. Despite the importance of performance measurement there is no wide acceptable conceptualization of this issue (Garrigos – Simon et al., 2005) and new concepts are continuously developed (Harris & Mongiello, 2001) in order to meet management's needs to review the performance management systems thereof (Atkinson & Brander

Brown, 2001). The presented analysis attempts to collect key measures, related to financial performance, operational growth and quality factors related with intelligence and market orientation.

Financial performance shall be established by wide accepted indexes (ROI, ROA & ROS), as well as variables revealing telecoms' actual financial condition (profits and revenue per subscriber). Specifically:

1. *Return on investments* stands for average financial profitability,
2. *Return on assets* stand for average economic profitability,
3. *Return on sales* stand for average profitability in sales,
4. *Profits* indicate, in absolute numbers, firms' profitability and
5. *Revenues per subscriber* reveal how demand is affected by firms' pricing policy.

Growth is validated by five distinct variables, related with invested capital, subscribers' number, firm's age and size and investment in infrastructure. All these are revealing a firm's business and technological evolution over time, but moreover reveal the efforts and the invested resources in order to achieve viable growth. Specifically:

6. *Subscribers' growth* reveals whether a firm is gaining market share or not. Since profit and revenues are related with number of subscribers, the variable's growth rate demonstrates an overall firm's tension.
7. *Growth capital turnover* reveals the ratio between the invested capital and the revenues generated by investments. It presents firm's investing efficiency.
8. *Total investment in infrastructure* is a collateral variable. It presents firm's investing policy.
9. *Firm's age* represents firm's life cycle and allows being understandable how many years it has taken to create the operational structures thereof. Moreover, firm's age allows being understandable the legislative framework and market conditions under which it was formed.
10. *Firm's size* is related with employees' number and gives evidence of the staff required in order to achieve its operational structure.

Quality factors reveal how the firm responds to market's changes, how knowledge and intelligence are internally managed and which is the overall orientation. Specifically:

11. *Intelligence about customers* determines how the firm responds to customers' needs. It is a measure about firm's effectiveness to be understandable within market changes related with "demand".
12. *Intelligence about competitors* determines how the firm responds to changes related with competitors and their market strategies. It is a measure about firm's effectiveness to be understandable within market changes related with "supply".
13. *Intelligence dissemination* determines how knowledge is disseminated within the organization.
14. *Responsiveness to intelligence* determines the corporate responsiveness to the collected intelligence and the disseminated knowledge.
15. *Innovativeness* determines the firm's effectiveness in creating opportunities related with new products, new business models or new markets. In a fast changing market, innovativeness can be a key measure in order to gain competitive advantage.
16. *Market orientation* reveals the degree of firm's determination to factors such as customers' satisfaction, openness, results orientation strategy, internal communication and cooperation.

All data were provided to respondents (as comparative scale of Greek telecoms) in order to evaluate through a Likert scale whether they agree or not. Through this procedure it was evaluated whether employees' feeling about their company's performance is accurate or not in comparison with their responds about organizational culture.

2.2 Case Study

The data were collected via interviews from 272 (two hundred seventy-two) middle level managers and employees from six operators in Greece. Table 1 presents the demographic characteristics of the examined sample as well as cultural types which have the highest mean. Employees within fixed telephony market (n=134) tend to have a hierarchical cultural type while employees within mobile market (n=138) are more market-oriented. Males (n=124) and female (n=148) employees tend to different types of dominant cultures, market and hierarchy representatively. Educational background affects developed culture. Employees with economic & management background tend to hierarchical cultures, whereas technical background lead to market-oriented cultural types.

Table 1. Analyzing the Sample

Category	No.	Mean	St. Deviation	Dominant Cultural Type
Total Group	272	30,626	67,710	Hierarchy
Operator				
Fixed	134	33,035	63,333	Hierarchy
Mobile	138	33,319	73,295	Market
Sex				
Male	124	33,858	72,039	Market
Female	148	32,468	69,004	Hierarchy
Educational Background				
Economics	26	30,321	43,842	Hierarchy
Management	78	31,479	84,889	Hierarchy
Technical	56	32,173	70,238	Market
Other	112	34,653	72,021	Market
Length of Employment				
1 - 5 years	192	30,547	72,129	Hierarchy
6 - 10 years	54	32,432	50,360	Market
11 - 15 years	12	37,500	93,225	Market
16 - 20 years	6	28,056	69,330	Market
21 - 25 years	6	31,389	32,352	Hierarchy
26+	2	38,358	31,047	Hierarchy
Job Description				
Economics	20	33,583	38,733	Hierarchy
Strategy Affairs	30	30,389	85,740	Hierarchy
Human Resource Management	8	34,167	50,427	Hierarchy
Corporate Affairs	40	31,750	65,121	Hierarchy
Technical Affairs	74	33,090	80,288	Market
Sales	80	34,313	69,436	Market

Moreover, working experience is another determinant factor. During the first working years, when employees are less-experienced and develop the skills thereof, they tend to search for mentors and they rely on hierarchical relationships developing similar culture. Nonetheless, during the later working years, high experienced and skilled employees become “teachers” and hierarchical culture dominates. During the “ambitious years”, when employees try to be promoted, market-oriented culture is developed as a tendency to compete in. Finally, the job’s nature affects the employees’ preferable cultural type. Technical departments and sale departments tend to develop market oriented cultures, whereas more bureaucratic departments reveal hierarchical tendencies.

3. Results

A statistical analysis is being conducted in order to examine the Greek telecoms’ organizational culture and descriptive statistics was used to reveal the main cultural characteristics. ANOVA technique was used to reveal the relationship between culture and performance, by analyzing the significance of mean differences. In order to check the validity (and reliability) of the questionnaire’s content the Cronbach’s alpha coefficient was used (Gliem & Gliem, 2003). The content reliability check is carried out to ascertain whether or not the questionnaire will succeed in clearly expressing and accurately measuring the variable (or item) wherefor it was constructed. Based on the international literature, whenever a questionnaire is awarded any score higher than 0.7, it is considered reliable (Kurtinaitiene, 2005). In all cases, the results presented in Table 2 exceed this minimum level of reliability.

Table 2. Mean Scores and Reliability Test

Cultural Type (n=272)	Mean	Standard Deviaton	Reliability Coefficients
ClanCulture	19,491	54,235	0,703
Adhocracy Culture	19,449	39,198	0,724
Market Culture	30,434	71,056	0,778
Hierarchy Culture	30,626	67,710	0,701
Mobile Operators			
ClanCulture	18,345	53,617	
Adhocracy Culture	20,048	37,804	
Market Culture	33,318	73,295	
Hierarchy Culture	28,287	69,081	
Fixed Operators			
ClanCulture	20,671	54,153	
Adhocracy Culture	18,557	40,221	
Market Culture	27,462	64,210	
Hierarchy Culture	33,034	63,333	

According to these results, Greek telecommunication industry gives emphasis to control, with the majority of companies having a culture directed towards Market Culture or Hierarchy Culture. These dominant cultural types, Hierarchy Culture (mean equal to 30,626) and Market Culture (mean equal to 30,434) vary significantly from Clan and Adhocracy Culture which have smaller means (mean equal to 19,491 and to 19,449 respectively), but only minor differences exist between cultural types of the same control versus flexibility dimension. Firms are tending between hierarchical structures and market orientation whereas characteristics derived from clan type and adhocracy type cultures are mainly additional to their dominant cultures.

A comparison between fixed and mobile telephony's results indicates an inverse relationship. Both sectors give emphasis in stability and control but mobile operators are primarily market-oriented and secondly hierarchical-oriented, while fixed operators have reverse cultural type. Such inverse relationship, reveals the whole sector's control and stability tendency, but moreover gives a clue about the interaction between fixed and mobile operators through mergers, acquisitions and strategic alliances that took place during the past five years in Greek telecommunication market. These entrepreneurial movements along with competition increased in both markets have developed mixed cultures. Operators cooperate in order to support "3play" packets (fixed telephony, mobile telephony and broadband internet) and this may lead to cultural convergence towards an undefined "path".

In order to investigate the current relationship between organizational culture and performance, the confirmatory factor analysis (CFA technique) was used. Following Bollen (1989), a validity and reliability analysis has been conducted. The number of factors to be extracted, according to eigenvalue criterion, suggests a solution of three factors. This distinction was suggested as soon as the model was constructed and implies the distinction between profitability (items 1 to 5), growth (items 6 to 10) and quality factors (items 11 to 16). In order to achieve a higher rigour, an overall latent performance variable was created using the sum of composite variables for each dimension. It is a widely acceptable method, used to reduce complexity and to facilitate the estimations (Landis et al., 2000).

The observations of all indices corroborate the closeness of our fit (Chi–square=2.180, sig=0.703), by using maximum likelihood factor analysis. All parameters are statistically significant for a level of 95 percent and all factorial weights are greater than 0.4, while Cronbach's alpha provides value greater than 0.7. After model's validation, ANOVA analysis was conducted in order to associate performance with different cultural types. The test shall examine whether the various groups' means are equal representing an examination of differences established among the four cultural types. ANOVA's results are presented in Table 3.

Table 3. ANOVA Results for Cultural Types

		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Total Profitability	Between Groups	316,073	2	158,036	**14,097**	**0,009**
	Within Groups	56,052	269	11,21		
	Total	372,125	271			
Total Growth	Between Groups	84,759	2	42,379	**7,255**	**0,033**
	Within Groups	29,206	269	5,841		
	Total	113,965	271			
Total Quality	Between Groups	6,176	2	3,088	**1,566**	**0,296**
	Within Groups	9,859	269	1,972		
	Total	16,035	271			
Total Performance	Between Groups	639,758	2	319,879	**18,120**	**0,005**
	Within Groups	88,269	269	17,654		
	Total	728,028	271			

A main problem with ANOVA test is that no conclusion could be extracted about which conditions means are different. Researchers have solved this problem by conducting post hoc tests, which are used in case a statistical significance between conditions exists, but no conclusion could be extracted where significant differences exist. Tukey's test was used to locate significant differences and descriptive statistics were obtained. The Tukey's test is based on the studentized range distribution (standardized maximum difference between the means) and its results are presented in Table 4. Tukey's test calculates a new critical value that can be used to evaluate whether differences between any two pairs of means are significant. The critical value is different because it involves the mean difference that has to be exceeded to achieve significance. Therefore, it calculates one critical value and subsequently the difference between all possible pairs of means. Each difference is subsequently compared to the Tukey critical value. In case the difference is greater than the Tukey value, the comparison is significant.

Table 4. Post Hoc Test's Results (Tukey Test)

Dependent Variable	Cutlural Type	Mean Differences	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Total Profitability	clan-adhocracy	5,453	2,436	0,174	-1,400	12,307
	clan-market	2,206	1,593	0,590	-2,276	6,688
	clan-hierarchy	-4,159	1,571	0,044	-8,579	0,261
	adhocracy-market	-3,247	2,125	0,507	-9,226	2,731
	adhocracy-hierarchy	-9,612	2,108	0,000	-15,545	-3,679
	market-hierarchy	-6,365	1,024	0,000	-9,248	-3,481
Total Growth	clan-adhocracy	0,744	1,360	0,960	-3,082	4,571
	clan-market	-1,833	0,889	0,039	-0,669	4,335
	clan-hierarchy	2,777	0,877	0,020	-5,245	-0,308
	adhocracy-market	1,088	1,186	0,839	-2,249	4,427
	adhocracy-hierarchy	-3,521	1,177	0,062	-6,834	-0,208
	market-hierarchy	4,610	0,572	0,000	-6,220	-3,000
Total Quality	clan-adhocracy	-2,206	0,533	0,401	-3,706	-0,705
	clan-market	-1,665	0,348	0,160	-2,646	-0,683
	clan-hierarchy	-0,560	0,344	0,449	-1,528	0,406
	adhocracy-market	0,540	0,465	0,717	-0,768	1,850
	adhocracy-hierarchy	1,645	0,461	0,076	0,346	2,944
	adhocracy-hierarchy	-0,540	0,465	0,717	-1,850	0,768
	market-hierarchy	1,104	0,224	0,271	0,473	1,735
Total Performance	clan-adhocracy	3,991	3,318	0,695	-5,343	13,326
	clan-market	-2,375	2,169	0,013	-3,728	8,480
	clan-hierarchy	-7,496	2,140	0,007	-13,517	-1,476
	adhocracy-market	-1,616	2,894	0,038	-9,759	6,527
	adhocracy-hierarchy	-11,488	2,872	0,001	-19,568	-3,407
	market-hierarchy	-9,872	1,395	0,000	-13,799	-5,945

The examination of the relationship between cultural types and total performance revealed significant differences (F=18.120 p=0.005). The Tukey's test indicated that total performance in hierarchical and market cultures, significantly exceeded (P<0.05) the corresponding performance of clan and adhocracy cultures. The total performance of clan and adhocracy cultures did not significantly differ from each other, since there is a strong and statistically significant difference in the total performance, between market and hierarchical culture. The results reveal a situation wherein Greek operators tend to stability oriented cultures (market and hierarchy cultures) in order to achieve operational performance. The results indicate that hierarchical culture is strongly related with total performance in the specific national context. It has large mean differences even within market culture which is the dominant cultural type among telecommunication companies.

As far as profitability concerns, ANOVA test revealed significant differences (F=14.097 p=0.009) between the various cultural groups. However, Tukey's test indicate that only hierarchy culture's profitability significantly exceeds (P<0.05) all other cultural types. Adhocracy and clan cultures do not evaluate highly profitability and are mainly concentrated on viability and innovation representatively, while market culture is mainly goal-oriented and intense competition has reduced firms' profitability. In profitability terms it can be concluded that hierarchical characteristics can lead to increased success possibilities.

The examination of the relationship between organizational culture's types and growth revealed significant differences (F=7.255 p=0.033). Tukey's test indicated that growth within market and clan cultures significantly exceed the growth patterns of hierarchical culture. "Older" and "larger" operators (which usually are the former state–owned monopolies) tend to have hierarchical cultures in contrast with "newer" and "smaller" operators (which usually are the private and more competitive ones) who tend to develop market-oriented or clan cultures. The results of the present study revealed that "older" and "larger" operators are less oriented to growth patterns in contrast with "newer" and "smaller" operators. Finally, market culture's growth orientation exceeds the growth patterns of clan culture, revealing that market oriented firms evaluate highly operational growth.

ANOVA analysis has not revealed any significant differences in quality factors among the four cultural types (F=1.566 p=0.296). Neither Tukey's test has indicated significant differences in quality factors between any of the organizational culture's groups. Differences in culture seem to affect performance, profitability and growth, whereas there are no statistical significant differences in quality factors whenever culture differs.

4. Discussion of Findings

The results presented offer a view about the organizational culture in Greek telecommunication market, revealing a control orientation. Both, mobile and fixed operators, tend to develop control oriented cultures (market and hierarchical cultures respectively). This is not quite surprising given that previous research confirms a positive trend towards market orientation for mobile network operators (Kurtinaitiene, 2005). Moreover, the Tukey's test results indicate the operational sectors wherein each culture holds a competitive advantage.

The results indicate the existence of a positive relationship between performance and control oriented cultural types in Greek telecommunication market. More flexible cultural structures seem to perform in lower level. The results follow Hofstede's (1980) findings about a high degree of "uncertainty avoidance" between Greek employees, which lead to the development of control oriented cultures. The results reveal that managers in the specific national context should establish and manipulate procedures and relationships based on control in order to achieve supreme performance. However, there is a managerial degree of freedom which is related with firm's internal or external orientation (market-oriented or hierarchical-oriented culture, respectively), with the first one exceeding in terms of total performance, but the latter one exceeding in terms of growth. Apart from daily operation, this finding should be taken into account whenever senior management invests time and resources in change programs or in cases whenever mergers and acquisitions occur.

Profitability and growth indicators present significantly important differences according to the cultural type. Hierarchical culture is mainly related with profitability more than any other cultural type. Hierarchical-oriented firms tend to concentrate more in profitability as a mean to ensure viability and operational success. Hierarchical-oriented culture is characterized as profit achieving culture (Quinn and Cameron, 1999) and profit is one of the main goals in a competitive market.

Growth seems to be positively related with market and clan cultures, whereas hierarchical culture follows. The results support the idea that hierarchical cultures are positive related with firm's age and size (Papadimitriou & Kargas, 2012). Growth patterns are more familiar in newly established operators (clan cultures) and externally oriented but controlled operators (market culture). Following the profitability's results, it is clear that market oriented operators can compete to a hierarchically organized incumbent in growth patterns, but profitability is mainly related with well-structured and hierarchical aspects. Despite that, market-oriented culture is preferable under the Greek telecommunication environment from the majority of operators as a result of positive effects on both profitability and growth, while hierarchy culture is only related with profitability.

Finally, there are no statistically significant differences in terms of quality, revealing that all cultural types have their own strengths and weaknesses. Criterion of success, concerning such factor, should be each cultural type's suitability with firm's strategy on quality aspects. This was an expected result. Quinn and Cameron (1999) implied that, in quality terms, there are no "bad" or "good" cultures.

A market-oriented culture may be evolved into a competitive advantage in an over-competing industry, such as telecommunications. Growing competition, reduced market shares and profitability can create a tough business environment. In such an environment market oriented culture may become a non–imitable characteristic (Barney, 1995), capable to ensure corporate viability, since it is directly related with profitability and growth (Slater & Narver, 2000). The emerging findings may provide executives with new market opportunities to be considered during their long–term planning determination. A final interesting result lies on the fact that adhocracy culture is absent throughout our analysis. It plays no significant role to performance's development, since no Greek operator (fixed or mobile) is characterized as adhocracy-oriented. This fact may be related with poor R&D's conduction in Greek national context or with a unique managerial characteristic of telecommunication industry.

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