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# INTERNATIONAL BUSINESS RESEARCH

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# A Conceptual and Operational Review of the Negative Financial Health Terminology and Constructs

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## Abstract

Financial (di)stress is widespread and an important topic for research by a variety of organizations and disciplines. However, different terms are being used in different disciplines in academia, by organizations, and by consumers. This paper illustrates various terms used to describe negative financial health, provides their incidence in several academic databases and Google searches, provides definitions used in studies, identifies scales of measurement, assesses if new scales are being developed and if they have validity, and identifies if measures of negative financial health constructs include objective, subjective, or both measures. The study ends with specific recommendations for researchers from academia and practitioners worldwide. This article reviews financial negative health terminology and constructs, and attempts to shed light on similarities and differences among the terms, to allow for better knowledge translation and integration.

**Keywords:** economic hardship, financial distress, economic deprivation, financial strain, financial stress

## 1. Introduction

More than one-third of adults in the USA, Canada, Australia and New Zealand are struggling financially and experience heightened levels of material hardship (Muir et al., 2016; Seymour Management Consulting Inc., 2017). Increasingly, more people are expected to experience financial stress in the future (American Psychological Association [APA], 2017). In addition, measures taken in countries to slow the spread of COVID-19 have also exacerbated individual negative financial health and its consequences (e.g., Mann, Krueger, & Vohs, 2020; Turcotte & Hango, 2020; Witteveen, 2020). Financial (di)stress has damaging consequences for individuals and their families ranging from declining health to divorce and unsecured debt (Cismaru & Wuth, 2019) prompting academics and organizations to study and try to eliminate this problem.

Due to the impact financial (di)stress has on individuals and society, personal negative financial health is studied across disciplines (e.g., finance, psychology, economics, sociology, marketing) (APA, 2017; Athreya, Mustre-del-Río, & Sánchez, 2017; Australian Psychological Society [APS], 2015; Park, Heo, Ruiz-Menjivar, & Grable, 2017) and by a mixture of organizations (universities, governments and financial institutions) (i.e., Consumer Financial Protection Bureau [CFPB], 2015; Gallup Inc., 2018a; Muir et al., 2016; O'Neill, Prawitz, Sorhaindo, Kim, & Garman, 2006; Seymour Management Consulting Inc., 2017). Various government organizations such as the National Australia Bank have taken interest in their citizens' financial health, examining the prevalence of financial stressors and financial resilience, and are working toward advancing financial resiliency in their clients (e.g., CFPB, 2015; Muir et al., 2016). Similarly, findings from the Seymour Management Consulting Inc. (2017) report suggest Canadians want their financial institutions to provide more financial resources and play a larger role in helping them with their financial health, hence more banks in Canada taking an active role toward promoting financial well-being. This high level of involvement by numerous institutions and organizations is reflected also in the numerous social marketing initiatives run by both government and financial institutions with the declared aimed of promoting financial well-being in their citizens or clients (see Cismaru & Wuth, 2019 for a review).

With several disciplines and organizations working on tackling financial stress, a variety of terms have been used, i.e., financial stress, financial distress, financial strain, financial pressure, economic hardship, economic

deprivation, income inadequacy. Some of these terms mean exactly the same thing, some terms are similar but not identical, and some terms overlap in some respects and are different in other respects, creating confusion and making knowledge translation difficult. Indeed, different terminology is used across disciplines as well as by researchers and industrial practitioners. Financial terminology has been redefined and new scales have been constructed, e.g., *financial well-being* (CFPB, 2015), *financial control* (Gallup Inc. 2018a), *financial wellness* and *financial resilience* (Seymour Management Consulting Inc., 2017). However, authors from one discipline might not consult research specific to another discipline, or even look at reports from industry, which themselves may not build on studies from the academic field. Industrial reports may not be available through academic databases, may not be peer-reviewed, and may not refer to scientific terms and/or specify whether a new developed scale was validated (e.g., Gallup Inc., 2018b). These facts are problematic, as a variety of terms and measures are used or introduced, creating confusion for someone attempting to integrate knowledge.

Therefore, this paper fills the need for a review of negative financial health terminology and constructs to shed light on similarities and differences among the terms and measurements, and allow for better knowledge translation and integration across academic disciplines, and between academia and government and industry. Recent articles indicate a need for a more dynamic knowledge translation, especially between academics and practitioners (see Levit & Cismaru, 2020).

## 2. Literature Review

Conceptual definitions provide the basis for operational definitions and determination of how to empirically assess constructs (Bernard, 2012). While research studies diligently report what questionnaires were used (operational definition), many studies fail to concurrently provide an understanding of what is being assessed (conceptual definition). Conceptual terms are used to clarify specific, scientific terms, and ensure readers understand the term in the same way that the authors did (Dumont & Wilson, 1967; Lester & Lester Jr., 2015; Newman, Ridenour, Weis, & McNeil, 1997). However, understanding of definitions is further confounded by the inconsistent use of specialized terminology, proxy terms, and unspecified synonyms (Bernard, 2012). Using unspecified synonyms is problematic when there is no scientific thesaurus readily available or the author understands a specific construct differently from their audience. In order to develop a single conceptual framework, that bridges disciplinary boundaries, it is vital that the same terms are used to discuss concepts (Simon, 2014). It is therefore necessary to further clarify terminology associated with individual experiences of negative financial health.

Indeed, analogous relationships exist between financial stress, financial strain, financial hardship, economic deprivation, economic pressure, and perceived income inadequacy (Kim & Garman, 2003; Sinclair & Cheung, 2016). Financial distress, economic stress, and economic strain have also been defined similarly within the literature (e.g., Mills, Grasmick, Morgan, & Wenk, 1992; Voydanoff, 1990). However, scientific and non-scientific terms are vastly different.

Non-scientific terms are widely available in dictionaries and thesauruses. The definitions and synonyms provided by one publisher are similar to those provided by another publisher. In contrast, scientific terms are jargon, and their definitions are spread across various locations. They are often created by researchers to explain latent constructs, and the term being used to describe a concept may differ from the concept that a tool was designed to assess. This poses a problem for researchers: how do you effectively communicate your findings in a manner that anyone from any background can understand the results? How do you bridge the systematic barrier of construct proliferation?

This paper will identify negative financial health terminology, present its use in various databases and on Google by both academics and general public, look for definitions of these terms in academic studies, identify scales used in studies and if new developed scales had validity, and also, if the measures include both subjective and objective components. Ultimately this study could provide an initial lexicon for understanding the breadth of terminology involved in studying negative financial health.

Financial health can be broadly described through positive terms, i.e., financial well-being, and negative terms, i.e., financial stress, financial di(stress), financial strain, financial hardship, etc. Recent definitions of financial well-being include a current and a future component but also refer to individuals considering their objective financial situation as being adequate for their needs and wants and their perception of being able to maintain their current financial situations and actualize desired financial states (subjective financial situation) (Brüggen, Hogreve, Holmlund, Kabadayi, & Löfgren, 2017; CFPB, 2015; Kempson, Finney, and Poppe 2017; Netemeyer, Warmath, Fernandes, & Lynch Jr., 2017). Hence an objective and a subjective component (measures) focus on the positive terms has emerged in the financial health literature.

In contrast, the negative terminology literature is not so advanced. For example, one of the newest definitions of financial distress refers to it as an accumulation of financial stressors that limits one's objective situation and ability to maintain current and future financial needs and wants (Brüggen et al., 2017; Lajuni, Bujang, Karia, & Yacob, 2017). This definition does not appear to include a subjective component. This could create a discrepancy between positive and negative financial terminology which can be problematic as the influx of new terms, definitions, and measures of the positive financial terms may obscure overall understanding of the negative one. As more articles expand negative financial terminology, given the importance of increasing financial resiliency through the transdisciplinary objective of understanding negative financial health constructs, construct proliferation is a wide-spread problem and a clarification of the terminology associated with negative financial health is needed. Hence the focus of this paper on clarifying negative terms such as financial (di)stress.

However, despite differences in the conceptualization of personal negative financial health terms, we seek to identify similarities and trends in how these terms are operationalized, that parallel the operationalization of financial well-being terms (e.g., Kempson et al., 2017). For example, like financial well-being, financial distress may be operationalized through objective assessments, subjective assessments, or both. Objective assessments refer to items that are verifiable and based on fact such as amount of monthly savings or total savings, and amount of debt (Muckler & Seven, 1992). Objective assessments are less susceptible to differences in perception, cognition, and experience because they are values individuals should be able to calculate. Alternatively, subjective assessments are distorted by perceptions, cognitions, and experiences unique to the individual (Muckler & Seven, 1992). In the context of financial distress, subjective assessments may acknowledge that two individuals with the same debts and credits can report different levels of financial distress because of their perception of the financial resources they want and those which they currently have (e.g., O'Neill et al., 2006). Subjective assessment recognizes personal insight and the need to accommodate for individual differences since perceived financial distress may differ from an objective assessment of financial distress (Muckler & Seven, 1992). Objective and subjective measures consequently assess different aspects of one's financial situation, and provide different sources of information.

Previous work in this area includes a conceptual review of negative financial health terms conducted by Sinclair and Cheung (2016) and a conceptual review of financial stress conducted by Davis and Mantler (2004). Sinclair and Cheung focus on providing measurement recommendations and highlighting the need for more research within the field of occupational health psychology. Davis and Mantler (2004) also include a conceptual review of financial stress, differentiate between financial stress and economic hardship, and discuss the effects of financial stress on people, families, and society. They also provide an excellent starting point for understanding financial stress and similar concepts; however, many relevant constructs were not discussed in their paper and the field has expended substantially since the early 2000s.

Although many negative financial health constructs exist, throughout this paper we will generally refer to this collection of constructs as personal or individual negative financial health. Individual negative financial health is broadly defined as any state wherein individuals perceive themselves as experiencing one or several negative financial events, financial issues, or financial stressors, which makes them unable to maintain their current or achieve a desired financial state (e.g., Joo, 1998; Kim & Garman 2003; Lim, Heckman, Montalto, & Letkiewicz, 2014; O'Neill et al., 2005; O'Neill et al., 2006). This broad label subsumes economic-, financial-, and income-based terms, such as economic hardship, financial distress, and economic deprivation.

### **3. Method**

#### *3.1 Terminology Identification and Selection*

Keyword literature searches for articles with negative health terminology were inspired by Sinclair and Cheung (2016) and were conducted in the following databases: Google Scholar, JStor, ProQuest, PsycInfo, PubMed, Sage, Science Direct and Wiley Online Library. Keywords used include *economic hardship*, *financial distress*, *economic deprivation*, *financial strain*, *financial stress*, *financial issues*, *financial hardship*, *economic pressure*, *economic stress*, *financial pressure*, and *financial strain*. New financial terms were added throughout the literature review process. Counts from 27,642 articles were conducted to determine the prevalence of each negative financial term, by database (see Table 1).

In order to gain greater understanding of how the general public engages with negative financial health terms, keywords identified from the literature search were also analysed with Google Trends (Google, 2021). Google Trends allows researchers to compare the relative interest in different search terms across time and geographic region. The relative popularity of a single search term is calculated by dividing a geographic total by the total searches conducted in that geographic area within a given timeframe. The relative popularity score of each term

is then scaled from 0 to 100 to indicate interest in the search term over time (Google, 2021). Google Trends have been widely utilized in academic research to forecast behavior and provide unique insights into social phenomenon (reviewed in Jun, Yoo, & Choi 2018). In this paper, global non-real time Google search data was reviewed for a five-year time period (January 2016 to January 2021). The keywords identified from the literature searches were compared from the most to least popular academic terms. Since there is a five-term limit for comparisons, the top term from each search (i.e., financial hardship, financial stress, and financial distress) was included in a subsequent comparison to determine which term was most popular in English speaking countries.

Table 1. Key term search of financial distress and related concepts, citations through October 2018

Database	JStor	ProQue st	PsycInfo/Ov id	PubMe d	Sage *	Science Direct**	Wiley Online Library*	Sum	Percentag es
Economic Hardship	240	1753	764	676	140	231	206	4010	14.54%
Financial Distress	310	1777	215	222	64	634	391	3613	13.10%
Economic Deprivation	147	1111	483	654	103	184	182	2864	10.38%
Financial Strain	68	786	735	750	92	160	143	2734	9.91%
Financial Stress	90	1033	546	516	86	269	185	2725	9.88%
Financial Issues	61	1013	423	606	80	215	147	2545	9.23%
Financial Hardship	59	718	414	612	81	131	122	2137	7.75%
Economic Pressure	111	738	201	306	47	370	89	1862	6.75%
Economic Stress	109	727	382	285	68	138	125	1834	6.65%
Financial Pressure	46	379	90	235	41	208	52	1051	3.81%
Economic Distress	85	444	128	83	47	55	52	894	3.24%
Economic Strain	30	315	187	125	33	43	48	781	2.83%
Economic Adversity	25	184	99	90	19	32	26	475	1.72%
Income Inadequacy	2	18	18	15	1	2	5	61	0.22%
								2758	
Total	1383	10996	4685	5175	902	2672	1773	6	
	5.01			18.76	3.27				
Percentages	%	39.86%	16.98%	%	%	9.69%	6.43%		

Notes: \* = Key terms only in abstract. \*\* = Key terms in title, abstract, or keywords.

### 3.2 Article Identification and Selection

For the analysis of conceptual and operations definitions, following the methodology of Cismaru and Wuth (2019) and Sinclair and Cheung (2016), the top 50-100 results generated by each database and search engine were considered for inclusion. We then established several inclusion and exclusion criteria. Articles were included if they were peer-reviewed research or review papers published in academic journals. Published working papers were also considered for inclusion. Articles were excluded if a key financial term was not present in the abstract, title or keywords; they were not peer-reviewed; they were not published in a journal; or published in English. A final sample of 37 articles were included for analysis of conceptual and operational definitions.

## 4. Results

### 4.1 Negative Financial Health Terminology

#### 4.1.1 Incidence

Within academic spheres, as shown in Table 1, 27586 incidences of negative financial terms were identified. In terms of the presence of negative financial health terms in the specific databases, almost 40% were found in ProQuest, followed by 19% in PubMed, 17% in PsychInfo/Ovid, approximately 10% in Science Direct, and in Wiley Online library, JStor and Sage with about 6.5%, 5% and 3% respectively.

A total of 14 negative financial health terms were identified and counted: *economic hardship* (4010 times), *financial distress* (3613 times), *economic deprivation* (2864 times), *financial strain* (2734 times), *financial stress* (2725 times), *financial issues* (2545 times), *financial hardship* (2137 times), *economic pressure* (1862 times), *economic stress* (1834 times), *economic distress* (894 times), *economic strain* (781 times), *economic adversity* (475 times) and *income inadequacy* (61 times). Three terms, *economic hardship*, *financial distress* and *economic deprivation* appeared more frequently than other negative financial health constructs, reaching 14.54%, 13.10% and 10.38% respectively of the total number of times all terms were used. All three terms were favored across

multiple databases.

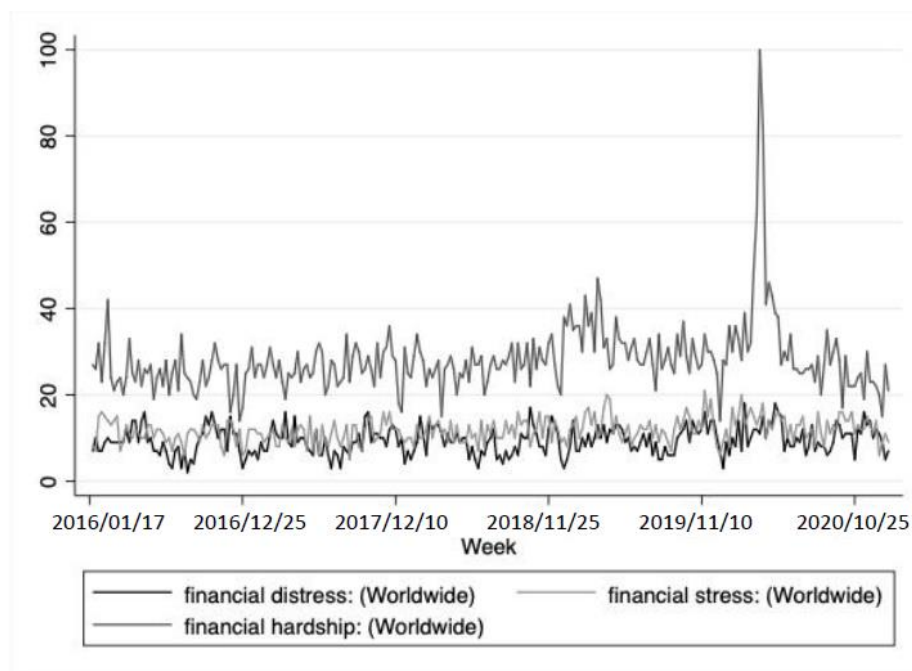
*Economic hardship* was the most commonly used term across PsycInfo/Ovid and Sage databases, while *financial distress* was the most commonly used term within JStor, ProQuest, Science Direct, and Wiley Online Publishing. *Economic hardship* was the second most commonly used term across four other databases, while *financial distress* was either most commonly used or moderately used (i.e., ranked eighth or tenth). Two other terms, *financial strain* and *financial stress*, were used in almost 10% of cases, whereas *financial issues* and *financial hardship* were used in about 9% of cases, respectively 8% of cases. Five terms, *financial pressure*, *economic distress*, *economic strain*, *economic adversity*, and *income adequacy*, reached less than 5% each out of the total number of uses among the 14 identified terms. *Income inadequacy* was the least commonly used term across all databases with only 0.22%.

Outside of academia, worldwide, general members of the public are more likely to use *financial hardship*, *financial stress*, or *financial distress* when conducting Google searches for information on negative financial health (Google 2021; see Figure 1). When compared with *financial stress* and *distress*, *financial hardship* was the preferred search term used by people in all the English speaking countries as follows: New Zealand (100%), Australia (92%), Canada (64%), the United States (63%), and the United Kingdom (52%; see Table 2).

Table 2. Relative proportion of preferred negative financial health Google search term by region (January 2016 – January 2021)

Country	Financial Hardship	Financial Stress	Financial Distress
Australia	.92	.06	.02
Canada	.64	.25	.11
New Zealand	1.00	.00	.00
United Kingdom	.54	.29	.17
United States	.63	.28	.09

Notes: 1.00 = 100% of searches.



Notes: The maximum interest in the search term *financial hardship* coincides with the initial implementation of many COVID-19 state of emergency and lock-down protocols.

Figure 1. Relative interest in global negative financial health Google search term (January 2016 – January 2021)

4.1.2 Definitions

As shown in Table 3, in 15 out of 37 studies, no definition of the negative financial health terms is provided by the authors.

Reference	Term	Conceptual Definition			Operational Definition		
		Examples	Scale	New Scale Developed	Scale Validity	Objective	Subjective
Aldana and Liljenquist, 1998	financial strain	"Composed of the cognitive, emotional, and behavioral response to the experience of financial hardship" (p. 11)	Financial Strain Survey	Yes	Convergent validity measured with principle component analysis (PCA)	roughly 20% of items	roughly 80% of items
Åslund, Larm, Starrin and Nilsson, 2014	financial stress	"The persistent inability to afford the basic necessities of life" (p. 1)	Adapted Finances-Shame Model (from Starrin, Åslund and Nilsson, 2009)	Adapted from previous scale	Face validity	100% of items	X
Athreya, Mustre-del-Río and Sanchez, 2017	financial distress	"Situations in which the household remains susceptible to any deviation of income from its ex-ante expectation" (p. 3)	Equifax data (no scale)	Not applicable	Not applicable	100% of items	X
Barrera, Caples, and Tein, 2001	economic hardship	"Cognitive appraisal that income is insufficient to provide necessities for living, behaviors that reflect efforts to adjust to inadequate income, and affect that takes the form of despair and hopelessness that one's economic future will be bright" (p. 495)	Scale development: three scales from Conger and Elder (1994), and scale from Vinokur et al. (1996).	Adapted from previous scales	Previously validated scales used	Vinokur et al. (1996) scale	Conger and Elder (1994) scales
Berg, Kivuruusu, Karvonene, Rahkonen, and Huurre, 2017	economic adversity	No conceptual definition provided by authors	Used three items to obtain score.	Yes	Face validity	33% of items	66% of items
Bhargava, Palmer, Chatterjee, and Stebbins, 2018	financial distress	No conceptual definition provided by authors	Adapted Zagorsky 2007 measure as one item	Adapted from previous scale	Face validity	100% of items	X
Bradshaw and Ellison, 2010	financial hardship	No conceptual definition provided by authors	Personal income and perceived income.	Yes	Face validity	Personal income items	Perceived income items
Braveman, Heck, Egerter, Rinki, Marchi, and Curtis, 2018	economic adversity	No conceptual definition provided by authors	(i.e., hunger and rent/mortgage problems) during childhood; and frequency of difficulty.	Yes	Face validity	100% of items	X
Britt, Canale, Fernatt, Stutz, and Tibbetts, 2015	financial stress	"the inability to meet one's economic responsibilities" (p. 173)	The amount of stress the respondent felt in relation to their personal finances	Similar questions used elsewhere	Face validity	X	All items
Bultena, Lasley and Geller, 1986	financial distress	No conceptual definition provided by authors	Debt to asset ratio (e.g., Jolly et al., 1985; Melichar, 1984)	Note similar methods used by other economists	Face validity	100% of items	X
Del Río and Young, 2005	financial distress	"The extent to which households consider unsecured debt to be a burden"	Part of the British Household Panel Survey (BHPS)	Not applicable	Not applicable	X	100% of items
Glei, Goldman, and Weinstein, 2018	economic distress financial strain	Reference Voydanoff (1990)'s definition of economic distress as comprised of objective indicators (employment instability and economic deprivation) and subjective indicators (financial strain and unemployment uncertainty). Economic deprivation was related to low income and assets, whereas financial strain was described as perceived financial inadequacy.	4 subjective measures: five-item index of current financial strain, intergenerational financial disadvantage question, current and expected work situations.	Yes	Face Validity	All 4 subjective measures	Relative SES measure
Grossi, Perski, Lundberg, and Soares, 2001	financial strain	"Subjective experience of his/her financial situation" (p. 208)	Adapted from Pearlin et al. (1981) Economic Strain Model; used via Brenner et al. (1988)	Adapted from previous scale	Not indicated by Pearlin et al., 1981	100% of items	X
Gutman, McLoyd, and Tokoyawa, 2005	financial strain	No conceptual definition provided by authors	"(a) difficulties in paying bills, (b) not having enough money to make ends meet, and (c) worrying about not	Yes	Face validity	100% of items	X

			having enough money"				
Hamid and Abdullah, 2009	financial distress	"A reaction, such as mental or physical discomfort, to stress about one's state of general financial well being" (p. 395)	Satisfaction on Their Financial Situation and Causes of Financial Problems	Yes	Face validity	causes of financial problems scale	satisfaction on their financial situation scale
Joo, 1998	financial stress	"The stress that is caused by financial situations including personal, family, and other financial circumstances" (p.9)	Financial Stressors Scale and Financial Stressor Index	Yes	Face validity.	100% of items	X
Kahn and Pearlin, 2006	financial strain	No conceptual definition provided.	Household income. Financial strain measure adapted from Pearlin et al. (1981)	No	Face validity	X	100% of items
Kalkhoran, Berkowitz, Rigotti, and Baggett, 2018	financial strain/ financial stress	"Difficulty meeting financial needs and obligations" (p. 81)	Assessed whether a shortage of money resulted in bills not being paid on time	Reportedly, similar to other measures	Face validity	100% of item	X
Kiely, Leach, Olesen and Butterworth, 2015	financial hardship	"Differentiate between two aspects of financial hardship: cash flow problems and deprivation. Specifically, cash-flow problems are relatively commonly reported and define circumstances in which regular bills may not be paid on time, or occasions when financial assistance is sought from family members . . . deprivation refers to less common events whereby people are unable to provide the essentials of life and cannot meet the basic standards of living accepted in society" (p. 910)	Measure of financial hardship adapted from Bray (2001) and Butterworth and Crosier (2006)	No	Criterion validity previously established	100% of items	X
Kim and Garman, 2003	financial stress/ economic stress	"Subjective perception of one's personal finances" (p. 35)	Adapted financial stress scales used in Joo (1998) and Bagwell (2000)	No	Face validity	X	100% of items
Latsou and Geitona, 2018	economic distress	No conceptual definition provided by authors	Index of personal economic distress (IPED; Madianos, Economou, Alexiou, and Stefanis, 2011)	No	Content validity measured against socioeconomic	roughly 62.5% of items	roughly 37.5% of items
							status (SES)
Lim, Heckman, Letkiewicz, and Montalto, 2014	financial stress	No conceptual definition provided by authors	Used six items to obtain scores	Yes	Face validity	X	100% of items
McCarthy, 2011	financial distress/ financial difficulty	"A situation where individuals report that they are having some degree of difficulty keeping up with their bills and credit commitments" (p. 11)	Financial Capability Survey	No	Pilot studies conducted, but no scale validation	100% of items	X
Mills, Grasmick, Morgan, and Wenk, 1992	economic strain	Voydanoff's (1990) definition as "an individual's perception of financial inadequacy as well as her/his concerns and worries" (p. 440)	Used four items to obtain score.	Yes	Face validity	X	100% of items
O'Neill, Xiao, Sorhaindo, and Garman, 2005	financial stress/ negative financial events	No conceptual definition provided by authors	Used one item to obtain a financial stress score, and 12 items to obtain a negative financial event score	Yes	Face validity	negative financial items	financial stress items
Park, Heo, Ruiz-Menjivar, and Grable, 2017	financial hardship	"An individual's disadvantageous financial condition" (p. 323)	Used three items to obtain score.	Yes	Face validity	100% of items	X
Pearlin, Lieberman, Menaghan, and Mullin, 1981	economic strain	Difficulties meeting basic needs, and difficulties acquiring non-necessary, but desired items.	Economic strain model	Yes	Face validity	X	100% of items
Perry, Hoerger, Seibert, Gerhart, O'Mahony, and Duberstein, 2019	financial strain	"Lacking the financial resources necessary to meet basic needs" (p. 454)	Scale developed by Friedman, Conwell, and Delavan (2007)	No	Face validity	X	100% of items
Perry-Rivers, 2014	economic adversity	No conceptual definition provided by authors	Coded as recession and non-recession years	No	Face validity	X	Single recession item
Prawitz et al., 2006	financial distress	"The construct encompassing perceptions about financial well-being and stress about one's financial condition" (p. 36)	IFDFW	Yes	Established construct and criterion validity	X	100% of items
Price, Choi, and Vinokur, 2002	financial strain	No conceptual definition provided by authors	Scale developed by Vinokur and Caplan (1987)	No	Face validity	X	100% of items



Starrin, Åslund, Nilsson, 2009	financial stress/ hardship/ strain/ vulnerability/ deprivation	"Problems that arise when a person is faced with the threat of a shortage of money in combination with a lack of cash reserves and difficulties making ends meet" (p. 285)	Finances-Shame Model	Yes	Face validity	financial stress items	financial shame items
Tormos, 2019	economic hardship	No conceptual definition provided by authors	Used five items to assess conditions, consequences, and distress caused by economic hardship	Yes	Face validity	100% of items	X
Vinokur and Caplan, 1987	economic hardship	No conceptual definition provided by authors	Used three items to obtain score.	Yes	Face validity	X	100% of items
Viseu, Leal, Neves de Jesus, Pinto, Pechorro, and Greenglass, 2018	economic hardship/ economic stress factors	Economic stress factors described as economic hardship, financial threat, and financial well-being. No further conceptual definitions provided by authors.	Economic hardship questionnaire (EHQ; Leal et al., 2014) and financial threat scale (FTS; Marjanovic et al., 2013).	No		X	100% of items
Wharton, 2007	financial stress	No conceptual definition provided by author	Financial Wellness Survey	Yes	Criterion validity measured with PCA	roughly 65% of items	roughly 35% of items
Zagorsky, 2007	financial distress	"Living beyond one's means" (p. 492)	Used three items to obtain score.	Yes	Face validity	100% of items	X
Zheng, Xu, Xu, Yang, Gu, and Wang, 2019	financial strain/ financial difficulties/ economic hardship	Defined financial strain as "lack of financial resources to meet family needs, due to low income, job loss, temporary or chronic unemployment" (p. 5, cited Glei, Goldman, and Weinstein, 2018). Defined perceived financial strain as "self-assessed or perceived financial difficulties and unemployment circumstances" (p. 7, cited Glei et al., 2018).	Perceived financial strain assessed through seven items about lack of funds and high cost of living. Financial strain assessed with two items about income and unemployment.	Yes	Face validity	Financial strain items	Perceived financial strain items

*Economic hardship*, for example, was discussed in 5 studies out of 37, but only one provided a definition as follows: "Cognitive appraisal that income is insufficient to provide necessities for living, behaviors that reflect efforts to adjust to inadequate income, and affect that takes the form of despair and hopelessness that one's economic future will be bright" (Barrera, Caples, & Tein, 2001). *Financial distress*, was discussed in 8 studies with 7 of these providing the following definitions: "Situations in which the household remains susceptible to any deviation of income from its ex-ante expectation" (Athreya et al., 2017); "The extent to which households consider unsecured debt to be a burden" (Del R ó & Young, 2005); "A reaction, such as mental or physical discomfort, to stress about one's state of general financial well being" (Hamid & Abdullah, 2009); "A situation where individuals report that they are having some degree of difficulty keeping up with their bills and credit commitments" (McCarthy, 2011), etc. *Economic deprivation* was not defined in any of the 37 selected articles.

*Financial strain* was discussed in 11 studies out of 37 and definitions were provided in 7 studies out of 11. Definitions ranged from "Composed of the cognitive, emotional, and behavioral response to the experience of financial hardship" (Aldana & Liljenquist 1998); "Subjective experience of his/her financial situation" (Grossi, Perski, Lundberg, & Soares, 2001); "perceived financial inadequacy" (Glei, Goldman, and Weinstein, 2018); "Difficulty meeting financial needs and obligations" (Kalkhoran, Berkowitz, Rigotti, & Baggett, 2018); "Lacking the financial resources necessary to meet basic needs" (Perry et al., 2019); and "self-assessed or perceived financial difficulties and unemployment circumstances" (Zheng et al., 2019).

*Economic strain* was mentioned in two studies and both provided definitions as follows: "Difficulties meeting basic needs, and difficulties acquiring non-necessary, but desired items" (Pearlin, Lieberman, Menaghan, & Mullin, 1981) and "an individual's perception of financial inadequacy as well as her/his concerns and worries" (Mills et al., 1992 citing Voydanoff, 1990).

#### 4.2 Scales

We observed a large variety of scales used in our sample. For example, two studies developed new scales for *economic hardship* based on previous scales (Barrera et al., 2001; Vinokur & Caplan, 1987). Another assessed difficulty meeting basic needs (i.e., hunger and rent/mortgage problems) during childhood and frequency of difficulty (Braveman et al., 2018); another used five items to assess conditions, consequences, and distress caused by economic hardship (Tormos 2019), and yet another used the economic hardship questionnaire (EHQ; by Leal et al., 2014) (Viseu et al., 2018). For *financial distress*, studies used Equifax data (no scale) (Athreya et al., 2017); one study used measures adapted from a previous scale (Bhargava et al., 2018; Zagorsky, 2007); one used debt to asset ratio (Bultena, Lasley, & Geller, 1986); and several used various scales such as the Part of the British Household Panel Survey (BHPS) (Del R ó & Young, 2005), Satisfaction on Their Financial Situation and

Causes of Financial Problems (Hamid & Abdullah, 2009), or the Financial Capability Survey (McCarthy, 2011). In total, 20 new scales were developed, whereas seven were measures adapted from previous studies.

#### 4.3 Validation of Assessment Tools for Personal Negative Financial Health

Most self-reporting measures of personal negative financial health demonstrate face validity: scales appear to measure the latent negative financial construct they are being used to measure (Kaplan & Saccuzzo, 2017). However, face validity does not empirically support assertions that a scale is useful or meaningful to the underlying construct. Of the 37 papers included for analysis of their conceptual and operational definitions, only six demonstrated an additional validity test (see Table 3; i.e., Aldana & Lijenquist, 1998; Barrera et al., 2001; Kiely, Leach, Olesen, & Butterworth, 2015; Latsou & Geitona, 2018; Prawitz et al., 2006; Wharton, 2007). Of those studies, four provided empirical evidence of validity, through construct and/or criterion validity. One study indicated that the assessment tool was previously validated, and the final study provided supplementary non-empirical evidence of validity by correlating measures scores with socioeconomic status (Latsou & Geitona, 2018). Although discriminant validity is heralded as the best way to prevent construct proliferation (Shaffer, DeGeest, & Li, 2016), none of the articles that tested validity reported discriminant validity.

#### 4.4 Assessing and Conceptualizing Personal Negative Financial Health Terms

In the following, objective and subjective measures are further reviewed, with an emphasis on how negative financial health terms have been objectively and subjectively measured and validated.

##### 4.4.1 Objective Measures

Objective measures of financial distress describe financial behaviors wherein people have difficulty maintaining their financial obligations, as evidenced by an accumulation of credit arrears or running out of money (McCarthy, 2011). Financial stress has similarly been conceptualized as one's chronic inability to maintain a basic standard of living (Åslund, Larm, Starrin, & Nilsson, 2014), or problems arising from one's lack of funds to meet financial obligations and their failure to save additional funds (Starrin, Åslund, & Nilsson, 2009). Starrin et al. (2009) operationalized financial stress as one's frequency of difficulty in meeting monthly financial obligations during the past three months; one's frequency of raising additional funds through (a) borrowing money, (b) pawning items, (c) selling items, or (d) applying for welfare during the past three months; one's frequency of limiting or refraining from extraneous purchases of (a) food, (b) clothing, or (c) vacations; and one's inability to accrue additional emergency funds. Financial stress has been similarly operationalized by participants indicating which personal stressors (e.g., job change, wage decrease, injury), family events (e.g., divorce, marriage, birth of a child), and financial stress circumstances (e.g., house foreclosure, vehicle repossession, excessive consumer debt) contributed to their experience of financial stress (Wharton, 2007). Debt-to-asset ratios may also be used to operationalize financial distress (Bultena et al., 1986). For example, someone who experiences cash flow problems, or consistently has greater debts than assets, would be more likely to experience financial distress. Through comparison of objective measures and the conceptual definitions provided for financial distress and financial stress, it is evident that these terms have been similarly described in scholarly literature.

Objective measures typically favor the terminology *financial distress* and *financial stress* when describing negative financial behaviors; however, *financial hardship* and *financial strain* have also been used as substitutes. For example, financial hardship may be indicated by unemployment, cutting back expenses, being without meals, and asking for financial help (reviewed in Park et al., 2017). Economic hardship may also be operationalized through high debt-to-asset ratios, large reductions in family income, or income below the poverty line (Davis & Mantler, 2004). Although financial strain and financial hardship are defined analogously to financial stress and distress, they are more commonly assessed through subjective assessments rather than objective measures (e.g., Aldana & Liljenquist, 1998; Gutman, McLoyd, & Tokoyawa, 2005; Vinokur & Caplan, 1987).

##### 4.4.2 Subjective Assessments

When referring to negative financial health behaviors, subjective measures are used more frequently than objective measures. The predisposition to use subjective assessments stems from a greater ability to gauge perceived financial needs, and the standardization of subjective measures (Barrera et al., 2001). Subjective assessments typically recognize that two people may experience different reactions to potential financial stressors; therefore, it may be more important to ask participants about the amount of distress they felt than the quantity of possible financial stressors they experienced. Subjective measures have also been favored because they address whether financial stress arises from a disparity between one's financial needs and their financial resources (Barrera et al., 2001).

Subjective assessments inquire about experiences of perceived financial stress. For example, financial distress is

operationalized as the magnitude of burden, or the amount of distress one experiences because of their unsecured debt (Del-Río & Young, 2005). Moreover, since diverse financial conditions only produce financial distress under certain circumstances (Joo, 1998), it is possible for certain negative financial situations may not produce financial distress for certain people. Different opinions also exist on whether financial distress arises after long-term exposure to financial stressors (Prawitz et al., 2006) and whether it can be experienced both briefly or persistently (O'Neill et al., 2006). Depending on the circumstances encountered, and measurement items used, it is possible for someone to objectively appear to be financially distressed in the absence of subjective financial distress. Similarly, it is possible for someone to be subjectively financially distressed while not objectively appearing to be financially distressed.

While objective definitions of financial hardship and financial strain are analogous with financial distress, subjective operationalizations appear more disparate. Most definitions of financial distress and financial stress focus on the present and present circumstances, financial hardship and financial strain may refer to more transient experiences that are currently experienced, or may be experienced in the future (e.g., Hamid & Abdullah, 2009; O'Neill et al., 2006; Price, Choi, & Vinokur 2002). Financial strain has been conceptualized as an inability to manage income and maintain savings, pay bills, repay debt, and have excess finances to cover desired expenditures (Hamid & Abdullah, 2009; O'Neill et al., 2006). Financial strain has also been operationalized as one's perception of current and future difficulties in using personal income to meet financial responsibilities (Price et al., 2002). However, aside from temporal differences between definitions of financial distress and financial strain, differences in the subjective assessments of financial distress terminology appear negligible.

#### 4.4.3 Objective and Subjective Assessments

The combination of both objective and subjective assessments should result in a more comprehensive understanding of financial distress, than either assessment type provides alone. For example, Åslund and colleagues (2014) reduced and modified Starrin and colleagues' (2009) operationalization of financial stress. The new conceptualization referred to financial stress as the degree of difficulty in meeting monthly financial obligations during the previous year, and an inability to accrue additional emergency funds. Financial distress was also operationalized as perceptions of current and previous experiences of financial stress, and whether respondents had a history of bankruptcy (Zagorsky, 2007). Similarly, financial strain was operationalized as the inability to afford a suitable home, furnishings, car, food, medical care, clothing, and recreational activities; the degree of difficulty in meeting financial obligations; and the financial resources available after paying monthly financial expenses (Grossi et al., 2001). These examples of combined objective and subjective assessments analyze objective factors of how often something occurred, in conjunction with the perceived extent or degree of difficulty the individual felt.

Other conceptualizations of financial distress describe objective assessments of income or debts, and perceptions of income deprivation or worry. For example, one study utilized the lowest personal income quartile in conjunction with assessments of perceived income deprivation (Bradshaw & Ellison, 2010). Another study defined financial hardship as one's perceived difficulty paying monthly bills, the amount of debt they accrued when trying to pay monthly bills, and whether they received government assistance (Park et al., 2017). Financial hardship was also conceptualized as the combination of cash flow deficits and perceptions of financial deprivation (Kiely et al., 2015). Thus, the combination of objective and subjective measures enables researchers to differentiate between groups of people with different levels of financial resources and different levels of severity (e.g., Kiely et al., 2015).

## 5. Discussion

Financial behaviors are studied by disparate disciplines, posing potential problems and benefits to academics and practitioners. Collaboration and integration between academic disciplines and practitioners has been prompted by the need for practical problem-solving (Hadorn, Pohl, & Bammer, 2010). Given that different perspectives increase understanding and resolution of complex problems, interdisciplinary and transdisciplinary research are increasingly popularized as solutions to integration problems (Klein, 1990; 1996; 2010). The largest obstacle to integrated research is construct proliferation (Klein, 1990; 1996). Although multidisciplinary juxtaposes theoretical and conceptual practices between disciplines, it does not prescribe a course of best action (Klein, 2010). Moreover, because of the disparity between negative financial health terminology, integration is needed to clarify and unify existing concepts. We recommend the following for researchers, practitioners, and individuals conducting transdisciplinary work.

*Recommendation 1.* Where possible, authors should provide consistent conceptual and operational definitions of

negative financial health constructs. They should seek to identify and clearly communicate relevant synonyms in their research, especially when researchers prefer a negative financial health term that differs from the term used in their operational definition. Merely providing information on the operationalization of the term or the measure that researchers will use is insufficient for communicating their understanding of the term (e.g., Dumont & Wilson, 1967; Hempel, 1965; Lester & Lester Jr., 2015).

*Recommendation 2.* Researchers should provide synonymous terms as keywords when publishing research on negative financial constructs. Evidence in biological studies suggests that the use of synonymous terms, such as an organism's scientific and common names, substantially increase the yield of extant scientific information (e.g., Guala, 2016). In their study, Guala (2016) found the yield substantially increased with the inclusion of one additional synonym. Based on their prevalence across databases, we recommend including *economic hardship* and *financial strain* as keywords. Researchers may also choose to utilize related discipline-specific keywords instead.

*Recommendation 3.* Researchers developing new measures of negative financial health constructs should assess and report discriminant validity. Scale validity is an important aspect of communicating how a measurement instrument accurately assesses financial health (Kimberlin & Winterstein, 2008). Reporting measures of validity, especially discriminant validity, serve to increase scientific rigour and reduce construct proliferation (Kimberlin & Winterstein, 2008; Shaffer et al., 2016). Scale developers should strive for and report more rigorous indicators of validity than face validity. Moreover, when researchers use measurement instruments to study new populations, scale validation should be replicated to ensure the scale is a valid measure of negative financial health within the new population.

*Recommendation 4.* Researchers, practitioners, and knowledge-mobilizers should communicate information about negative financial health to the public using *financial hardship*, *financial stress*, or *financial distress*. In order to better communicate with the general public, researchers and practitioners should utilize the search terms that members of the public prefer. Within the last five years, an increasing proportion of the global population has searched for information using *financial hardship*, *financial stress*, and/or *financial distress* (Google, 2021). In order to increase the likelihood of connecting with the public in online publications—including open-source journal articles—and social marketing campaigns, researchers, practitioners, and knowledge-mobilizers need to speak the same language and use the same terms that people are engaging with. Based on geographic region, different negative financial health terms would be required to best communicate with the target audience. Practitioners and knowledge-mobilizers should also consider reviewing real time Google Trends data for the relative interest in search terms within their specific target region, as there may be slight regional variations. When optimizing Google ads, practitioners should also consider using these preferred terms to reach a larger audience.

*Recommendation 5.* Researchers should consider utilizing both objective and subjective indicators of negative financial health. Analysis of negative financial health terminology supports the use of both objective and subjective assessments of personal negative financial health. Utilizing both objective and subjective definitions and measurements affords unique information that is not captured by a one-dimensional conceptualization of negative financial health. It also may enable better understanding of how people perceive the financial health of those around them, in comparison with their own financial health. Through better understanding of the mechanisms which lead to divergent negative financial health assessments and determining whether and how to reconcile maladaptive assessments of negative financial health, it is possible to thoroughly comprehend the subjective nature of the financial problems people are facing, create financial well-being programs that are more equipped to meet their financial needs, and empirically evaluate the success of such programs.

By reducing or excluding objective measures, it is impossible to segment people and provide specific recommendations based on one's financial situations and how they feel about their financial situation (e.g., Cismaru & Wuth, 2019). This makes it difficult to provide useful knowledge to community partners interested in creating interventions and programming to reduce financial distress. However, since people can experience financial well-being one moment, and poor financial health the next, it is fundamental to understand subjective experiences of negative financial health. People can experience negative financial health even at the highest income levels (e.g., Camerer, 1998), but how they experience negative financial health and the strategies they use to try and improve their financial health may differ based on individual differences. Therefore, when the scope of a study is directly related to the lived experience of negative financial health, researchers should attempt to utilize a combination of objective and subjective indicators of financial distress, and focus on the differential experiences that observe when none, one, or both indicators are present. If it is unfeasible to include both objective and subjective measures, researchers should favor subjective measures of financial distress, which

would capture one's perception of their financial situation rather than just the resources that they do or do not have. The combination of objective and subjective indicators of financial distress will enable various community partners to determine effective interventions and treatments.

## 6. Limitations and Future Research Directions

Taken together, extant literature and big data suggest many different terms are ascribed to individual experiences of negative financial health. The terms preferred by academics and the public differ substantially, which poses problems for knowledge mobilization. Review of the use of academic terms also suggest that there were historical differences between select negative financial health constructs but these differences have disappeared over time. The results of this study have direct implications for how researchers and practitioners relay information to the general public. The results also suggest discriminant validity is required to determine whether inter-related negative financial health constructs differ substantially at an empirical level and to quantify the extent to which each construct is empirically unique. We look forward to future work that continues to bridge the gap between negative financial health knowledge development and application. Indeed, the present paper has several limitations. Only a limited number of databases were searched and only 14 negative financial health terms were considered. Searches were time-limited to 2019. Further studies could expand the analysis to include other databases such as ABI/INFORM Collection, Academic Search Complete, ArticleFirst and Emerald Fulltext, resulting in new keywords and newer articles. Further analysis of Google search data might also be of interest. For example, when customers purchase ads via Google, they have access to increased search data that shows figures of actual searches conducted for a specific term. Applying this to the success of campaigns to determine whether social marketing campaigns that utilize preferred financial terms are received better than social marketing campaigns that use less common terms could help optimize the information.

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# A Proposed Business Model for Customized Shared Farms in the Chinese Market Based on a National Undergraduate: Innovation and Entrepreneurship Program

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## Abstract

With the deepening of reform and opening-up, the economy of China has developed rapidly. In recent years, shared farms have been one of the popular forms for the Chinese government to help the rural areas to shake off poverty. However, despite of many achievements, the business model of traditional shared farms cannot satisfy the growing market demands. Based on the research conducted under a national undergraduate innovation and entrepreneurship program, this paper starts with an analysis of the advantages and disadvantages of traditional shared farms and then proposes a business model that provides customized products and services. The feasibility of the proposed business model is discussed by using the IDIC model and some suggestions are put forth for the optimization of the business model for customized shared farms.

**Keywords:** shared farm, personalized customization, services

## 1. Introduction

The key to China's rural revitalization strategy is to solve the “three rural” problems. The agricultural supply-side structural reform aims to alleviate structural problems including unbalanced supply and demand of agricultural products, short agricultural industrial chain, low quality of agricultural products and low agricultural productivity in China. The characteristics of traditional shared farms include the emphasis on products, a single industrial structure, a fragile industrial chain, and obvious regional features. This mode of operation makes the traditional shared farms hard to develop. Based on a national undergraduate innovation and entrepreneurship program, this paper discusses the feasibility and the possible profitability of the business model for shared farms providing personalized products and services, and gives optimization suggestions for the operation mode of the existing shared farms. Hopefully, this research may contribute to the theoretical research in the field of shared farms and the proposed business model of may provide a useful reference for running shared farms.

## 2. Literature Review

Diao Zhibo (2018) defined the shared farm as the result of the upgrade of leisure agriculture and rural tourism, which is a full combination of farm production and leisure, social, and experience activities. Zhu Wentao (2018) studied the utilization of idle resources in rural areas. He believes that "shared farm" is a professional operating company that integrates idle farmland. After professional planning, it is transformed into a farm and unified management. Consumers can place orders online through the network platform, and subscribe to farms to become members. The specialized operating company provides it with a farmland management model that provides the entire process from planting to harvesting and professional services. Shared farms can solve the problem of idle farmland in rural areas. The value of shared farms also lies in driving the development of related rural economies. Yang Yulong (2018) believes that standardizing shared farms can transform idle farm houses into homestays; and then use “Internet+” to connect with urban leasing needs to revitalize “sleeping assets”.

Scholars have made corresponding research on the operating model of shared farms. They concluded that the main profit models of existing shared farms in domestic and foreign markets are product sales, resource sharing, value extension and theme marketing. Zhang Xin et al. (2019) pointed out that there were four current development models of shared farms abroad, including farm-community cooperation model, sightseeing vacation model, fully open model, and comprehensive model. As for the domestic shared farm, Kang Xingtao

(2019) concluded three types of shared farm operation models including simple sharing models such as agricultural product recognition, platform shared farm models based on the construction of a network credit system, and smart shared farm models based on Internet of Things, artificial intelligence and big data. Xi Liya, Pen Yan (2020) studied the digital development and design of shared farm platforms, and proposed the NFF (Nginx+Flask+FFmpeg) development design model. Based on this development and design system, the model of network and sharing is applied to the farm, becoming a new model of modern agricultural development.

Räsänen Jaana et al (2021) studied the trust problem of the sharing economy and found that the trust mechanism between users and the platform is not perfect. Thus, to better implement the sharing economy, they proposed to establish a better trust mechanism to maintain loyal customer relationships. Wei Yiting and Li Hua (2020) proposed that shared farms are a new form of the sharing economy and a manifestation of the sharing economy in the agricultural economy. Its essence is a shared agricultural production and consumption model that weakens "ownership" and strengthens "use rights." He pointed out that the shortcomings of shared farms are for rational planning and confusion of functions. The biggest misunderstanding lies in focusing on construction and neglecting operation. The profitable means can include selling agricultural products, revitalizing the limited resources in rural areas, that is, renting and sharing, plus platform operations, that is, setting up its own online platform. Wei Ruhong (2018) proposed that in the context of "Internet +", the agricultural value chain should be constructed from three aspects: developing shared logistics, improving the Internet financial system, and establishing a brand image.

It can be seen that domestic and foreign scholars' researches on shared farms mainly focus on the existing operating models and benefits, and there are few researches on personalized products and customization operating models. In this regard, this paper proposes a new shared farm business model with customized products and services based on a national undergraduate innovation and entrepreneurship program successfully completed by the authors. And the feasibility of this business model will be explored by applying the theoretical model of identifying, differentiating, interactive, and customizing (IDIC) proposed by Peppers and Rogers (2004).

### 3. Theoretical Foundation

After studying the existing shared farms models, we find that there is no research applying the strategy of customer relationship management. In order to confirm that the new shared farm business model proposed by us is feasible, this paper takes the customer relationship management theory and IDIC model as a guide to carry out the research. Nowadays, more and more companies have realized the importance of customer relationship management (CRM) to their business strategies. Wang Yonggui (2018) proposed that the research on customer relationship management has gone through three stages. The first stage, in the 1980s, focused on identifying and measuring customer satisfaction and seeking to maximize customer satisfaction. The second stage, in the early 1990s, emphasized the relationship between customer satisfaction and major customer behaviors. The third stage is from the 1990s to the present. It mainly focuses on the relationship among customer satisfaction, service quality and profit. In this stage, enterprises have begun to link the construction and maintenance of customer relationships with profits. Jun Sun (2019) believed that with the rise and development of CRM in China, the marketing model of Chinese enterprises is transforming from "product-centric" to "customer-centric".

The IDIC model is a typical marketing model proposed by Peppers and Rogers (2004). This model is often applied to identify and analyze the needs of different customers, meanwhile, solve the problem of customer relationship management through interaction. Its focus is to meet the personalized needs of customers. Figure 1 below illustrates the model.

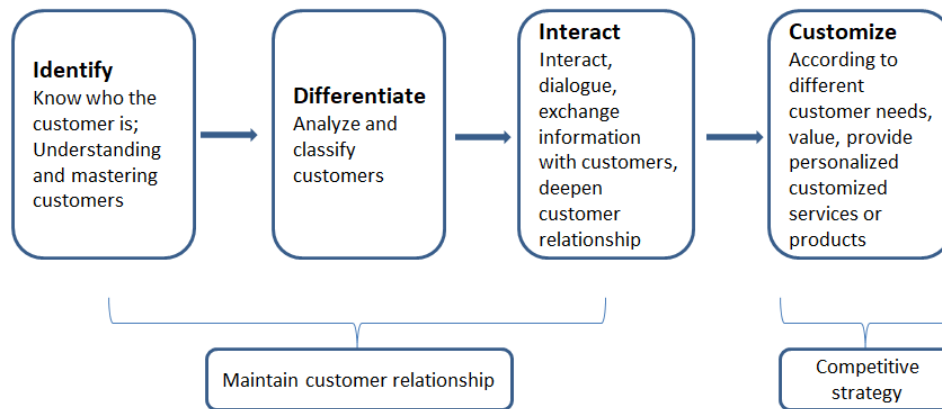


Figure 1. IDIC Model (Pepper and Rogers, 2004)

As illustrated by Figure 1, there are four steps in successfully implementing the IDIC model.

**Step 1: Identify.** Identifying customers is the first priority. That is to identify and to understand target customers based on resources and abilities of enterprises. This means that enterprises have to build a relationship with customers. The relationship should be established between the enterprise and a single customer rather than a group of customers. Enterprises should grasp customers' information as comprehensively as possible so that they can distinguish the customers with which they are in contact at any time, any place, and in any medium.

**Step 2: Differentiate.** According to the value of different customers brought to the company and the needs of different customers, enterprises could recognize the most valuable customers and the potential customers. Adopting a specialized strategy, enterprises provide different products and services to meet the needs of different customers, and concentrate resources to serve valuable customers. It requires the enterprise to establish its customer classification standards, and adjust the strategies according to the needs of important customers.

**Step 3: Interact.** Enterprises should keep interaction with customers to consolidate their relationships. Two key points consisting of understanding the customer needs and improving the efficiency of interaction. To enhance customer loyalty, enterprises can learn about customer needs and master their responses through each interaction, which could be used as the basis for the next step of the company. Each interaction and communication with customers should start from where they end last time, instead of repeating the information that has already been known.

**Step 4: Customize.** Different products or services are provided according to different customer needs and their value to the company. In order to maintain long-term customer relationships, enterprises may adjust their operation strategies to meet customer needs such as providing batch customized products or services. This part emphasizes the importance of one-to-one marketing. Marketers should make customers feel that the products or services they receive are suitable for them and different from others.

#### 4. Analysis of the Existing Business Model of Shared Farms

The representatives of existing shared farms includes "Amy's Farm" in the United States, "MUJI みんなみの" and "Ma Farm" in Japan, "Guangdong Amy farm" and "Hainan Shared Farm" in China. Amy's Farm and MUJI みんなみの have similar business models, which mainly provide a platform for customers to experience farm life independently including farming, picking and raising animals. Compared with them, "Ma Farm" has its own characteristics that lease private farmland to customers but do not emphasize the uniqueness of products and services for different customers. As for the "Guangdong Amy Farm" in China, it is a representative of business models selling agricultural futures, with the single products and irregularly scheduled experiential farm activities as its two distinctive characteristics. However, as one of the latest shared farm, the operation modes of "Hainan Shared Farm" cannot excel any of the above mentioned.

In fact, the existing shared farms have already developed the business models recognized by the market for several years. These models can be summarized as follows: adoption of products, trusteeship, self-cultivation, and housing rental. For the existing shared farms, they pursue economies of scale that seems to be the key to increasing profits rather than personalization services. The operation strategies of providing personalized services have not been found in any of these shared farms. In other words, the existing shared farms have not yet

realized the importance of customer relationship management and the application of the IDIC model in their business operation models.

From the perspective of customer relationship management (CRM), the demands vary from customer to customer. We need to adjust the farm operation strategies according to the customer demand in order to secure the customer loyalty, thus maintaining profitability and sustainable growth. Customer may tend to choose the farm that can better understand and satisfy their needs.

## 5. Proposed New Business Model for Shared Farms Based on the IDIC Model

### 5.1 Analysis of Questionnaire Survey

Before we propose a new business model that provides customized products and services and in order to verify this new model of personalized shared farm, we designed a questionnaire including 12 questions investigating from three aspects: satisfaction of current shared farms, pursuing personalized customization and favorites for personalized shared farms. The questionnaires were distributed to different groups of people and 454 valid samples were finally collected and analyzed.

#### 5.1.1 Descriptive Statistics

Table 1. Statistical Characteristics of Respondents

	Degree	Frequency	Effective percentage(100%)
Sex	Male	233	51.3
	Female	221	48.7
Age		454	100
	Under 18	9	2.0
	18-24	16	3.5
	25-34	95	20.9
	35-45	229	50.4
	Above 45	105	23.1
Familiarity with shared farms		454	100
	Very unfamiliar	6	1.3
	Unfamiliar	17	3.7
	Average	83	18.3
	Familiar	232	51.1
	Very familiar	116	25.5
		454	100

As shown by Table 1, the age distribution of the respondents is concentrated, with half of the respondents aged between 34 and 45. The respondents have a relatively high awareness of shared farms and 76.6% of them are familiar with shared farms.

#### 5.1.2 Reliability Analysis

Table 2. Results of Reliability Analysis

Dimension	Question	Cronbach's Alpha after deleting the item	Cronbach's Alpha
Satisfaction of current shared farms	5	.903	.931
	6	.895	
Pursuing personalized customization	7	.903	.979
	8	.968	
	9	.966	
Favorites for personalized shared farms	10	.974	.974
	11	.960	
	12	.960	
	13	.963	

The Cronbach's Alpha coefficient is used to test the reliability within each dimension. The larger the Cronbach's Alpha coefficient is, the higher the reliability is. It is believed that the Cronbach's Alpha coefficient which is greater than 0.70 indicates that the scale is reliable.

The measured results are shown in Table 2. The  $\alpha$  coefficient of satisfaction of current shared farms is 0.931, the  $\alpha$  coefficient of pursuing personalized customization is 0.979, and the  $\alpha$  coefficient of favorites for personalized shared farms is 0.974. In other words, the  $\alpha$  coefficient of the three measured dimensions is all above 0.70, indicating high reliability and good internal consistency.

According to the data of " $\alpha$  coefficient after deleting the item" in the table, the " $\alpha$  coefficient after deleting this

option" in each dimension is smaller than the  $\alpha$  coefficient in the dimension, indicating that the reliability of the scale after deleting the item is reduced. Therefore, the existence of this item is conducive to improving the reliability of the scale, and the item should be retained.

### 5.1.3 Dimensional Analysis

Table 3. Dimensional Analysis of Pursuing Personalized Customization

	Degree	Frequency	Effective percentage(100%)
	1	1	.2
	2	7	1.5
Having ideas about standard products and services	3	7	1.5
	4	347	76.4
	5	92	20.3
		454	100
	1	1	.2
	2	7	1.5
Preferences for personalized products and services for relaxation	3	8	1.8
	4	346	76.2
	5	92	20.3
		454	100
	1	1	.2
	2	7	1.5
Preferences for the autonomy in the course of entertainment	3	8	1.8
	4	340	74.9
	5	98	21.6
		454	100

Table 3 shows the results of three specific questions. It is concluded that the majority of respondents have a tendency towards personalized shared farms. About 96.5% of respondents have strong ideas about the products and services of the shared farms. Most of them have preference to personalized products and pursue autonomy on shared farms.

### 5.1.4 T-test

Table 4. Independent Sample T-test

Variable	Group	Sample	Mean	Standard deviation	t	Sig.
Satisfaction	Satisfaction with personalized farms	454	4.153451	.5186694	65.448	.000
	Satisfaction with current farms	454	1.933186	.5028152		

Note: significance level is 5%.

To discuss the market preference, the independent sample t-test was conducted on the satisfaction of different type of shared farms. The mean value of three questions in first dimension for each respondent represents the satisfaction with current farms, while the mean value of three questions in third dimension represents the satisfaction with personalized farms. The results showed that the mean value of satisfaction with personalized farms was 4.15, the mean value of satisfaction with current farms is 1.93, and significance is 0.000. Therefore, there is a significant difference in the two groups towards satisfaction and the satisfaction with personalized farms is much higher than that of current farms.

### 5.2 The Proposed New Business Model for Shared Farms

The above analysis show that the personalized shared farm model has gradually become a trend in the market and is sufficiently attractive to customers who like shared farms. In view of this, we propose a new business model for the shared farms in China, which is illustrated by Figure 2.

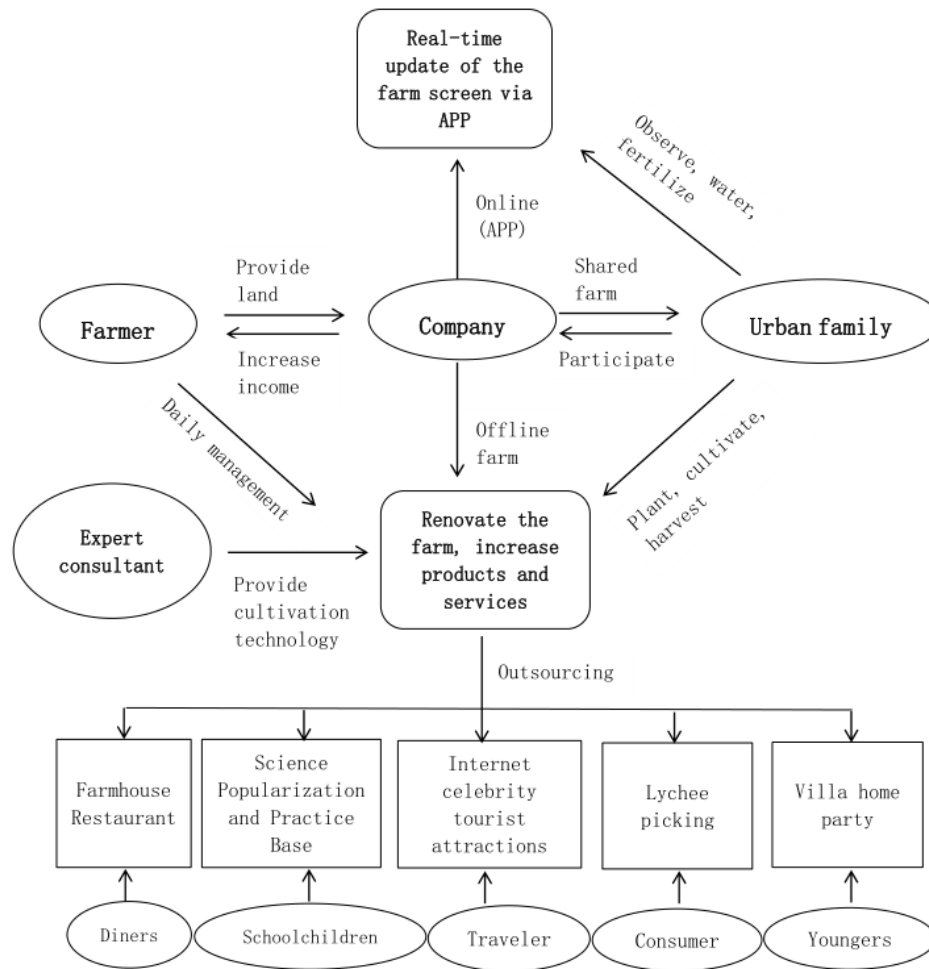


Figure 2. A Proposed New Business Model for Shared Farms

The above business model for shared farms has been simulated and approved to be feasible during our one-year research period of the national undergraduate innovation and entrepreneurship program funded by the Ministry of Education. This business model is built on the philosophy of IDIC and the detailed description of the features of this model is as follows:

Firstly, meeting the individual needs of customers. The operator of shared farms divides the farm area, and carries out planning, design and decoration. The farmland could be decorated as the customer wanted. In this regard, the new model of shared farms provides customers with personalized services. Compared with traditional shared farms, customers rent a place not only for planting but also for satisfying their different needs, such as family gathering. For customers who simply require for organic food, there is a professional team to provide specialized suggestions on it.

Secondly, offering full trusteeship model and semi-hosted model. Under the full trusteeship model, customers place an order for species and quantity of organic food on the official account. And products will be picked and packaged when mature and delivered to customers. Under the semi-hosted model, customers can experience the whole process of planting and harvesting. Whether it is a full trusteeship model or a semi-hosted model, products are decided by customers, the farm only provides guidance and help, and all services are adjusted according to different customer needs.

Thirdly, providing online real-time update services. Customers who demand growing organic vegetables on the leased land can look after their plants through apps, mini-programs, and official accounts. To be specific, the functions of the application include but are not limited to the following: a) Updating the farm and crop animation screens regularly. Customers can observe the status of the crops at any time at any place; b) Controlling remotely and issuing instructions including watering and fertilizing. The farmer on the farmland performs the

corresponding operations according to the instructions; c) Reminding the plant of maturity. The customers can pick them by themselves or choose to hire people to harvest.

Fourthly, performing shared visits on leased farmland. Customers are authorized to freely arrange the farmland so that they can open it to visitors and charge them if they want. Based on the shared model, customers and farm operators work together to satisfy their benefits and achieve a win-win situation.

Finally, establishing other forms of sharing platforms. a) Establishing science popularization and practice bases for middle and high school students with functions including rare crop exhibitions, crop growth and so on; b) Creating fee-based photography attractions, namely, internet celebrity check-in points, which have become popular nowadays; c) Farm-style restaurant, which allows diners to enjoy the taste of nature; d) self-service picking activities, which is charged by weight of the products picked by customers.

## 6. Conclusion

Based on the one-year simulated operation of the above proposed new business model for shared farms under the national undergraduate innovation and entrepreneurship program funded by the Ministry of Education, we have verified the feasibility of this new business model. The contribution of this research is that, based on the IDIC model, we have set up a new operational mode for shared farms to meet the personalized needs of customers.

This research is of great significance to the related theoretical research and practical guidance of existing farm management. On the one hand, this new mode of research fills up the gaps in related theoretical research, and at the same time provides new ideas for other scholars to refer to; on the other hand, this new model removes the dissatisfaction of consumers who would like to share farms with the existing farms, and also provides a new direction for the next round of reforms for existing shared farms. In other words, nowadays, more and more enterprises in China have applied the IDIC model in their business strategy and it can be expected that the new business model of shared farms will become the mainstream of the shared farm industry in the near future.

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# How to Respond to Customer Complaints -from the Perspective of Argument Strength

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## Abstract

In this era of rapid network technology development, more and more people are sharing or receiving complaints about products or companies via online platforms. Related research finds that negative electronic word of mouth is perceived as credible and will have an adverse impact on companies. The purpose of this study is to explore how company response strategies to negative reviews affect corporate image and purchase intention. We aim to provide appropriate processing mechanisms to help companies reduce the damage of negative word-of-mouth. This study used an experimental design method, manipulating the experimental situation so that the subjects had a simulated personal experience with a company. A questionnaire was provided to collect subjects' opinions. There were 180 valid subjects. We utilized variance analysis to verify the hypotheses. This study had three primary findings: (1) Different response strategies to negative reviews will have different effects on corporate image and purchase intention. Among them, the accommodative strategy is significantly better than the other strategies – defensiveness and no action – for enhancing corporate image and purchase intention. (2) The impact of the response strategy on purchase intention will be moderated by the strength of the reviews' arguments, especially for accommodative strategies; however, this moderating effect does not occurred with respect to the impact of response strategies on corporate image. (3) Corporate image has a positive impact on purchase intention. Managerial implications for marketing managers are also discussed.

**Keywords:** response strategy, corporate image, negative eWOM, argument strength, accommodative strategy

## 1. Introduction

Previous research has observed that consumers believe that electronic word-of-mouth (eWOM) is more reliable than commercial information provided by companies, so they are more willing to actively search for and accept eWOM (Briggs & Nigel, 1997; Tsao & Hsieh, 2015). Due to the rapid development of network technology, consumers can more easily use various types of online media to share relevant information and their experiences with products or services (Hayes et al., 2018; Kim et al., 2018; Chu et al., 2019). Matute and Utrillas (2016) pointed out that 72% of consumers have great trust in online reviews. As a result, eWOM is important to online marketing management, and this topic has been deeply appreciated and explored by scholars for many years.

The banking and financial industry must rely on a large number of people to provide various services. Service failures are inevitable in such an industry, especially one with high personal contact (Tsao & Jhang, 2019). If friction between service personnel and consumers results in negative word-of-mouth (WOM), it will inevitably cause consumers to have a negative perception of the company and affect their purchase decisions. This indicates how important eWOM is to the banking industry (Jan et al. 2018). In practice, the banking industry cannot completely avoid customer complaints caused by bad service; however, if the response to complaints is appropriate, it may be able to alleviate their impact on corporate image and consumer purchase intention.

In the past, research has focused on the consumer's personal point of view to explore how negative eWOM affects consumers' attitudes and behaviors, and few have discussed such issues from the perspective of corporate management (Zhang, 2016). Therefore, this study explored how companies respond to consumers' negative

eWOM from a corporate perspective. It examined what corporations can do to reduce damage to their image and purchase intention. Cheung et al. (2012) found that the argument quality of information, the source credibility, the review consistency, and the review sidedness all have an impact on the review credibility, which in turn affects consumer evaluation of the company and purchase intention. The argument strength of the message released by consumers reflects the perceived extent of violation on their own rights. When the argument strength is stronger, the correlation between the company's response and consumer perception is bound to change. As such, this study used argument strength as a moderator in the research model. It explores the influence of company response strategies on corporate image and purchase intention, and it tries to determine the role argument strength plays.

Based on the following literature review and research questions, this study sets its independent variable as company response strategy, including accommodative strategy, defensive strategy and no action. We set argument strength as the moderator, with possible responses of strong or weak moderators. The interaction of response strategy and argument strength, and how they affect corporate image and purchase intention, was examined using six scenario designs. The findings of this study will provide future reference for banks, and firms in related industries, on how to deal with and respond to negative eWOM in order to reduce harm to the companies.

## **2. Literature Review and Hypotheses**

### *2.1 Company Response Strategy*

Company response strategy refers to a company's responses and actions after a consumer has complained of dissatisfaction with product or service (Chang et al., 2015). When companies face negative WOM, they can usually adopt one of the following eight ways of coping: outright denial, no comment, redirection of audience attention, voluntary admission of guilt, compliance with regulatory authority, implicit admission of guilt, admission of guilt, and voluntary proactive restitution action (Sherell & Reidenbach, 1986). Lee and Song (2010) proposed three types of response methods for companies when facing negative WOM. They are the accommodative strategy, the defensive strategy, and the no action strategy. The so-called accommodative strategy is employed when a company explains itself to the customer, apologizes, or makes a commitment to compensate the customer. The defensive strategy means that, when facing customer complaints, the company completely avoids its responsibility. The so-called no action strategy is when the company ignores customer complaints and does not respond at all (Zhang, 2013).

Past research has found that the impact of response strategy on the company is significant; that is, the correct response can reduce the negative impact of the crisis on the company (Miller & Lessard, 2001). According to Coombs and Holladay (2008), apology is the best choice for a response strategy; when companies face negative situations, they argue it is unethical and unreasonable for companies to shirk their responsibilities. Therefore, the apology strategy has the most significant positive influence on corporate image (Bradford & Garrett, 1995). Lyu (2012) found that whether the impact of the crisis is large or small, the use of rationalization strategies, such as adopting accommodative strategies, is more helpful to companies and favored by more companies.

Based on the above literature, this study argued that the different response strategies adopted by a company regarding customer complaints will affect its corporate image to varying degrees, and they will also affect consumers' subsequent behavioral intentions. Therefore, following Lee and Song (2010), this study divided companies' responses to customer complaints into three types – accommodative strategy, defensive strategy and no action – to carry out the subsequent experimental design scenarios.

### *2.2 Corporate Image*

Nguyen and Leblan (2001) defined corporate image as the subjective attitudes and impressions formed by customers toward the products, services, or social activities provided by the company. Barnett et al. (2006) maintained that corporate image is the overall evaluation and judgment of consumers on the financial performance of the company and the influence of the company on society and the environment. Herbig and Milewicz (1995) suggested that corporate image includes corporate reputation. Corporate reputation is formed by perceptions and judgments acquired through long-term interaction between various groups and companies; consumers' perception of corporate reputation is related to corporate credibility.

Hawkins and Coney (2001) posited that corporate image has a significant impact on consumers' purchasing decisions. The study also confirmed that there is a positive correlation between corporate image and consumer purchase intention. Research by Graham and Bansal (2007) on the airline image and consumers'

intention to pay found that for each one-point increase in airline reputation, consumers were willing to pay US \$18 more for a plane ticket, which shows the positive relationship between corporate image and purchase intention. Tucker and Melewar (2005) found in their research that negative WOM will not only damage corporate image, it will also affect consumers' subsequent behavioral intentions. This holds true even after the dissatisfaction of stakeholders dissipates based on repurchase willingness and WOM transmission.

According to Tkalac et al. (2019), compared to a strategy of no action, an accommodative strategy implemented by companies in the face of a crisis will have more of a positive impact on corporate image and consumer perception. Dean (2004) pointed out that in the response strategies adopted by a company facing a crisis, defensive strategies will have a greater negative impact on corporate image than accommodative strategies. Lee and Song (2010) indicated that the strategy of no action has a more significant positive impact on consumer perception than the defensive strategy. Based on the above, this study argues that when companies face negative eWOM, different response strategies will have different degrees of impact on their corporate image. Therefore, the following hypothesis is proposed:

H1: Different response strategies have different impacts on corporate image.

### *2.3 Purchase Intention*

Spears and Singh (2004) stated that purchase intention refers to the responsive behavior of consumers after they evaluate a product overall. Khan and Azam (2016) also defined purchase intention as an individual's willingness to purchase a specific product or service. Related research shows that eWOM has become one of the important forces that influences consumer purchase intention (Bataineh, 2015; Thomas et al., 2006). Both positive and negative eWOM have an influence on consumers' purchase intention (East et al., 2008). In particular, negative word of mouth will have a significant adverse effect on purchase intention (Beneke et al., 2015).

McCullough (2000) held that consumers evaluate the company's response strategy, and the evaluation results affect the purchase intention. If consumers think that a company's response is acceptable, it helps to increase their purchase intention; on the contrary, if consumers think that a company's response method is less than acceptable, it will make consumers' purchase intentions decline. The apology strategy has a more favorable impact on consumer purchase intention than the defensive strategy (Turk et al., 2012). Lee and Cranage (2014) found that of the response strategies made by companies when they face negative WOM, the strategy of no action will have a more positive impact on consumer purchase intention than defensive strategies. Therefore, this study anticipates that the different ways companies respond to complaints will have varying degrees of influence on purchase intention. We propose the following hypothesis:

H2: Different response strategies will have a different impact on purchase intention.

### *2.4 Argument Strength*

Argument strength refers to the degree to which the content of a message makes its receiver feel that the claim made by the message is strong. When the quality of the message is stronger, the influence on the attitude of the message recipient will be more significant (Schreiner et al., 2018). In a study of argument quality by Petty and Cacioppo (1986), messages are divided into categories of strong-argument messages and weak-argument messages. Among them, the message receiver perceives strong-argument messages to be more reliable, or of high quality; conversely, the message receiver perceives weak-argument messages to be relatively less reliable, or of lower quality. Dimmock et al. (2013) argued that the clearer the argument of the message source description, the higher the content quality; the higher the quality of the message, the more significant its impact on the receiver's attitude. Furthermore, the more realistic a message's description, the greater its impact on the attitude of the message recipient (Schreiner et al., 2018).

Petty and Cacioppo (1986) indicated that high quality WOM makes consumers more persuaded and positive about products or services than low quality WOM. Lee (2012) suggested that high-quality reviews have more influence on consumers' purchasing intentions than reviews with low quality. Schreiner et al. (2018) stated that the stronger the tone of a message, the more significant the impact on consumers. In addition, Cheung et al. (2012) pointed out that argument strength has become an important factor in the degree of consumer response to information. When the argument strength is stronger, its influence on consumer decision-making variables such as the attitude towards the company and purchase intention is greater. Therefore, this study expects to find that the impact of corporate response to negative WOM on corporate image and purchase intention will be different depending on the argument strength of the

negative WOM. The stronger the message's argument, the more disadvantageous it will be to the rescue of corporate image and purchase intention. On the basis of this literature review, the following hypotheses are proposed:

H3a: The correlation between company response strategies and corporate image will vary depending on argument strength.

H3b: The correlation between company response strategies and purchase intention will vary depending on argument strength.

### *2.5 The Relationship between Corporate Image and Purchase Intention*

Robertson and Gatignon (1986) suggested that consumers will consider the quality of a company's products or services through the lens of its corporate image, which is also in line with the peripheral route of the elaboration likelihood model (ELM) mentioned by scholars (Petty & Cacioppo, 1986). Corporate image provides consumers with a prior understanding of the products or services of a particular company, which can effectively reduce their uncertainty when making purchasing decisions. When consumers are unfamiliar with the products or services of a particular company, corporate image will become an important reference indicator. Companies with a good image are more easily accepted by consumers (Alpert & Kamins, 1995), because a good corporate image has a positive incentive effect on consumers and can effectively enhance consumers' trust in the company (Casalo et al., 2007).

Bataineh (2015) found that corporate image has a direct impact on consumer purchase intention. When a company has a good corporate image, it will help to increase consumers' trust in the company, thereby increasing consumer purchase intention. Herbig and Milewicz (1995) held that when a company has better corporate image, consumers' purchase intentions for the products or services sold by the company are higher. Based on the above information, corporate image has a positive effect on promoting consumers' purchasing intention. Accordingly, the following hypothesis is proposed:

H4: Corporate image has a significant positive impact on purchase intention.

## **3. Method**

### *3.1 Design*

In the past, research on topics related to negative eWOM was mostly in the tourism industry, film and television entertainment industry, and telecommunications industry, and less in the financial industry (Tsao et al., 2015; Tsao & Hsieh, 2015). In the financial industry, banking is among the more complicated sectors and has more employees (Lin, 2017). In organizations with more service personnel, the frequency of friction between service personnel and consumers is higher. Therefore, this study used the banking industry as the industry category for research.

This study assumes that if not manipulated by external forces, it is difficult to use the recall method to measure the perceived service errors of the customers and their interactions with service personnel. In order to improve the internal validity of the research, this study referred to Tsao (2018) and adopted an experimental design method. When introduced to virtual situations, the subjects were meant to act as they would in a real environment so as to measure their intuitive responses to the ways banks deal with complaints. This study divided company response strategies into categories of accommodative strategies, defensive strategies and no action strategies and divided argument strength into categories of strong and weak. This study used a 3 (response strategy: accommodative/defensive/no action)  $\times$  2 (argument strength: strong/weak) between-subject factorial design. The participants for this study were publicly recruited from a community website, and non-random assignments of 6 experimental scenarios were made online.

### *3.2 Development of Stimuli, Experimental Manipulation, and Measure Development*

Statistics on public complaints received by the Banking Bureau of the Financial Supervisory Commission (2019) show that the number of consumer complaints about poor attitudes of bank personnel ranks fifth among all complaint cases. This shows that consumers pay significant attention to bank service employee attitudes. Therefore, this study used the attitudes of bank counter staff as the main content of customer complaints in the virtual situations.

According to Lee and Song (2010), company response strategies are composed of accommodative strategies, defensive strategies and strategies of no action. Hence, this study used "apology" as a contextual manipulation for accommodative strategy, "avoiding responsibility" as a contextual manipulation for defensive strategy, and "not responding" as a contextual manipulation for no action (Zhang, 2013).

Based on the relevant literature, argument strength is defined as the intensity of tone and content quality (including authenticity and clarity) of the substance of the message (Dimmock et al., 2013; Schreiner et al., 2018). Therefore, the intensity of the statement and the quality of the content were used to design and manipulate the situation. If, in the message left by the consumer, the tone of the complainant's statement is stronger and the content more realistic and clearer, the argument strength is considered stronger; otherwise, the argument strength is weaker. In order to test argument strength, this study proposed three items in the questionnaire as follows: 1. I think that the consumer's message is strong in words; 2. I think the description in the consumer's message is realistic; 3. I think the description of the consumer's message is clear. These items were measured using a seven-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

For the manipulation criteria of the above two variables, this study proposed one of six virtual situations. An example would be argument strength: strong / response strategy: accommodative.

Online customer complaint (strong argument strength):

When I went to this bank for business on June 1, the attitude of the staff in the process was really bad. When I asked him questions, the teller answered me with a perfunctory attitude. For example, I asked how to fill in information on a form, and he replied to me: "Fill it as written above! Can't you read it yourself!" Yes, I'm really so free that I don't have anything else to do! I only came here to get your bad service. I will never come to this bank to do anything again!

Bank response strategy (accommodative strategy):

Dear customer: We are very **sorry** for your unpleasant experience in the bank. Please send your personal contact information to aaa@XXX.com, and we will send a specialist to contact you to understand the details of what happened that day, so that the bank can make further improvements and enhancements. Thanks for your cooperation.

The definitions and measurement of the dependent variables in this study are explained, as follows. Corporate image refers to the subjective attitude and impression of customers after evaluating the company as a whole (Nguyen & Leblan, 2001; Barnett et al., 2006) based on the literature review, this study proposed seven measurement items to measure corporate image. Purchase intention refers to consumers' tendency to purchase a specific product or service (Khan & Azam, 2016); based on the literature review, this study proposed 7 measurement items to measure purchase intention. All 14 items were measured using a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Appendix A shows the questionnaire items and reference literature sources.

### 3.3 Participants and Experimental Procedure

This study used convenience sampling to conduct the survey. Respondents were consumers who had done business with banks in the past year, and online platforms were used for the sample data collection. Google Forms was employed to create an online questionnaire, which was supplemented using the Wix.com web editor to edit the questionnaire and smooth out the test process. The questionnaires based on the six different situations were distributed on social media platforms. To avoid the bias of non-random assignments as much as possible, this study randomly changed the layout of the six hyperlinked URLs week by week.

The online platforms used for questionnaire distribution included a personal page on Facebook, a Facebook questionnaire exchange community, a Line community, and a personal Instagram page. Before completing the questionnaire, the subjects were asked to read an article about a scenario, so that the subjects could be familiar with the scenario before the pre-test. They then filled out the questionnaire after reading about how the bank handled the consumer's complaint. A total of 212 subjects were contacted in this study. After the questionnaires with incomplete and invalid answers or from non-target subjects were eliminated, the number of valid samples was 180. The effective recovery rate was 85%.

Among the subjects, 52 were male (28.9%) and 128 were female (71.1%). The majority were 21–30 years old, with 122 subjects in that range (67.8%), followed by 23 people 31–40 years old (12.8%). In terms of occupation, students accounted for the highest proportion, with 101 subjects (56.1%), followed by those employed in the

service industry, with 44 people (24.4%). The number of business transactions with banks in the past year was mostly 1 to 5 times, applying to 141 people (78.3%), followed by 6 to 10 times, with 25 people (13.9%).

#### 4. Analysis and Results

##### 4.1 Reliability and Validity Analysis, and Manipulation Check

First, the reliability and validity of the constructs were tested. As shown in Table 1, the Cronbach's alpha of the three constructs were between 0.793 and 0.966, all exceeding 0.7, and at the same time, the composite reliability was greater than 0.6. This shows that the three constructs all meet the standards for high internal consistency (Fornell, 1992). From Table 1 we can see that the factor loading of the 17 measurement items was between 0.715 and 0.933. Considering a judgment threshold greater than 0.7, this indicates that the three constructs are consistent with convergent validity (Hair et al., 2009).

Second, a manipulation check was conducted on the argument strength variation in the virtual experimental situation. In this study, 90 of the 180 valid questionnaires responded to the strong argument situation, and 90 responded to the weak argument situation. The mean of the argument strength reported when the subject was associated with the high argument strength situation was significantly greater than the mean of the low argument strength situation ( $\text{Mean}_{\text{strong}} = 5.030$ ,  $\text{Mean}_{\text{weak}} = 3.393$ ;  $t = 9.109^{***}$ ,  $p < 0.001$ ). Based on this, the manipulation of argument strength is shown to be appropriate and subsequent analysis can continue.

Table 1. Scale items and measured properties

Construct	Items	Mean	S. D.	Factor loading	Cronbach's alpha	Composite reliability	AVE
Argument strength	A1	4.728	1.759	0.902	0.793	0.881	0.714
	A2	4.200	1.576	0.883			
	A3	3.706	1.848	0.740			
Corporate image	C1	3.194	1.658	0.933	0.960	0.975	0.847
	C2	3.417	1.613	0.928			
	C3	3.033	1.542	0.924			
	C4	3.217	1.835	0.922			
	C5	3.267	1.851	0.920			
	C6	3.139	1.694	0.915			
	C7	3.161	1.708	0.899			
Purchase intention	P1	3.372	1.568	0.888	0.966	0.942	0.699
	P2	3.289	1.504	0.863			
	P3	3.172	1.574	0.863			
	P4	2.967	1.596	0.862			
	P5	2.972	1.544	0.826			
	P6	3.000	1.737	0.825			
	P7	3.183	1.619	0.715			

##### 4.2 Hypothesis Testing

The hypotheses were tested using a  $2 \times 2$  analysis of variance. As shown in Table 2, company response strategy revealed a significant effect on corporate image ( $F_{(2,174)}=91.451^{***}$ ;  $p < 0.001$ ). Using a mean test, we found that the accommodative strategy was more effective than the defensive strategy in recovering corporate image ( $\text{Mean}_{\text{accommodative}} = 4.738 > \text{Mean}_{\text{defensive}} = 2.400$ ;  $t=12.090^{***}$ ;  $p < 0.001$ ) (see Table 3). At the same time, the accommodative strategy was more effective than no action in restoring corporate image ( $\text{Mean}_{\text{accommodative}} = 4.738 > \text{Mean}_{\text{no action}} = 2.474$ ;  $t = 11.122^{***}$ ;  $p < 0.001$ ) (see Table 3). This demonstrates that the different response strategies will have different effects on corporate image. Among them, the accommodative strategy is significantly better than the other two strategies; however, there is no significant difference between defensiveness and no action ( $\text{Mean}_{\text{defensive}} = 2.400 < \text{Mean}_{\text{no action}} = 2.474$ ;  $t = -0.380$ ;  $p > 0.05$ ). As a result, H1 is supported.

Table 2. Two-way ANOVA test results (Dependent variable: Corporate image)

	F	P
Response strategies (A)	91.451	0.000 <sup>***</sup>
Argument strength (B)	1.339	0.249
A × B	1.279	0.281

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 3. Multiple comparisons and mean test

Dependent variable	Response strategy (I)	Response strategy (J)	Mean difference (I-J)	t-value	p-value
Corporate image	Accommodative (4.738) <sup>a</sup>	Defensive (2.400)	2.338	12.090	0.000 <sup>***</sup>
		No action (2.474)	2.264	11.122	0.000 <sup>***</sup>
	Defensive (2.400)	Accommodative (4.738)	-2.338	-12.090	0.000 <sup>***</sup>
		No action (2.474)	-0.074	-0.380	0.932
	No action (2.474)	Accommodative (4.738)	-2.264	-11.122	0.000 <sup>***</sup>
		Defensive (2.400)	0.074	0.380	0.932

Note: \*p<0.05, \*\* p<0.01, \*\*\* p<0.001

<sup>a</sup> The figures in the brackets are the mean values.

As shown in Table 4, company response strategy revealed a significant effect on purchase intention ( $F_{(2,174)} = 47.590^{***}$ ;  $p < 0.001$ ). After multiple comparisons, we found that the accommodative strategy was significantly more effective than the defensive strategy in improving purchase intention ( $\text{Mean}_{\text{accommodative}} = 4.329 > \text{Mean}_{\text{defensive}} = 2.429$ ;  $t = 8.902^{***}$ ;  $p < 0.001$ ) (see Table 5). In addition, the accommodative strategy increased purchase intention significantly more than no action ( $\text{Mean}_{\text{accommodative}} = 4.4329 > \text{Mean}_{\text{no action}} = 2.652$ ;  $t = 7.641^{***}$ ;  $p < 0.001$ ) (see Table 5). This demonstrates that the different response strategies will have different effects on purchase intention. Accommodative strategies are significantly better than the other two strategies; however, there is no significant difference between defensive and no action strategies ( $\text{Mean}_{\text{defensive}} = 2.429 < \text{Mean}_{\text{no action}} = 2.652$ ;  $t = -1.041$ ;  $p > 0.05$ ). As a result, H2 is supported.

Table 4. Two-way ANOVA test results (Dependent variable: Purchase intention)

	F	P
Response strategy (A)	47.590	0.000 <sup>***</sup>
Argument strength (B)	1.876	0.172
A × B	3.119	0.047 <sup>*</sup>

Note: \*p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table 5. Multiple comparisons and mean test

Dependent variable	Response strategy (I)	Response strategy (J)	Mean difference (I-J)	t-value	p-value
Purchase intention	Accommodative (4.329)	Defensive (2.429)	1.900	8.902	0.000 <sup>***</sup>
		No action (2.652)	1.676	7.641	0.000 <sup>***</sup>
	Defensive (2.429)	Accommodative (4.329)	-1.900	-8.902	0.000 <sup>***</sup>
		No action (2.652)	-0.224	-1.041	0.585
	No action (2.652)	Accommodative (4.329)	-1.676	-7.641	0.000 <sup>***</sup>
		Defensive (2.429)	0.224	1.041	0.585

Note: \*p<0.05, \*\* p<0.01, \*\*\*p<0.001

In order to verify H3, the following interaction analysis was conducted. Table 2 shows that the interaction between response strategy and argument strength has no significant impact on corporate image ( $F_{(2,174)}=1.279$ ;  $p > 0.05$ ), which indicates that the impact of response strategy on corporate image is not affected by argument strength. Therefore, H3a is has not been verified.

Table 4 and Figure 1 show that the interaction between response strategy and argument strength does have a significant impact on purchase intention ( $F_{(2,174)} = 3.119^*$ ;  $p < 0.05$ ), indicating that the influence of response strategy on purchase intention will vary depending on argument strength. Therefore, H3b is supported. The changes in the scenario are clarified by the interaction between variables in the following figures and tables. First, as seen from Figure 1, no matter what the argument strength, the accommodative strategy is significantly better than the other two strategies for the promotion of purchase intention. This result is consistent with the previous two hypothesis verifications. In addition, from the pairwise average test values in Table 6, we can see the interaction that will occur when the company adopts an accommodative strategy. When the company adopts a accommodative strategy to deal with the complaints of the weak argument, the purchase intention promotion effect will be significantly greater than that in a strong argument situation ( $Mean_{accommodative, strong} = 3.962 < Mean_{accommodative, weak} = 4.695$ ;  $t = -2.481^*$ ,  $p < 0.05$ ). This indicates that when a consumer’s complaint shows a weak tone and the company adopts an accommodative strategy, there will be greater benefits to the improvement of purchase intention.

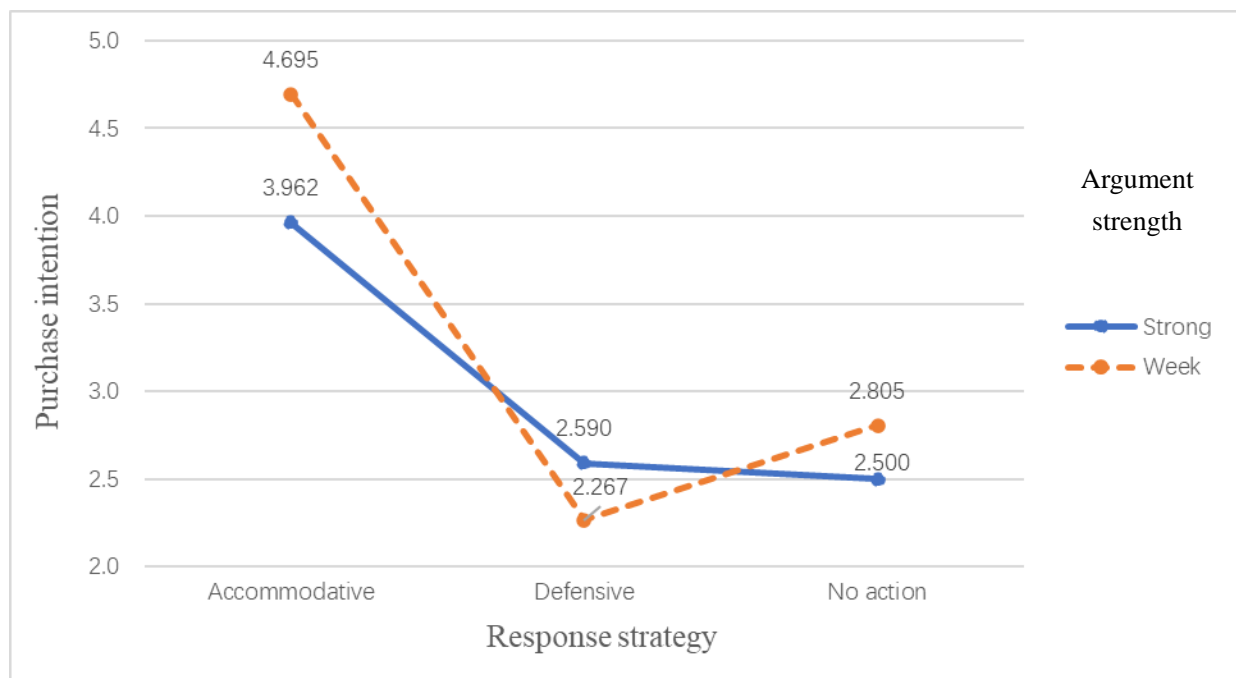


Figure 1. Interaction effect between response strategy and argument strength on purchase intention

Table 6. The analysis of the moderating effect

Dependent variable	Response strategy	Argument strength	Mean	Mean difference	t-value	p-value
Purchase intention	Accommodative	Strong	3.962	-0.733	-2.481	0.016*
		Weak	4.695			
	Defensive	Strong	2.590	0.324	1.908	0.277
		Weak	2.267			
	No action	Strong	2.500	-0.305	-0.976	0.333
		Weak	2.805			

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

In order to verify the correlation between corporate image and purchase intention, this study used regression analysis. From Table 7, we can see that the regression model explains 76.28% of the variation of  $R^2$ , which exceeds the threshold of 0.5 for  $R^2$  proposed by scholars (Shin, et al., 2010). This indicates good fit for this regression model. Table 7 also shows that the regression coefficient of corporate image is 0.873, and the p-value



is less than 0.05, indicating that the variables of corporate image and purchase intention are significantly positively correlated. This means that when consumers perceive a better corporate image, they have greater purchase intentions. Therefore, H4 is supported.

Table 7. The result of regression analysis

Independent variable	Dependent variable: Purchase intention			
	Coefficient	t-value	p-value	Result
Corporate image	0.873	23.848	0.000***	Accept H4
$R^2 = 0.762$ , $R\bar{\alpha} = 0.760$ , $F = 568.748$ , $df = 1$				
<i>Note: *p&lt;0.05, **p&lt;0.01, ***p&lt;0.001</i>				

## 5. Discussion and Conclusions

### 5.1 Conclusions

First, this study analyzed the impact of three different company response strategies on corporate image and purchase intention. As the test results indicated, different response strategies have varying influences on corporate image and purchase intention. Among them, the accommodative strategy is significantly better than the defensive strategy and no action strategy. To maintain corporate image and strengthen purchase intention, companies should properly respond to and deal with consumer complaints. They must apologize first and then understand and deal with the problem further; to shirk responsibility or fail to respond is an unwise reaction to negative word of mouth.

Another highlight of this study is the use of argument strength as a moderator of the effects of negative WOM response strategies and the attempt to further explore whether the impact of response methods on corporate image and purchase intention will change based on the argument strength of consumers' complaints. Results indicated that argument strength only moderated the correlation between response strategy and purchase intention; it did not meet the expectation to also moderate the correlation between response strategy and corporate image.

As shown in Figure 1, regardless of argument strength, the accommodative strategy was significantly better than the other two strategies. This result is consistent with H1 and H2. Furthermore, Table 6 shows that the moderating effect of argument strength only occurred when the company adopted an accommodative strategy. When a company faces a complaint with a weak argument, the best benefits for the promotion of consumer purchase intention will be produced if an accommodative strategy is adopted. Finally, this study also validated the positive correlation between corporate image and purchase intention, highlighting the importance of the enhancement of corporate image in enhancing purchase intention. This finding is consistent with research by Bataineh (2015).

### 5.2 Marketing Implications and Contributions

This study learned from the practical observation of online customer opinions and complaints regarding financial units that the response of most of today's bankers when facing negative eWOM is no action. This study shows that actually, companies adopting an accommodative strategy in response to negative eWOM have the best results in recovering corporate image and purchase intention. Bankers and other service providers are advised not to turn a blind eye to online customer complaints, or to refute, push, or blame; instead, they should adopt an accommodative strategy and immediately apologize to the customer, explain the follow-up process, and provide the contact information of the subsequent processing personnel. In addition to alleviating customer dissatisfaction in the first instance, this gives customers reasonable expectations for the company's service failure understanding and processing time and wins even more buffer time for the company.

Moreover, if the company wants to either implement an accommodative strategy or take no action, argument strength is particularly important, especially for accommodative strategies. The above findings suggest that the company immediately make substantial remedies when the service failure occurs: provide financial value-added methods for atonement such as coupons, discounts, refunds, product replacement or re-service, etc. (Tsao & Jhang, 2019). Moreover, managers with higher ranks can be invited to come forward to understand and remedy related incidents. They should strive to reduce consumer dissatisfaction in the moment when errors occur so as to reduce the argument strength on the Internet afterwards and enhance the effectiveness of accommodative strategies. Furthermore, from a positive point of view, good remedies can also increase customer post-recovery satisfaction, increase consumer loyalty, or slow down customer defection (Tsao, 2018).

This study took the banking industry as its subject of research. From the perspective of argument strength, it discussed the effect of company response strategies on corporate image and purchase intention. This was done to supplement research gaps that have been generated in the past by focusing on the personal views of consumers to study negative eWOM. This study provides strategies for bankers to effectively respond to negative eWOM from consumers. Related practical applications are also applicable to service industries with high personnel involvement, such as restaurants or hotels.

### 5.3 Limitations and Directions for Future Research

Because this study was limited by manpower and funding, the effective number of samples was only 180. Judging from its characteristics, the sample was too concentrated on students, and it is subject to certain restrictions in projecting its results onto the population as a whole. Although the questionnaire contained initial instructions to watch the content of the situation design to the end, due to the layout of the online form the subject could skip the situation design content, resulting in too many invalid questionnaires. However, strict evaluation criteria were still adopted by this study to check the validity of the questionnaires. Participant suggestions from an open question implied that there were too many questions to fill in, so participants' willingness to cooperate may have been reduced, resulting in more difficulties for controlling the quality of the answers.

Finally, relevant suggestions for future researchers are as follows: (1) This study was set up for the banking industry, so follow-up studies can be conducted for different types of industries. Analysis and comparison of differences between industries can then be carried out; (2) The only moderator in this research model was argument strength. The status of online complaint writers seems to be worth investigating in the model. With this, a clearer understanding of the effect of a company's response strategy for complaint handling could be reached.

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## Appendix A. Measurement Instruments

This appendix contains the statements used in the survey. Respondents were asked to what degree they agree or disagree with these statements on a seven-point Likert scale.

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Corporate image 【adapted from Stipp & Schiavone (1996); Nguyen & LeBlanc (2001); Ouyang & Chen (2003); Foroudi et al. (2014),  $\alpha = .960$ 】

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- C1 I have a good impression of this bank.
  - C2 I think this bank has a good image in the minds of customers.
  - C3 I believe this bank's image is better than other banks.
  - C4 This bank's response to customer complaints has enhanced its corporate image.
  - C5 I have a positive comment regarding the bank's customer complaint response.
  - C6 I will prefer do business with this bank because of its response to customer complaints.
  - C7 Overall, I respect the corporate image of this company.
- 

Purchase intention 【adapted from Dodson et al. (1978); Stipp & Schiavone (1996); Sheng et al. (2007); Lu et al. (2016),  $\alpha = .966$ 】

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- P1 I will go to this bank to conduct business.
  - P2 Among the banks I know, I will choose this bank to conduct business.
  - P3 I have a high chance of going to this bank to conduct business.
  - P4 I will recommend friends and family to go to this bank to conduct business.
  - P5 This bank is my first choice to conduct business.
  - P6 I will change from another bank to this bank because of the way it responds to customers.
  - P7 Overall, I am willing to go to this bank to conduct business.
- 

Argument strength 【adapted from Dimmock et al. 2013); Schreiner et al. (2018),  $\alpha = .793$ 】

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- A1 I think that the consumer's message is strong in words.
  - A2 I think the description in the consumer's message is realistic.
  - A3 I think the description of the consumer's message is clear.
- 

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# The Effect of Job Characteristics on Organizational Ambidexterity: Insight from Jordan

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## Abstract

The purpose of this study is to identify the effect of Job Characteristics on organizational ambidexterity. The study population involves Food and beverages companies listed on the Amman Stock Exchange (2020) which numbered (8) companies. The study sample includes (120) employees. The questionnaire was gathered from (100) respondents and shaped 83% as a response rate. The obtained data have been analyzed by the partial Least Squares (PLS) technique. The current study showed that all the dimensions of the Job Characteristics namely (Skills variety, task identity, task significance, autonomy, and feedback) have a positive impact on organizational ambidexterity. The study recommends increasing the job characteristics levels and the organizational ambidexterity levels in the researched companies. In addition, it recommends the future researchers complete this study on the other sectors.

**Keywords:** job characteristics, organizational ambidexterity, food and beverages companies

## 1. Introduction

Organizational ambidexterity is an important topic that received attention from practitioners and researchers in the past years. Duncan (1976) was the first researcher who used the concept of organizational ambidexterity and describes it as the ability of the organization to design dual organizational structures to facilitate the implementation of the innovation stages. Researchers argued that the success of organizations depends on organizational ambidexterity, in the other words, the ability of organizations to equilibrium between the current capabilities (exploitation) and exploration of new opportunities (March, 1991). Some researchers confirmed that organizations need to balance between exploitation and exploration to achieve superior performance (He & wong, 2004).consequently, the organizational ambidexterity requires organizations to treat exploitation and exploration (Raisch & Birkinshaw, 2008). Hence, ambidextrous Organizations are able to manage their daily business requirements while at the same time being able to adapt themselves to the rapid changes in the surrounding environment (Rashid & Alaboody, 2018).

According to O'Reilly & Tushman (2013); Birkinshaw & Gupta) 2013) senior management must strike a balance between exploitation and exploration, especially in the area of resource allocation. In contrast, Exploration and exploitation require firm core changes in the aspects of strategies, processes, structures, cultures and competencies to proceed and this perhaps has different influences on the organization adaptation and its performance (Akdogan, Akdogan & cingoz, 2009). Junni et al. (2015) mentioned that the human resource antecedents in multi-levels which include leader and employee characteristics and human resource practices and organizational experience or antecedents which involve culture, structure, organizational environment and social relations lead to attaining the ambidexterity. Additionally, much of the research has shown that the job design affects structural solutions require from business units that strive to explore job enrichment to motivate them toward innovation and creativity, while the business units that seek to exploit might be more bureaucratic with lower job enrichment (Parker, 2013).

According to Garg & rastogi (2006) job characteristics is a popular tool used to identify the context of work. On the other hand, job characteristics theory can be described as the description of relations of job characteristics and the individual response of employees toward the work, and this theory expects employees to attain success in their work (Mukul et al., 2013). According to Morgeson & Campion (2003) many studies have adopted the model of job characteristics developed by Hackman and Oldham. Moreover, this model includes five dimensions

such as skill variety, task identity, task significance, autonomy and feedback (Johari &Yahya, 2009:149).

Previous studies were conducted to examine the impact of job characteristics on other variables such as work engagement, the resource on person-job fit, employee emotions, and work-related outcomes and employee acceptance of process standardization (Abuzaid, 2020; Adiarani, 2019; Montgomery, 2017; Chaudhry, Maurice, & Haneefuddin, 2015; Kettenbohrer, Beimborn &Eckhardt, 2015).While the current study intends to examine the effect of the job characteristics model in building organizational ambidexterity. Therefore, the current study tries to answer the following question:

Q: What is the effect of the job characteristics on organizational ambidexterity?

## **2. Theoretical Framework**

### *2.1 Job Characteristics*

According to Hackman &Oldham (1974) job characteristics are closely related to the job and contain several components or elements that may lead to the formation of a comprehensive understanding of the job, a sense of the impact of work, and responsibility for the results to create a climate for a positive courtesy of employees and impact on employee participation. Job characteristics are considered as one of the most important parts or approaches of job design (Matilu &K'Obonyo, 2018), the origin of the development of the job characteristics model goes back to researchers turner and Lawrence in 1965 which has been reviewed by Hackman and Lawler in 1971 an then the final version revised and done by Hackman and Oldham in1976. Accordingly, the firm must be able to provide a suitable work environment that assists to match employee's needs during job design (Adiarani, 2019). Therefore, the job should design very well to provide the benefits and might increase the organization and employee's commitment (Tamhir, Sujanto &Karnati, 2019). Job Characteristics are considered as the factor that explains the characteristics of a job that differentiate between one occupation with other forms of the job (Senen, Sumiyati &Masharyono, 2016). Job characteristics theory assumed that job is considered as a situational force affecting the employees' behavioral and psychological status and it will be enriching and encouraging work performance (Johari &Yahya, 2016).

Besides, the model of job characteristics developed by Hackman and Oldham in 1976 mentioned a group of essential job characteristics that affects the actions and behaviors of the employees that clues to numerous positive outputs such as reduced rate of job turnover, enhance and the motivation of employees and performance quality (Abuzaid, 2020).

Based on the literature above, the researcher will be considered the followings dimensions of the job characteristic model according to (Hackman &Oldham, 1976) as follows:

#### *2.1.1 Skills Variety*

Hackman &Oldham (1974) described the variety of the skills as a degree of job requirements of the set different activities in implementing out the work, that include the use of the number of many talents and skills of an individual. Therefore, the skills variety dimension is very useful for the employees because it will lead the employees to a feeling of great capability and the organizations will keep the employees by abolishing the boredom which resulted from the repetitive work tasks and activities (Adiarani, 2019). It can be defined as the facilities required by employees to own numerous abilities, skills and Knowledge (Garg &Rastogi, 2006).

#### *2.1.2 Task Identity*

The task identity inspires and enhances the feeling in which the job is expressive and valuable and this will stimulate the workers to work cleverly (Coelho &Augusto, 2010). Accordingly, when the employees implement the whole job as well as planned from the point start to the endpoint, this means that the task is very clear and each employee within the organization knows their role very well (Abuzaid, 2020). It can be defined as the ability to identify the current work in which it more complete and holistic, and thus will lead to more pride in the job outcomes performed by a particular person (Johari &Yahya, 2016). Moreover, it refers to the degree to which the job requires to complete all works from the beginning to end with the get desirable outcomes (Hackman &Oldham, 1975).

#### *2.1.3 Task Significance*

The task significance is a very important dimension because it creates team tasks meaningful and valuable and thus will motivate them to increase their performance (Zawawi &Nasurdin, 2017). Hackman &Oldham (1980) described the concept of task significance as the degree that the employee has a substantial and tangible impact on others whether inside or outside of the organization. Consequently, the job is considered meaningful and valuable if it is significant to other people (Teryima &Abubakar, 2018). In addition, task significance refers to

the degree to which the job has an important impact on other people whether inside or outside of the organization (Abuzaid, 2020). Furthermore, task significance defines the degree of effect the job and its elements or components on the lifestyle of the employees whether directly or indirectly (Ababneh & Hackett, 2019)

#### 2.1.4 Autonomy

According to Abuziad (2020); Matilu & K'Obonyo (2018); Hackman & Oldham (1974) the concept of autonomy is described as a degree that the job that provides essential autonomy or freedom, independence and freedom of action in defining procedures and scheduling work. Job autonomy defined as a degree to which the job provides freedom of action regarding day-to-day work decisions such as timing and manner of doing work (Parker, 2013). Moreover, autonomy can stimulate and empower employees to attempt new ideas and learn from past experiences and expand their skills and knowledge related to their field (Coelho & Augusto, 2010). Therefore, autonomy is a very important element to give the employees more chance to see their job outcomes and thinking out of the box within the organization and then enhance their performance in the future.

#### 2.1.5 Feedback

According to Hackman & Oldham (1980) feedback refers to the degree of getting clear information by employees regarding their job to complete this and improve the performance effectively. It can be defined as the process that employees obtaining clear and direct information regarding the effectiveness of job activities which performing concerning their work (Anjum et al., 2014). Moreover, it can be described as the degree to which the job allows employees to have the chance to obtain feedback on the effectiveness of their job (Na-Nan & Pukkeeree, 2013). Therefore, the feedback is lead to know the knowledge of job outcome (Shani & AnandKumar, 2011). Furthermore, it makes the role very clear and increases the autonomy of the task (Abuziad, 2020).

### 3. Organizational Ambidexterity

Organizational ambidexterity refers to the ability to manage exploration and exploitation simultaneously and at the same organization (Palm & Lilja, 2016). It can be defined as the ability to carry out both sort of explorative and exploitative changes (Al-Mansi, 2018). According to Raisch & Birkinshaw (2008) it is described as the constant pursuit of companies to achieve exploitative and exploratory innovation. More specifically, ambidextrous organizations should have enough flexibility to deal and adapt to changes in the environment characterized by the ambiguous and dynamic to attain sustainability (Gibson & Birkinshaw, 2004). On the other side, the main assumption of Organizational ambidexterity that strategic decisions always in contradictions, and the managers impose deals with these trade-offs (D ávid, 2016).

Additionally, the terminologies of exploration and exploitation have become used widely in the field of organizational analysis of technological innovation and organizational adaptation (Acevedo & Díaz-Molina, 2019). The concept of exploration involves many components such as search, risk-taking, variation, experimentation, flexibility and discovery, while the concepts of exploitation include modification, efficiency, selection, and implementation or carry out (March, 1991:71). Consequently, the exploitation leads to shape or build trust in organizational activities (Yamakawa, Yang & Lin, 2011). Furthermore, exploitation assists the organizations to achieve continuing market growth by overcoming weakness points and inertia (Zhaxylyk, 2020). In addition, exploitation consists of radical innovations to match or satisfy emerging customers or market's needs, while exploitation contains incremental innovations that are close to the existing knowledge that design to match the present customer needs or markets (Benner & Tushman, 2003). Accordingly, large businesses are struggling to constitute their organizational ambidexterity to focus on exploiting the current resources efficiently and explore the opportunities of new business (Lee, 2019).

### 4. Hypotheses Development

#### 4.1 Job Characteristics and Organizational Ambidexterity

Abazeed (2020) pointed out that there is a relationship between strategic capabilities and organizational ambidexterity in the presence of knowledge management as a mediate variable. On the other side, there is a positive impact of the job characteristics model on work engagement (Abuziad, 2020). Ketabchi (2020) revealed that human resources flexibility is positively connected to organizational ambidexterity. Hussein (2020) noted in his study that there is an important connection between job characteristics and job performance. Moreover, there is an association between ambidexterity and performance in the presence of organizational capital as a moderating variable (Fu, Flood & Morris, 2016).

According to Levinthal & March (1993) organizational performance depends on the ability of organizations to develop their capability via exploit the current competencies and generate new ideas effectively to provide the products and services that foster the competitiveness of the organization in the future. Therefore, organizational



ambidexterity is very important to the organizations to keep growing up and survive (junni et al., 2013). According to Cottrell & Nault (2004) mentioned that the organizational ambidexterity should be managed very well because it's strongly related to the organization's survival. In their study, Mom et al., (2018) found that there are important new multilevel visions about the effectiveness of strategic human resource systems in supporting and encouraging individual and organizational ambidexterity. Kettenbohrer, Beimborn & Eckhardt (2015) mentioned that the skill variety is the most important for job characteristic for identifying Business Process Standardization acceptance. Johari & Yahya (2009) reported that job characteristics such as (skill variety, task identity, task significance, autonomy, and feedback) have an impact on employee task performance and organizational citizenship behavior. Kang & Snell (2009) reported that human resource management practices play an important role in building organizational ambidexterity. Senen, Sumiyati & Masharyono (2016) found that the skill variety has an impact on job performance, while the other dimensions of job characteristics don't have an impact on job performance. Besides, job autonomy is considered an important determinate of job satisfaction (Nguyen, Taylor & Bradley, 2003).

Therefore, the above discussion leads to formulate the following hypotheses:

H 1: There is a positive effect of the Job Characteristics (skills variety, task identity, task significance, autonomy and feedback) on organizational ambidexterity. From the main hypothesis, the researcher formulated the sub-hypotheses as follows:

H 1-1: There is a positive effect of skills variety on Organizational ambidexterity.

H 1-2: There is a positive effect of task identity on Organizational ambidexterity.

H 1-3: There is a positive effect of task significance on Organizational ambidexterity.

H 1-4: There is a positive effect of autonomy on Organizational ambidexterity.

H 1-5: There is a positive effect of feedback on Organizational ambidexterity.

## 5. Study Model

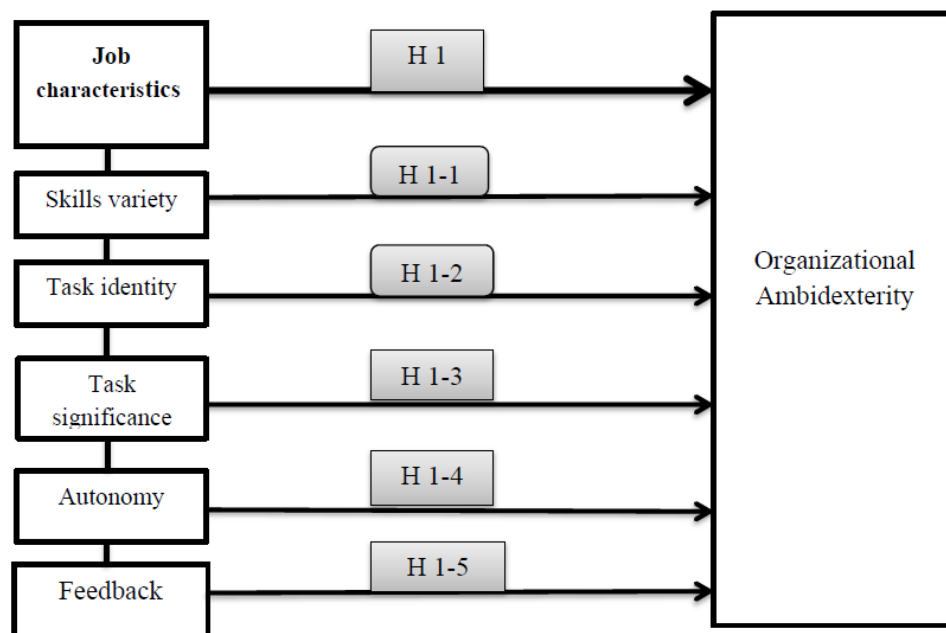


Figure 1. the study model

Source: Prepared by the researcher to cover the current study variables that were obtained from the study of (Hackman & Oldham in 1974; Cao, Gedajlovic, & Zhang, 2009).

## 6. Methodology Design

### 6.1 Procedure and Strategy

The purpose of this study is to identify the effect of Job Characteristics on organizational ambidexterity. Moreover, Partial Least Squares (PLS) technique were used to test the hypotheses of the current study.

## 6.2 Study Population and Sample

The study population involves Food and beverages companies listed on the Amman Stock Exchange (2020) which numbered (8) companies. Besides, the study sample includes (120) employees selected by the Convenience sample method. Whereas the analysis unit includes the managers, their deputies, heads of departments and supervisors.

## 6.3 Measures

The current study relied on a questionnaire to collect the data from the respondents. Besides, the questionnaire involved three parts. The first part includes the demographic information and the second part involves the questions related to Job Characteristics and their dimensions which adopted from (Hackman & Oldham in 1974) and measured by (15) items. The third part includes the (6) items adopted from (Cao, Gedajlovic, & Zhang, 2009) to cover the organizational ambidexterity. Accordingly, the respondent's answers were based on the five Likert scale ranged from (1) strongly disagree to (5) strongly agree.

## 7. Data Analysis

### 7.1 Descriptive Analysis

The questionnaire was distributed to (120) managers, their deputies, and heads of departments. Questionnaires were gathered from (100) respondents and shaped 83% as a response rate. The table below (1) shows the characteristics of the study sample which divided based on gender, and Experience and job position. While, table (2) shows the results of arithmetic means, standard deviations.

Table 1. the characteristics of study sample (respondents).

Variable	Category	Frequency	Percentage (%)
<b>Gender</b>	Male	75	75.0
	Female	25	25.0
<b>Total</b>		<b>100</b>	<b>100</b>
<b>Experience</b>	Less than (5) years	42	42.0
	(5) to less than (10) years	30	30.0
	(10) to less than (15) years	17	17.0
	(15)years and above	11	11.0
<b>Total</b>		<b>100</b>	<b>100</b>
<b>Job position</b>	Manager	10	10.0
	Deputy	23	23.0
	Head of department	67	67.0
<b>Total</b>		<b>100</b>	<b>100</b>

Table 2. the results of arithmetic means, standard deviations.

Factor	Questions	The arithmetic means and standard deviations		
		Mean	S.D	Level
Skills variety	Q1	2.38	1.034	Moderate
	Q2	2.20	.905	low
	Q3	2.41	.961	Moderate
Task identity	Q4	2.33	1.027	low
	Q5	2.51	1.087	Moderate
	Q6	2.48	1.096	Moderate
Task significance	Q7	2.34	1.065	Moderate
	Q8	2.35	1.061	Moderate
	Q9	2.44	1.045	Moderate
Autonomy	Q10	2.85	1.100	Moderate
	Q11	2.46	1.003	Moderate
	Q12	2.33	1.016	low
Feedback	Q13	2.54	1.091	Moderate
	Q14	2.36	1.042	Moderate
	Q15	2.34	1.019	Moderate
Organizational ambidexterity	Q16	2.53	1.051	Moderate
	Q17	2.27	.915	low
	Q18	2.75	1.041	Moderate
	Q19	2.68	1.126	Moderate
	Q20	2.59	1.058	Moderate
	Q21	2.74	1.035	Moderate

7.2 Reliability and Validity of Instrument

Table 3. the results of factor loading, reliability internal consistency, reliability of scale and convergent validity analysis.

Dimensions	Factor loading , Reliability internal consistency, Reliability of scale and Convergent validity			
	Factor loading more than 0.70	CA More than 0.70	CR More than 0.70	AVE More than 0.50
Skills variety	0.850	0.784	0.874	0.698
	0.857			
	0.797			
task identity	0.845	0.802	0.883	0.716
	0.845			
	0.847			
Task significance	0.884	0.788	0.876	0.705
	0.906			
	0.715			
Autonomy	0.853	0.773	0.869	0.688
	0.802			
	0.832			
Feedback	0.699	0.751	0.856	0.667
	0.878			
	0.861			
Organizational ambidexterity	0.843	0.932	0.946	0.747
	0.874			
	0.866			
	0.859			
	0.849			

The table above shown the Cronbach Alpha values for the Skills variety was (0.784), and the value of Cronbach Alpha for the task identity was (0.802), while the Cronbach Alpha of Task significance was (0.788), whereas the Cronbach Alpha of Autonomy was (0.773) and the value of Cronbach Alpha of feedback was (0.751), and the value of Cronbach Alpha Organizational ambidexterity was (0.932). Accordingly, the instrument was suitable because the values of Cronbach Alpha were higher than 0.70 (Hair et al, 2010). Furthermore, table number (3) shows that the Composite Reliability values of all variables were more than (0.70), and this indicates that all independent variables are acceptance. As well, the table shows the values of Average Variance Extracted which higher than (0.50) and these values fell within the acceptable limit. Finally, the values of factor loading more than (0.70) which fall within the acceptable values exception item number (13) that will be deleted in the second level of analysis.

Figure (2): shows the model of standardized loading and path coefficient for the trimmed model

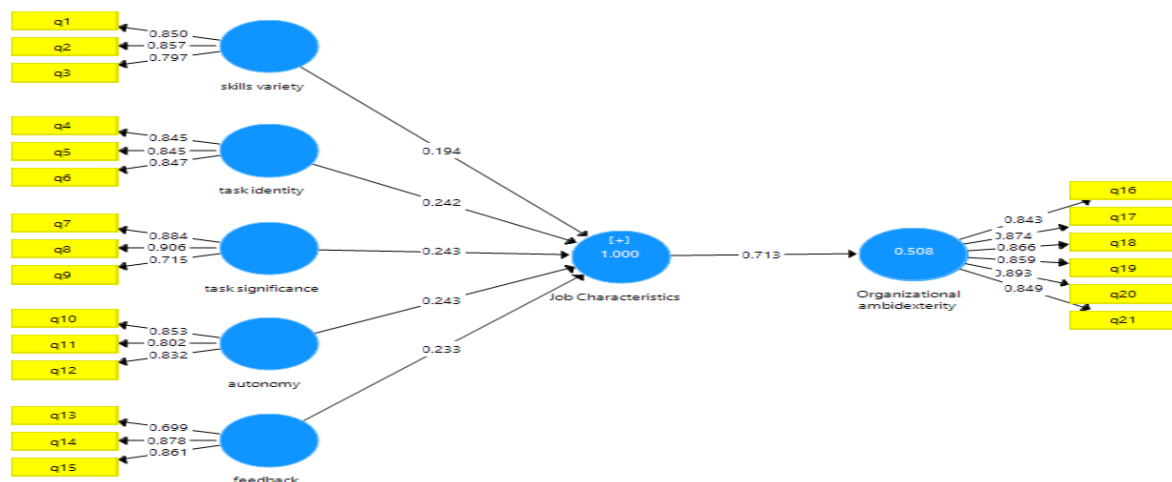


Figure 2. the model of standardized loading and path coefficient for the trimmed model

### 7.3 Variance Inflation Factor and Tolerance Analysis

Table 4. the VIF, Tolerance results

Independent Variables	VIF	Tolerance
Skills variety	1.443	0.693
Task identity	1.621	0.617
Task significance	1.482	0.675
Autonomy	1.571	0.637
Feedback	1.445	0.692

Dependent Variable: Organizational ambidexterity

The researcher has conducted the multicollinearity, variance inflation factor and tolerance tests among the independent variables before testing the hypotheses to verify if there is no high correlation between the independent variables. The table above (4) shows that the variance inflation factor values are less than 10 and range from (1.443) to (1.621) for all independent variables. The tolerance values are higher than 0.05 and range from (0.617) to (0.693). Therefore, the values follow up the normal distribution according to (Sekaran & Bougie, 2013).

### 8. Hypotheses Testing

In this section, the researcher tests the hypothesis by using the Partial Least Square (PLS) technique. The following tables show the result of the test the hypotheses as follows:

Table 5. the result of test the first hypothesis

	$\beta$	SD	T -test	Sig	Result
Job Characteristics -> Organizational ambidexterity	0.713	0.053	13.337	0.000	Accepted
R square	0.508				
R2 Adjusted	0.503				

The table above shows the value of R (square) equal (0.508) at a significant level (0.000), and this explains that Job Characteristics interprets %50.8 of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (13.337) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.713) and this refers that the positive effect of the Job Characteristics model on Organizational ambidexterity. Accordingly, we approved the hypothesis which said: there is a positive effect of Job Characteristics on Organizational ambidexterity.

Table 6. the result of test the first sub-hypothesis

	$\beta$	SD	T -test	Sig	Result
Skills variety -> Organizational ambidexterity	0.485	0.069	6.676	0.000	Accepted
R square	0.210				
R2 Adjusted	0.202				

The table above shows the value of R (square) equal (0.210) at a significant level (0.000), and this explains that Job Skills variety interprets %21 of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (6.676) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.485), and this refers that the positive effect of Skills variety on Organizational ambidexterity. Due to this, we accepted the hypothesis which said: there is a positive effect of Skills variety on Organizational ambidexterity.

Table 7. the result of test the second sub-hypothesis

	$\beta$	SD	T -test	Sig	Result
Task identity-> Organizational ambidexterity	0.619	0.053	11.660	0.000	Accepted
R square	0.383				
R2 Adjusted	0.377				

The table above shows the value of R (square) equal (0.383) at a significant level (0.000), and this explains that task identity interprets %38.3 of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (11.660) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.619), and this refers that the positive effect of task identity on Organizational ambidexterity. Due to this, we accepted the hypothesis which said: there is a positive effect of task identity on Organizational ambidexterity.

Table 8. the result of test the third sub-hypothesis

	$\beta$	SD	T -test	Sig	Result
Task significance ->Organizational ambidexterity	0.639	0.067	9.466	0.000	Accepted
R square	0.408				
R2 Adjusted	0.402				

The table above shows the value of R (square) equal (0.408) at a significant level (0.000), and this explains that Task significance interprets %40.8of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (9.466) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.639) and this refers that the positive effect of Task significance on Organizational ambidexterity. Hence, we approved the hypothesis which said: there is a positive effect of Task significance on Organizational ambidexterity.

Table 9. the result of test the fourth sub-hypothesis

	$\beta$	SD	T -test	Sig	Result
Autonomy -> Organizational ambidexterity	0.683	0.063	10.786	0.000	Accepted
R square	0.467				
R2 Adjusted	0.461				

The table above shows the value of R (square) equal (0.467) at a significant level (0.000), and this explains that autonomy interprets %46.7 of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (10.786) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.683) and this refers that the positive effect of autonomy on Organizational ambidexterity. Therefore, we accepted the hypothesis which said: there is a positive effect of autonomy on Organizational ambidexterity.

Table 10. the result of test the fifth sub-hypothesis

	$\beta$	SD	T -test	Sig	Result
feedback -> Organizational ambidexterity	0.678	0.056	12.166	0.000	Accepted
R square	0.459				
R2 Adjusted	0.454				

The table above shows the value of R (square) equal (0.459) at a significant level (0.000), and this explains that feedback interprets %45.9 of the change in the organizational ambidexterity. Besides, the table above shows the value of T which equal (12.166) at a significant level ( $\alpha \leq 0.05$ ). Moreover, the table shows that the value of  $\beta$  equal (0.678) and this refers that the positive effect of feedback in the organizational ambidexterity. Accordingly, we approved the hypothesis which said: there is a positive effect of feedback on Organizational ambidexterity.

Figure (3): shows Model of Standardized Loading and Path Coefficients for The trimmed Model

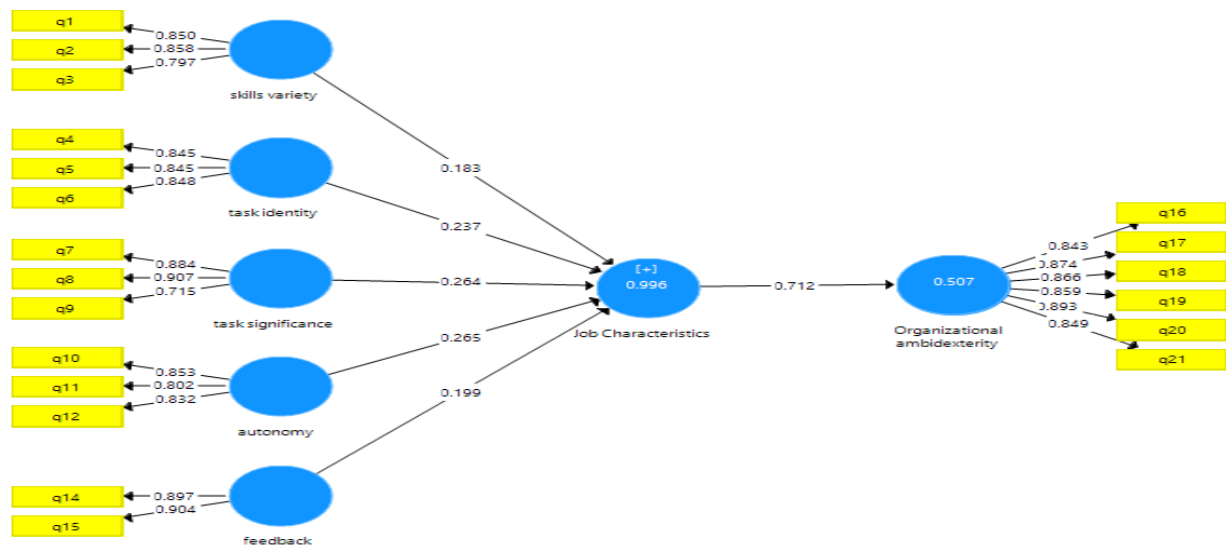


Figure 2. model of standardized loading and path coefficients for the trimmed model

### 9. Discussion

The results of the current study found that there is a positive effect of the Job Characteristics Model (skills variety, task identity, task significance, autonomy, and feedback) on organizational ambidexterity. This result is aligned with studies of (Abazeed, 2020; Abuziad, 2020; Ketabchi; 2020). We might be explaining this result by the role of job characteristics on organizational ambidexterity because if the employees have known their task very well, they will perform their task effectively and efficiently which lead to an ambidextrous organization.

Besides, the current study showed that there is a positive effect of skills variety on Organizational ambidexterity. This result is consistent with the study of (Hussein, 2020; Senen, Sumiyati & Masharyono, 2016; Kettenbohrer, Beimborn & Eckhardt, 2015). Moreover, this result confirmed that skill variety has an important role in enhancing employee performance and expand their skills and knowledge. Furthermore, the study also showed that there is a positive effect of task identity on Organizational ambidexterity. This result is supported by the studies of (Mom et al., 2018; Johari & Yahya, 2009). Hence, if the employee perceives that their work is meaningful and very clear, they will exert high efforts to perform their works. Additionally, the current study found that there is a positive effect of task significance on Organizational ambidexterity. This result is consistent with the study of (Abazeed, 2020; Abuziad, 2020; Johari & Yahya, 2009). This result explains that task significance is very important especially if the task has an impact on the employee's lives (Anjum et al., 2014). Furthermore, there is a positive effect of autonomy on organizational ambidexterity. This result is aligned with the study of (Nguyen, Taylor & Bradley, 2003). The autonomy will lead to an increase the job satisfaction especially to the employees who have the willingness to achieve and grow up (Herzberg, Mausner & Snyderman, 1959). Finally, the current study showed that there is a positive effect of feedback on organizational ambidexterity. This study is consistent with the study of (Ketabchi, 2020; Mom et al., 2018; Johari & Yahya, 2009). Feedback is very important because the main goal for any business is to stay a long time; therefore, any business needs to have feedback about the outcomes of its work whether positive or negative. Additionally, feedback assists to improve job autonomy by eliminating role ambiguity (Abuziad, 2020).

### 10. Recommendations and Future Prospect

The study recommends increasing the job characteristics levels and the organizational ambidexterity levels in the researched companies. Additionally, empowering and involving employees' participation in decision-making processes. Moreover, giving the employees more autonomy to carry out their work and focuses on the diversity of their skills to provide them with new experiences and skills. It also recommends that the tasks assigned to employees should be clear and meaningful. Besides, tasks must be precisely defined very well to reduce conflict among the employees. The tasks should be suitable for employees' qualifications and review periodically. Finally, the study recommends the future researchers complete this study on the other sectors.

## 11. Limitations

The current study has some limitations. One of them, the study results may not represent the results for whole companies. The second limitation is COVID-19 constrained the researcher to distribute more questionnaires. Previous studies are few that linked job characteristics and organizational ambidexterity.

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# The Effect of Using Blended Learning in Teaching English on Direct and Deferred Achievement of Primary School Students

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## Abstract

The study aimed at recognizing the effect of using integrated learning methods in teaching English on immediate and later achievement for primary phase students. The study followed a quasi-experimental method by using an experimental group, which learned English through integrated learning and a controlled group, which learned the same subject by using the traditional way. To achieve the study's objectives, the researcher prepared an achievement test. The validity and reliability of the test have been checked by introducing it to a group of specialized teachers in addition to finding Cronbach's alpha value, which worked out at (0,627). After data collection has been completed, the arithmetic means of the immediate achievement test and later achievement test have been calculated. The results indicate that there are statistically significant differences in the achievement of the primary phase in favor of the experimental group, which has been taught the English subject by integrated learning method. The study recommends that it is necessary to apply an integrated learning strategy since it is effective in students' scientific achievement, and improving motivation for learning, and considering the rules of the integrated educational process to train the teaching staff to apply integrated learning.

**Keywords:** integrated learning, direct achievement, deferred achievement, controlled group, and experimental group

## 1. Introduction to the Study

### 1.1 General Background of the Study

The current era is characterized by many rapid changes, which necessitates a review of teaching methods (Abu Musa & Al-sous, 2010) to ensure the extent to which they keep pace with the new developments and contemporary trends, and among these methods is the use of computers in education, as it has become seen as the magic solution to all human problems in various fields, which led researchers in the field of education to follow issues related to the use of computers in the educational process in various aspects, starting with managing and supervising educational institutions (Abu Musa & Al-Sous, 2010); (Mustafa, 2011). Blended learning is one of the contemporary trends in education, and one of the new features in the 21<sup>st</sup> century. Blended learning can be described as an educational method in which more than one means of transferring knowledge and experience to learners is used to achieve the best possible learning outcomes. Therefore, this model combines the advantages of e-learning and classroom learning advantages. This method is based on the approach of integration between traditional learning and e-learning ; (Awad, 2010); (Heinze & Procter, 2004).

### 1.2 Introduction to the Study Problem

The English language is one of the most important subjects in the basic education stage, as it has become the first global language and the most widespread in the world, being the language of the modern age, science, technology and scientific research (Boyle, 2005); (Singh, 2003). Therefore, special methods must be followed through which effective thinking skills are developed among learners of this language at an early age and in the basic education stage. Computerized educational programs have a special benefit from the educators' point of view, as they help the child to think and learn in a better way. Blended learning uses computers in a way that combines teaching styles and computer-aided learning, such as teaching problem-solving, dialogue, training, simulation and educational games, in addition to e-learning via the information network or the Internet and its data such as e-mail and chat rooms, as well as the possibility of practicing self-learning, so that it makes all of the above a brilliant program that supports the role of the teacher and makes it more effective and allows him/her to become the director of the

educational process and make it accessible and effective (Ausburn, 2004); (Creason, 2005); (Steve, 2001).

The Jordanian Ministry of Education has taken an early interest in blended learning, as the e-learning initiative was launched in the year (2002) as part of the Education Development Project, which aims to provide e-learning at the school and university levels. Jordan has made important achievements in this regard in cooperation with the company Cisco and several government agencies, international bodies, and civil society organizations, as it connected more than (1,200) schools out of (3,200) government schools to the national schools' network, and computer laboratories have been established in more than (2,500) schools since the start of the project (Al-Fiqi, 2011); (Al-Aifari, 2010); (Al-Shammari, 2007).

### 1.3 Problem of the Study

The English language course is in dire need of teaching strategies that lead to eliminating the preservation of knowledge contained in the curriculum, and thus the teacher's role changes from teaching that knowledge to helping students generate useful and applicable knowledge; in this context, the objectives of educational policy in Jordan emphasize the adoption of the latest technologies reached by the world, the provision of an internal information network in schools, and the provision of computers and learning resource centers. Therefore, the Ministry of Education has updated curricula and textbooks and has taken an interest in computers and blended teaching as a result of the challenges that the world has witnessed in political, economic, educational, and social dimensions, which formed in various dimensions and to face these challenges, it is imperative to make optimal use of modern technical methods and means in the educational process, including blended learning, which in turn may help the learner increase his effectiveness and level of achievement (Salem, 2004); (Dikeidek, 2011); (Abu Musa & Al-Sous, 2010).

Hence, the need to recognize the impact of the use of blended learning in teaching English on the direct and deferred achievement of primary school students rose, and accordingly, the study problem was formulated in the framework of a methodology represented by the following questions:

1. What is the effect of using the blended learning method in teaching English on the direct achievement of primary school students?
2. What is the effect of using the blended learning method in teaching English on the deferred achievement of primary school students in Jordanian private schools?

### 1.4 Objectives of the Study

In light of the study problem and its questions, the study objectives were formulated as follows:

- Main objectives
  - Identifying the effect of using the blended learning method in teaching English on the direct achievement of primary school students in Jordanian private schools,
  - Identifying the effect of using the blended learning method in teaching English on the deferred achievement of primary school students in Jordanian private schools.

The main objectives are divided into the following sub-objectives:

- Shedding light on the theory of blended learning,
- Reaching results through which recommendations are made to help educational organizations apply the blended learning method in a scientific, systematic manner that has positive effects on the achievement level of primary school students.

### 1.5 Study Variables

- First: Independent Variable □ Blended Learning
- Second: Dependent Variables □ \* Direct Achievement  
\* Deferred Achievement

### 1.6 Study Hypotheses

Based on the independent and dependent study variables, the study hypotheses were formulated in the nihilistic form as follows:

The first main hypothesis:

- $H_{01}$ : There is no statistically significant effect of the blended learning method on the direct achievement of primary school students in Jordanian private schools.

The second main hypothesis:

- $H_{02}$ : There is no statistically significant effect of the blended learning method on the deferred achievement of primary school students in Jordanian private schools.

### *1.7 Study Implications*

This study presents theoretical and practical frameworks on the blended learning method, which results in raising effects and implications on two main levels, which are as follows:

- Theoretical frameworks: This study helps researchers and educational experts to generate ideas and perceptions for preparing educational studies and research in terms of methodology, target group, and countries, in addition to the possibility of linking it with fields and knowledge sciences, which leads to reducing the gap in the educational research field.
- Practical frameworks: The study provides recommendations for decision-makers in educational organizations to help them know the educational process based on blended learning, which helps to achieve the following:
  1. Knowing the strengths and weaknesses in the application of the educational process based on blended learning, which helps to enhance the strengths and address weaknesses through successful, scientific means based on correct and clear methodological foundations and standards,
  2. Helping educators develop more effective models of educational strategies that contribute to teaching the English language,
  3. Creating an interactive atmosphere that contributes to teaching English to students,
  4. Increasing interaction between students and teachers,
  5. Moving away from indoctrination and teaching students how to learn,
  6. Facilitating English language learning by focusing on the blended learning process and employing it in the classroom

### *1.8 The Economic Side of Study*

This study helps to indicate a new strategy in the educational system, which is the blended learning strategy, which studies have proven its importance in improving the quality of the educational process and its outputs. This helps educational institutions that aim to achieve a profit to follow this strategy in a way that helps raise the level of students, which encourage current students to stay and attract new students in a way that achieves profit and expansion of the educational institution. This reflects positively on its competitive advantage and its sustainability in educational environment.

## **2. Literature Review**

### *2.1 The Concept of Blended Learning*

The exchange of information and experiences has become a basic feature of this era, and learning in particular had to face it and develop according to these rapid and modern changes and developments; thus, many important technological innovations appeared that help and keep pace with these developments and contribute to solving many educational problems, and blended education is an integrated system that combines the traditional method of learning face to face with e-learning to guide and assist the learner during each stage of learning as one of the modern approaches based on the use of educational technology in designing new educational situations (Al-Feki, 2011).

Heinze & Procter (2004) define it as a type of learning that uses an effective set of multiple presentation methods, teaching methods, and learning styles that facilitate the learning process and builds on the basis of a merging the traditional method, in which students meet their teachers face-to-face, and the e-learning method inside the study halls.

As for Qustandi (2007), he defines it as the use of modern technology in teaching without abandoning the usual educational reality and attending the classroom. The focus is on direct interaction inside the classroom by using modern communication mechanisms such as the computer and the Internet. This type of learning can also be described as how information, educational attitudes and experiences that are provided to the learner through the various means provided by modern technology or information technology are organized.

### *2.2 Blended Learning Models*

There are many models related to the blended learning process, ranging from simple to complex, but they all have

in common the use of modern media, activities, technologies, learning experiences and traditional teaching methods. The following is an illustration of the blended learning models as pointed out by (Brame, 2013), (Beavers, 2014), and (Smith, 2016).

#### First: Skill-Driven Learning Model

This model combines self-paced learning with supporting teacher knowledge development through e-mail, discussion forums, and face-to-face learning with self-paced learning such as books and Internet-based courses. This learning is similar to a chemical reaction in which the interaction with the teacher acts as a catalyst for achievement to reach the reaction required to learn.

#### Second: Trend-Driven Learning Model

This model integrates diverse events and modes of presentation to develop specific behaviours that require learners to interact with each other; this requires a risk-free learning environment.

#### Third: Competency-Driven Learning Model

This model integrates performance support tools with knowledge management resources and consulting to develop specific competencies for capturing and imparting embedded knowledge that requires learners to interact with subject matter experts.

### 2.3 The Components of Blended Learning

The components of blended learning as indicated by (Moukali, 2012), (Huang & Zhou, 2006), (Taha, 2015), and (Al-Dasouqi, 2016) are the following:

#### First: Simultaneous Live Events

They are simultaneous teacher-led events in which learners participate at the same time as in virtual classes, and simultaneous live events are a major component of blended learning. For many learners, nothing can replace direct communication and in order to be able to convey the effective live event, researcher John Keller states that there are three elements of motivation in his model:

- Attracting attention, and can happen when the teacher throws a question to the learners to think about and prepare for the learning process.
- Make the topic relevant to their real life, as it presents examples that are familiar to the learners while explaining how to apply what they are learning in reality.
- Confidence, the teacher clarifies to the students the expectations that are desired to be achieved from them and then gives them sufficient time to practice new skills; the learners' success in reaching the teacher's expectations by achieving those skills gives them confidence in their abilities and skills, and thus there is an incentive for more learning.

#### Second: Self-Paced Learning Events

They are the learning experiences that the learner completes individually based on his/her own speed and own time, such as chat-based training and CDs. Classifying asynchronous self-learning events has important value for the blended learning equivalent in order to obtain the maximum value of real action results from self-learning.

#### Third: Cooperation

It takes place in environments where learners communicate with others, for example: e-mail, internet chatting, and discussion forums. The power of live events or self-learning experience is incorporated when there is an opportunity to increase meaningful cooperation, as humans are social beings, and as the constructivist theory of learning assumes, humans develop themselves and new knowledge as a result of their social interactions with others. Cooperative learning also offers tremendous benefits that are not available through traditional learning to students. There are two types of cooperation that give effective results: cooperation between learners (peer-to-peer) and cooperation between learners and teacher (peer-to-mentor). The peer-to-peer cooperation provides an opportunity for learners to cooperate and discuss critical issues with other learners, while peer-to-mentor cooperation enables expert mentors to provide additional guidance to learners in the form of email tips, reminders, and suggested practice items.

#### Fourth: Evaluation

It is the measurement of learners' knowledge. Pre-evaluation comes before the live events or the self-learning events to determine the prior knowledge, and post-evaluation comes after the live events or the self-learning events in order to measure the learning gain, and it measures the effectiveness of all other events and forms. Evaluation is

one of the most important components of blended learning for two reasons:

1. It enables learners to ascertain the content that they have already learned
2. It measures the effectiveness of all learning events and methods, etc.

#### Fifth: Performance Support Tools

It is the most important component of blended learning, as it ensures the survival and transmission of learning in the learning environment, and includes printable references, auxiliary works, and a personal digital assistant.

### 2.4 Dimensions of Blended Learning

The original use of the term "blended learning" was often linked simply to linking learning in the traditional classroom with e-learning activities. This term has evolved to include a set of dimensions of the blended learning program as referred to by (Al-Saeed, 2017), (Al-Dasouqi, 2016) and (Clement et al, 2016):

#### First: Blending Direct and Indirect Learning

Blended learning combines in its simplest forms direct and indirect learning, where direct learning means learning on the internet, and indirect learning takes place in the traditional classroom. An example of this type of blending is an educational program that provides learning materials and research resources on the Internet with customized educational sessions that take place inside the classroom and led by the teacher as the primary medium in the educational process.

#### Second: Blending Self-Paced and Cooperative Learning:

Self-learning means individual or on-demand learning that is managed and its pace is controlled by the individual, while cooperative learning means more dynamic communication between many learners, which facilitates the process of sharing knowledge.

#### Third: Blending Structured and Unstructured Learning:

Not all forms of learning refer to a formal or systematic learning program with content organized into a specific sequence such as chapters in a textbook. In fact, most learning that happens in a workplace happens informally, such as meetings, Internet conversations, and e-mail.

#### Fourth: Blending Custom and Off-the-Shelf Content:

Custom content is content that we build ourselves and off-the-shelf content is less expensive than custom content. Standards such as SCORM open the door to more flexibility in blending custom and off-the-shelf content, thus improving user experience, and minimizing cost as much as possible.

## 3. Methodology of the Study

### 3.1 Method of Study

The study followed the semi-experimental approach using an experimental group that learned the English language using blended learning and a control group that learned the same material using the traditional method.

### 3.2 Study Sample

The research sample consisted of two main groups chosen randomly, and the researcher was keen that the two groups were of the same school level, the same school, and the same curriculum, and the groups were divided as follows:

- The experimental group, consisting of (35) students who were taught with the blended learning strategy.
- The control group, consisting of (35) students who were taught with the traditional learning strategy.

### 3.3 Study Tool

To achieve the objectives of the study, the researcher prepared an achievement test and made sure of its validity and reliability as follows:

1. **Determining the purpose of the test:** This test aimed to measure the scientific aspect of the English language subject for the fifth grade of elementary school, and the number of vocabularies reached (25) items.
2. **Test control:** to ensure the validity and reliability of the test, the researcher did the following:
  - Validity of the test: To verify the validity of the test, the researcher presented the test to a group of specialists in the English language subject to know their performance on the test; amendments were made according to the opinions of the arbitrators.

- Stability of the test: The stability of the achievement test was confirmed by the internal consistency coefficient (Alpha) of Cronbach, using the statistical software package (SPSS), and it reached (0.627), which indicates that the test vocabulary is interrelated and has stability and internal consistency, and therefore, it can be relied upon for scientific research purposes.

### 3.4 Study Results

Table (2-3). Arithmetic Means for the Direct Achievement Test

Group	Arithmetic Means	Value (F)	Degree of Freedom	Level of Significance
Experimental Group	14.8	65.42	72.2	0.000
Control Group	9.16			

It can be seen from the previous table that the value of (F) is (65.42) at degrees of freedom of (72.2) and the computer-calculated significance for it is (0.000), and since this calculated significance is less than (0.05), the value of (F) is significant at the level of (0.05), where there is a statistically significant difference at a level of significance (0.05), indicating that the average grades of students in the direct post-achievement test are in favor of the group with the highest arithmetic mean, and thus the experimental group that studied the blended learning method is favorable.

Table (3-3). Arithmetic Means for the Deferred Achievement Test

Group	Arithmetic Means	Value (F)	Degree of Freedom	Level of Significance
Experimental Group	16.04	49.18	72.2	0.000
Control Group	13.32			

It is evident from the previous table that the value of (F) is (49.18) at degrees of freedom of (72.2) and the computer-calculated significance for it is (0.000), since this calculated significance is less than (0.05), the value of (F) is significant at the level of (0.05), where there is a statistically significant difference at a level of significance (0.05), indicating that the average grades of students in the deferred achievement test are in favour of the group with the highest arithmetic mean, and thus it is in favor of the experimental group that studied the blended learning method.

The results of the statistical analysis indicated that there are statistically significant differences in the achievement of the primary stage/fifth grade in favor of the experimental group that was taught the English language curriculum using blended learning,

## 4. Conclusion

There is a positive effect of blended learning on the educational process and on achievement of the primary stage. The reason for these positive results is due to the fact that the blended learning strategy is based on a number of positive elements in the educational process, and these elements are represented by: achieving effective integration between the various means of transferring information in the teaching and learning environments as a result of adopting the systemic approach in using the blended technology with the best features of face-to-face interaction, providing face-to-face communication, which increases the interaction between the student and the teacher, the students among each other, and between the students and the content, sufficient flexibility to meet the individual needs and learning styles of learners at different levels, ages, and times, focuses on aspects of knowledge and skill without affecting one another, maintains the link between the student and the teacher, which is the basis on which the educational process is based, increases the ability of learners to self-learn and manage their learning, increases motivation towards learning and creating fun in learning through the use of multimedia, easy access to educational content anytime and anywhere, and develops teamwork and participation in the process. The study recommends the necessity of applying the blended learning strategy for its effectiveness in students' educational achievement, improving motivation to learn, observing the rules of the blended educational process, and training faculty members on applying blended learning.

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# Determining the Effect of Banking Service Quality on Customer Loyalty Using Customer Satisfaction as a Mediating Variable: An Applied Study on the Jordanian Commercial Banking Sector

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## Abstract

Banks operate in an environment characterized by competition between banking service providers and the continuous development of financial technology. On this basis, the quality of banking services determines the success of banks. This study aims to test customer satisfaction as a mediating variable in the relationship between banking service quality and customer loyalty using the convenience sample method. Using the SmartPLS software, the data analysis and hypothesis test results show that the quality of banking service in all its dimensions positively affects customer loyalty. Moreover, customer satisfaction mediates such a relationship. Accordingly, the Jordanian commercial banking sector should focus on the tangibility dimension and influence customer satisfaction to promote customer loyalty.

**Keywords:** banking service quality, customer satisfaction, customer loyalty, financial sector

## 1. Introduction

The Jordanian financial sector is characterized by competitiveness. The financial sector consists of various institutions. Where it includes the central bank, thirteen commercial banks, seven foreign commercial banks, three Jordanian Islamic banks, and a foreign Islamic bank, in addition to specialized credit institutions, exchange companies, and representative offices. The banking sector indicators recorded growth at the end of 2019 in various fields. Assets increased by 5.4%, and credit facilities and deposits grew by 3.7% and 4.3%, respectively (Central Bank of Jordan & Association of banks in Jordan, 2019). This statistics indicates that the banking sector enjoys a large market share in terms of assets, facilities and deposits, which requires continuous improvement and development in banking services to gain a competitive advantage reflected in customer satisfaction and loyalty.

Clients have a significant role in the success of the banking business. Hence, the banking departments should provide banking services characterized by innovation and diversification. These services should be in line with the desires of customers or even exceed their expectations. Ultimately, they should increase customer satisfaction and guarantee their loyalty. This study highlights a pressing topic in the banking industry.

## 2. Theoretical Framework

### 2.1 Banking Service Quality

Kumar et al., (2010) indicated that the banking environment has become dynamic and competitive due to globalization. Banks should focus on improving their service quality to maintain customers and increase revenues and market shares. Alic et al. (2017) indicated that service quality is a three-level concept, including interaction quality, physical environment quality and result quality.

The quality of banking service refers to customers' general impression of the superiority of the institution and its services. On this basis, it should be par with their expectations and needs, as it is a significant tool for measuring customer satisfaction (Bitner & Hubbert, 1994; Edvardsson et al., 1994; Kadir et al., 2011). Researchers (e.g. Brown et al., 1993; Carman, 1990) used the SERVPERF model to measure service quality in the banking sector. However, its reliability remains questionable. As an alternative, the SERVQUAL model becomes one of the most used methods in measuring service quality in the banking sector. Many studies (e.g. Phan & Nham, 2015; Angur et

al., 1999; Lau et al., 2013) have proven its applicability and efficiency.

Parasuraman et al. (1988) proposed an innovative tool to measure consumers' perception of service quality that later became known as service quality. Service quality includes all or some of the following dimensions: consumer reliability, responsiveness, tact and appreciation, communication, trust, communication, credibility, safety, knowledge of customer and tangibility.

To achieve the research objectives, the researcher uses the following dimensions of banking service quality: tangibility, reliability, responsiveness, sympathy and safety.

Prior studies (e.g. Ajmal et al., 2018; Naeem et al., 2009; Lomendra et al., 2019; Zeithaml et al., 2002; Raza et al., 2020; Kotler & Keller, 2012; Fragoso & Espinoza, 2017; Parasuraman et al., 1988; Eltahir & Abdallah, 2019; Al Karim & Chowdhury, 2014) used the following dimensions of banking service quality:

**Tangibility:** It includes physical evidence of a service, such as physical facilities, machinery, equipment and personnel.

**Reliability:** It indicates that the organization can provide the promised service reliably and accurately.

**Responsiveness:** It concerns the willingness of employees to provide assistance and service to clients.

**Empathy:** It refers to the individual care and attention given to clients.

**Safety:** It indicates customers' confidence and trust in dealing with banks, and the service is free from risks or errors.

## 2.2 Customer Satisfaction

The banking sector seeks to provide the best services to its customers. Customer satisfaction determines the success of any organization. So banks should identify their customers' needs and the time and resources required for these services (Kadir et al., 2011). Customer satisfaction refers to the results obtained from the actual evaluation between the requirements and the outcomes. (Sakhaei et al., 2014).

Liu et al. (2008) defined the following criteria to measure the level of customer satisfaction to obtain services:

**Satisfaction:** It is a perception that clients develop by accepting goods or services.

**Content:** It refers to the advantages of goods and services and the benefits of experimenting with consuming a good or service.

**Relived:** The services provided reduce the negative feeling of clients.

**Novelty:** The ability of goods and services to excite customers (or gain their attention).

**Surprise:** The surprise and unexpected pleasure that the service brings to customers.

## 2.3 Customer Loyalty

Customer loyalty refers to their repurchase intention (Flint et al., 2011; Fida et al., 2020). It is also known as buyback behavior, representing customer experience in using the service. Customer loyalty is considered a result of customer satisfaction. A customer who has good experience with a company will continue his subscription for its services. This action makes him sincere and rational in making the purchase decision for the service. Empirical evidence shows that organizations that care about their customers' expectations can achieve customer loyalty.

Kotler (2003); Kotler and Keller (2006) defined loyalty as a measure of customers' willingness to participate in the activities of an organization. Loyalty is built with customers by constantly contacting them through various means (e.g. E-mail, thank you letters, good treatment of employees, showing interest in an organization and supporting their success and happiness).

Khan and Fasih (2014) also explained that customer loyalty involves customers' psychological process, bias and decision-making and has a relation to some brands, final purchase and post-purchase behaviour.

## 3. Research Problem

The increasing competition and tremendous developments in banking service technology have imposed increasing difficulties, such as avoiding stereotypes and repetitive banking services. To achieve excellence in the quality of banking service, banks should address their shortcomings and improve their strength to gain customer loyalty. In turn, customer loyalty will increase bank profits. Accordingly, this study answers the following questions:

1. Does the quality of banking service affect customer loyalty?

2. Does the quality of banking service affect customer satisfaction?
3. Does customer satisfaction affect customer loyalty?
4. Does customer satisfaction mediate the relationship between banking service quality and customer loyalty?

#### **4. Literature Review & Development Hypotheses**

Kranias and Bourlessa (2013) found that adequate proximity to a bank significantly affects customer loyalty. Consequently, Greek banks have redesigned their services to increase customer loyalty. Kheng et al. (2010) evaluated the banking sector in Malaysia. They asserted that banks should improve service quality to promote customer loyalty. Leninkumar (2016) revealed that various dimensions of service quality (i.e. Tangibility, reliability and empathy) significantly affect customer loyalty in the Sri Lankan banks. Likewise, Onditi et al. (2012) found that the quality of service greatly affects customer loyalty, given that the quality of service determines customer loyalty. Liu and Wang (2017) concluded that organizations that work to improve service quality through the influence customer loyalty could enhance their performance effectively. On the basis of the above discussion, this study proposes the following hypothesis:

Hypothesis 1: The quality of banking service positively affects customer loyalty.

Raza et al. (2020) and Hammoud et al. (2018) showed that the quality of banking service in its five dimensions has a large and positive effect on customer satisfaction. Al-Azzam (2015) mentioned that the dimensions of banking services positively affect customer satisfaction in Arab Banks. Nautiyal (2014) found that the dimensions of banking service quality affect customer satisfaction in Delhi. Mohammad and Alhamadani (2011) determined whether service quality is an important precedent for customer satisfaction in the Jordanian commercial banking sector. They concluded that the dimensions of service quality have a great effect on customer satisfaction. Recently, Vetrivel et al. (2020) extended the literature to the dimensions of Internet banking services. They revealed that these dimensions positively affect customer satisfaction. On the basis of the above discussion, this study proposes the following hypothesis:

Hypothesis 2: The quality of banking service positively affects customer satisfaction.

Prior studies (e.g. Mohsan et al., 2011; Arokiasamy, 2013) concluded that customer satisfaction has positive and negative relations to customer loyalty and intention to switch. Chiguvi and Guruwo (2017) found a positive relationship between customer satisfaction and customer loyalty. Leninkumar (2017) also found significant positive relationships between customer confidence and loyalty, customer satisfaction and loyalty and customer satisfaction and trust. Moreover, customer satisfaction significantly affects customer loyalty. On the basis of the above discussion, this study proposes the following hypothesis:

Hypothesis 3: Customer satisfaction positively affects customer loyalty.

Fida et al. (2020) showed that the quality of banking service and customer satisfaction and loyalty are highly correlated. The respondents, on average, agreed with the dimensions of the banking service in Oman. Siddiqi (2011) concluded that all features of the quality of banking service have a positive correlation with customer satisfaction. In turn, customer satisfaction positively influences customer loyalty in the banking sector in Bangladesh. Khatoon et al. (2020) found that the quality of banking service dimensions has a significant and positive impact on customers' purchasing intentions. Customer satisfaction (as the mediating variable) has a partial effect on the relationship between the independent and dependent variables. Khan and Fasih (2014) explored the relationship between banking service quality and customer satisfaction and loyalty. Using all of the former's dimensions, they found significant and positive correlations. On the basis of the above discussion, this study proposes the following hypothesis:

Hypothesis 4: Customer satisfaction mediates the relationship between the quality of banking service and customer loyalty.

#### **4.1 Study Contribution**

This study is a continuation of previous studies related to the issue of the quality of banking services. It focuses on continuously enhancing the quality of banking services. It analyses and evaluates customer behaviour to help banks meet their various needs to achieve their loyalty to the service. This study is characterized by the following features:

Environment and sector: This research applies to branches of Jordanian commercial banks in Tafila Governorate. Its economic activity is diverse in funding sources, foreign investments, competitive small and medium enterprises and many natural resources. This situation also indicates the diversity of clients in this governorate.

This study is one of the first few studies from the perspective of the researcher which determines whether customer satisfaction mediates the relationship between banking service quality and customer loyalty, especially in the middle-east environment.

## 5. Research Design

### 5.1 Research Model

On the basis of related studies, the researcher developed the model shown in Figure (1).

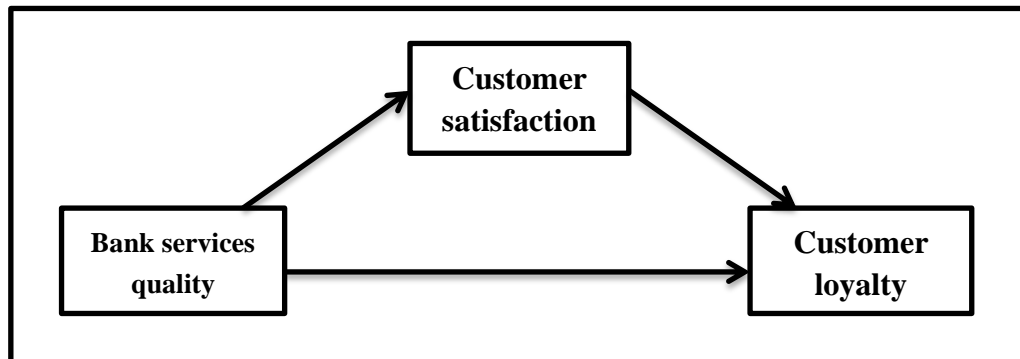


Figure 1. The research model

### 5.2 Population and Study Sample

The study population consisted of all customers in the Jordanian commercial banking sector, including 13 banks. The study community is difficult to restrict, given the expansion of the Jordanian commercial banking sector and an increase in customers. Thus, this study only considered clients in Tafila Governorate. The study sample only included Jordan Ahli Bank, Arab Bank, Housing Bank and Cairo Amman Bank.

### 5.3 Data Collection

The researcher developed a study tool (questionnaire) to obtain data from the respondents. The study tool comprises four sections. The first section explains the demographic data, and the second section discusses the independent variable (i.e. Quality of banking service). The discussion follows prior studies (e.g. Raza et al., 2020; Fida et al., 2020; Siddiqi, 2011; Lomendra et al., 2019; Panichpathom, 2016). The third section explains the mediating variable (e.g. Customer satisfaction) following existing research (e.g. Hammoud et al., 2018; Siddiqi, 2011; Awuor, 2009). The fourth section covers the dependent variable and follows the literature (Mohsan et al., 2011; Leninkumar, 2017). The study tool uses a Likert-type scale ranging between strongly agree and strongly disagree.

On this basis, the researcher selected a convenience sample and distributed 300 questionnaires. Five questionnaires were excluded from the 290 retrieved questionnaires. A total of 285 questionnaires was considered suitable for analysis, accounting for 95% of the total distributed questionnaires. Table 1 presents the demographic characteristics of the study sample.

Table 1. Demographic characteristics of the study sample

Variable	Category	Frequency	Percentage
Gender	Male	177	62.1
	Femal	108	37.9
	Total	285	%100
Age	Less than 21 year	30	10.5
	21-30 years	95	33.3
	31-40 years	80	28.1
	41-50 years	44	15.4
	More than 50 years	36	12.6
	Total	285	%100
Educational qualification	Less than secondary	33	11.6
	Diploma	84	29.5
	Bachelor	114	40
	Master	47	16.5

	Ph.D	7	2.5
	Total	285	%100
Dealing	Less than one year	37	13
	1-5 years	128	44.9
	1-10 years	64	22.5
	More than 10 years	56	19.6
	Total	285	%100

Sources: Smart PLS Output

#### 5.4 Validity and Reliability

After developing the questionnaire, the researcher presented it to a group of seven arbitrators with experience and competence in financial and banking sciences and business administration. The necessary adjustments were made to obtain the final version of the questionnaire. On this basis, the study tool (the questionnaire) could achieve the research aim.

The researcher used Cronbach's alpha coefficient to identify the extent of internal consistency between the paragraphs of the questionnaire. The scale test result is statistically acceptable if the Cronbach's alpha value is greater than the threshold of 0.70 (Hair et al., 2010). The closer the Cronbach's alpha to 1, the higher the degree of internal consistency (Sekaran & Bougie, 2009).

The Cronbach's alpha values of the study variables ranged from 0.808 to 0.915), as shown in Table 2. All of them were greater than 0.70 and considered acceptable for scientific research, indicating internal consistency and stability. Thus, the questionnaire was valid for analysis.

To verify the internal consistency, the researcher tested the composite reliability. With a value ranging between 0 and 1, its value is considered acceptable if it is greater than 0.70. In this study, all the independent variables were acceptable, as shown in Table 2. The average variance extracted (AVE) value is considered acceptable when it exceeds 0.50. In this study, the AVE was within acceptable limits.

Table 2 indicates that all factor loadings reach more than 0.70 and are within the acceptable limits of this test, except for Paragraph No. 4 within the (tangibles) axis and Paragraph No. 29 within the (customer loyalty) axis. Hence, these paragraphs were dropped in the second-level analysis. Moreover, multicollinearity was not a problem amongst the independent study variables. All tolerance values were greater than 0.2, and all VIF values were less than 5 and within the permissible limits.

Table 2. Factor loadings. Validity, and reliability of the Questionnaire

Variables	Questions	Factor	Cronbach's Alpha	Composite Reliability	Average Variance Extracted	Tolerance	VIF
Tangibles	Q1	0.763	0.818	0.873	0.580	.626	1.598
	Q2	0.796					
	Q3	0.776					
	Q4	0.685					
	Q5	0.792					
Reliability	Q6	0.805	0.915	0.937	0.749	.473	2.115
	Q7	0.855					
	Q8	0.933					
	Q9	0.798					
	Q10	0.926					
Responsiveness	Q11	0.792	0.813	0.877	0.640	.326	3.068
	Q12	0.795					
	Q13	0.824					
	Q14	0.789					
Empathy	Q15	0.907	0.896	0.924	0.710	.296	3.377

	Q16	0.823					
	Q17	0.915					
	Q18	0.771					
	Q19	0.785					
Safety	Q20	0.819	0.808	0.874	0.635	.301	3.322
	Q21	0.734					
	Q22	0.808					
	Q23	0.823					
Customer satisfaction	Q24	0.784	0.845	0.890	0.618	.242	4.133
	Q25	0.795					
	Q26	0.791					
	Q27	0.853					
	Q28	0.763					
Customer Loyalty	Q29	0.679	0.896	0.925	0.715	.303	3.304
	Q30	0.914					
	Q31	0.872					
	Q32	0.805					
	Q33	0.934					

Sources: Smart PLS Output

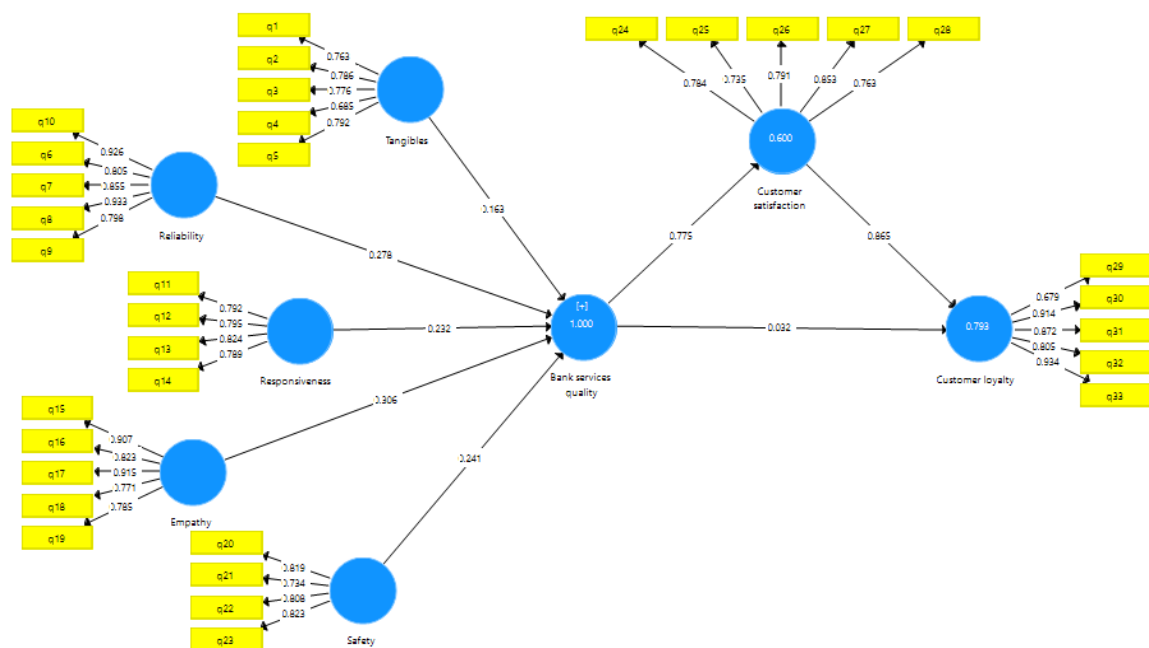


Figure 2. the model of standardized loading and path coefficient for the trimmed model

## 6. Discussion

### 6.1 Mean and Standard Deviations

Table 3 shows the arithmetic mean, standard deviation and the relative importance of all study variables. The arithmetic mean and the relative importance of all the variables reach the average level. Thus, the quality of banking service in all its dimensions, customer satisfaction and customer loyalty are moderate, considering the study sample under examination and analysis.



Table 3. Mean, standard deviations, and level

Variables	Questions	Mean	S.D	Level
Tangibles	Q1	2.04	.846	low
	Q2	2.56	1.004	moderate
	Q3	2.33	.857	low
	Q4	2.64	.967	moderate
	Q5	2.67	.943	moderate
	General arithmetic mean	2.44		moderate
Reliability	Q6	2.47	.882	moderate
	Q7	2.35	.862	moderate
	Q8	2.30	.726	low
	Q9	2.47	.890	moderate
	Q10	3.15	1.034	moderate
	General arithmetic mean	2.54		moderate
Responsiveness	Q11	2.45	.848	moderate
	Q12	2.43	.915	moderate
	Q13	2.52	.940	moderate
	Q14	2.39	.926	moderate
	General arithmetic mean	2.44		moderate
Empathy	Q15	2.30	.813	low
	Q16	2.48	.918	moderate
	Q17	2.42	.941	moderate
	Q18	2.80	1.038	moderate
	Q19	2.66	1.017	moderate
	General arithmetic mean	2.53		moderate
Safety	Q20	2.64	.974	moderate
	Q21	3.01	.984	moderate
	Q22	2.33	.959	low
	Q23	2.40	.987	moderate
	General arithmetic mean	2.59		moderate
Customer satisfaction	Q24	2.52	.898	moderate
	Q25	2.73	.960	moderate
	Q26	2.46	.898	moderate
	Q27	2.50	.937	moderate
	Q28	2.40	.801	moderate
	General arithmetic mean	2.52		moderate
Customer Loyalty	Q29	2.56	.865	moderate
	Q30	2.53	.850	moderate
	Q31	3.04	1.122	moderate
	Q32	2.52	.906	moderate
	Q33	2.44	.997	moderate
	General arithmetic mean	2.61		moderate

Means description (1 – 2.33 low, 2.34 – 3.67 moderate, 3.68 – 5 high)

Sources: Smart PLS Output

## 6.2 Test Hypotheses

### Analysis of Hypothesis 1 Test Results

Table 4 shows the test results of Hypothesis 1. The effect of the quality of banking service has a positive explanatory power of 43.1% of customer loyalty. This effect is statistically significant at the 0.05 level and supported by the t-test result of 19.403 which is greater than its tabulated value. Therefore, Hypothesis 1 is accepted. The quality of banking service in all its dimensions has a positive effect on customer loyalty.

Moreover, all dimensions of banking service quality are statistically significant at a level of less than 0.05. The dimension of empathy ( $\beta = 0.207$ ) has a greater effect on customer loyalty than reliability ( $\beta = 0.194$ ) and responsiveness ( $\beta = 0.155$ ).

Table 4. First Hypotheses Testing Result

Dependent Variable	Independent Variables					
		$\beta$	SD	T-test	Sig	Result
Customer Loyalty	<b>Bank services quality</b>	0.657	0.034	19.403	0.000	Accepted
	<u>Dimensions Effect</u>					
	Tangibles	0.102	0.011	8.901	0.000	Accepted
	Reliability	0.194	0.012	15.704	0.000	Accepted
	Responsiveness	0.155	0.012	13.367	0.000	Accepted
	Empathy	0.207	0.014	14.465	0.000	Accepted
	Safety	0.149	0.012	12.873	0.000	Accepted
	R <sup>2</sup>	0.431				
R <sup>2</sup> Adjusted	0.429					

*Analysis of Hypothesis 2 Test Results*

Table 5 shows the test results of Hypothesis 2. The value of  $R^2(0.605)$  indicates that the quality of banking service has a positive explanatory power amounting to 60.5% of the change in customer satisfaction, and this effect is statistically significant at 0.05 level. This finding is enhanced by the t-test value of 31.776, which is greater than its tabulated value. Thus, Hypothesis 2 is accepted. The quality of banking service in all its dimensions has a positive effect on customer satisfaction.

The results in Table 5 also indicate that all the dimensions of banking service quality are statistically significant at the 0.05 level. This finding is consistent with those of Hypothesis 1 in the first and second dimensions. The dimension of empathy ( $\beta = 0.245$ ) has the greatest effect, followed by reliability ( $\beta = 0.231$ ) and safety ( $\beta = 0.181$ ).

Table 5. Second Hypotheses Testing Result

Dependent Variable	Independent Variables					
		$\beta$	SD	T-test	Sig	Result
Customer Satisfaction	<b>Bank services quality</b>	0.778	0.024	31.776	0.000	Accepted
	<u>Dimensions Effect</u>					
	Tangibles	0.120	0.013	9.550	0.000	Accepted
	Reliability	0.231	0.012	19.601	0.000	Accepted
	Responsiveness	0.177	0.009	20.723	0.000	Accepted
	Empathy	0.245	0.012	20.427	0.000	Accepted
	Safety	0.181	0.011	16.530	0.000	Accepted
	R <sup>2</sup>	0.605				
R <sup>2</sup> Adjusted	0.603					

*Analysis of Hypothesis 3 Test Results*

The results in Table 6 refer to the test results of Hypothesis 3. Customer satisfaction has a positive interpretation of customer loyalty ( $R^2 = 0.605$ ). This result is confirmed by the t-test value of 72.004, which is greater than its tabulated value. Thus, Hypothesis 3 is accepted. Customer satisfaction has a positive effect on customer loyalty.

Table 6. Third Hypotheses Testing Result

Dependent Variable	Independent Variables					
Customer Loyalty	Customer Satisfaction	$\beta$ 0.875	SD 0.012	T-test 72.004	Sig 0.000	Result Accepted
	R <sup>2</sup>	0.605				
	R <sup>2</sup> Adjusted	0.604				

*Analysis of Hypothesis 4 Test Results*

The results in Table 7 refer to the test results of Hypothesis 4. It states that customer satisfaction mediates the relationship between banking service quality and customer loyalty. To test the intermediate variable hypothesis, the researcher relied on the method proposed by a prior study (Preacher & Hayes, 2008), which is based on the following two tests:

1- Bootstrap the indirect effect (Total effect)

The effect of the independent variable on the dependent variable is tested (the total effect). The first condition indicates a statistically significant relationship between the independent and dependent variables, even with the mediating variable. In Table 7, the effect of the quality of banking service has a positive explanatory power amounting to 79.3% of the change in customer loyalty in the presence of customer satisfaction. Customer satisfaction as an intermediary variable has increased the above direct effect compared with Hypothesis 1 (43.1%) in Table 4. The t-test value is 16.363, which is greater than its tabulated value.

Table 7. Forth Hypotheses Testing Result

Independent Variable	Mediator Variable	Dependent Variable	$\beta$	SD	T-test	Sig	Result
BSQ	-----> CS	-----> CL	0.670	0.041	16.363	0.000	Accepted
	R <sup>2</sup>	0.793					
	R <sup>2</sup> Adjusted	0.792					

Whereas: BSQ: Bank services quality. CS: Customer satisfaction. CL: Customer loyalty

2- Bootstrap confidence interval (Lower and upper levels)

The second condition verifies the effect of the mediating variable (Preacher & Hayes, 2008). The upper and lower limits were bootstrapped at a confidence level of 95%. In Table 8, the lower and upper limits of the confidence interval are 0.600 and 0.791.

Zero does not interrupt these two values. Thus, customer satisfaction mediates the relationship between banking service quality and customer loyalty, supporting Hypothesis 4.

Table 8. Template for Mediation Calculation

	Path a	Path b	Indirect Effect	S E	t-value	Bootstrapped Confidence Interval		Decision
						95% LL	95%UL	
<b>H4</b>	0.778	0.875	0.681	0.041	16.604	0.600	0.761	Mediation

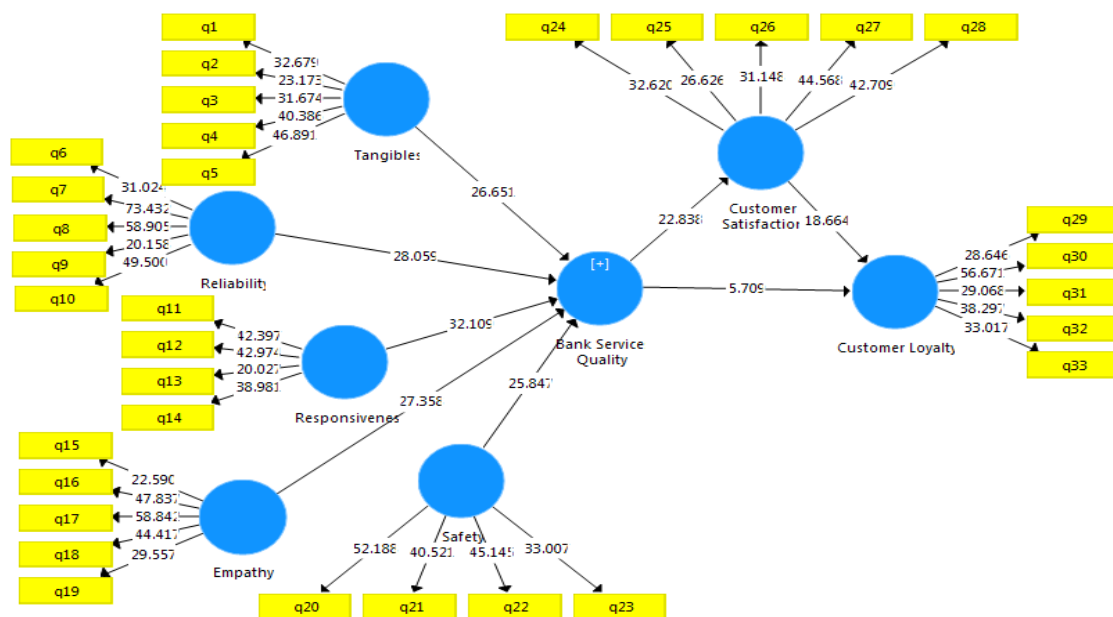


Figure 3. the model of standardized loading and path coefficient for the trimmed model, after deleting questions (4&29)

### 7. Conclusion

The arithmetic averages of all the variables reach the average level, indicating that customer satisfaction and loyalty are generally average for the quality of banking services provided to the sample under examination and analysis.

The researcher also validated the SERVQUAL model in the five dimensions investigated in this study using SmartPLS. The dimensions with the greatest effects on customer loyalty are empathy, reliability and responsiveness. The evaluation of customer satisfaction shows empathy as the best dimension, followed by reliability and safety. The weakest dimension is the tangibility dimension.

The results of the SmartPLS test support Hypothesis 1. The quality of banking service in all its dimensions has a positive effect on customer loyalty. This finding agrees with prior studies (Kheng et al., 2010; Leninkumar, 2010; Liu & Wang, 2017). Thus, the quality of banking services is a critical determinant of customer loyalty. It should stay consistent with customer behaviour and perception management, which is positively reflected in the banks' market share.

The analysis results support Hypothesis 2. The quality of banking service in all its dimensions has a positive effect on customer satisfaction. This finding is consistent with prior studies (Raza et al., 2020; Hammoud et al., 2018; Al-Azzam, 2015; Nautiyal, 2014; Mohammad & Alhamadani, 2011). Thus, banks should improve all dimensions of their service quality. In turn, they can enhance the satisfaction of existing customers and attract more customers in the future.

The test results support Hypothesis 3. Customer satisfaction has a positive effect on customer loyalty. This finding is consistent with prior studies (Leninkuman, 2017; Arokiasamy, 2013; Mohsan et al., 2011; Chiguvi & Guruwo, 2017). Thus, if customers are satisfied with the provided banking services, they will stay loyal. Satisfaction precedes loyalty; that is, the greater the customer satisfaction, the greater their loyalty to the bank.

Finally, customer satisfaction mediates the relationship between the quality of banking service and customer loyalty. This finding is partly consistent with prior studies (Fida et al., 2020; Siddiqi, 2011; Khan & Fasih, 2014). Thus, mutual relationships exist between the quality of banking service and customer loyalty through customer satisfaction as a mediating variable. These relationships enhance and develop the options offered in banking services, which lead to advantages in the competitive banking market.

### 8. Recommendations

On the basis of the above results, the Jordanian commercial banking sector should continuously develop and improve the quality of its banking services, with a focus on the tangible dimension.

Banks should influence customer satisfaction to achieve their loyalty whilst paying attention to their needs.

Banks should invest in factors that may positively affect customer satisfaction and loyalty, such as reducing the processing time, adding more parking spaces and handling complaints quickly. Bank employees should show sincere concern to clients' needs to provide effective services.

Finally, banks should consider increasing their branches in the governorate of Tafila to provide more services in line with the wishes and aspirations of customers.

### 9. Limitations and Future Research Directions

This study was limited to Tafila governorate. Hence, the results should not be generalized easily to other contexts. Future research should focus on larger cities with a higher number of clients.

Future works should also cover other variables, such as confidence, bank location and confidentiality, and customers of different demographic and cultural variables.

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# Examining the Degree of Foreign Trade Dependence and Its Influence on GDP Growth

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## Abstract

Contemporary international economic environment registers an increasing relationship and interdependence of countries regardless of the degree of their development. In the open economy, the development of foreign trade mainly implies the growth of gross domestic product (GDP). The basic goal of this paper is to examine the influence and effects of trade dependence on GDP. Trade dependence is used to describe a country for which exports and imports are very important. This coefficient also shows the degree of national economy openness. The analysis included the area of Bosnia and Herzegovina for the period 2010-2018, whereby the relevant statistical data were processed for export, import, GDP, as well as the selected coefficient of foreign trade dependence. The results showed the existence of a short-term or long-term relationship between GDP and the total export and import, as well as between GDP and export.

**Keywords:** trade dependence, foreign trade, gross domestic product, national economy, Bosnia and Herzegovina (BiH)

## 1. Introduction

The proportion of foreign trade in gross domestic product (GDP) of a country varies due to a different level of country's openness or a different degree of its dependence on foreign trade (Jotanović (2006), p. 77). The concept of trade dependence is the central point of observation in current globalization process in the world. According to Travis (1981), if one country is an extremely significant economic partner of another country, then its influence on the foreign policy of another country is such that the relationship can be described as economic dependence. As no country would be able to survive without the appropriate development of foreign trade, it is important that a country has links to the countries that can provide it with economic benefit in the long run. For a long time, Bosnia and Herzegovina (BiH) has registered a deficit in foreign trade exchange, with an extremely high dependence on the import of essential products such as energy products, medicinal products, food, automobiles, etc. In the years after the global financial crisis, the total volume of foreign trade of BiH also decreased. Favorable economic structure and general economic development may reduce country's dependence on import and increase its dependence on export. However, bearing in mind the overall situation in the country, such situation is still rather elusive. That mean, products that can be produced in the country are imported and products at a lower stage of production are exported. On the other hand, political and regulatory situation in this country is one of the biggest problem for single trade policy. Due to all the above mentioned, the question is raised so as to what is the optimum strategy for BiH apropos of its trade dependence on other countries. By optimal strategy we mean a strategy that will contribute to increasing gross domestic product by controlling trade dependence (import or export).

## 2. Literature Review

In the neighboring countries as well as globally, some studies have been conducted on trade dependence and GDP growth. The following section brings some of these studies.

In their paper, Yuhong L., Zhongwen C., Changjian S. (2010) examined the relationship between foreign trade and GDP growth in East China. Analyzing data time series, they studied the causes and consequences of foreign trade (import, export) on GDP. Their analysis included 28year statistical data of east China from 1981 to 2008. Their results showed a positive relationship between GDP and the total export and import as well as between



GDP and export, while they failed to prove any link between GDP and import trade.

Osakwea P. N., Santos-Paulino A. U. and Dogan B. (2018) investigated the relationship between trade, trade liberalization, and exports diversification in developing and Sub-Saharan African (SSA) countries. By using the non-parametric analyses, they indicate that developing countries that are more open to trade tend to have more diversified exports structures than those that are classified as less open. The empirical analyses showed that GDP per capita, human capital and institutions, play important roles in exports diversification.

Kahn-Nisser S. (2019) looked at the linkages between export to the European Union (EU), export to china and human rights policies. The author concluded that export to the EU at high rates are more likely to converge towards its policies than countries that don't export to the EU. Countries' human rights policies are positively associated with the EU's human rights policies and this association is conditioned by countries' levels of export to the EU.

Šošić V. and Vujčić B. (2005) examined trade integration and accession of Croatia to the European Union (EU). By constructing the gravity model, they attempted to assess the level of trade restructuring achieved by Croatia. They came to the conclusion that the liberalization of international trade that occurred in the previous years did not significantly increase the trade with the signatory countries but only increased the trade with the former Yugoslav countries that had already been Croatian partners. The authors claimed that reforms need to continue so as to increase the total openness of this country and its international trade.

Bilas V. (2007) investigated the relationship between Croatia and the EU in terms of integration into the monetary union. Considered factors are: degree of mutual trade, degree of labor mobility, connection of economic shocks, etc. At the time when the research was conducted, 60% of Croatia's trade was with the EU member states. The analysis of Croatian export showed that the population growth had a positive effect on trade while distance had a negative effect. The analysis of import suggested that all the variables (GDP per capita, the population, distance) were statistically significant.

As Jaffee D. (1985) states, various forms of economic dependence (export and import dependence) will have negative effects on the economic growth of countries. This paper formulates the logic behind this expectation differently in the context of the economic growth effects of one widely employed measure of international economic dependence or export dependence. It was concluded that the positive effect of export dependence is either reduced or reversed under the assumptions of export price fluctuation, increased raw material export, commodity concentration, and foreign capital penetration.

Jerinić M. (2017) studied the position of BiH in foreign trade in relation to other countries. BiH is a small and open country with foreign trade having an important role. Export to foreign markets is rather difficult to many domestic companies due to their low competitiveness and many non-tariff barriers. She concluded that the basic characteristic of BiH foreign trade is a constant foreign trade deficit, bearing in mind the fact that the EU is a dominant trading partner of BiH. Hence, progressive liberalization may have accidental consequences for the domestic trade of this country.

The necessary condition of growth and development of every country is the increase of its foreign trade with other countries in the world. For economic exchange to take place among countries or among partners from different countries, at least one of the following conditions needs to be satisfied (Strahinja (2000), p. 31):

- difference in the offer of some goods between countries,
- difference in the demand for the same goods between these countries, and
- different prices of the same goods in individual countries.

Whether a country is a net debtor depends on its current account. If a country registers a surplus or a positive balance of payments, it means that export is higher than import, i.e., foreign currency inflow is higher than foreign currency outflow. Otherwise, the country registers a deficit or a negative balance of payments. The importance of international trade for a country is measured by the share of foreign trade (export and import) in GDP or the national income of the country. This also shows the degree of dependence of the national economy on foreign trade.

Dependence of a country's national economy on foreign trade (foreign trade coefficient), can be presented by a formula

Foreign trade dependence = total foreign trade / GDP

This coefficient also shows the degree of national economy openness (Sovtić (2009), p. 10).

### 3. Research Methodology

Research objective is to investigate connection between trade dependence, GDP, and export/import in Bosnia and Herzegovina. Central hypothesis of this paper is: Foreign trade dependence influence on the increase (or decrease) of GDP. In order to calculate foreign trade dependence of a country (in our case BiH), we shall use foreign trade coefficient. Generally, the value of this coefficient is higher for smaller countries. Foreign trade coefficient is the share of foreign trade in country's GDP, or the ratio of the sum of import and export and GDP:

$$K_j^{FT} = \frac{X_j + M_j}{Y_j} = \frac{X_j}{Y_j} + \frac{M_j}{Y_j} = K_j^X + K_j^M \quad (1)$$

where:

$K_j^{FT}$  - foreign trade coefficient

$Y_j$  – country's GDP

$K_j^X$  - import coefficient

$K_j^M$  - export coefficient

Apart from this coefficient which we use for the calculation of foreign trade coefficient for individual countries (in our case BiH), world export coefficient may also be calculated using the formula:

$$K_w^X = \frac{X_w}{Y_w} \quad (2)$$

where:

$K_w^X$  – world export coefficient

$X_w$  – the sum of world export of commodities and services

$Y_w$  – global GDP

This coefficient is used so as to show the structure of world international trade.

In order to see the country most exported to, we use the geographic concentration coefficient which is the ratio of the total export of all commodities of a country to a specific territory to the total export:

$$K_j^z = \frac{X_{zj}}{\sum_m (X_{mj})} \quad (3)$$

where:

$K_{jz}$  – geographic concentration coefficient

$X_{zj}$  – the total export of all commodities to the territory of one country

$X_{mj}$  – the total export of a country

Higher trade dependence among countries includes the higher trade concentration ratio.

Apart from the domestic and foreign literature on the topic studies, other data sources included the publications by various agencies in charge of publishing and collecting data used in the paper. Some of them are the Central Bank of BiH, the Foreign Investment Promotion Agency of BiH, Foreign Trade Chamber of BiH, etc.

The scientific methods used in the paper are analysis and synthesis, historical method, comparative method, compilation, description, and generalization. The observed period used in the research of the effect of trade dependence on GDP growth is 2010-2018. The research territory is BiH. The data are presented in tables and graphs and processed by the SPSS program package.

### 4. Results and Discussion

Based on the formula for foreign trade dependence (Foreign trade dependence=total foreign trade/GDP), the calculated dependence of each index of foreign trade of BiH in the period 2010-2018 slightly increased, with occasional fluctuations. Table 1 and Graph 1 present dependence trend. Foreign trade dependence increased from

minimum 81.65% in 2010 to maximum 93.30% in 2018.

Table 1. Dependence of Bosnia and Herzegovina's GDP on foreign trade

	EUR million and %							
	GDP	FOREIGN TRADE	EXPORT	IMPORT	SURPLUS / DEFICIT	FOREIGN TRADE DEFICIT	EXPORT COEFFICIENT	IMPORT COEFFICIENT
2010	12,968.9	10,589.7	3,627.9	6,961.9	-3,334.0	81.65%	27.97%	53.68%
2011	13,411.7	12,142.3	4,203.9	7,938.4	-3,734.5	90.54%	31.35%	59.19%
2012	13,407.5	11,816.7	4,017.9	7,798.8	-3,780.9	88.14%	29.97%	58.17%
2013	13,691.8	12,041.3	4,284.9	7,756.4	-3,471.5	87.95%	31.30%	56.65%
2014	13,988.3	12,721.5	4,438.9	8,282.6	-3,843.7	90.94%	31.73%	59.21%
2015	14,617.4	12,700.1	4,595.1	8,104.9	-3,509.8	86.88%	31.44%	55.45%
2016	15,289.9	13,078.4	4,815.4	8,263.0	-3,447.6	85.54%	31.49%	54.04%
2017	16,042.4	14,950.7	5,652.5	9,298.2	-3,645.6	93.19%	35.23%	57.96%
2018	17,081.2	15,937.2	6,084.5	9,852.6	-3,768.1	93.30%	35.62%	57.68%

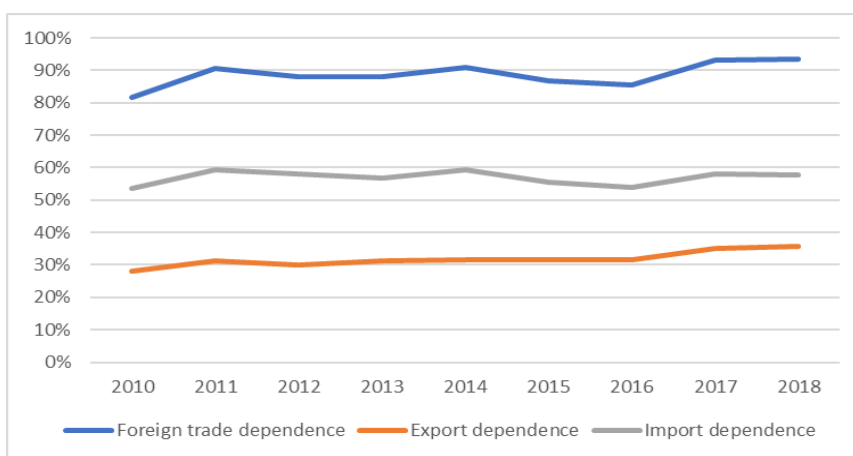
Source: Authors' calculation, Central Bank of BiH (January 2020) and the Agency for Statistics of BiH (January 2020)

Table 1 shows high foreign trade dependence of BiH (over 81%) in the entire observed period, with import dependence higher than export dependence. The main reason for such a condition is the fact that BiH registered a constant deficit of balance of payments, which in the observed period was over EUR 3.3 billion. The ratio of export dependence increased from minimum 27.97% in 2010 to maximum 35.62% in 2018, while the ratio of import dependence grew from minimum 53.68% in 2010 to maximum 59.21% in 2014, while over the years that followed it registered a mild drop compared to the maximum value.

It is evident that for all three observed ratios, the minimum value was registered in 2010, when the volume of foreign trade was rather lower than in the years that followed, which can be explained by the consequences of the global financial crisis. Although export grew at a rate higher than import, the value of the imported goods was significantly higher than the value of the exported goods, which is why foreign trade deficit was registered.<sup>1</sup> The main interpretation of deficit of balance of payments of BiH is that it indicates the lack of competitiveness of this country and its economy (Bodiroža (2008), p. 229).

Graph 1 shows that the index of GDP dependence for all three observed measures (foreign trade, import and export) is rather constant, with the maximum value for all the indices in 2018 and a small drop in their values in 2016.

<sup>1</sup> Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (2020)



Graph 1. Index of GDP dependence on foreign trade, import, and export

Source: Authors' calculations, Central Bank of BiH (January 2020) and the Agency for Statistics of BiH (January 2020)

In order to see the countries from which the goods were imported to BiH most as well as the countries to which BiH exported, we shall observe the value of the geographic coefficient for import and the geographic coefficient for export.

Import volume of a country depends on its national income (Kovačević (2016), p. 248). The countries from which the goods were most imported to BiH in the period from 2010 to 2018 are given in Table 2 and Graph 2. To obtain the data, we used the geographic concentration coefficient for import.<sup>2</sup> The highest value of this coefficient also indicates the country or the region from which the goods are most imported to BiH.

Table 2. The value of geographic concentration coefficient for BiH import by regions and countries

	In EUR million									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
<b>EU</b>	3,196.3	3,602.4	3,659.9	4,170.1	4,879.7	4,931.3	5,116.5	5,663.1	5,961.4	
<b>CEFTA</b>	1,883.3	1,984.6	1,964.1	1,346.3	952.6	1,000.6	1,057.9	1,185.8	1,191.1	
<b>Croatia</b>	1,052.7	1,138.4	1,126.1	1,000.3	946.8	855.4	827.1	934.9	979.2	
<b>India</b>	27.5	38.0	36.8	41.0	51.5	53.8	68.4	63.7	66.3	
<b>Italy</b>	618.9	706.4	730.8	757.9	845.5	899.0	971.2	1,054.3	1,109.9	
<b>Japan</b>	42.1	44.9	45.3	39.0	48.5	54.1	47.5	53.2	58.2	
<b>China</b>	335.2	396.2	417.4	467.4	695.1	558.2	558.3	606.4	684.7	
<b>Hungary</b>	213.1	193.9	211.1	226.7	221.7	210.2	207.2	231.0	253.9	
<b>Germany</b>	728.6	842.8	882.4	887.0	955.9	978.7	1,022.0	1,075.6	1,174.5	
<b>Poland</b>	126.9	154.0	213.2	201.2	212.0	231.5	242.4	280.8	283.7	
<b>Romania</b>	68.2	96.1	88.3	94.2	111.4	102.1	91.9	96.1	106.3	
<b>The Russian Federation</b>	608.0	836.0	763.8	770.0	660.8	465.3	372.9	463.9	456.3	
<b>The USA</b>	248.2	320.4	198.5	197.7	243.1	225.6	167.6	299.0	322.7	
<b>North Macedonia</b>	70.2	71.1	71.8	73.4	73.0	75.2	77.8	79.1	78.1	
<b>Slovakia</b>	46.3	59.0	59.2	61.4	63.4	74.5	68.2	74.7	75.6	

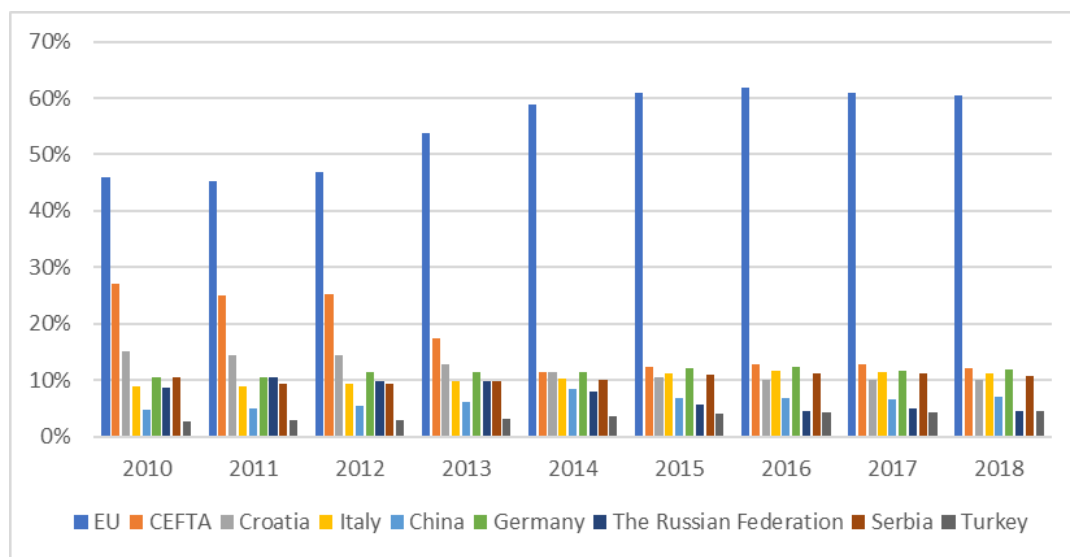
<sup>2</sup> The countries with the share higher than 0.5% in the last three-year period are presented individually, the remaining countries are categorized as other countries.

<b>Slovenia</b>	413.6	423.6	410.8	385.7	390.2	395.5	425.1	466.7	468.9
<b>Serbia</b>	730.9	749.4	731.9	759.6	833.2	883.7	934.7	1,037.9	1,058.8
<b>Spain</b>	76.5	117.5	82.6	73.1	89.3	78.5	93.1	94.7	125.3
<b>Sweden</b>	38.7	44.1	34.6	36.7	43.6	47.6	52.2	49.6	53.2
<b>Switzerland</b>	47.6	44.9	43.1	41.4	43.3	48.7	48.7	56.0	60.8
<b>Turkey</b>	193.8	230.1	229.8	252.2	297.7	329.6	351.4	392.0	447.1
<b>Great Britain</b>	50.2	51.9	61.4	65.2	78.3	75.4	70.9	81.2	82.2
<b>Vietnam</b>	10.9	12.2	18.2	26.4	28.7	42.1	43.0	52.9	53.5
<b>Other countries</b>	333.2	346.9	388.2	370.0	414.9	417.6	455.5	591.2	647.0

Source: Central bank of Bosnia and Herzegovina (January 2020)

CEFTA members: Albania, Bosnia and Herzegovina, North Macedonia, Moldova, Montenegro, Serbia, Kosovo

Graph 2 shows that BiH mainly imports from the EU countries (from 2013 more than 50 percent of import comes from the EU), followed by CEFTA members. Import from CEFTA members was in a constant decline for the entire observed period, especially after 2013. When it comes to individual countries, the most BiH import came from Croatia, Germany, and Serbia.



Graph 2. Geographic concentration coefficient of BiH import by countries (in percentage)

Source: Authors' calculation, Central Bank of Bosnia and Herzegovina (January 2020)

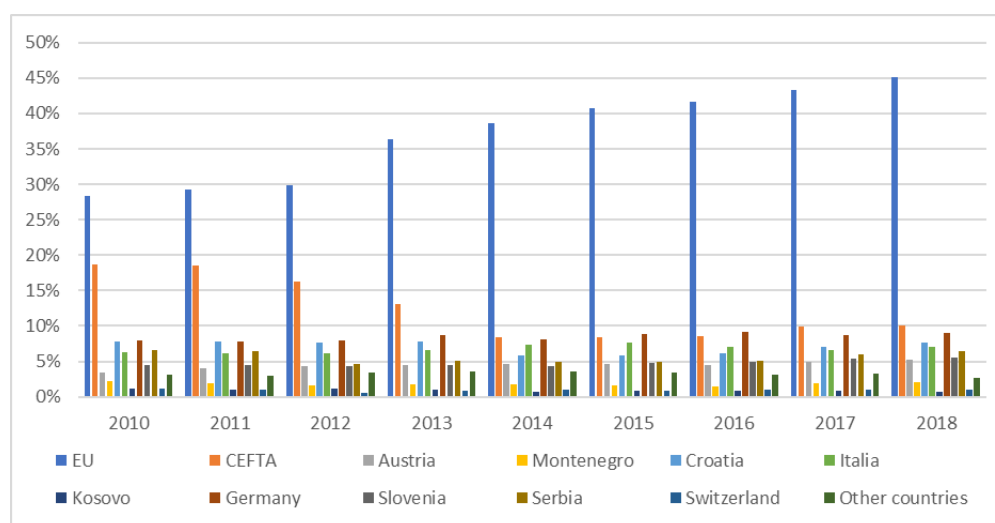
If the geographic concentration coefficient of export is observed, it is evident that the highest export, the same as import, came from the EU and CEFTA (Table 3). The export to the EU grew in the entire period from 2010 to 2018 (increased from 28.4% in 2010 to 45.1% in 2018), while the export to CEFTA decreased in the same observed period (decreased from 18.1% in 2010 to 10.1% in 2018).

Table 3. The value of geographic concentration coefficient for BiH export by regions and countries

	In EUR million								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>EU</b>	1,978.7	2,327.7	2,327.7	2,821.9	3,204.0	3,299.2	3,444.0	4,022.8	4,438.8
<b>CEFTA</b>	1,302.0	1,469.4	1,269.6	1,016.7	694.5	682.2	712.6	915.4	996.3
<b>Austria</b>	240.6	316.5	334.8	351.5	386.4	379.9	373.5	459.8	522.0
<b>Belgium</b>	30.0	17.0	17.3	17.9	22.2	22.1	24.9	27.7	30.7
<b>Bulgaria</b>	5.7	9.4	19.3	39.1	38.2	30.4	46.0	39.7	26.1
<b>Montenegro</b>	158.6	153.6	127.4	138.4	150.2	134.4	123.1	180.2	205.6
<b>Czech Republic</b>	39.2	52.8	49.4	77.9	75.8	67.2	73.0	82.6	102.9
<b>Egypt</b>	12.1	11.9	13.7	12.0	24.4	20.6	39.1	18.4	31.5
<b>France</b>	44.5	46.5	49.9	55.1	624.2	60.5	81.2	101.4	116.7
<b>The Netherlands</b>	41.4	72.0	63.9	56.5	63.3	76.5	105.0	130.6	134.6
<b>Croatia</b>	547.4	615.8	595.7	610.8	488.3	473.0	503.8	656.6	748.5
<b>Italy</b>	440.7	492.7	480.2	513.0	611.2	621.2	578.3	618.2	691.7
<b>Kosovo</b>	79.8	84.7	91.5	80.9	62.2	72.2	76.2	78.7	68.0
<b>Luxembourg</b>	18.4	27.2	23.6	25.5	25.1	28.6	31.9	37.4	36.1
<b>Hungary</b>	64.5	84.9	59.0	70.9	95.4	96.5	99.5	130.8	146.0
<b>Germany</b>	555.2	621.7	618.7	670.2	673.6	722.4	756.4	815.9	890.4
<b>Poland</b>	39.8	51.4	50.3	47.3	42.6	44.1	50.9	68.9	83.5
<b>Romania</b>	36.9	31.6	58.4	62.3	59.7	67.8	67.1	86.1	94.3
<b>The Russian Federation</b>	19.4	27.2	28.6	29.2	40.7	50.1	56.2	75.0	67.1
<b>Saudi Arabia</b>	1.8	7.8	24.9	8.9	10.9	21.8	24.0	28.3	44.2
<b>The USA</b>	9.5	9.8	14.2	18.8	21.4	33.1	36.6	37.5	33.3
<b>Macedonia</b>	35.8	65.9	63.5	47.5	48.1	58.6	67.6	74.1	62.1
<b>Slovakia</b>	24.1	56.3	42.1	61.5	60.3	64.8	71.7	75.0	87.8
<b>Slovenia</b>	312.8	361.4	334.0	351.0	356.8	382.9	412.7	497.7	540.5
<b>Serbia</b>	457.5	512.3	363.0	392.0	409.4	394.1	420.7	559.2	639.9
<b>Spain</b>	27.0	37.3	49.8	55.1	56.9	68.2	77.0	67.9	48.1
<b>Sweden</b>	26.2	27.7	25.0	35.5	36.1	37.2	43.0	49.4	50.8
<b>Switzerland</b>	82.0	78.8	44.8	68.0	80.5	72.8	83.3	89.8	100.5
<b>Turkey</b>	41.8	76.7	93.5	89.3	119.8	181.3	205.1	220.4	165.3
<b>Great Britain</b>	16.5	13.7	15.7	22.5	25.6	33.8	26.1	42.9	47.4
<b>Other countries</b>	218.7	239.3	265.5	276.1	291.0	279.2	261.6	302.4	268.9
<b>TOTAL EXPORT</b>	6,961.9	7,938.4	7,798.8	7,756.4	8,282.6	8,104.9	8,263.0	9,298.2	9,852.6

Source: Central bank of Bosnia and Herzegovina (January 2020)

The presentation of export by countries (Graph 3) shows that the most export was made to Germany, Croatia, Serbia, Austria, Kosovo, Montenegro, and Switzerland. The biggest reason for such a structure of export by countries is smaller geographic distance of these countries.



Graph 3. Geographic concentration coefficient of BiH export by countries (in percentage)

Source: Authors' calculation, Central bank of Bosnia and Herzegovina (January 2020)

Tables 4, 5, and 6 show descriptive statistics for testing the effect of trade dependence on the basic component of the economy of every country, its GDP. The ratios observed were: foreign trade dependence, import dependence, and export dependence relative to GDP.

Table 4. Mean values of GDP, foreign trade, import and export dependence

	Mean	Std. Deviation	N
GDP	14,499.90	1,383.69	9
Foreign trade dependence	0.8878	0.03598	9
Import dependence	0.3167	0.02449	9
Export dependence	0.5689	0.02028	9

Table 4 shows that the mean value for the observed nine years for GDP was EUR 14,499.90. In the observed period, the mean value of the coefficient of foreign trade dependence was 88.78%, the coefficient of import dependence was 31.67%, and the coefficient of export dependence was 56.89%.

Table 5. The Pearson correlation coefficient

		GDP	Foreign trade dependence	Import dependence	Export dependence
GDP	Pearson Correlation	1	0.585	0.894**	0.081
	Sig. (2-tailed)		0.098	0.001	0.836
	N	9	9	9	9
Foreign trade dependence	Pearson Correlation	0.585	1	0.870**	0.836**
	Sig. (2-tailed)	0.098		0.002	0.005
	N	9	9	9	9
Import dependence	Pearson Correlation	0.894**	0.870**	1	0.495
	Sig. (2-tailed)	0.001	0.002		0.175
	N	9	9	9	9
Export dependence	Pearson Correlation	0.081	0.836**	0.495	1
	Sig. (2-tailed)	0.836	0.005	0.175	
	N	9	9	9	9

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

Table 6. Spearman's correlation coefficient

		GDP	Foreign trade dependence	Import dependence	Export dependence
Spearman's rho	GDP	1.000	0.532	0.870**	0.051
		.	0.141	0.002	0.896
	N	9	9	9	9
Foreign trade dependence	Correlation Coefficient	0.532	1.000	0.829**	0.797*
	Sig. (2-tailed)	0.141	.	0.006	0.010
	N	9	9	9	9
Import dependence	Correlation Coefficient	0.870**	0.829**	1.000	0.473
	Sig. (2-tailed)	0.002	0.006	.	0.198
	N	9	9	9	9
Export dependence	Correlation Coefficient	0.051	0.797*	0.473	1.000
	Sig. (2-tailed)	0.896	0.010	0.198	.
	N	9	9	9	9

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

\*Correlation is significant at the 0.05 level (2-tailed).

Based on Spearman's and Pearson coefficients, Tables 5 and 6 show that there is a positive correlation between GDP and coefficient of dependence on foreign trade, export, and import. The highest level of correlation is for GDP and import dependence coefficient, which implies that the increase (or decrease) of this coefficient will have the highest influence on the increase (or decrease) of GDP.

Michaely's research (1977) brought some very interesting results regarding export and import coefficients by groups of countries in the world. These results are very similar to the conclusion reached through the analysis of

coefficients of export and import concentration in our research. Some of the most important results are (Kovačević (2002), p. 79):

- developed countries on average had almost two times lower coefficients of export concentration than underdeveloped countries,
- large developed countries had the lowest coefficients and large underdeveloped countries had the highest coefficients of export concentration,
- developed, especially large developed countries, had low coefficients of export and import concentration,
- differences in the level of export concentration were significantly higher than the one for import concentration, and
- countries with high coefficients of export concentration are mainly very underdeveloped.

It is evident that countries cannot rely on development strategy by encouraging domestic manufacturing by limiting the import of processing goods as precisely the decision for such a strategy would be the decision to prevent export growth (Nalić (2016), p. 5). BiH's most important foreign trade partners are precisely the countries from its surrounding. Therefore, it should concentrate on the possibilities for domestic manufacture of the products that are imported from these countries. Its export should focus more on the export of products in final stages of their production or finished products with comparative advantages, while the export of raw materials, semi-finished products and natural resources of the country should be reduced.

## 5. Conclusion

For the majority of developing and underdeveloped countries, import is dominated by industrial products, machines and equipment, while export is dominated by raw materials, products at lower stages of processing or without any processing (wood, coffee, ores, citrus fruit, etc.) (Vukmirica, (2000), p. 118). The key partners of BiH in foreign trade are the EU and CEFTA, while among the individual countries these are Germany, Serbia, and Croatia. BiH still faces undesirable tendencies that require its prompt reactions so as to avoid or at least partially prevent some of the unwanted events such as a decrease in export, competitiveness, etc. Some of these tendencies include: high and/or constant deficit, production concentration in export, dominant participation of individual partners, export of goods at lower stages of processing, large import of consumer goods, large import of products already manufactured in the country, low import of equipment and technology, etc. The question is what kind of strategy in terms of foreign trade would be optimal for BiH bearing in mind the existence of some restrictive fiscal measures, limited monetary policies, and free flow of capital. A possible solution might be significantly stronger incorporation of foreign trade in the development strategy of the country, reduction of coefficient of geographic concentration, and expansion of export production base. In addition, natural potentials (for example energy sources and wood) and labor force should be used more as components for manufacturing finished products intended for export while their import in the form of raw materials and semi-finished products should be reduced. In any case, export-oriented strategy should have the priority in the coming period as it results in GDP growth, better standard of living, foreign currency flow, and consequently the improvement of balance of payment.

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# National Policies for Women Empowerment: The Impact of Policy on Women Unemployment Rate in Saudi Arabia 2010-2019

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## Abstract

This paper aims to explore the impact of national policies that are directed toward women empowerment in Saudi Arabia. The study focuses primarily on the impact that these policies had on women unemployment rate from the period of 2010 to 2019. During this period, the Saudi government issued multiple laws and policies to ensure a positive impact on women participation in labor market. This study assesses the short-term impact of each policy to understand the effect of policy on women's participation in labor force. The results of this study show that there was a slight increase in women's participation in labor market. However, we recommend that further studies should be conducted to study the long-term impact on women's unemployment rate.

**Keywords:** public policy, women unemployment, gender gap, women empowerment

## 1. Introduction

For a long time, the Saudi women had experienced social discrimination and disparity, which caused a sexual orientation hole in the labor force (Doumato, 2010). Luckily, the public authority of Saudi Arabia had intervened to expand women strengthening and nullify any arrangement that may frustrate women support in the labor force (Abalkhail, 2017). Approaches has changed in the course of recent years in favor of women, which empowered them to enter more fields of work, upgrade their instructive level, and become more financially free (Varshney, 2019). Saudi Arabia is a country that is known for its accepted practice of guardianship, where guys (fathers, siblings, spouses and children) have an unequivocal job on the females work choices (Eldemerdash, 2014). Thusly, the quantity of Saudi women who partook in labor force was fundamentally lower in contrast with different nations. Regardless, countless youthful wedded Saudi men have communicated their help for Saudi women' investment in the workforce (Bursztyn and Yanagizawa-Drott, 2018). This guardianship strategy had been struck down in February 2018 (Ministry of Trade and Investment, 2018). For a long time, international organizations have consistently been handling the issue of disparity between sexual orientations in Saudi Arabia, imagining that Islam is answerable for making that status. Notwithstanding, the issues of women in Saudi Arabia is more convoluted than that (Alotaibi, 2017; Alsaleh, 2014). Truth be told, Saudi women have their parts inside and outside their family units. These jobs are characterized inside social and social setting, which are not quite the same as the global principles

Likewise, modernization of Saudi Arabia has set out more open doors for women in numerous parts of life (Alsaleh, 2014). There were numerous unfamiliar inter references with the Saudi neighborhood matters, for example, the time of Hillary Clinton's visit at the US State Department (2009-2013) that manages the idea of the "Hillary Effect" as a deciding variable in US strategy to manage Muslim women in the Middle East and North Africa. Her contention is about US utilizing scholarly trades and college projects to assemble new ages of Muslim women as wellsprings of "progress" and "democratization" in the locale. (Ranani & Kharazmi, 2017).

## 2. Literature Review

In the study of Najia Saqib (2016), she analyzed the long-term relationship between women empowerment and economic growth in Saudi Arabia by using time series data for the period 1999- 2014. The results reveals the existence of a significant positive long-term relationship between women empowerment and economic growth. Thus, the findings support the core idea that women empowerment stimulates long-term economic growth in the country where economic growth is measured by female employment findings show that Saudi women are

integral in the majority of women-owned businesses. Saudi businesswomen are highly educated and receive support from family and friends (Welsh, Memili, Kaciak & Sadoon. 2014).

Other researchers such as Wassim, (2017) aimed to explore the state of the art of women's economic empowerment as a challenging research inquiry that needs a realistic investigation and explores the different mechanisms of entrepreneurship development for Women. It presents the evidence of how Saudi women are economically empowered and how their potentials are unleashed sparked through entrepreneurship training and education programs; the incubation of their entrepreneurial and creative businesses, the building of their business networking, the deployment of Information and Communication Technology (ICT) and social media for their potentials and competencies, and the corporate social responsibility, funding and community programs.

Referring to an article under the title "Economic reforms and women's empowerment in Saudi Arabia", (Topal, 2019) mentions that Saudi Arabia has headlined the "Modern Economy" campaign and is implementing the necessary structural reforms to achieve the country's "Vision 2030." At the same time, the recent "Professional Women's Reform" has been praised in international media. Her study questions these parallel processes and explores the implications of Saudi Arabia's Vision 2030 for Women's Empowerment. A survey of this process has been particularly important in Saudi Arabia for a long time because gender rules based on male dominance and state-recognized discrimination depriving women of their fundamental human rights. The study suggests that women's empowerment was used as a code word to enhance the Saudi economy's competitiveness in order to promote foreign economic integration. In this sense, Saudi Arabia is a question of how business-friendly "women's empowerment" can contribute to the release of women.

### 3. Methodology

The research measures the short-term impact of the policies that are directed to empower women in Saudi Arabia. An assessment will be based on the adoption of well-known indicators approved by the International Labor Organization (ILO) and the official entities in Saudi Arabia, such as the Ministry of Labor and the General Authority for Statistics. The research aims to measure the short-term impact of these policies on female labor market participation.-

### 4. Results and Discussion

Table 1. labor force participation rate in KSA

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MALE	61.3%	62.0%	63.3%	64.6%	64.9%	64.1%	63.7%	63.4%	63.0%	63.3%
FE-MALE	15.1%	15.7%	16.1%	16.3%	16.8%	17.3%	18.0%	19.4%	20.2%	20.5%
Gender gap	46.20%	46.30%	47.20%	48.30%	48.10%	46.80%	45.70%	44.00%	42.80%	42.80%

Source: world Bank database

Table 1 reveals that female labor force participation rate was around 15.1% in 2010, and then gradually it started to increase reaching 16.8% in 2014. A major shift occurred in the female labor force participation rate in 2016 when it reached 18%, and this transformation continued when it reached 20.5% in 2019. The slight increase that happened in women's participation in labor market is due to granting women the right to drive in 2018, in the same year, and according to the statistics of Saudi Traffic Department there were 125,000 Saudi women who applied to extract driving licenses. Furthermore, the Saudi government issued a policy that allows women to travel without male consent, which enabled women to gain flexibility in terms of transport to gain a wider range of choices regarding job vacancies.

Table 1 indicates gender gap on the rate of economic participation, where the gender gap was calculated as the difference between the economic participation rate for men and women. This gap reached its highest peak in 2013 at 48.3%, but it started to decrease in favor of women reaching 46.8% in 2015, and then it reached 42.8% in 2019.

We can also see that table 1 indicates an increase in women's labor force participation in the first five years (2010 – 2014) with slight increase of 2%. While in the later five years (2015-2019), the percentage of increase was 5% due to the new leadership of Saudi Arabia and its ambitious plans to achieve the anticipated women's participation of 30% according to Saudi 2030 Vision.

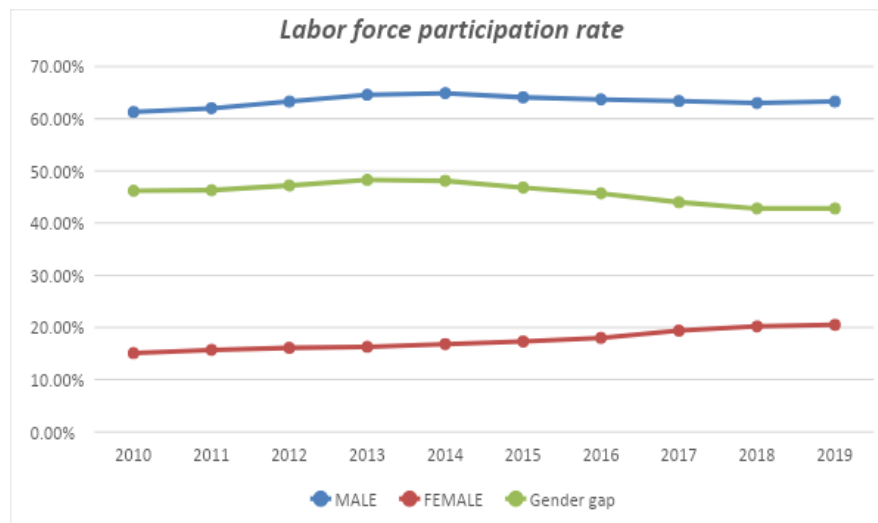


Figure 1. Labor force participation rate

Source: researcher depending on world bank database

Perhaps the most popular pointers of the work market is the workforce investment rate. The International Labor Organization (ILO) has characterized the workforce investment rate as the complete number of utilized and jobless individuals who are looking for occupations as a level of the working period of populace. This marker can be determined for people independently, and since women address half of the populace, and make up portion of those joined up with schools and colleges, the support of women in the work market ought to be equivalent to that of men. Sources??

Researching female work power investment in Saudi Arabia when religion and characteristic assets significantly affects social and monetary guidelines. Giving a proof that the expanded cooperation of female work power is connected with the significant expense of living. (Samargandi, Mamun, Sohag and Alandejani, 2019).

Saudis female joblessness is especially high at 31.7%, in contrast with 6.6% among men. With social changes, Saudi women started driving legitimately in June 2018 and have been appreciating a more prominent admittance to work. Today more than 30% of the Saudi private area laborers (over half million) are of females. In any case, a greater number of women trying to join labor force instead of remaining at home can likewise raise the quantity of females who are considered jobless if open positions made can't make up for lost time.

Accepted practices are a viewed as key requirement in females investment in the Saudi work market. For instance, women are relied upon to work in spaces isolated from men. Men likewise have their assertion whether women can have a paid work and how long they can function: the current standard – however not the law – infers that basically all women require to get endorsement from their male watchman, normally their spouses or fathers.

Ongoing changes in the Saudi law may have established an additionally tolerating climate for women in working environment. For instance, the restriction on women's entitlement to drive was lifted in 2018. Besides, in 2018 the public authority passed a law permitting women to work without the consent of their gatekeepers, and in 2019 the public authority likewise gave another law to permit women to go without the authorization of their watchmen.

In the G20 meeting of 2019, Saudi Arabia has taken an interest in the Women Empowerment Initiative that targets lessening the wages hole among guys and females, just as supporting women's investment in private company (A survey of Saudi Arabia's 2020 G20 Presidency).

At last Women in Saudi Arabia will be permitted to hold international IDs and travel abroad without the assent of a male watchman, it is an arrangement move that denotes a huge extricating of the Kingdom's limitations on women.

Saudi Arabia saw a wide scope of financial and social changes throughout the most recent four years particularly on women's privileges. The specialist presumes that all of public approaches referenced in this examination contact women's privileges, and lead to engage them in labor market.

As outlined over the women work market cooperation rate increased from 17% in 2015 to about 21% in 2019.

The sexual orientation hole has arrived at 46.8% in 2015, and afterward it has tumbled down to 42.8% in 2019 because of public arrangements changes. The objective is to expand women' support in the work market from 20% to 30% by 2030 as indicated by the Saudi vision (2030).

At long last, the public authority should think to make the fitting conditions in which all individuals ,counting women and youth can live, work and flourish. Government ought to likewise keep on advancing sex uniformity through instituted fitting work market enactment, and the organization ought to hope to make the conditions wherein all people in every practical sense, women and youth can live, work and prosper. Government should continue propelling sexual orientation consistency through founded fitting work exhibit authorization.

Be that as it may, in June 2018 the circumstance for Saudi women has changed, in light of the fact that the public authority conceded them the correct drive engine vehicles. As per the insights of Saudi Traffic Department there are 125,000 Saudi women who applied to remove a driving permit when the law of permitting women to drive was delivered. ( Traffic Department in Saudi Arabia, 2018). (Williams, Al-Awwad and Alfayez, 2019).

Saudi Arabia actualized numerous changes to accomplish the country's "Vision 2030". Such changes incorporate women strengthening to build the seriously of the Saudi economy. (Topal, 2019). Saudi women addresses an abundance of undiscovered potential for the Saudi economy. Large numbers of them presently can't seem to join the workforce notwithstanding being exceptionally taught and inspired. There are 13 .5 million women in the country, 9.1 million of them are of working age (Saudi General Authority of Statistics, 2019).

Women have accomplished incredible achievements in training, where the pace of proficiency arrived at a level of 96%, realizing that the extent of women selected schooling surpasses the extent of men, yet with regards to the degree of workforce compensation disparity for comparative work, it shows that women are more awful off by at any rate a level of 40%. (Worldwide Gender Report, 2017).

Joblessness "alludes to the portion of the workforce that is without work yet accessible for and looking for business" (International Labor Organization, 2018). The idea of sex disparity arose during the 1980s, and numerous global gatherings were held during the 1990s to examine sexual orientation imbalance in agricultural nations. In June 2000, agents from 180 nations met in the United Nations to endorse the focal part of sexual orientation uniformity and feasible advancement in advancing women' wellbeing around the world. Sex imbalance alludes to the inconsistent evaluation of the job of women and men. Subsequently, sex correspondence in law and governmental issues can be portrayed as balance among women and men, and equivalent admittance to assets and administrations in the family and society. Battling for equity implies that the perspectives, desires and needs of women and men should be perceived, valued, and similarly maintained. This doesn't imply that women and men ought to be equivalent, yet their privileges, obligations and openings don't rely upon whether they are men or women. (Alsaleh. 2014).

A few investigations have examined joblessness all in all and women' joblessness specifically. For instance, Alotaibi (2017) contemplated the connection among joblessness and monetary development in Saudi Arabia from 2000 till 2015, to clarify business and joblessness levels and their determinants to expand work level and dodge destructive financial impacts coming about because of the issues which may eject from joblessness.

The outcomes acquired from the examination uncover that there is a positive connection among work and genuine pay, venture, government use and the genuine estimation of fares. Saudi residents like to work in the public authority area instead of in the private area; government should invigorate Saudis to work in private area. The gained results show that there is a positive association among work and the genuine pay, adventure, and government utilization.

Women joblessness is viewed as a significant issue that influences the existences of numerous women and limits them from their possibilities. Networks that continually look to implement their political, monetary, demographical, and social objectives should mull over their people needs and not to reject them from their social job. The Saudi Development Women Index measure the investment of Saudi women in public turn of events. This list incorporates 54 markers to catch the unpredictability of public advancement as indicated by the determined parts that incorporate sex hole among people in Saudi Arabia (Saudi Development Women Index, 2018).

Lessening the sex hole in joblessness is a vital objective for Saudi Arabia's initiative to accomplish 2030 Vision. Hence, the public authority needs to look for techniques on the best way to diminish sex hole regarding joblessness. In any case, joblessness rate is still somewhat high among females. The Saudi Vision 2030 expects to raise the cooperation of women into the workforce to arrive at 30%. (VISION, 2030).

The Global Gender Report (2017) demonstrates that sex fairness in Saudi Arabia is practically non-existent.

Saudi Arabia positions 138 out of 144 nations regarding sexual orientation imbalance in financial and political empowerment.(The World Economic Forum, 2017)

The proposals that arose from The Organization for Economic Co-activity and Development (OECD),urge nations to advance sexual orientation correspondence in schooling, work and public life by creating enactments and strategies (OECD, 2017). The Kingdom of Saudi Arabia has as of late began finding a way to address sex value in workforce, governmental issues, and public life. For example, women' cooperation in the Saudi Council, women option to cast a ballot in metropolitan decisions, and a few fields of work that were overwhelmed by men, for example, police. Therefore, the government uphold and elevate sexual orientation value to build up its economy to enhance more plans to diminish sex hole in Saudi Arabia.

As of late, Saudi Arabia has settled on a few choices as a component of an extensive financial change program pointed toward lessening the country's reliance on oil, which will fundamentally improve women' admittance to the work market. (VISION, 2030). This remember wiping out any motions for work law that recently limited women from work in specific territories that would accommodate their body and presently don't need parental or gatekeeper authorization to work. Nonetheless, in 2018, the Saudi Ministry of Trade and Investment (Feb,2018) has declared that women are permitted to go into business, without the requirement for confirmation of their watchman assent. (MTI. 2018). In 2019, Saudi specialists declared new changes to the guidelines, which presently permit women more than 21 years old to travel unreservedly a

## 5. Conclusion

The study concludes that the Saudi government has gained critical ground in the condition of sexual orientation equity in training, wellbeing and progress in business. Plainly, the course of VISION 2030 mirrors the endeavors made to advance the strengthening of women and empower them to partake in monetary, wellbeing and social development.

Therefore, it is prescribed to direct further examinations to consider the drawn out effect on women' joblessness rate. This paper expects to investigate the effect of public approaches that are coordinated toward women strengthening in Saudi Arabia. The investigation centers principally around the effect that these arrangements had on women joblessness rate from the time of 2010 to 2019. During this period, the Saudi government provided numerous laws and arrangements to guarantee a positive effect on women investment in labor market. This examination evaluates the transient effect of every strategy to comprehend the impact of strategy on women' interest in workforce. The consequences of this investigation show that there was a slight expansion in women' support in labor market. However, we recommend that further examinations ought to be directed to consider the long-term impact on women' joblessness rate. Women in Saudi Arabia have been generally subject to male watchmen, they have recruited drivers, or utilized public transportation intends to prepare around since they

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# Role of Computerized AIS Applications in Preserving Organizational Financial Performance during COVID19: Moderating Role of Accountants' Experience

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## Abstract

Current study aimed at examining the role of AIS application in preserving financial performance of organizations during COVID19 pandemic. Depending on quantitative approach, study utilized a questionnaire built on likert scale which was distributed on (109) individuals within Jordanian organizations. Results of study indicated that accounting information systems contributed to the continuous follow-up and knowledge of the financial performance of the organizations during the pandemic period, which in turn supported the principle of correct and quick decision-making that is in the interest of shareholders, working individuals and customers by taking precautionary measures to ensure that the organization does not reach financial insolvency in view of financial data that together constitute the informational outputs of accounting information systems. This support was backed up with the moderating variable of accountants' experience, experience in this case managed to help accountants predict the coming situations and help the organization overcome the obstacles based on their previous experiences in similar situations. Study recommended the necessity of activating risk management strategies by organizations when facing crises and epidemics

**Keywords:** accounting information systems, distant work, COVID19, accountant, experience, disclosure, financial performance, lockdown, trading, closure, quarantine

## 1. Introduction

The Internet represented all the services and tools it provides, the ideal solution for communication and completion of work during the period of the Corona pandemic that stormed the world during the last quarter of the year 2019 and until this day from the year 2021 (He and Harris, 2020). The world's attention has turned to technology in all its forms and its dependence on the Internet to facilitate business and prevent the global economy from being affected by this pandemic and the resulting closures of many organizations as a way to prevent the spread of the virus further and reduce the number of infections and deaths to a minimum (Basu et al, 2020).

Many sectors have adopted the Internet and technology in all its forms, so that education has moved from real-life education to distance education as a result of the closure of schools, universities, and training and educational institutes (Talwar et al, 2021). The world's governments were also forced to control gatherings and move from one place to another, which led to many organizations relying on remote work in their work, including the manufacturing, production, services, administration and management sectors of all kinds.

The idea of the spread of an epidemic classified by the World Health Organization as an epidemic posed a kind of challenge that the world had never experienced before except in cases of wars and political upheavals, which are now under control through peace treaties and the cessation of war (Oldekop et al, 2021). As for the spread of an epidemic as a pandemic, it was so dangerous that governments were forced to close many of their sectors in the hope of controlling the spread and as an attempt to support the health sector in it to reduce the number of infections and thus avoid pressure on health sector institutions (Folger-Laronde et al, 2020).

Estimates received from the International Monetary Fund indicated an increase in the rate of change in global debt (relative to gross domestic product) due to the Corona pandemic, by 18.7% compared to a rate of change of 10.5% due to those repercussions resulting from the global financial crisis in 2008, in addition to an expected negative increase in the rate of change of the government fiscal deficit in the world (relative to GDP) by 10%



due to the Corona pandemic, compared to a rate of change of 4.9% during the period of the global financial crisis in 2008 (Colenda et al, 2020).

### *1.1 Introduce the Problem*

Organizations found themselves in a position that requires them to stand in a completely different position from their nature and try to complete their work and conduct their operations remotely by relying on the Internet with its tools and capabilities (Parr et al, 2020). Among the internal processes affected by the Corona pandemic are accounting operations in all its forms due to the imposition of quarantine and the prevention of individuals from gathering and meeting as a means to mitigate the spread of the pandemic, and therefore organizations have been running their accounting matters through the Internet with all its tools and capabilities in order to ensure proceeding their operations in an accurate and capable manner, in addition to that, organizations found it important to find another route in order to guarantee accounting operations that have the ability to contribute to transparency and disclosure of the organization even during the pandemic period (World Bank, 2020).

According to a report by Deloitte (2020), organizations indicated that although the pandemic is global, its impact on the financial performance of organizations was of moderate severity during the first quarter of 2020, because the epidemic spread globally and significantly in mid-March 2020, and from here, the reality of organizations has moved from medium risk to severe risk as a result of the total closures that governments have applied to all sectors in order to limit the pandemic and prevent its spread further.

The importance of this problem lies in the fact that many sectors had been greatly affected, starting from mid-March 2020, and it included consumer goods, entertainment and travel sectors, industries and mining, which would have affected oil prices, which fell significantly.

As for Ozili (2020) and Razumovskaia et al (2020), it was indicated that COVID19 impact on financial performance of organizations appeared through the negative impact on revenues and profitability, and thus the effect on the financial position of the organization due to the global economic downturn accompanying the pandemic, which was accompanied by a high level of uncertainty related to profitability and the value of assets and stocks. In addition, the pandemic and the closures that came with it led to an increase in credit risks, high unemployment rates and the economic downturn mentioned previously (Kalbouneh et al, 2011).

This study touches a sensitive area in which a very important part of the organization (accounting) had to rely on computerized and virtual working sphere, this idea increased risks of fraud, piracy and errors in entries which can lead to malfunctioned outputs that cannot be relied on. Organizations in general have chosen to depend on computerized AIS as an approach to ensure the conduct of their accounting business remotely, and all accounting applications have been adopted in order to ensure high quality, accurate and reliable accounting information and reports explaining a picture of the actual and real situation of the organizations (Hamdan, 2014).

Based on the above argument; current study aimed at examining the role of computerized AIS applications on preserving financial performance of organizations during COVID19 pandemic through the moderating role of accountants' experience. Current study hypothesizes that computerized AIS applications managed to preserve a good level of financial performance among organizations due to its ability to meet the health precautions which were developed by WHO including the dangers of gatherings, meetings, and the need to apply a full quarantine on the country including all operating entities in it.

### *1.2 Importance of the Problem*

A spread pandemic is something new in the current era, before, the world witnessed the spread of HIV, then appeared SARS pandemic, but none of them were uncontrollable as much as COVID19, as it can be seen the pandemic started in China through the last quarter of 2019, and it continued till 2021, So far, there appeared no valid approach to control its spread, and its influence continues to negatively touch all aspects of life.

The current study came as a sensitive point in which researcher aimed to shed the light on what accounting profession has faced through this pandemic, and how the financial performance of organizations was impacted in terms of governance, disclosure, revenues, and overall existence. Also, the importance of current study lies in its ability to confirm that with specific measures taken into consideration, the idea of managing financial performance of organizations remotely can actually be done through building higher awareness in AIS applications, increase the level of their security and shed the light on their orientation in managing finances.

### *1.3 Relevant Scholarship*

#### Accounting Information Systems (AIS)

The idea of AIS is based on the existence of an electronic system for collecting, processing and retaining

financial and accounting data in order to support and guide decision makers in the organization (Al Hanini, 2015). In this case, computers are the main focus of accounting information as they form a platform for operating accounting information systems and synthesizing them in a way that is capable of presenting them when needed accurately, quickly and safely for decision-making (Amahalu et al, 2015; Considine et al, 2012).

Arcega et al (2015) indicated that AIS are a group of systems that contain many steps, actions, components and resources, which together constitute the unit responsible for managing, processing and controlling accounting data in order to produce information that contributes to supporting decision-makers (Murungi and Kayigamba, 2015). As for Nyang'au et al (2015), it was confirmed that AIS, in their current state, are able to perform their function by relying on many components (human, graphical and infrastructure) that work together in order to create a correct framework that ensures achieving goals and taking the necessary decisions when needed.

Ware (2015) indicates that AIS collects, processes, analyzes and converts data into output by relying on specially designed computers for this purpose in order to reach outputs and convert them into usable information. As for Khan (2017) emphasized that AIS with all its equipment ensure the policies and procedures that supports the conversion of accounting inputs into understandable outputs that give a true impression on the organization in order to support its activities and provide shareholders, owners, working individuals, clients and stakeholders within the organization's environment effectively, quickly, accurately and in a timely manner.

#### Components of AIS

Moroşan-Dănilă et al (2015) indicated that in a typical organizational environment, accounting information systems consist of many components, the most important of which are those in figure 2 below:

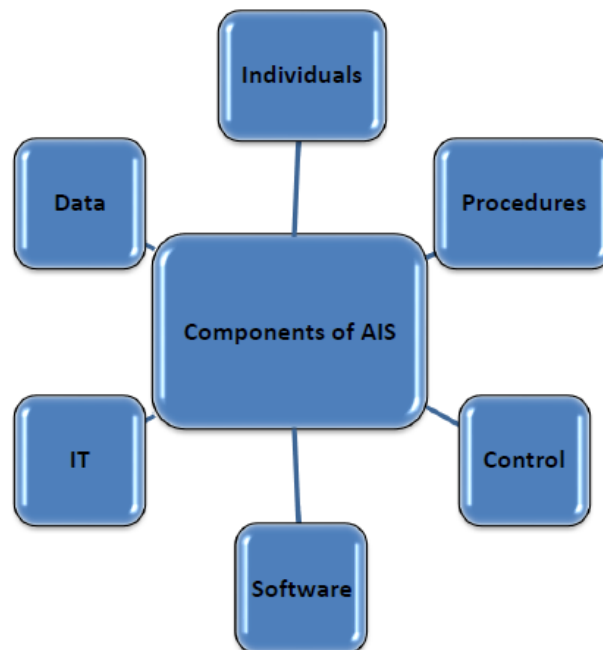


Figure 1. Components of AIS (Ganyam and Ivungu, 2019)

As shown in the above figure, the components of AIS are based on many components, in which each component is important in reaching the required outputs and with specifications capable of achieving the required (Prasad and Green, 2015). Budiarto et al (2018) indicates that individuals played an important role during the Corona pandemic in achieving the required accounting information systems, as they are the vital component of the system and they are the ones who control the system's functions and inputs by paying attention to the primary data entry mechanism, its validity and accuracy, and Avoid messing with it. As for Haleem et al (2019), it was confirmed that individuals contribute significantly to the quality of the information that the systems produce through internal control, technology and infrastructure requirements, in addition to the daily use of accounting information systems.

#### Financial Performance

The concept of performance has received the attention and from academics and researchers interested in the field of management and financial management, as performance is the first motivation to maintain the existence of

organizations and it is the only way that contributes significantly to extending the life of the organization and developing its competitive advantage (Aifuwa et al, 2020). The concept of performance as a word refers to the correct completion of the tasks or tasks required in a correct manner that is characterized by comprehensiveness and continuity, that is, performance from an administrative point of view indicates the ability of the organization to achieve all its goals, specifically long-term goals, and therefore many organizations seek to enhance their performance in the optimal way (Widiatmika and Darma, 2018).

According to Al-Hattami et al (2021) performance is one of the most important marketing factors for the organization, so the idea of paying attention to organizational performance will positively affect the organization, specifically AIS. Thus, the success of employing AIS applications in organizations has a positive impact on performance measures such as profits, return on investment and cash flow. The reason for the high performance measures is due to the success of the AIS application in the organization due to the ability to provide high-quality information that depends on the quality of the system, in addition to the satisfaction of the user (employees).

Regarding financial performance, Yan and Sloan (2016), Galant and Cadez (2017) and Post and Byron (2015) have indicated that the financial performance is the extent to which the organization can achieve a margin of safety through developing its ability to address financial risks and challenges, which would avoid financial insolvency. That is, financial performance is the organization's ability to create a kind of financial balance by providing liquidity to meet its financial obligations in addition to achieving a good profit margin based on low costs (Ganyam and Ivungu, 2019; Pirayesh et al, 2018).

Financial performance is one of the indicators used to measure the success of organizations in terms of financial returns. It is often used by investors as a benchmark for performing due diligence and assessing investment status; it is also used as a tool by government monitors to assess compliance with regulatory measures and monitor the overall safety of the financial sector (Friede et al, 2015). As for Budiarto et al (2018), it was confirmed that performance is one of the criteria for judging the extent to which the organization achieves its objectives, survival and continuity in the market despite the existence of competition and is able to achieve balance between its shareholders and the individuals working in it.

Thus, the performance can be indicated through the equation below:

$$\text{Total Performance of an Organization} = \text{Profit} - \text{Cost}$$

According to Beg (2018), the financial performance represents the financial health of the organization and its ability to fulfill its financial obligations towards its projects and individuals working in it in addition to the possibility of commitment to provide market services in the future, so the financial performance is nothing but the degree to which the organization achieves its long-term financial goals from During the measurement of the adopted policies and examining the results obtained in financial terms.

Financial performance, as indicated by both Ali et al (2016) and Esmeray (2016), is viewed by measuring the degree to which the organization achieves its objectives with reference to investment returns, which are measured from the perspective of investors and accounting returns, which are measured by how the organization responds to its plans and the level of its profits after deduction of operational and production costs. Ozili (2020) emphasized that the main purpose of measuring financial performance is to provide data and information to shareholders and stakeholders in order to make sound and thoughtful organizational decisions, in addition to measuring market share and the competitive advantage of the organization.

#### AIS and Financial Performance during the Pandemic

According to Daoud and Triki (2013), AIS is one of the most important pillars on which ERP is based, and whenever AIS is advanced, the ERP is more efficient and higher performance because AIS has great potentials that will advance the performance of organizations and their development through a positive impact on employee performance, and from the effective performance of the employees, there will inevitably be a positive impact on the performance of the organization as a whole. Urquia Grande et al and Soudani (2012) supported the same idea arguing that the importance of AIS and its impact on the organizational performance is concentrated in the ability of AIS with its components to work together in order to collect and process data and produce results of high quality and conform to reality and thus help and support decision-makers in making the right decision at the right time. AIS have a direct impact on many elements of organizational performance such as performance management and financial performance management.

On the same track, Grande (2011) argued there is a close relationship between organizational performance and AIS, as there is a close relationship that contains the positive impact of AIS on the organization's performance by managing financial and banking matters in a systematic manner that gives a clear picture of the organization's

financial condition, existing gaps, and places in which it is possible to Development is carried out in order to reach a state of organizational performance development.

According to Nazar (2020) the negative impact of the Corona pandemic on the economic sectors at the local and global level has led many organizations to take many measures and precautionary measures to face the repercussions resulting from the interruption of the work of various economic activities, by reducing interest rates and reducing the compulsory reserve ratio to increase the ability of commercial organizations to continue, in addition to providing facilities to customers and companies by postponing loan installments for a specific period of time, with the aim of continuing the wheel of the economy. On the other hand, Ozili (2020) argued that in spite of all the measures taken globally to mitigate the repercussions of the Corona virus on local economies, the IMF forecasts indicate that the world will enter an economic crisis that exceeds the intensity of the global financial crisis in 2008, and the reason for this is due to the sharp contraction in Economic activity in all sectors and a decline in public financial revenues. It is also expected that the deficit in all government budgets will increase, which will lead to an increase in the need for borrowing in order to stimulate economies in the coming years.

Folger-Laronde et al (2020) and Khullar et al (2020) believes that accounting information systems had a great role in giving a clear picture of the nature of the differences and influences that affected the financial performance of organizations during the pandemic period by referring to the situation in which governments were forced to impose complete closures, which led to the blocking of suppliers and exporters from organizations Consequently, either the stock is corrupted or its expiration date, in addition to the cases in which there was no type of commercial activity by consumers as a result of the quarantine except for the necessary supplies such as food, drink and medical supplies. As for Erdem (2020), Yarovaya et al (2021) it was made clear that it is correct to have a positive effect for the applications of accounting information systems during the pandemic period in giving Readings about the financial situation of the organization, but the experience of accountants contributed greatly to providing organizations with individuals who were able to deal with these situations - judging by their experience - and thus give a future picture of the mechanism of developing the financial position of the organization after the end of the pandemic and in a way in which individuals with Experience in situations they were previously exposed to and accounting matters that would solve the crisis, and this was also agreed upon by Rababah et al (2020) in addition to Ichsana et al (2021).

*1.4 State Hypotheses and Their Correspondence to Research Design*

Launching from previous studies presented in the literature review, researcher was able to build following model in order to explain the relationship between variables (dependent and independent):

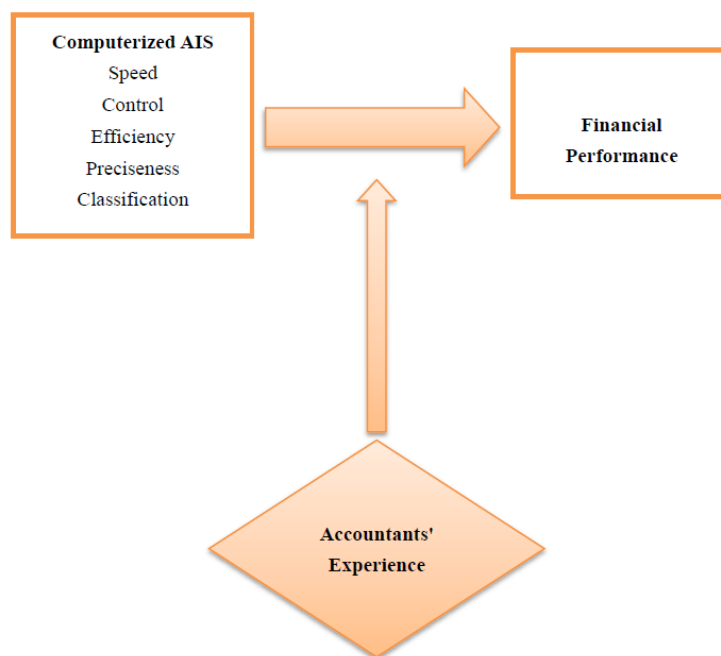


Figure 2. Study Model (Agung, 2015)

Literature review and many scholarly studies indicated that many organizations have depended on e-solutions as a respond to COVID19. This appeared through many initiatives which took place by decision makers to work remotely and manage organizational affairs through internet applications like meetings, financial reports and managing personnel. However, considering that researcher of current study hypothesized a positive influence of computerized AIS application on financial performance, following hypotheses were developed:

Main Hypothesis:

Computerized AIS applications positively influence financial performance of organizations during COVID19

Sub-Hypotheses:

H1: Speed in computerized AIS applications positively influenced financial performance of organizations during COVID19

H2: Control in computerized AIS applications positively influenced financial performance of organizations during COVID19

H3: Efficiency in computerized AIS applications positively influenced financial performance of organizations during COVID19

H4: Preciseness in computerized AIS applications positively influenced financial performance of organizations during COVID19

H5: Classification in computerized AIS applications positively influenced financial performance of organizations during COVID19.

## **2. Method**

### *2.1 Methodological Approach*

Current study aimed at realizing main aim depending on numerical data. The numerical data were collected through quantitative approach utilizing a questionnaire. The questionnaire was built on liker scale (5 strongly agree, 4 agree, 3 neutral, 2 disagree, and 1 strongly disagree). The questionnaire consisted of two main sections, the first took into perspective demographics of respondents (age, gender, education and experience), while the other section consisted of statements related to study variables which included (speed, control, preciseness, efficiency, and classification) as sub-variables of the independent variable and financial performance as a dependent variables. The questionnaire consisted of (34) statements in its final version after reviewing it by a group of specialized professors in the field of accounting information systems.

### *2.2 Participant (Subject) Characteristics*

Population of study consisted of all financial managers of Jordanian organizations. A sample of (150) individuals were chosen to represent population of study as a convenient sample to take part in the questionnaire. After application process, researcher was able to retrieve (109) properly filled questionnaires which indicated a response rate of (72.6%) as statistically accepted.

### *2.3 Sampling Procedures*

Sampling procedures took pace through contacting HR department of each organization which was chosen randomly based on the fact that those organizations were still operating during the pandemic. The main aim and objectives of study were described, and the HR department gained the approval from the higher management in order to proceed with the process of application.

The questionnaire was uploaded online and sent via email to all participating individuals of the sample, they were first introduced to the aim and objectives of study, then they were exposed to a consent form that clarifies their rights to withdraw from study and face no pressure in taking part in filling the questionnaire.

#### *2.3.1 Data Screening and Analysis*

SPSS was employed in order to screen and analyze gathered data, Cronbach alpha was employed in order to test tool reliability to be used in study, test results that Alpha value = 0.967 was acceptable since it was greater than the cutoff value 0.60.

## **3. Results**

### *3.1 Statistics and Data Analysis*

Below table showed results of respondents' demographics as according to their (gender, age, experience and qualification). As it appeared from the table, majority of respondents seemed to be (Males) with a percentage of

(77.1%) compared to females who formed (22.9%) of total sample. On the other hand, majority of respondents were within age range of (39-45) years old forming (33.9%) of total sample, and their qualification was mainly (BA) forming (50%) of the sample, experience of majority of individuals who responded to the questionnaire was more than (15) forming (41.3%) of the sample.

Table 1. Sample Statistics

		Gender	
Valid	Male	<i>f</i>	%
	Female	84	77.1
		25	22.9
		Age	
Valid	25-31	6	5.5
	32-38	31	28.4
	39-45	37	33.9
	+46	35	32.1
		Educational Level	
Valid	BA	60	55.0
	MA	38	34.9
	PhD	11	10.1
		Experience	
Valid	3-6	5	4.6
	7-10	19	17.4
	11-14	40	36.7
	+15	45	41.3

### Questionnaire Analysis

Table below showed attitudes of respondents regarding statements of questionnaire. Results indicated that individuals who took part in the questionnaire seemed to have high level of awareness regarding presented variables which appeared based on their positive attitudes below; the table indicated that all statements of questionnaire scored higher than mean of scale 3.00 which resembled a high level of awareness and a good attitude from respondents. Also, table showed that the highest statement in terms of means appeared to be (control) stemming from the variable of AIS articulated "*Computerized AIS achieves a quality level by focusing on all of the planning, implementation, review and auditing elements*" and scoring a mean of (4.32/5.00), on the other hand, the least positively answered statement stemmed from the variable of (preciseness) which was articulated "*Computerized AIS provided the managers with the necessary information and by that assisting them in decision-making during the quarantine*" and scoring a mean of (3.90/5.00).

Table 2. Questionnaire Statistics

Statement		Mean	Std. Deviation
<b>Computerized AIS</b>			
<b>Speed</b>			
1.	There is a breakneck speed in the processing and execution of financial data	3.87	1.019
2.	Computerized AIS helps the administration by providing it with the necessary and timely data.	3.98	1.018
3.	Computerized AIS has been a means to facilitate cooperation and understanding between components and elements of management information systems	3.75	1.038
4.	Computerized AIS contributed to monitoring and recording accounting business and preparing reports and transactions in official records during the pandemic period	4.06	.993
5.	Computerized AIS has contributed to the processing of financial and accounting data and its processing for the decision maker and maker	3.86	1.014
6.	AIS has adopted computerized accrual in its way of operating, where expenditures must match returns	4.26	.775
<b>Control</b>			
7.	There is monitoring and evaluation of economic activities in the facility	4.03	.957
8.	Computerized AIS helped the administration carry out the business during the pandemic period	4.19	.726
9.	Computerized AIS provided services in carrying out various types of administrative tasks during the pandemic period	4.17	.918
10.	Computerized AIS has provided a lot of help during the pandemic by leveraging quantitative and objective metrics to achieve accounting business goals.	4.05	.750

11. Computerized AIS achieves a quality level by focusing on all of the planning, implementation, review and auditing elements	4.32	.679
<b>Efficiency</b>		
12. Computerized accounting information systems ensure that the management is supplied with the necessary information when it is needed	4.31	.703
13. Computerized AIS helps the management in making appropriate decisions from among the range of alternatives available	4.17	.646
14. Computerized AIS is characterized by flexibility and scalability	4.31	.766
15. These systems are characterized by their ability to keep pace with the needs and developments that arise up-to-date through their development	3.91	.958
16. Computerized AIS is characterized by dynamism and constant movement in achieving the desired goals	4.28	.806
<b>Preciseness</b>		
17. Computerized AIS relies on the accounting equation (total assets = total liabilities + equity)	4.01	.957
18. Computerized AIS contributes to processing data and providing information that is accurate and extremely fast	3.96	1.009
19. Computerized AIS has proven to be the important method in monitoring a facility's financial activity during the pandemic	3.94	.797
20. Computerized AIS contributed to reducing the possibility of error by making it easier to use accounting information by working on a computer	4.28	.695
21. Computerized AIS provided the managers with the necessary information and by that assisting them in decision-making during the quarantine	3.90	.745
22. Computerized AIS keeps accounting activities up-to-date in an automated way during the pandemic	4.12	.847
<b>Classification</b>		
23. Computerized AIS automates accounting information to make it ready for use across the organization during the pandemic period	4.20	.911
24. Computerized AIS was the medium and tool of communication between administrative levels during the pandemic period	4.24	.706
25. Computerized AIS components express financial transactions and the way they are grouped and classified into major and sub-groups	3.93	1.034
26. Computerized AIS provided protection for property assets in the facility during the pandemic	4.02	1.027
27. Computerized AIS provided the financial reports that organizations needed in time to make a decision in the face of the pandemic	3.99	.822
28. Computerized AIS revealed the facility's financial position during the pandemic	3.95	.738
<b>Financial Performance</b>		
29. The pandemic urged organizations to depend on e-tools for financial management	4.17	.822
30. Depending on electronic means was the only solution during the pandemic	4.25	.884
31. Computerized accounting systems helped to close the gap during the lockdown	4.27	.702
32. Organizations depended on distance work during the pandemic which was applied on financial practices	3.97	1.040
33. Many organizations' financial performance was negatively influenced by the pandemic	4.08	1.010
34. The government accredited reported outcomes from computerized accounting information systems	4.03	.833

### Descriptive Statistics

Total means of variables were taken as according to total statements' means. It appeared that the highest variables in terms of mean was (Efficiency) scoring a mean of (4.19/5.00) and indicating a positive attitudes from respondents regarding the variables utilized in the study. Results indicated that respondents saw in AIS applications during the pandemic as an approach to build up more efficient results giving the circumstances of lockdown and the inability to do an actual financial work in reality, not to mention the total lockdown which stopped all kinds of profit (trade activities) reaching a state of some organizations recording \$0 income after recording millions of dollars each day. So, AIS applications online and based on experience of individuals were able to retrieve valid and realistic data for the financial performance of the organization during the period of the total and partial lockdown.

Table 3. Variables Statistics

	Mean	Std. Deviation
<b>Computerized AIS</b>		
Speed	3.9648	.79059
Control	4.1505	.65724
Efficiency	4.1963	.63127
Preciseness	4.0352	.69503
Classification	4.0550	.63951
<b>Financial Performance</b>	4.1269	.67124

**Hypotheses Testing**

Multiple regression and linear regression were used in order to test hypotheses and indicate their acceptance and their variance. Following part presented testing of each hypothesis generated from problem statement:

**First Hypothesis:**

Computerized AIS applications affect financial performance of organizations during COVID19

Table 4. Testing First Hypothesis

<b>Model Summary</b>						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.942 <sup>a</sup>	.888	.882	.23010		
<b>ANOVA</b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.208	5	8.642	163.218	.000 <sup>b</sup>
	Residual	5.453	103	.053		
	Total	48.661	108			
<b>Coefficients</b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.318	.169		1.875	.064
	Speed	.182	.056	.214	3.265	.001
	Control	.083	.054	.184	2.537	.013
	Efficiency	.233	.075	.219	3.118	.002
	Preciseness	.025	.115	.126	2.219	.027
	Classification	1.298	.134	1.237	9.721	.000

Multiple regression was used to test above hypothesis,  $r = 0.942$  reflected high and positive relationship between the independent variables and the dependent variable. Also, it was found that the independent variables explained 88.8% in the variance of the dependent variable. Also it was found that F value was significant at 0.05 level, that meant the hypothesis was accepted and "Computerized AIS applications affect financial performance of organizations during COVID19". Following table summarized the results of correlation test between the independent variables and the dependent variable, it was found that the highest relationship was between classification and financial performance since  $r = 0.931$ .

Table 5. Correlation

		Performance
Speed	Pearson Correlation	.711**
	Sig. (2-tailed)	.000
	N	109
Control	Pearson Correlation	.661**
	Sig. (2-tailed)	.000
	N	109
Efficiency	Pearson Correlation	.655**
	Sig. (2-tailed)	.000
	N	109
Preciseness	Pearson Correlation	.847**
	Sig. (2-tailed)	.000
	N	109



Classification	Pearson Correlation	.931**
	Sig. (2-tailed)	.000
	N	109

### Second Hypotheses:

There is a significant difference in the effect of Computerized AIS applications on financial performance of organizations during COVID19 due to accountants' experience.

Table 4. Testing First Hypothesis

Tests of Between-Subjects Effects						
Dependent Variable: Performance						
Source	Type III Squares	Sum of df	Mean Square	F	Sig.	
Corrected Model	48.629 <sup>a</sup>	45	1.081	2100.758	.000	
Intercept	833.316	1	833.316	1619966.477	.000	
AIS	35.570	32	1.112	2160.847	.000	
experience	.430	3	.143	278.711	.000	
AIS * experience	1.045	10	.105	203.212	.000	
Error	.032	63	.001			
Total	1905.083	109				
Corrected Total	48.661	108				

2 way ANOVA was used to test 2<sup>nd</sup> hypothesis, it was seen that F value = 203.212 was significant at 0.05 level that meant there was a significant difference in the effect of Computerized AIS applications on financial performance of organizations during COVID19 due to accountants' experience.

By using *scheffe* test, it was found that the effect Computerized AIS applications on financial performance of organizations during COVID19 increased in the high experienced accountants as shown in the following table:

Table 5. Scheffe Test

Multiple Comparisons							
Dependent Variable: Performance							
Scheffe							
(I) exper	(J) exper	Mean (I-J)	Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
1.00	2.00	-.9526*		.01140	.000	-.9854	-.9199
	3.00	-1.1583*		.01076	.000	-1.1892	-1.1274
	4.00	-1.4593*		.01069	.000	-1.4900	-1.4285
2.00	1.00	.9526*		.01140	.000	.9199	.9854
	3.00	-.2057*		.00632	.000	-.2239	-.1875
	4.00	-.5066*		.00621	.000	-.5245	-.4888
3.00	1.00	1.1583*		.01076	.000	1.1274	1.1892
	2.00	.2057*		.00632	.000	.1875	.2239
	4.00	-.3009*		.00493	.000	-.3151	-.2868
4.00	1.00	1.4593*		.01069	.000	1.4285	1.4900
	2.00	.5066*		.00621	.000	.4888	.5245
	3.00	.3009*		.00493	.000	.2868	.3151

\*. The mean difference is significant at the 0.05 level.

## Homogeneous Subsets

Table 6. Performance

Scheffe <sup>a,b,c</sup>		Subset			
experience	N	1	2	3	4
1.00	5	2.9333			
2.00	19		3.8860		
3.00	40			4.0917	
4.00	45				4.3926
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square (Error) = .001.

a. Uses Harmonic Mean Sample Size = 13.340.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = 0.05.

## 4. Discussion

Current study aimed at examining the role of AIS application in preserving financial performance of organizations during COVID19 pandemic through the moderating role of experience among accountants. Depending on quantitative approach, study utilized a questionnaire built on liker scale which was distributed on (109) individuals within Jordanian organizations. Results of study indicated that there was a positive impact of AIS applications on financial performance of organizations through covid19 lockdown that was attributed to experience of accountants on dealing with applications like AIS.

The current study demonstrated the ability of accounting information systems to "save" the financial performance of organizations by providing technology based on the accounting hierarchy in the basic processes and treatments of the system, given that accounting information systems represented formal systems of accounting information in any economic unit. This ability is somehow connected to experience of accountants who had the ability to deal with numerical data and process it through AIS application in a way that gives realistic indications of organizational financial performance. Study also shed the light on the role of accountants' experience in reaching the best outputs of AIS applications, the study has proven that accounting experience is important and has a clear impact on organizational financial performance. It is represented in the experience of accountants in computer skills and its applications related to the science of accounting, in addition to full awareness of all laws related to the work of accounting like taxes such as income and sales tax and commercial laws that would contribute to giving a clear overview of the financial performance of the organization as a whole, especially in special cases such as political instability, infectious diseases outbreak and natural disasters.

In addition, the study has shown that the closures that governments have been forced to have contributed to making accounting information systems the first destination for organizations in order to obtain their financial information easily, quickly and accurately by referring to the accurate inputs made by individuals, meaning that the correct entry leads to the correct outputs regardless of the existence of accounting books and actual dealings with working individuals and accountants in the organization. Hence, during the pandemic, organizations were able to keep their financial performance up-to-date by looking at the information they have, which greatly contributed to making governance and disclosure practices easy practices, the ease of which was represented in the availability of the necessary information represented by accuracy, control and Efficiency and classification.

These results are consistent with many previous studies such as studies Folger-Laronde et al (2020) and Khullar et al (2020) which have proven that computer information systems represented a non-manual means in order to quickly and accurately access the financial information of the organization and thus actual and daily knowledge of the financial performance of the organization in light of the pandemic and closures.

On the other hand, and looking at the results of the study, it was found that accounting information systems contributed during the pandemic period to enhancing the utilization of accounting information and its use in the service of financial performance by providing confidence in the information given its timing, accuracy, efficiency and creating a kind of classification. Positive is based on previously handled input. The study also indicated that accounting systems were among the facilities that emerged in order to evaluate the financial performance of the organization through oversight, as control represented a source of internal control and a great benefit for strategic planning and confidence in information. These results were consistent with Erdem (2020),

Yarovaya et al (2021), and Rababah et al (2020) in addition to Ichsan et al (2021).

## 5. Conclusion and Recommendations

Generally speaking, AIS formed the strongest basis for ensuring the preservation of customer, vendor, and business information within organizations by setting up many policies and procedures that ensure workflow within different systems remotely, in order to achieve the characteristics of the required accounting information quality, as it can be used to obtain approvals for any material receipts as well as providing licenses and distinguishing between the duties required, as well as the relevant information can be used for each job of the business. This managed to preserve the financial performance of an organization during pandemic through focusing on the availability and quality of financial reports in a way that served if giving the actual and real picture of the organizational financial status.

### Recommendations

Based on the aforementioned discussion and results, the present study recommends the following:

- The necessity of activating risk management strategies by organizations when facing crises and epidemics
- The need to adhere to social responsibility, especially in education and health organizations
- Allocating financial resources to confront crises and epidemics in order to be able to deal with them and avoid the losses.

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# Achieving Youth Empowerment in UAE through Incorporating Entrepreneurial Skills in Technical Vocational Education and Training

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## Abstract

UAE government can stimulate the development of innovations by giving due emphasis on the promotion of entrepreneurship education in youth. Technical and Vocational Education and Training (TVET) would only succeed in UAE, when young individuals devise new technologies by using available resources, recruit and train the locals and manufactures products for both domestic and international consumption. This study emphasizes on the efforts made by the UAE government, particularly the government of Abu Dhabi for upgrading and expanding vocational education in collaboration with the private sector. An explorative study design is employed to review the need of the growth of vocational education in UAE with specific reference to Abu Dhabi. It also examines the recent efforts, undertaken in the vocational education sector in UAE and Abu Dhabi. Apparently, there is minimal evidence that technical and vocational education and training interventions are effective to provide employment for young people. The perception behind support and benefits, shared concepts of significance to offer entrepreneurship education.

**Keywords:** empowerment, entrepreneurial skills, technical vocational education and training, UAE

## 1. Introduction

The population of the seven emirates that constitute the United Arab Emirates (UAE) is approximately 9.4 million (6.4 million male and 3.1 million female). Considering this population size, it is the foremost responsibility of the UAE government to ensure growth and prosperity of its inhabitants, for which quality education plays an influential role (Al Hammadi, 2016). The education sector of UAE has earned a reputable position with respect to other sectors of the region. Almost 25% of its budget is allocated to the education sector to facilitate its inhabitant in achieving educational excellence (Raven, 2010). The estimated worth of the education sector is US\$7.31 billion, which is predicted to increase further with continuous rise in the demand of new private and public schools (Al Hammadi and Mohinuddin, 2016). Furthermore, the UAE government has made dedicated attempts to stimulate educational activities and enhance academic excellence by encouraging the private education providers and integrating educational activities to dissipate knowledge to the students (Wilkins, 2002). Thus, the UAE government has remained concerned and committed since its establishment regarding the provision of high quality general and vocational education to all major sectors for community development.

It has been established that, investment in vocational education sector by government is vital to human resource development and equips the residents with the essential employability skills and abilities (Asadullah and Ullah). It is based on dissipating the practical knowledge to the students as compared to the cut-throat learning (Al Hammadi, 2016). Likewise, an emphasis on entrepreneurship education is made that offers skills, motivation and relevant knowledge to the students for stimulating entrepreneurial success. Entrepreneurship involves wide range of analysis and activities that no one can encapsulate it as definitive (Ridge et al., 2015). This skill also helps an individual transform his notions into realities. Today India has the largest manpower in the world because it is in their national policy to invest in vocational education (Goel and Vijay, 2011). The Indian National Policy on Education, 1986 (modified in 1992) envisioned the introduction of rigorous, well-planned and systemic implementation of vocational training, and claimed that it will provide an alternative to tertiary education, enhance employability and help overcome the shortage of skilled manpower (Government of India, 1992). With increasing awareness, several countries through policies have successfully taken initiatives to invest and promote development of entrepreneurship among their citizens (Abhyankar, 2014; Schwanen, 2017; Vixathep, 2017).

Therefore, UAE government can stimulate the development of innovations by giving due emphasis on the promotion of entrepreneurship education in youth. Technical and Vocational Education and Training (TVET) would only succeed in UAE, when young individuals devise new technologies by using available resources, recruit and train the locals and manufactures products for both domestic and international consumption (Jose, 2011). This is possible only if entrepreneurship education is incorporated into the TVET curricula, specifically at university level.

In the current era, possession of an educational certificate is not considered as a guarantee or approval for a job. In the modern era, traditional education must be supplemented with the essential vocational knowledge and skills necessary for self-employment (AlMunaiied and Sabbagh, 2011). The production capability and efficiency of self-reliant organization emerge from the integration of entrepreneurship education into TVET. In 2007, the UAE Government devised a strategy that urged the development of a high-quality education to fulfil international standards and the needs of the workplace. Moreover, it also focused on promoting vocational education and strengthening scientific research (Jose and Chacko, 2017). Recently in UAE, the higher secondary technical colleges have launched a summer program for 7th to 12th graders in the pretext of COVID-19 pandemic and the future high demand of healthcare auxiliaries (AlefEducation). The main responsibility lies on the government to ensure and enable Emirati educational institutions to boost and encourage entrepreneurship and innovativeness uniformly in the youth. This puts forth the question of this study i.e., how could an enabling environment be provided for the youth that would encourage and enhance entrepreneurship and innovativeness in education?

Therefore, the focus of this paper will be on the efforts made by the UAE government, particularly the government of Abu Dhabi for upgrading and expanding vocational education in collaboration with the private sector. The objective would be to practically homogenize the educational and workplace environments so that the youth do not feel they are crossing into unknown realm when they incorporate the two domains into their studies. The intensification of vocational training should be just one of the objectives of an enhanced association between the business and education sectors. The elevated collaboration, which will be envisioned in this study, would contribute in the development of internships, mentoring programs, research and development (R&D) ventures and summer jobs that would significantly help the youth of UAE to increase and polish their skills. From the perspective of public education systems, there would be more openness to the pre-requisites of the labor market. It will be more opportune for young people to graduate with a capacity for entrepreneurship, innovation and marketable skills.

Another contribution envisioned by this study will be to create guidelines that would direct UAE government to provide more guidance on potential careers to youth right from an early age, more specifically at high school and university levels. In this way, the youth could benefit majorly from helpful information regarding different career choices and new horizons they may not have realized otherwise. The emphasis on this strategy is mandatory since labor market in 2040 will provide tech-based jobs that will completely replace the existing jobs. In this regard, the role of private sector will be vital as the ultimate job market for the millions of youths, pursuing to join the labor force. Therefore, current education systems must be modulated accordingly so that they could produce future graduates with appropriate technical and vocational knowledge and skills. They must gain knowledge and skills that are prerequisite to have a successful career in private sector and to protect the future generations from the menace of unemployment.

## **2. Method**

This study aims to evaluate the need for expanding and elevating the vocational education sector in UAE, particularly in Abu Dhabi. It intends to assess its success level and the challenges encountered in its operations. Therefore, this study employs an explorative study design to review the need of growth of vocational education in UAE with specific reference to Abu Dhabi. The study also examines the recent efforts, undertaken in the vocational education sector in UAE and Abu Dhabi and identifies the challenges, encountered by the vocational education sector in UAE and Abu Dhabi.

Considering the national security of UAE, this paper discusses the following issues: the rate of unemployment in UAE, specifically with respect to youth living in Abu Dhabi; the existing national security challenges; the need for youth empowerment towards national security and the way forward through vocational education. The problem of security of properties and individuals in any country is essential in a sense that it does help in the capital and human development of this country.

This study offers a better insight of the TVET, given in Abu Dhabi, UAE and deals with three types of vocational systems: a dual system, school-based education and informal training. This study initially explores the motivation for these different types of training in order to emphasize the fundamental aspects of each training

system and discuss its core strengths and challenges, before summarizing the institutional evidence. This study correspondingly reviews the evidence regarding the effectiveness of the TVET versus general education and of the three TVET systems for developing policy guideline for youth entrepreneurship.

### 3. Results

#### 3.1 Growth of Vocational Education in UAE

Technical education is comparatively a new domain for the citizens of the UAE. The first school for vocational training was established in 1958 in Sharjah, where the subjects of architecture, mechanical and electrical trades were taught by the teachers, appointed by the British government. The general education was properly initiated after 1971 when the UAE came into existence (Bhattacharya, 2019). However, the vocational education was introduced and given due attention in the late 80s when the secondary and high schools of technical education were established in the country (Al Hamad, 2020). Vocational education has been referred as a catalyst that accelerates and boosts economic growth by offering a wide range of academically competent students and skilled labor force and, thereby, eliminates poverty and unemployment (AlSuwaidi, 2016). To date, there are 73 reputable higher education institutions in the UAE, out of which vocational education and training programs are offered by 10 institutions. Approximately 18000 students have been enrolled in the schools throughout the UAE and out of which 9000 students were enrolled in the field of technical education (Global media insight, 2020). It could have been argued that the smaller number of vocational institutes in UAE comparative to other developed countries like USA and Saudi Arabia is justified as UAE comparatively have lower population. However, this argument nullifies in the light of the evidence that, New Zealand with nearly half of the UAE population have more than twice the number of institutes offering TVET (New Zealand population, 2020; Rother, 2019). Also, it has 22nd GDP (nominal) per capita rank compared to 24th rank of UAE.

The phenomenon of globalization and exponential increase in the population, have compelled the expansion of multiple sectors, including nuclear and power, oil and gas, tourism and steel and aluminum, etc. in the UAE (Hvidt, 2003). This scenario has increased the need of vocational training and education. The knowledge-based economy in UAE requires approximately 10 graduates from every university, equipped with the fundamental vocational abilities (Owais et al., 2020). Over the next decade, it is anticipated that the UAE travel and tourism industry will grow by 2.7% each year. In 2104, this sector, contributed 8.4% in the GDP of the UAE, which is higher than that of education and financial sectors (QAA, 2017). It provides thousands of direct or indirect jobs and currently 518,000 individuals are working in this sector (Figure 1).

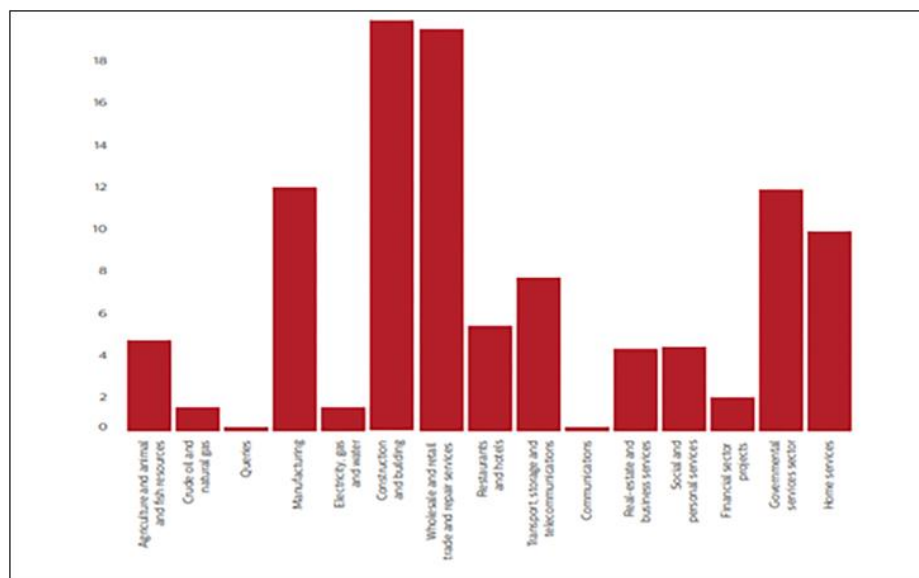


Figure 1. UAE Investment for Economic Sector (Quality Assurance Agency for Higher Education 2017)

UAE has been a fundamental player in the energy sector, with high refinery capacity, natural gas marketed production, and crude oil reserves. Moreover, over the years, the trade of oil and gas has bloomed which increased employment throughout the UAE. Growth in metal industry has been witnessed by UAE wherein new production and construction projects have been introduced for increasing the role of UAE as the dominant metal



exporter (Schilro, 2013). Therefore, in these sectors, the job opportunities have increased for young graduates with the mandatory employability skills. However, the preferred degree of competencies and skills among the graduates needed by the subject-specific sectors is lacking (International labour office. 2010). A workforce is required in the financial sectors which must be highly qualified with appropriate education (Figure 2). A conscious point has been observed about the vocational training and courses, which indicates that the vocational education lacks in overcoming the dynamic pace of such sectors and, therefore, requires immediate attention (Miniaoui, 2017). It is essential to offer effective vocational education to the Emiratis, in order to fulfil the requirements of the UAE industry. As per the results, there is increased demand for various vocational jobs such as financial analysts, paralegals, marketing experts, software developers etc., compared to which we have very few institutes for TVET in these sectors to train our youth. Consequently, it creates shortage of experts and requires oversees hiring. Seeing the unemployment graph in UAE which indicates increase in unemployment at 2.45% in 2020 compared to record low of 1.64% in 2016, it can be said that by training youth in these sectors can solve the issue of supply and demand and also of unemployment (Pletcher, 2020).

LEVEL	Generic Nomenclature	Principal Qualification titles used in the QFEmirates			Lifelong learning
		Vocational Education and Training (VET)	Higher Education (HE)	General Education (G 12 - GE)	
10	Doctoral Degree	—	Doctoral	—	Recognition of prior learning (RPL)
9	Master Degree	Applied Master	Master	—	
8	Graduate Diploma	Applied Graduate Diploma	Postgraduate Diploma	—	
7	Bachelor Degree	Applied Bachelor	Bachelor	—	
6	Diploma*	Advanced Diploma	Higher Diploma	—	
5	Diploma* / Associate Degree	Diploma	Associate Degree	—	
4	Certificate*	Certificate 4	—	Secondary School Certificate (G 12)	
3	Certificate*	Certificate 3	—	TBA	
2	Certificate*	Certificate 2	—	—	
1	Certificate*	Certificate 1	—	—	
Authority to determine qualification requirements		Vocational Education and Training Awards Commission (VETAC)	Commission for Academic Accreditation (CAA)	General Education Commission (GEC), Ministry of Education (MOE)	

Figure 2. Principal Qualification Titles used in the QFEmirates (Quality Assurance Agency for Higher Education 2017)

National strategy has been initiated by the UAE government for the TVET with an aim to support vocational education among the individuals. It highlights on developing knowledge and skills of students while encouraging them to follow higher education. It also stresses in enhancing the quality of education to impart educational values and to ensure the accessibility of education to all who pursue it. The strategy further aims to develop efficient workforce via a plan, known as Vision 2020 (Umer et al., 2020). The emphasis here is to train the skilled workforce in the higher education institutes in order to equip them with industry-based training (Brewer and Comyn, 2015). The National Institute for Vocational Education was established by the UAE government in 2006, with a vision for developing a skilled workforce as per the requirements of the labor market consisting government, stakeholders, communities, and employers (Maclean et al., 2013).

The National Qualifications Authority (NQA) was recognized and established by the UAE government in 2010. The objective of the NQA is to produce a system that assesses high quality qualifications criteria for the nationals (Brady, 2019). This mechanism of national qualifications intends to acquire knowledge economy. It

also intends to construct an educational framework or system consisting of vocational training that encourages the economic development with enhancements in the labor market (Shallal, 2018). The emphasis of the NQA is on developing a quality assurance process of vocational education that offers preferred outcomes, necessary to meet the social and economic needs. In this regard, the government is motivating the Emirati by integrating internationally established vocational training system (Watters, 2015) (Figure 3).

Vocational Education and Training Awards Council (VETAC)							
Vocational Education and Training (VET) sector							
Qualification title - VET	Based on the use of two (2) kinds of interrelated VET2 qualifications^^						
	^Minimum cumulative VET credit value# for				Total notional VET cumulative hours		
	K&S Unique credits/level3	Cumulative	Application	Total credit value of KSA	Contact Hours K&S	Application hours	Total KSA hours
No qualification available at this level							
Applied Master	10	200	18	218	3,000	270	3,270
Applied Graduate Diploma	30	190	16	206	2,850	240	3,090
Applied Bachelor	40	160	14	174	2,400	210	2,610
Advanced Diploma	40	120	12	132	1,800	180	1,980
Diploma	20	80	10	90	1,200	150	1,350
Certificate 4	20	60	8	68	900	120	1,020
Certificate 3	20	40	6	46	600	90	690
Certificate 2	10	20	4	24	300	60	360
Certificate 1	10	10	3	13	150	45	195

Figure 3. Qualification Title – VET (Quality Assurance Agency for Higher Education 2017)

### 3.2 Status and Growth Opportunities of Vocational Education in Abu Dhabi

The initiative of the NQA has been taken to offer high-quality and customized vocational education as per the professional standards. The VET programs are organized to train the individuals with both practical and theoretical knowledge (Ashour and Fatima, 2016). A mandatory 6-week work placement learning has been arranged by the organization and through this program, real life work experience is instilled in the students. Abu Dhabi Centre was established by the Abu Dhabi Executive Council in 2010 with an objective to introduce the process of skill development and diversifying the economy. Guidance and support are provided to the Abu Dhabi private and public TVETs by planning strategic TVET policies (Ashour and Fatima, 2016). It is also responsible to license trainers as per the standard set by the local market of the UAE. The objective of the TVET is to produce skilled Emirati who can avail greater career development and job opportunities.

Abu Dhabi Vocational Education and Training Institute (ADVETI) has recently been shifted to expand its positions, specifically since Higher Colleges of Technology (HCT) has raised its standards for admission (Swan, 2012). Students not fulfilling the criteria and standards set by the HCT are now offered admission to the ADVETI. This policy has led to a precipitous expansion of the ADVETI as it has introduced new branches in Fujairah, Ras Al Khaimah, and Sharjah. The Institute of Applied Technology was founded in 2005 by the Royal Decree which aims to provide vocational and technical education at secondary and tertiary levels. Higher learning start-ups in aviation, logistics, and nursing are included in the IAT.

The education council of Abu Dhabi has played an important role in making efforts for enhancing vocational education in the UAE (Gonzalez et al., 2008). The education council has been given the mandate to take necessary actions throughout the Emirates, amalgamating a variety of approaches in a format that invites participation of both the private and public sectors. The seminal aspect is to elevate the ability of the universities to provide the type of vocational education that will help in fulfilling the human resource requirements of the labor market.

One specific, promising and prominent initiative for promoting vocational education is the Centre of Excellence for Applied Research and Training (CERT) which was found as a branch to the HCT in Abu Dhabi (Swan, 2012). This institution is based on international academic partnership that invests in both the multinational organizations and academic institutions, associated with business and technology solutions. These organizations and institutions pursue to promote research in the UAE, while working collaboratively. Also, they offer the essential vocational education for Emiratis. It is also imperative that Abu Dhabi is producing its much-anticipated Education and Research City, “a merger of learning comprising of primary or secondary school, college, or university, research Centre, and convention Centre with an associated five-star hotel”. In fact, the objective of the Education and Research City is to produce research work of the highest quality (Heikal, 2014).

### 3.3 Importance of TVET in COVID-19 Era

In this era of COVID-19 pandemic which is not only a health and sanitary crisis affecting millions and billions of people globally, it is also a new reality for the entrepreneurs. This pandemic has turned into an unprecedented recession in global economy, where millions of people have been laid off or shutdown their businesses (Selladurai, 2017). As UAE is an oil-based economy and is highly dependent on international trade and migrant based labor, it is important to consider the implications of hit to international trade (decrease in 32%) and international passenger traffic (63% drop) on it (ICAO, 2020). Therefore, it warrants the need to re-strategizing the policy of Emiratization. Currently, in UAE private sector only 3.64% of employees are UAE nationals and in the total UAE workforce is only 7.62% (Emiratization rate in the private sector, 2020; Share of UAE nationals in the workforce, 2020). To the possibility of disruption in the international migration of foreign labor, this scenario could be a heavy setback for the economies like UAE that heavily depends on the foreign labor. However, this could be used as an opportunity to train the entrepreneurs for the future vocational job opportunities.

### 3.4 Meta-Analysis Findings

The effect of a TVET education program on the paid employment has been examined in majority of the studies but minimal numbers further considered their influence on self-employment and formal employment. The computation of effect sizes has been presented in the reported data for five studies and these were merged. The studies were rated as medium quality for interventions. Few of the studies were rated low. The investigation utilized the information from each study that were near to a 12-month post-training follow-up. The confidence intervals and mean effect size were presented in the forest plot for each study in Figure 4.

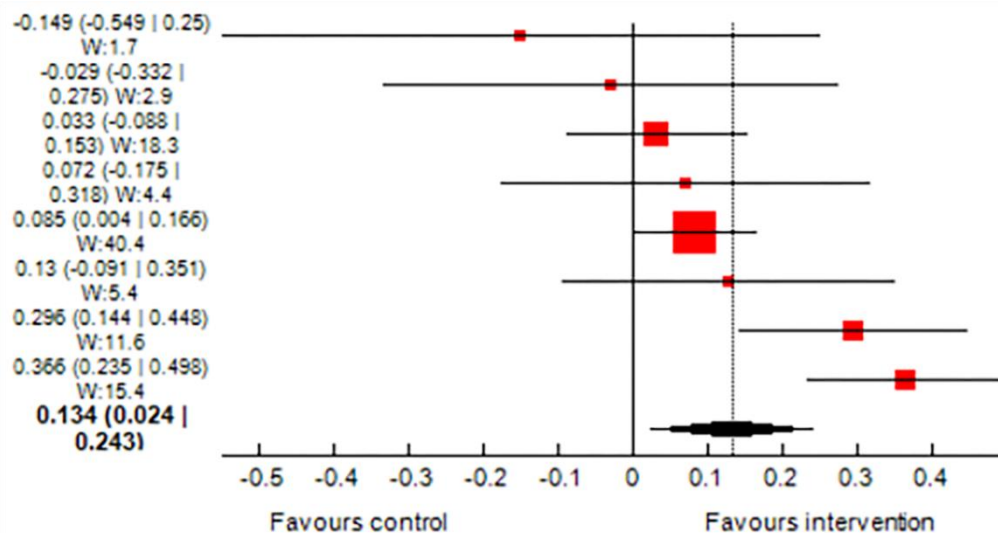


Figure 4. Forest Plot on Overall Paid Employment

It has been indicated from the pooled estimate size that the TVET education were effective, on average, as compared to those who experienced a TVET education. It reflected an elevated opportunity of paid employment. On the contrary, differential effects across studies have been recommended from the high extent of heterogeneity between the studies ( $Q = 27.1$ ;  $df = 4$ ;  $p = 0.00431$ ;  $I^2 = 74.1\%$ ;  $\tau^2 = 0.0351$ ). The first likely justification was that this review has undertaken the trend of differences, observed in the meta-analysis in terms of study quality. Independent meta-analysis was performed for low-quality studies and medium quality studies that were entered into a subgroup investigation. Figure 5 showed the mean effect size as well as confidence intervals for each study as reflected in the forest plot.

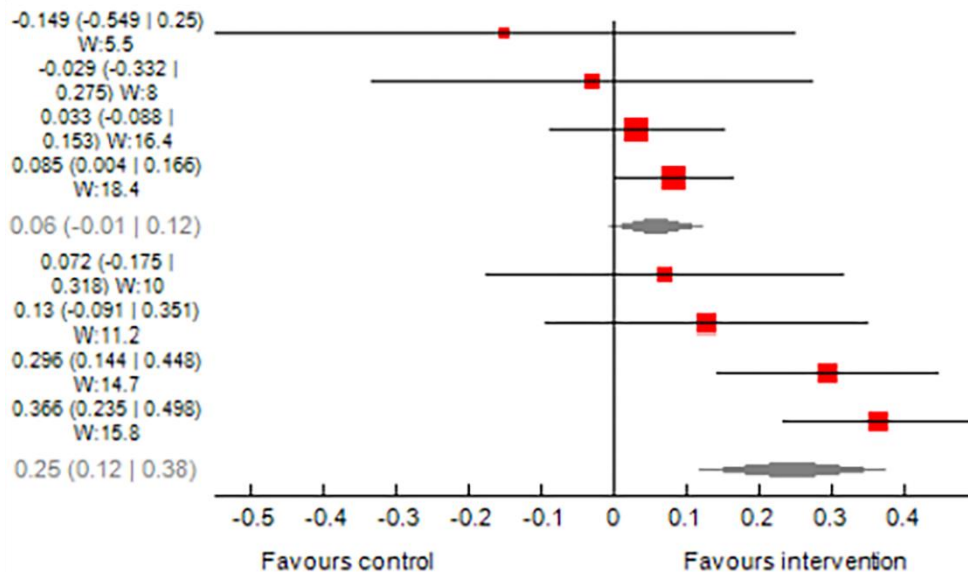


Figure 5. Forest Plot on Overall Paid Employment on the basis of Study Quality

It has been observed that the treatment effects for the low-quality studies emerged to be better as compared to those rated moderate quality. In addition, the observed differences were statistically significant in the mean effects ( $Q_b = 4.94$ ;  $p = 0.0801$ ). It has been indicated that mostly studies were not entailed in this review since effect sizes could not be computed for finding whether youth had participated in the TVET education, had a greater probability of being employment as compared to youth who had not participated.

Figure 4 showed the TVET education programs assessed in the five studies based on three different types. Independent meta-analysis was performed for studies consisting the TVET models and two-stage TVET interventions. Figure 6 showed the mean effect size as well as confidence intervals for each study in the form of forest plot. A weighted average effect size was identified for two-phase TVET education. The pooled estimate of effect size was positive but minimal for other TVET models. However, no negative effect was excluded from the confidence intervals. The observed differences were statistically insignificant in mean effects even though treatment effects emerged to be effective for other TVET modalities for two-phase TVET interventions.

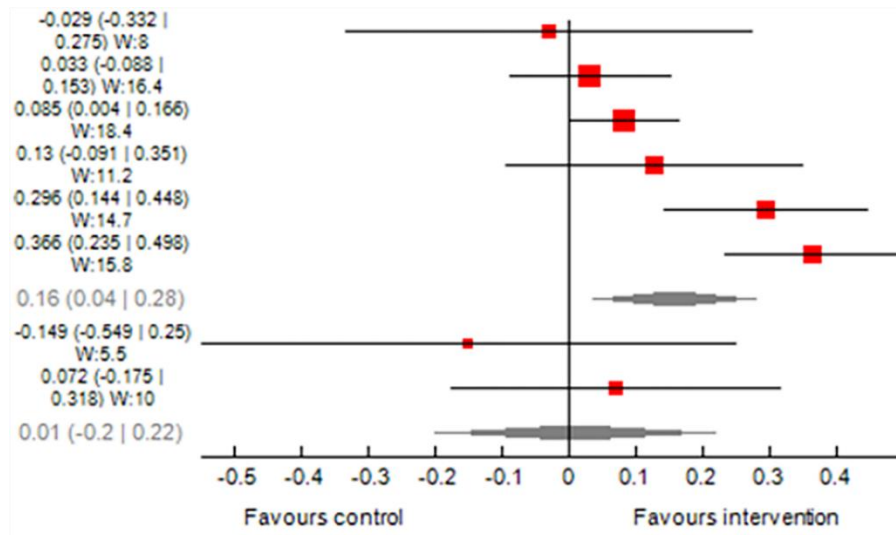


Figure 6. Forest Plot based on Program Type

The effect of the intervention was evaluated in four out of five studies included in the meta-analysis, after training had ended either around 12-15 months or at almost 6 months. Effects have been examined in the remaining studies, in order to measure outcomes at 6, 12, and 18 months. Independent meta-analyses were performed for studies consisting of medium-term and short-term follow-up periods. These meta-analyses were then included into a sub-group analysis. Figure 7 presents the mean effect size as well as confidence intervals for each study in the form of forest plot. It has been observed that short-term treatment effects were greater as compared to moderate effects. On the contrary, the observed differences were not statistically significant in mean effects. The differences remained insignificant when the sub-group was reperformed.

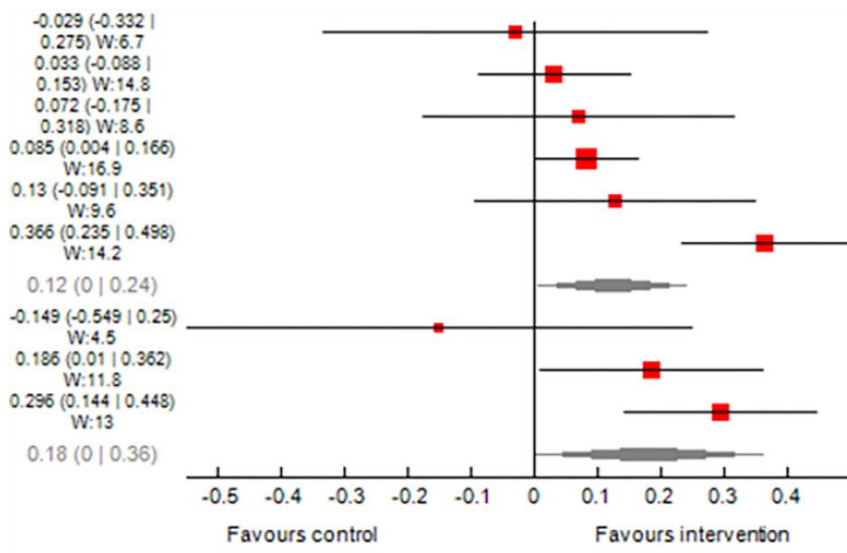


Figure 7. Forest Plot with respect to Length of Follow-up

The information from the four studies were agreeable to meta-analysis. The studies were rated of moderate quality. Few of the studies were rated of low quality. Independent meta-analyses were performed for studies consisting of data with different gender structures. These data were then entered into a sub-group analysis. Figure 8 shows the mean effect size as well as confidence intervals for each study as represented in the forest plot. It has been observed that treatment effects were slightly greater for female youth as compared to male youth. On the contrary, the observed differences were not statistically significant in mean effects. The differences



remained insignificant when the sub-group examination was reperformed with merely those medium-rated studies. It has been observed that one of the three studies examining differences observed regional variation when affected by location. Two of the three studies found greater positive effects for educated workers as compared to the less education, when explored treatment effect heterogeneity in terms of education.

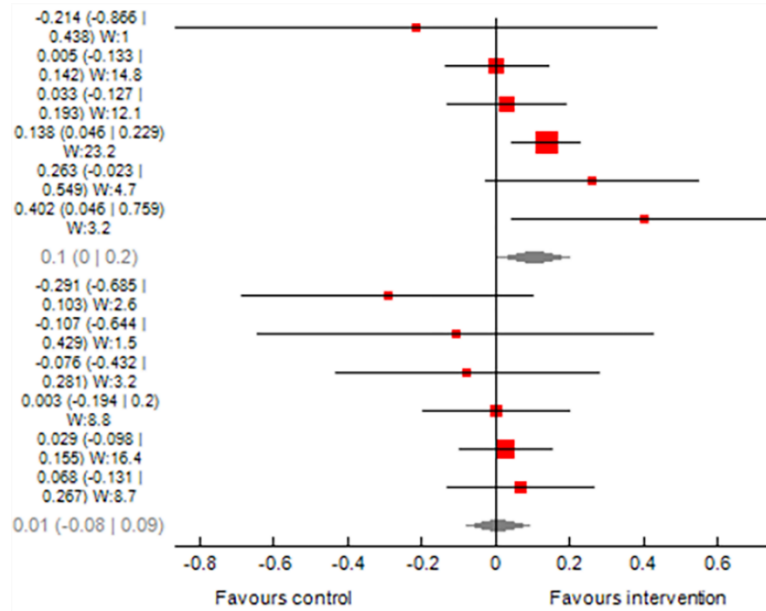


Figure 8. Forest Plot with respect to Length of Gender

#### 4. Discussion

This review has examined the promising roles of the TVET education and training in empowering youth, based on their entrepreneurial skills in the UAE. This review, based on explicit search included 20 studies for published and unpublished studies. The TVET opportunities were provided to youth in 12 out of 20 studies. Using more of the findings from the 12 studies needs further resources after including them more explicitly into the synthesis. In this regard, it would be early for indicating that the data selected from such studies supported the findings from the meta-analysis on the basis of the evaluation of the examined direction of effects. This summary of evidence and the conclusions drawn about 'what works, and emphasizes merely on the findings of the statistical investigation of the 12 studies. The approach used in this study to summarize the evidence, particularly establishes the foundation to identify implications for policy and practice. The overall mean effect of the TVET was positive and significant on paid employment ( $g=0.431$ , 95% CI [0.014, 0.631]). On the contrary, significant heterogeneity was also observed ( $Q = 27.1$ ;  $df = 4$ ;  $p = 0.00431$ ;  $I^2 = 74.1\%$ ;  $\tau^2 = 0.0351$ ).

It is justifiable to explain that the overall mean effect might be magnified and that conclusions regarding treatment effect on paid employment, must be based merely on the medium rated quality, since there is an evidence of statistically significant association between effect size and study quality. The mean estimate for such studies is non-significant and minimal. It is observed that there is merely minimal evidence that the TVET interventions are effective in order to elevate the possibility to have paid employment for young people, on average. In addition, the observed effect was very minimal.

Entrepreneurship is an essential objective of lifelong learning. Learning possibilities and courses must be available then since majority of entrepreneurs commence their own business or become self-employed in later stages of life (Paryono, 2017). This requires focused, just-in-time and tailor-made training as well as knowledge sharing. Various levels and types of firms require a differentiated approach. Training and learning support must emphasize on market analysis, maintaining and building networks besides organizational and management skills (Aldossari, 2020). A learning experience is provided on both sides by offering together business school students. Particular concentration must be offered to beginners with a low educational status. Entrepreneurship is an option for low achievers at schools and groups can be supporting. For instance, immigrants desire to commence their own firm, studio, or shop (Alyani & Guile, 2017). Adversely educated individuals consist of up to 40% beginners in industry. In addition, a comparatively large number of low-educated starters were experienced in the

retail trade. Therefore, this shows the need for preparation for entrepreneurship at lower vocational educational levels (Orbeta Jr, 2016).

Alghizzawi et al. (2019) identified some of the major advantages of e-learning, as it delivers education in the virtual environment by the inclusion of different devices which include; mobile phones, personal computers, and tablets (Salloum & Al-Emran, 2018; Salloum et al. 2019). This virtual learning method help teachers and students in providing access to course contents in digital form, share knowledge, while making learning more effective with increased interaction among teachers and learners through online forums, knowledge and content sharing. These platforms stimulate learning through different features which includes, development of online courses, evaluation and monitoring of activities for students and teachers (Alghizzawi et al., 2019). Araújo Júnior and Marquesi (2009) further added that e-learning methods such as LMS help in enabling a synchronized communication, by promoting the use of different strategies while promoting a dialogue and students' active participation. In relation to the assessment methods employed in e-learning systems, Rahrouh, Taleb & Mohamed (2018) added that LMS in general has been effective, usable, efficient, manageable, and reliable. The respondents further showed a positive attitude towards the use of LMS and its effectiveness in students' assessment. While, Yilmaz (2017) identified some of the commonly used techniques in the online assessment of students in virtual learning.

The major contribution of this study was its application of systematic review principles for enhancing on previous work. On the contrary, there are several limitations to this review that must be considered for future studies. Firstly, effect sizes for 12 of the 20 included studies were calculated. Thereby, the meta-analysis of quantitative findings encompasses more than half of the studies, entailed in the review. The estimated pooled effect might not be the effect of all the studies, encompassed in this review. Its reason can be stated as if the studies were possible for computing effect sizes, which were different. In addition, the exclusion of eight studies may have influenced the strength of the meta-analysis, restricting the probability to detect significant programming effects. Secondly, publication bias was minimized by performing an extensive literature search. It might be possible that all eligible studies could not be identified. Surprisingly, the minimal number of studies may impair any significant quantitative publication bias examination for which effect size calculation was possible that would have enriched the discussion on the presence of publication bias in studies evaluating the TVET education.

Thirdly, the methods to compute comparable effect sizes were under-developed and need additional research as previous studies were based on complicated econometric methods. Lastly, effect sizes were synthesized in this meta-analysis from a broader perspective of methodological designs, which included quasi-experimental and experimental designs. Some of the methodological issues were related with the lower quality of some quasi-experimental studies, which indicated that the studies have possessed biased estimates of the treatment effects such as those utilizing propensity score matching.

#### *4.1 Implications*

Entrepreneurial skills play an immense role in bringing about social and economic shift. Entrepreneurship education was put forth as an essential phase in the advancement of the TVET institutions in UAE. It was also observed an essential role in empowering youth that can generate positive outcomes. This study is very important as it offers insight into some of the entrepreneurship education practices of the TVET platform. A lack of entrepreneurship education in the UAE is revealed from the information shared.

This study has revealed a number of areas that are lacking about entrepreneurship education. Another essential advancement was interest of students for seeking entrepreneurship education, which was substantially high and majority of the students had an interest in seeking entrepreneurship education. The extent and availability of entrepreneurship education are non-existent in majority of the cases. The preference from students shows that placing entrepreneurial skills and education can be of substantial value to them with the TVET curricula. The perception of support and benefits shared perceptive concepts, regarding their significance to offer entrepreneurship education. Considering the role of support and benefits, it has to be valued with respect to provide entrepreneurship education. The results from this study offer a better opportunity for the TVET institutions for embracing and utilizing the information for sharing their practices.

There is an elevating international interest in the TVET as a means to advance sustainable development and to address social and economic challenges. This review was undertaken for supporting policy-level organizations, donors, and foundations, and departments for taking actions and developing policies for improving labor market findings for youth in the UAE. The findings of this review strengthen the evidence, base on which existing policies and strategies can draw. It enhances upon previous work by statistically synthesizing the TVET

intervention. Therefore, interpreting the evidence and drawing out the implications is nonetheless challenging for policy and practice.

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# How to Develop Collaboration in Drug Development Process: The Role of Professional Service Firms

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## Abstract

The innovation chain of the pharmaceutical industry is more and more complex. In particular, a new type of players, the start-ups founded by researchers (Academic Start-ups) have proven to be particularly effective in the first steps of exploring new, radically innovative technologies. These small start-ups miss the financial resources and the industrial experience necessary to embark in the later stage of technologies' development. To overcome these limits, what academic start-ups require the most is a collaborative linkage with large biotech and pharma companies. To such end, Business Development Professionals are offering their services to academic start-ups, to set up a collaborative linkage with potential partners. Our article investigates the process of engagement between Academic Start-ups and Business Development Professionals and in particular, we focus on the factors that influence collaboration between the two actors. In order to investigate the development process of collaboration we conducted an exploratory study through the submission of a semi-structured questionnaire covering different aspects of the engagement process to a sample of business professionals. The study provides first evidences about the main factors that prevent the development of collaborations and provides some suggestions to overcome the challenges that both parts found in the collaboration process.

**Keywords:** open innovation, life science sector, academic start-up, business developer, collaboration.

## 1. Introduction

In the last decades, the life sciences industry has been characterized by structural changes making it as a privileged scenario for the rise of open innovation approaches in R&D strategies (Chesbrough et al., 2006; Wikhamn & Styhre, 2017)). In recent years, investments in research and development have significantly increased, while the rate of growth of successful products going on the market is not following the same pace (Ernst & Young, 2018; Jacobs et al., 2015). To face these radical structural changes, pharmaceutical companies are undertaking strategic shifts to increase their R&D effectiveness. The pharmaceutical industry represents in fact an emblematic case in which firms have pursued a new strategy adopting new technological trajectories and transforming existing technological identity and capabilities (Kale, 2012). Such strategies include: (1) focus the innovation project portfolio on core technologies and/or on a specific phase of projects development (Schuhmacher et al., 2016); (2) reduce and re-organize the R&D internal organizational structures (Schuhmacher et al. (2016) and moreover, (3) open to outside partnership to rise the potential for innovation (Schuhmacher et al., 2013).

From a strategic point of view, this has ended in a radical re-definition of their model of innovation (Powell et al., 1996; Chesbrough, 2006)).

The traditional model of closed innovation, predominant in the last decades and in which the innovative activities were mainly carried out in-house, has been replaced by an Open Innovation model in which the collaboration between many different players in the innovation process is the key element (Chesbrough & Crowther, 2006). As a result, the pharmaceutical industry' value chain is now more disaggregated than in the past allowing different players to specialize in different phases of new products' development (Khanna, 2012).

According to several studies, innovation in life sciences is based on the coordinated efforts of three types of organizations: university, start-up and established life science companies (Arora et al., 2000; Baron & Kenny, 1986; Powell et al., 1996; Zucker et al., 2002; Gertler & Vinodrai, 2009; Ahn et al., 2013).

In this context Big Pharma, have progressively focused themselves in the final stages of clinical trials of new drugs, new research-based business ventures have quickly become a key player in the first development phases, like drug discovery phase and preclinical validation (Papa et al., 2020). This kind of strategy is also in line with the literature about the concept of exploitation and exploration in innovation process (March, 1991) where exploration focuses on exploring new opportunities, which are generally riskier and more long-term oriented, while the other one focuses on improving the well-established and already profitable products and capabilities. What we can observe is a tendency in established firms to focus more on the exploitation of the existing capabilities, and less on risky explorations of new opportunities (Alizadeh & Jetter, 2019).

A large body of empirical research provides evidence that a more balanced investment in both exploitation and exploration activities increases the survival of firms and also improves other performance measures such as sales growth, market valuation, and innovation.

On the other side, hybrid organizations, like Academic Start-ups (ASUs), i.e companies founded by academic researchers with the aim to explore new technological trajectories coming from scientific discoveries, in particular, have proven to be particularly capable of grasping the entrepreneurial opportunities of these changes (Powell et al., 1996; Fudickar & Hottenrott, 2019).

Founded by researchers, and supported by their Universities (Rao & Mulloth, 2017) as a mean of an effective technology transfer policy (Sheriff & Muffatto, 2018; Piccaluga, 2001; Smith et al., 2008), these small academic start-ups have valuable scientific and technical experience, lower fixed costs, less bulky organizational structures and strong focus on one (or a few) specific areas. As a result, these companies have demonstrated the ability to make incredible scientific advancements (Wilson, 2008) and are playing a key role in creating new knowledge and disruptive new technologies in Life Science (Tahvanainen, 2004).

Thanks to their previous scientific knowledge, and sometimes with the support of Venture Capital specialized in high-risk investments, these spin-offs have proved particularly effective in the identification and preclinical validation of a new therapeutic target.

Notwithstanding the significant advantages of cooperation in R&D processes the connection between ASU and large pharma has always been difficult because of deep cultural differences between the two (Cooke, 2003). Further, it has recently become more and more difficult because of the increasing evaluation standard applied by Big Pharma for investing in new projects coming from start-up (Onetti & Zucchella, 2014). Contract Research Organizations (CROs) and Business Development Professionals (BDPs) are therefore gaining an important role proposing themselves as a bridging point between start-up and large pharma (Parente et al., 2016). As highlighted by some scholars, in open innovation context, intermediaries can play a strategic role (Ebersberger et al., 2012; Hossain, 2012; Ndou et al., 2011). Studies have pointed out that the role of intermediary creates the necessary linkages between the many actors in an innovation network (Klerkx & Leeuwis, 2008). Weng et al. (2017) show that innovation intermediaries can act as a bridge between different competency constraints among companies and can help firms in developing collaborations (Weng et al., 2017). The strategic position of the intermediary can activate different resources from the ones embedded in an alliance network.

Starting from these premises, the purpose of this study is to examine the interaction between academic based start-ups and BDPs in life science industry. In particular, we are going to focus on the main factors that prevent or hinder collaboration between ASUs and BDPs from the point of view of BDP.

The remainder of the paper is organized as follows. The second part describes the main partnering issues in Life Science. The third part describes the methodology and the research sample. The fourth and fifth part describe the results and implications of the research.

## **2. Theoretical Framework**

### *2.1 Early Stage Partnering Issues in Life Science Industry*

Start-ups and Academic based ventures have quickly become a key player in the drug discovery process. According to EY forecasts, Life Science start-ups will absorb between 30 and 45 percent of the market by 2030 (Ernst & Young, 2018).

The business model of ASUs, with few exceptions, consists of nurturing their technologies until the point where there is enough evidence on their soundness from the scientific, marketing and industrial points of views. At that

moment in time, a negotiation process will start to sell the technology and related Intellectual Property to a big pharma that has capital and experience to sustain later stage of development and marketing of the new product. Start-ups that access external knowledge through alliances increase their ability to learn new skills and to overcome competency traps (Rosenkopf & Almeida, 2003; Vega-Jurado et al., 2009). For example, the literature agrees that alliances are a means by which companies acquire knowledge and learn new skills (Powell et al., 1996; Prahalad et al., 1990).

On the other side, the revolution in the life sciences changed the organizational and managerial aspects of drug research; it changed the internal structure of R&D processes realized by Big Pharma by increasing emphasis on collaboration, publication, and willingness to exploit external sources of technology (Cockburn, 2004). Large pharmaceutical firms focused on internal R&D transformation primarily by hiring new personnel, embracing new technology and incorporating these into existing structures. They promoted collaboration and joint ventures with university scientists and new biotechnology firms to increase their internal expertise (Zucker & Darby, 1997).

Nicholls-Nixon (1993) points out that large pharmaceutical firms developed new capabilities by investing in biotechnology-related R&D activities and by accessing new external technological linkages. According to Galambos et al. (1998) some pharmaceutical firms used different approach in collaborating with biotech firms. In some case Big Pharma adopt an incremental approach of working in order to develop in-house biotechnology capability, while other firms used the acquisitions as mean to acquire external competences and resources. Supporting this observation Gambardella (1995) explained that large pharmaceutical companies employed different mechanisms of knowledge transfer from university to complement internal capabilities in biotechnology. The author identifies four kind of mechanisms: research and/or joint development agreements with other firms, research agreements with universities, investments in the capital of biotechnology firms, and acquisitions of small biotech coming generally coming from the university itself. Such changes led to the transformation of new drug discovery and development in pharmaceutical and life science sector with the passage from a totally in-house activity to a networked activity.

There is clear evidence that recently Big pharma are becoming more selective about such kind of technology transfer transactions, becoming more challenging about quantity and quality of data to be provided as a Proof of concept necessary to close the deal. Nowadays having completed, or near to complete, a successful pre-clinical phase, is the necessary level of development for ASU to become attractive for a big pharma. A live-or-die question for the ASU but at the same time a very challenging issue.

From one side, that change means more capital needed for ASU, and on the other side this imply a strategic challenge for ASU regarding the most effective key activities and development pathways to attract attention from big pharma. In fact, while later Clinical Phases in the Drug development process are quite well defined, due to strict regulation rules that oversee the possibility to go forward, the Drug Discovery and the Pre-clinical phases are not. This means that judgment from the targeted buyers of the technology is the only benchmark against which pre-clinical projects struggle to demonstrate their proof of concept validity. In other words, due to the Industry's organisation, the first stages of a validation process of a new therapeutic target takes shape inside an entrepreneurial subject (the ASU) that don't know ex-ante who will judge its robustness and according to which criteria they will express their judgment.

Cognitive representation of rugged competitive landscapes (Levinthal & Warglien, 2008) of the pharma industry is, therefore, a key competence for a start-up to better assess the entrepreneurial opportunity of new technology and to represent a clear model of relationships between investments and expected profits. The problem is exacerbated by the team composition of the ASUs, that often miss basic management competencies (Visintin & Pittino, 2014)).

To overcome these difficulties, "in most cases, what start-ups need most is something akin to "mentorship" from industry's experts (Wilson, 2008)). Furthermore, for those ASUs having on board an external investor, an experienced mentor has in itself a signaling effect that raise attention of big pharma (Festel, 2011)).

This is why growing numbers of professionals try to intercept the entrepreneurial teams in a more or less early stage of their development process in order to help them in arranging their best pathway to a potential deal for the sale of the technology.

Business Developers, Strategic consultants and so on can offer the "cognitive representation" of a complex and fast evolving industry, putting their expertise in order to address and sustain the development of new ASUs effectively.

However, also if plenty of opportunities, matching between these two kinds of subjects, ASU and BDP, is not simple to realize.

Integration of scientific and management expertise in the early stage of R&D process is quite complicated and notwithstanding some excellent experiences in the US and Europe about the so-called “Founding Angels” (Festel (2011)), this integration often remains a will. Several studies have concentrated knowledge flow and stock on innovative success but few have investigated the factors that hinder the collaboration between companies.

Starting from these premises, the purpose of this study is to examine the interaction between ASU and BDP. In particular, we are going to examine the main factors that prevent or hinder collaboration. What are the main pitfalls in entrepreneurial cooperation?

### **3. Method**

Due to the limited research on the relationship between academic based start-up and BDP in life science industry, we have chosen to conduct an exploratory study (Yin, 1989).

The starting point was the preparation of a semi-structured questionnaire covering different aspects of the engagement process of a BDP by an ASU. The semi-structured interview protocol was pre-tested with five experts, including three BDPs and two experts of Life Science R&D. Respondents were randomly selected. Interviews averaged one hour in duration, with a range of 30 to 70 minutes.

As a result of that pre-test interviews, a final questionnaire was ready and divided into four parts. In the first part, the BDP is requested to describe his company and its business model. In the second part the interviewee describes his preferred way to approach an academic start-up. The third part investigates what start-ups are looking for when approaching an external consultant. The fourth part investigates the main obstacles for a BDP to cooperate with an ASU.

#### *3.1 Data Collection*

Interviews, based on the semi-structured questionnaire, were made by the third author during the event of Bioeurope 2017. This event was chosen because it represents the main International Partnering Conference for the biotech industry in Europe (<https://www.ebdgroup.com/events/>). The event brings together the main players in the biotech, pharmaceutical and financial world and represents a high-level partnership opportunity. During a 3 days event, workshops, seminar, and above all, thousands of one-to-one meetings between start-up, professionals and Big pharma. Bioeurope is a “must to attend” event for everyone involved in the life science R&D processes and looking for partnership and deal making. On the web site of Bioeurope, attendees can select experts and companies they want to meet during the 3 days fair. Navigating in the directory of Bioeurope 2017, 246 BDPs were identified, and to each of these an email was sent presenting the research goal and a request to complete an attached Questionnaire. 36 BDPs were responding positively to this request sending back the Questionnaire completed (14.6%).

#### *3.2 Data Analysis*

Data were normalized with respect to the average of the responses to ensure that all variables are proportionate to each other. The normalization process is based on the standardization of the variables, that is, on the transformation of the variables carried out through the relation where  $x_i$  is a generic value of the distribution of the random variable  $X$  and  $\mu$  and  $\sigma$  respectively represent the mean and the root mean square of the original distribution. The values of the data thus transformed assume a distribution called the standard normal distribution, which is characterized by the fact that 1) their arithmetic mean is equal to zero; 2) their variance is equal to one. Thus, the results a) from 0 to +1 and from 0 and -1 are within the average of the answers b) higher than +1 are higher than the average of the answers, c) higher than -1 are lower than the average of the answers.

### **4. Results**

The following session describes the results of the 36 Questionnaires. The session is divided into five parts according to the structure of the interview.

#### *4.1 Descriptive Data*

Interviews show that the majority of the BDPs are organized as a consultancy company. Many of them have even more than 10 employees and mainly focused on their national market (only some of them have branches outside the mother country). Scientific knowledge is a key feature of a BDP team, considering that most of them has one or more Phds in his Team. Respondents BDPs offer a broad range of services to their customers (most of respondents affirms they have a broad portfolio of services) (Fig.1). ASUs do have options on how to approach the market of professional services offered by BDPs. 17 BDPs affirms they follow a “Fee for services” business

model, where 18 affirms they are open to consider a “Risk sharing approach” in working with an ASU. Risk sharing usually take the form of not charging completely the costs for services to the customers, in exchange for a percentage of revenues coming out from an event of future acquisition by a third part.

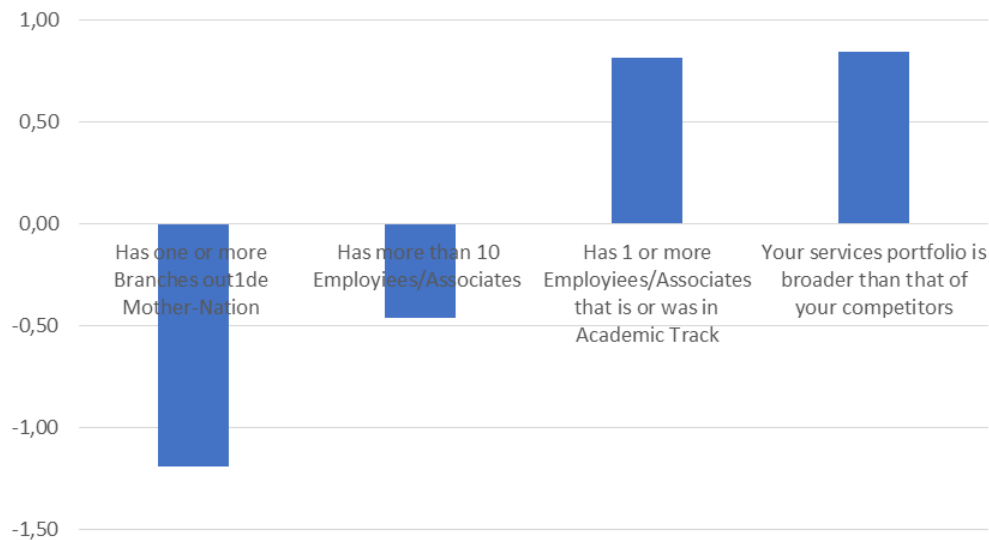


Figure 1. The composition of respondents

4.2 Knowledge Limits of ASUs and Their Expectations in Approaching a BDP

Two questions included in the questionnaires shed light on the perception of BDPs about the knowledge limits of ASUs. First, we ask the following question: “Do, According to your experience, academic start-up have a clear vision on. We tested 5 different areas of knowledge considered crucial for the ASUs success. Respondents can assign a value to each of the 5 areas of knowledge of an ASU according to their perceptions. The value assigned can range from 1 (very limited knowledge) to 7 (very high knowledge), and in fig. 2, the normalized mean of the values assigned to each areas of ASUs knowledge is reported. As shown, according to the BDPs expertise, ASUs have serious limits in all the five considered areas of knowledge. The minimum value assigned is for the issue of “How to approach and interact with a potential partner”. The maximum value is for “Platform of services and technologies” to implement the development process (Fig. 2).

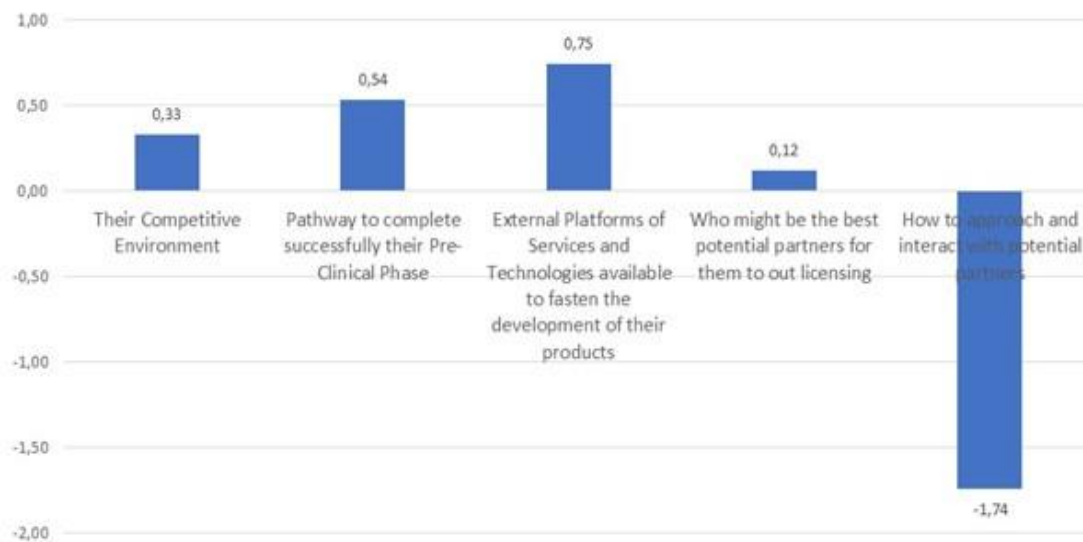


Figure 2. Level of the knowledge of ASUs

As a control, we asked a question about what are ASUs' looking for when approaching a BDP, and the answers are coherent with the data shown above (Fig. 3). There are four elements sought by academic start-ups in BDP. For the majority of respondents the most requested help from academic start-ups their abilities to approach and interact with potential partners (1.34). Second, start-up approach external consultants because they looking for the introduction to potential in-licensing and investor partners (0.59). In minor cases, many respondents were approached, also, by academic start-ups looking for advice about how to optimize their product development process (-0.0411), or about how to identify services and technologies that can help to develop their products (-1.169). Finally, for few BDPs the main request coming from academic start-ups is about a definition of a Competitive strategy at all (-0.72).

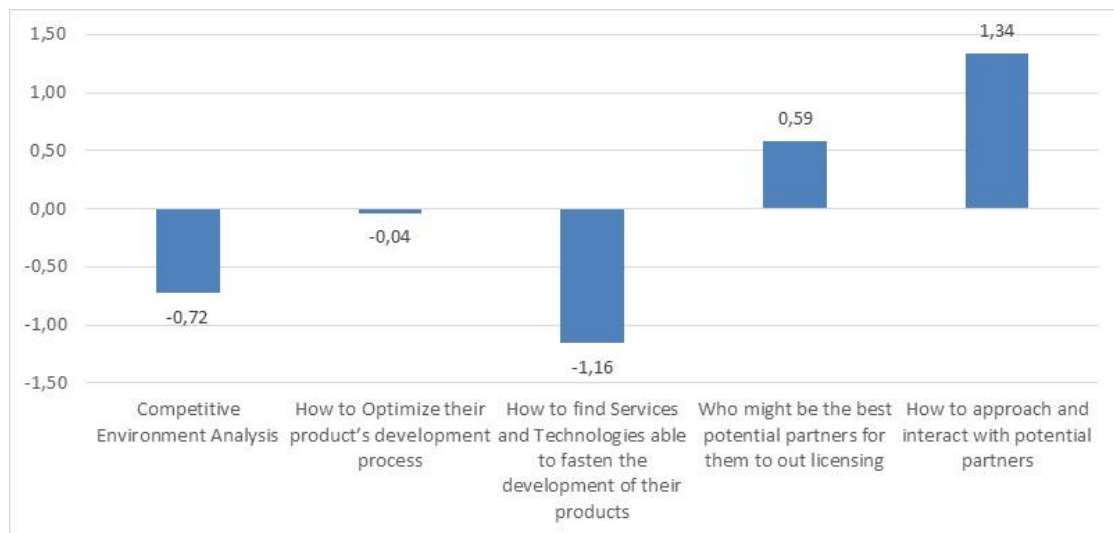


Figure 3. Services required from ASUs

#### 4.3 What ASU Consider Important in the Profile of a BDP

We tested 7 different items to explain why an ASU hire a BDP (fig.4). The most important element considered is the track record of successful deals they have managed between their clients and Big Pharmas (1.11), end in particular their capability to effectively bridge with Industrial partners (0.97). Another element that an academic start-up takes into in great consideration in selecting the right BDP is a personal introduction by a third person (0.89). Relatively less important is the geographical proximity, the availability expressed by the BDP to share risks of new products development and the broad range of services offered.



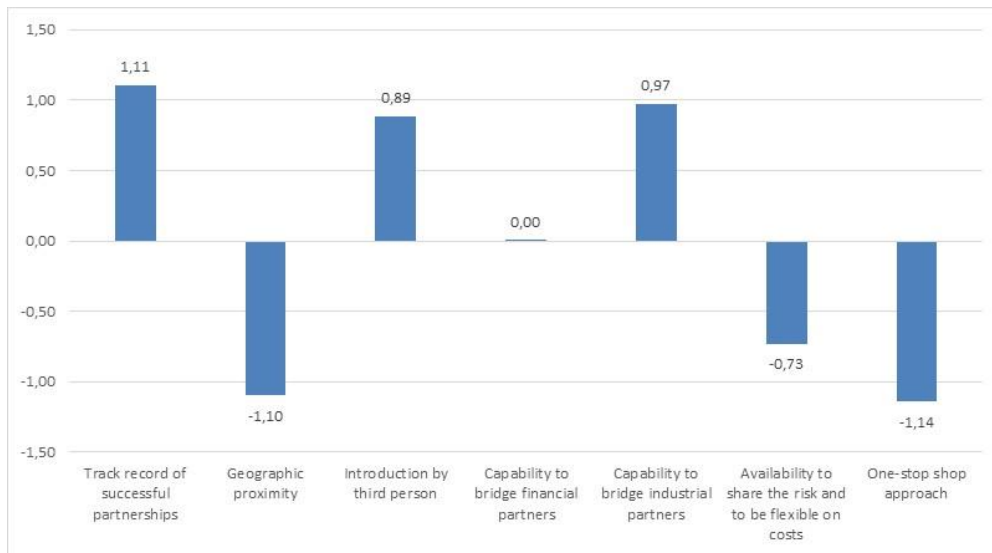
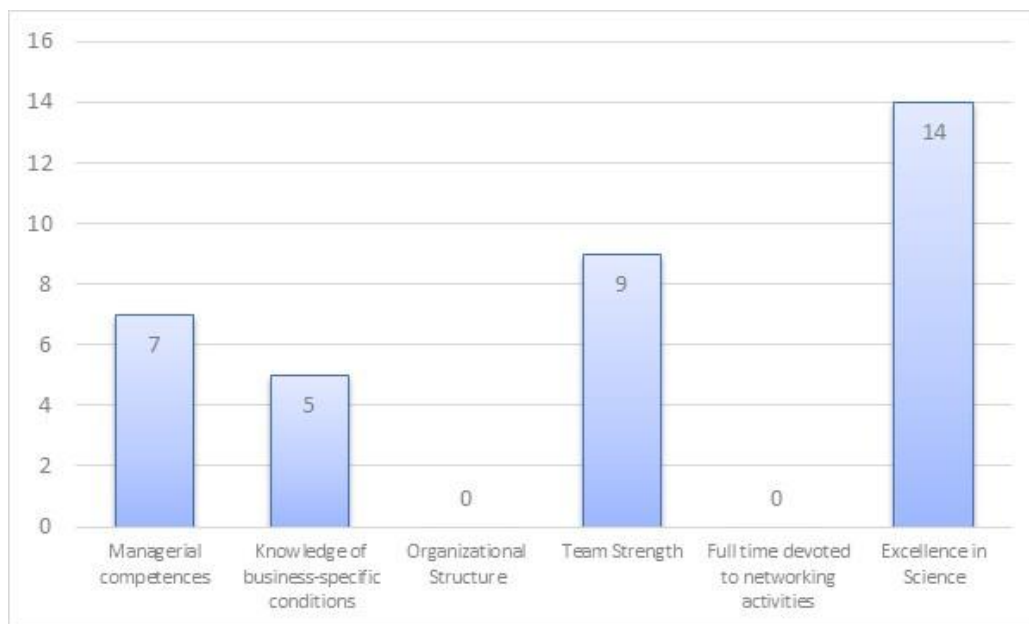


Figure 4. Most important elements to be hired by an ASUs

4.4 What BDP Consider as Essential Prerequisite for a Risk Share Approach with an ASU?

As pointed out, 18 BDPs have expressed their willingness to apply a risk sharing approach with their clients, investing alongside. These BDPs select the ASUs eligible for a risk sharing approach on the base of some specific requirements (Fig. 5). Excellence in science is the most important requisite to apply a risk sharing approach (14 out of 18 BDPs indicate as n. 1 or n. 2 requisite to consider eligible an ASU for risk sharing). Team strength (9 out of 18) and basic Managerial competencies (7 of 18) are less important but still collect a significant number of preferences by BDPs. On the contrary, Organizational Structure and availability to bear a Full time involvement in networking activity do not collect any quotation as n. 1 or n. 2 requirements.



\*Attributes which have been considered as n. 1 or n. 2 attributes when choosing an ASU eligible for a risk sharing approach by the 18 BDPs open to this business model

Figure 5. Attributes of an ASU to be eligible for a Risk sharing business approach

#### 4.5 Why ASU and BDP Fail to Match?

We investigated 6 main reasons why BDPs fail to establish a business connection with ASUs (Fig. 6). In the BDPs perceptions 3 obstacles are the most common ones. Lack of financial resources of ASU is recognized as important but not the most important reason (21 respondents chose this item as n. 1 or n. 2 most important issue). The most often quoted perception is about the difficulties for an ASU to recognize the right value for the services offered by an external consultant (24 respondents report this as n. 1 or n. 2 most important). Another very common answer is related to the issue of self-confidence of ASUs about their capability to stay alone in the business (18 times reported as n. 1 or n. 2 obstacle). On the other side, 3 other issues related to trust, to the willingness to share scientific knowledge and willingness to share strategic decisions, collect very few quotations (in total 8 quotations as n. 1 or n. 2 issue).



\*Obstacles which have been considered as n. 1 or n. 2 Obstacle in the responses of the BDPs

Figure 6. Perception of obstacles to cooperate with ASUs

## 5. Discussion: A Focus on the Nature of Obstacles for Cooperation between BDPs and ASUs

The starting point of our study was the striking observation of the needs for ASUs to establish a strategic partnership with big pharma, from one side, and the difficulties they are experiencing to connect with BDPs that might have the competencies and relations to facilitate these partnerships. This study is exploratory in nature, focusing on various aspects of the perceived opportunities and difficulties in working with ASUs from the point of view of a group of BDPs. Starting from the data we collected from the questionnaire, we frame a possible explanation about the difficulties the BDPs are experiencing in establish a business connection with ASUs. In particular, we propose two distinct explanations of the pitfalls in BDPs/ASUs cooperation in drug development process:

- Different knowledge bases and limited absorption capacity (Zahra & George, 2002);
- Different perspectives about distribution of incentives in a cooperation project (Kloyer & Scholderer, 2012).

The first one concerns the different background and knowledge bases of ASUs from one hand, and external consultants, on the other. Coming from an academic context, the founders of ASUs (typically professor, researcher, PhD student, PhDs or research fellows), they generally own the technical and scientific background necessary to develop further the technology on which the firms is based. On the other side, they often suffer a technological myopia that is the inability to go further the technical and technological aspects of the project to capture the market and economic implications.

On the contrary, BDPs generally have significant experience in the industry that means networking capability to connect with key people in the business, but also that they have not the right skills to address and to face the technological uncertainties arising in the early stages of development of an ASU.

The absorption problem emerges from informational asymmetry. More specifically, we can observe two kinds of informational asymmetry (Parente et al., 2011).

The first one is defined as 'hidden information' (Zeckhauser & Kennedy, 2007) and refers to situation in which a part of the relationship is aware of information not known by the other part.

The second type of informational asymmetry could be defined as 'hidden action' and refers to situations in which a part of the relationship is not able to observe or verify actions realized by the other part (de Bettignies & Brander, 2007). Both types of information asymmetry could result in a moral dilemmas and agency conflicts: the part that own the information has the interest to act according to self-interest, even if such actions generate high costs and risks for the other part (Amit et al., 1998). The agency conflicts could represent a disincentive for external subjects in participating in the academic spin-off.

About the second issue (distribution scheme of incentives and contracting forms), generally external consultant and/or business development manager, use a fee for services mechanism of payment.

This system is complicated to access for young start-ups because they often lack the financial resources necessary to acquire external services in order to develop the project and to transform a promising technology into a successful business.

This is particularly true in the initial stage of development because of the technological and market risks they have to face.

Technological uncertainties is a persistent issue in academic-based ventures. The technologies they propose generally introduce radical innovations that are characterized by a strong component of tacit knowledge and a general purpose (Harrison et al., 2004; Shane, 2004)). They represent a sort of technological platform that could be applied in different sectors and markets. For these reasons in the initial stage of development it is very difficult to identify from the beginning the possible technology developments and as a consequence it is very complicated to define since the beginning the real value of the entrepreneurial idea.

The market risk arises from the nature of the innovation that academic based start-up want introduce on the market. Those innovations are the result of scientific research (science push) and sometimes a market need does not yet exist for the invention but must be found (Shane, 2004).

The present study leads to some implications, both theoretical and practical. From a theoretical point of view, our study provides first evidence about the main factors that prevent the development of collaborations between Academic Start-ups and Business Development Professionals in drug development process.

From a practical point of view, our paper has shed light on the process of cooperation between Academic Start-Ups and Business Development Professionals and provides some suggestions to overcome the challenges that both parts found in the collaboration process. More specifically, a possible solution to the issues arising in the cooperation process could be found in the definition of mechanisms of equity-based involvement of external subjects in the company. In this perspective, the prevision of a risk-sharing approach from external consultants could be an effective mechanism to facilitate collaboration between Academic Start-Up and Business Development Professional. Aware of their difficulties in attracting external financial resources, academic start-up is generally well disposed to integrate the entrepreneurial team, leaving an equity share of the company with the objective to acquire the necessary and missing competencies.

On the other hand, for external consultants, the assumption of entrepreneurial risk should be balanced through the definition of a mechanism of allocation of decision-making powers and the introduction of monitoring and incentive systems in order to enforce the commitment of the founders in the management of the innovation process.

## 6. Conclusion

Life science industry is experiencing a deep transformation. Innovation is the main driver of growth in the life science industry but in light of the great challenges that the life science industry has faced for several years - and in particular how to manage the stagnant productivity of research and development (R&D) - pharmaceutical companies have opened their R&D organizations to external innovation (Schuhmacher et al., 2013).

Nowadays, innovation in life sciences is based on the coordinated efforts of certain types of organizations: universities, start-ups and established life sciences companies (Gertler & Vinodrai, 2009; Ovseiko et al., 2012). While Big Pharma have progressively focused on the final stages of clinical trials of new drugs, new research-based business initiatives have quickly become a key player in the early stages of development (e.g. the drug discovery phase and preclinical validation). Consequently, Big Pharma and incumbents in the industry are

forced to restructure their R&D processes, and they have been facilitated in that restructuring process by the rise of a new cohort of ASUs, which take care effectively of the first steps of development of a new therapeutic target. Although potentially very effective, establishing a partnership with a big pharma is difficult and is becoming more and more difficult, due to the changing preferences of the big pharma that now prefer to invest on later stage of pre-clinical development. BDPs are offering their service to bridge that gap, but still there are experiencing difficulties in connecting with ASU. Our paper has shed light on the process of cooperation between ASU and BDP and it can open the field for further and future research projects to understand in more details the role of bridging points and intermediaries in the full deployment of an open innovation strategy in a high tech industry.

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# A Literature Review on the Location Determinants of FDI

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## Abstract

Foreign direct investment (FDI) is an important force to promote economic growth and social development in both developed and developing countries, while the distribution of FDI in the world and within countries is extremely uneven. This paper systematically summarizes the main determinants that affect the location choice of FDI in recent theoretical and empirical studies, including institution and investment environment, trade cost and industrial agglomeration, market size and natural resource, cultural distance and social network. Based on the work of this paper, it is helpful to better understand the location preference of multinational enterprises (MNEs) in FDI activities, and provide a reference basis for the host country to attract investment and promote economic growth.

**Keywords:** FDI, location determinant, multinational enterprise

## 1. Introduction

As we know, FDI has a positive effect on the economic growth, social development and technological progress of the host country from the experience of both developed and developing countries. However, for the global distribution of FDI, the top 10 countries have attracted 70% or even more of FDI inflows in the long time. For instance, figure 1 lists the share of global FDI inflows for six largest economies in the world. At the same time, the location distribution of FDI within an economy is usually uneven. For instance, as shown in figure 2, most of the FDI inflows is concentrated in the eastern coastal areas of China at 2000, and it is rare in the western region, after China joins in the WTO at 2001, the situation changes slightly. It shows that multinational enterprises have strong strategic methods for the location destination when making FDI decisions.

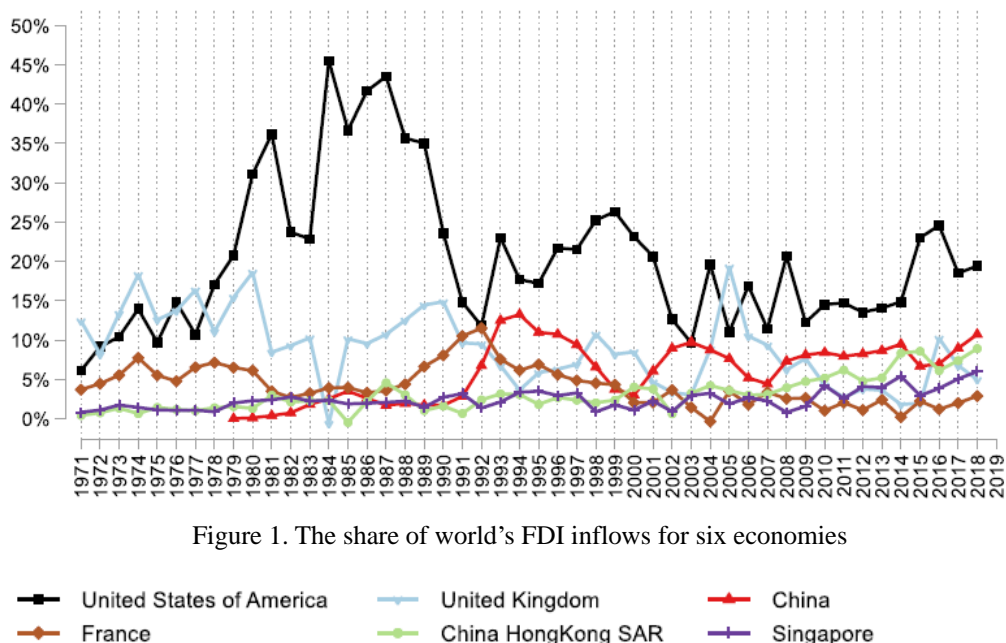


Figure 1. The share of world's FDI inflows for six economies

Source: United Nations Conference of Trade and Development



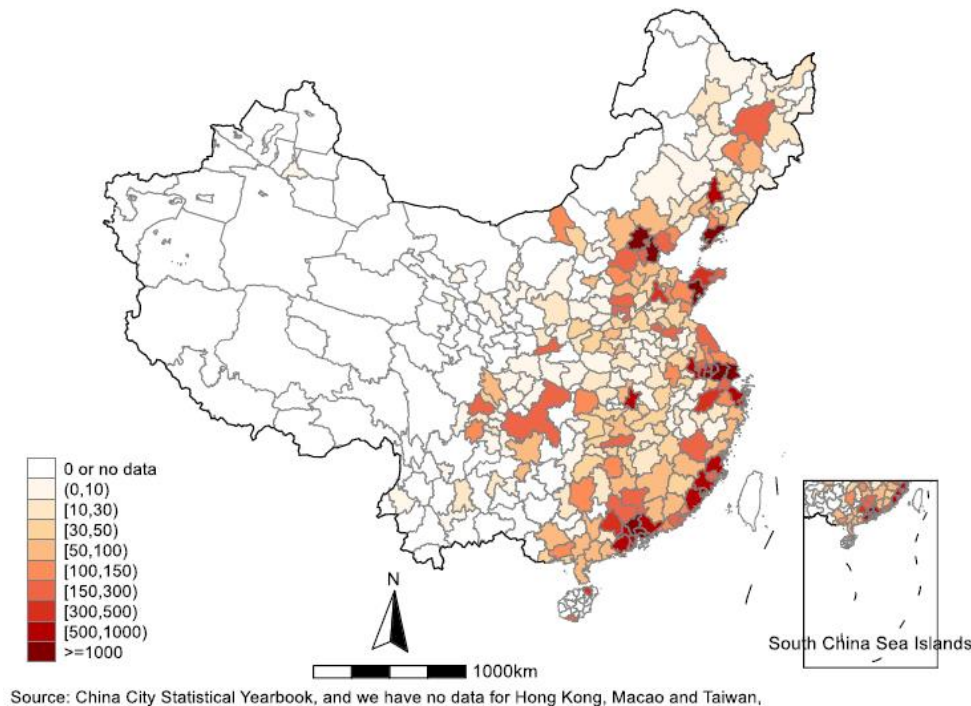


Figure 2. The location distribution of foreign capital actually utilized in China at Year 2000

Unit: Million US Dollars

In view of the reality, the international economics field has carried out a number of studies on the location determinants of FDI. According to the literature, this paper systematically summary the main determinants that affect the location choice of FDI. First, when multinational enterprises are engaged in FDI activities, in order to ensure long-term and smooth business, they usually give priority to examining the institutional factors of the host country, such as rules and regulations, investment environment, macroeconomic stability, and so on. Secondly, the main purpose of MNEs' FDI activities is the increase of capital and enterprise revenue, hence MNEs usually focus on the trade cost of production and sales in the host country, such as labor cost, tax rates, exchange rates, and whether the destination forms a strong industrial agglomeration, so that MNEs could be utilized the spillover effects of the industry. Thirdly, MNEs may use FDI activities for strategic purposes, so as to obtain specific objectives and resource, such as the domestic market of the host country, as well as natural resource reserves, even to achieve pollution transfer. At last, in addition to the determinants above, the impact of informal institutional factors on international investment activities has become increasingly prominent in recent years. For example, the cultural distance between the source country and the host country of FDI will largely affect the integration of multinational enterprises into the host country smoothly. At the same time, the interpersonal relationship between the source country and the host country will transmit information through social networks, and reduce the problem of incomplete information of MNEs to the host country, therefore cultural distance and social network are also important determinants in the location choice of FDI.

In the rest of the paper, section 2 analyses the impact of institution and investment environment on FDI location, section 3 presents the evidence that trade cost and industrial agglomeration are critical location determinants of FDI, section 4 concludes the importance of market scale and natural source for attracting FDI, section 5 introduces the effect of the two prominent determinants, cultural distance and social network, on the FDI location, section 6 makes a systematic summary for the paper and provides suggestions for further research.

## 2. Institution and Investment Environment

The institution of the host country not only directly determines the participation degree of FDI in the economic and social development of the host country, but also according to affect the investment environment and influence the investment preference of MNEs, due to the difference of investment environment is an important factor for the unbalanced distribution of FDI in the world (Cheng and Kwan, 2000). With the improvement of the institution and investment environment, it will increase the attractiveness of the host country to international



capital, and promote the inflow of FDI. Compared with other economic factors, the influence of institution and investment environment on the location choice of FDI are more important (Buchanan et al., 2012; Kang and Jiang, 2012).

The risk of international investment often comes from the instability of institution and investment environment of the host country. Macroeconomic stability could be reducing the uncertainty faced by MNEs, therefore increasing the attractiveness of foreign direct investment. Arbatli (2011) finds that civil conflicts and political turbulence will have a significant negative impact on FDI inflows in emerging economies. Azzimonti (2019) presents similar evidence on the impact of trade policy partisanship index to the inflow of FDI in the United States. Through the impact of euro zone sovereignty and bank-related risks on FDI, Kellard et al. (2020) introduce that the sovereign risks of both the source country and the host country will affect the flow of FDI, and only the bank risk of the source country will affect the location choice of multinational enterprises. Blomström and Kokko (2000) show that the impact of regional integration agreements on the inflows of FDI mainly depends on the changes of trade environment and the location advantages of participating countries and industries. When regional integration agreements, trade liberalization and macroeconomic stability work together, it could have the most positive impact on the inflows of FDI. Furthermore, Blanc-Brude et al. (2014) introduce that economic distance has a positive effect on city-level policy to attract FDI in China. The literature above shows that the quality of institution and macroeconomic stability are important determinants on the location choice of FDI activities of MNEs.

In addition, some studies pointed out that government efficiency, supervision and incorruptibility are also play an important role in the inflow of FDI. Based on the analysis of the compensation model, Brouthers et al. (2008) find that the location choice of foreign direct investment is a tradeoff between the positive impact of market attractiveness and the negative impact of corruption. Although the larger market size can slightly reduce the adverse effects of corruption, this substitution effect will disappear rapidly with the improvement of the degree of corruption. From the perspective of enterprise life cycle, Contractor et al. (2020) find that countries with stronger contract enforcement and more effective compliance with international trade rules could attract more FDI. Through a sample of United States multinational enterprises investment in China from 1993 to 2001, Du et al. (2008a) provide evidence that FDI from United States is more inclined to entry the areas with better intellectual property protection, less government intervention, lower degree of corruption and better contract enforcement. The research above shows that the areas with better contract enforcement and property rights protection are more attractive to FDI, while the degree of government corruption will have a greater negative effect on the inflow of FDI.

### **3. Trade Cost and Industrial Agglomeration**

As the carrier of international capital flows, the pursuit of capital accumulation is one of the main purposes of FDI activities. The lower trade cost could reduce production cost and obtain more profits for multinational enterprises, and the externality effect caused by industrial agglomeration will improve the productivity and market competitiveness of multinational enterprises. Therefore, trade cost and industrial agglomeration of the host country are also important determinants for multinational enterprises to make a decision for their destination when they wonder invest abroad.

In fact, MNEs could choose to entry the host country for production and operation in the form of FDI, but also choose to produce in the source country and export to the host country, or choose to invest through foreign portfolio investment (FPI) and other ways. International capital decides to invest in FDI rather than other forms, that means FDI has comparative advantages over other investment methods. Helpman et al. (2004) make use of the difference between enterprise productivity and production cost, explain why the enterprises with the highest productivity usually choose horizontal foreign direct investment for production and sales, while the enterprises with lower productivity choose to export and supplying the domestic market, the enterprises with the lowest productivity could only limit their business scope locally, because the fixed cost of export is lower and the variable cost is higher. It is opposite to FDI, therefore only the enterprises with highest productivity could undertake higher fixed cost and gain variable cost advantage. Goldstein and Razin (2006) compare FDI and FPI investment and find that capital owners invest in the form of FDI enables to understand the details and operating conditions of the target company clearly, and the information advantage is reflected in higher resale prices, which explains why international capital is more likely to entry the developing countries in the form of FDI, while FPI is more common used in the investment to developed countries.

Meanwhile, other studies show that trade cost is an important determinant in the entry mode of international capital and the location choice of FDI (Bernard et al., 2007). In general, the level of trade cost is influenced by

geographical distance, production costs, tax rate, exchange rate fluctuations and other factors. Based on the knowledge-capital model, Carr et al. (2001) analyze the different motivation of horizontal and vertical FDI. In the former MNEs want to bring products close to consumers to avoid excessive trade costs, and the final products or services are no different from those produced by domestic enterprises, while in the latter MNEs transfer part of the production abroad, due to factor prices or market scale. If the R&D and production are carried out in different countries according to the level of skills and labor costs, the final products produced by enterprises in different countries are not the same. Fan et al. (2018) find that the increase in the minimum wage could explain the 32.3% increase in China's FDI in the period of 2001-2012, and this feature was stronger in foreign-funded enterprises, labor-intensive enterprises, coastal enterprises and productive FDI projects, which reflecting that rising labor costs in the source country of FDI is an important motivation for enterprises to invest abroad.

Blonigen (2005) highlights the role of taxation and exchange rate on the location choice of MNEs. Hines (1996) finds that foreign investors in countries with tax credits are more likely to invest in areas with higher tax rates in the United States, while investors who do not have such policy treatment usually choose to avoid high-tax areas, and FDI inflows increase average 7%-9% for 1% reduction in tax rates. The fluctuations of exchange rate will change enterprises' capital cost of internal financing and external borrowing of host countries. Froot and Stein (1991) study the relationship between exchange rate and FDI under the imperfect capital market model, and find that the appreciation of domestic currency increases the wealth growth of domestic enterprises, and provide more low-cost capital, thus increase foreign investment in devalued countries. Blonigen (1997) finds that the depreciation of the US dollar made Japan more likely to merge with American companies. Shi (2019) presents a similar conclusion from the macro model which including vertical FDI and exchange rate fluctuations in an open economy.

New economic geography emphasizes the realization of the effect of scale economies (Krugman,1999), in the context of professional division, it promotes local competitiveness of MNEs through the spillover effects brought by industrial agglomeration. Campos and Kinoshita (2003) find evidence that institutions, trade openness and industrial agglomeration are the three key factors affecting the entry of foreign investment in the economies of transition. Based on the cross-border investment experience of American manufacturing in the 1980s, Wheeler and Mody (1992) argue that although the government can attract foreign direct investment through taxes and other short-term incentives, while the effect is limited and high-cost. It is unnecessary for countries with good infrastructure, professional input suppliers and a growing market to join in the location competition. The key of attracting FDI is whether the local agglomeration economy could have enough influence. Empirical studies also show that the FDI elasticity of agglomeration effect to the same source country is about 0.11-0.15 (Bobonis and Shatz,2007). Majocchi and Presutti (2009) analyze the geographical distribution of foreign-funded enterprises in Italian manufacturing, and find that the impact of entrepreneurial culture and social capital on the investment choice of multinational enterprises is not stable, but the role of agglomeration economy is always significant. Using Swiss data, Brühlhart et al. (2012) find that enterprises with higher degree of industry agglomeration are much less sensitive to differences in corporate tax burden than those with lower degree of industry agglomeration, which reflecting that the agglomeration effect not only affects the location choice of multinational enterprises, but also reduces the sensitivity of high tax rates.

From the experience of FDI flow into China, industrial agglomeration can also explain the differences in the distribution of foreign direct investment effectively (Head and Ries,1996). Du et al. (2008b) use the data of American, European, Japanese and Korean FDI enterprises in China, verify that agglomeration economy and government institution have positive influence on the location choice of FDI. Higher horizontal and vertical agglomeration and better regional system can promote the inflow of FDI. At the same time, the horizontal agglomeration of foreign enterprises could overcome the negative effects of institutional defects to some extent. Luo et al. (2008) find that policy incentives for the greater western development strategy and industrial agglomeration, rather than traditional factors such as natural resource and labor costs, are the main reasons for the inflow of FDI into China's inland areas. After measuring the agglomeration degree through a variety of indicators, Chen (2009) argues that urbanization, foreign capital agglomeration and industrial diversity have a significant impact on the location choice of FDI in China.

From the above research, the advantage on trade cost and industrial agglomeration of the host country can provide multinational enterprises with lower variable production costs, and take the spillover effects brought by enterprise agglomeration, thus enhancing the attractiveness of FDI inflow.

#### 4. Market Scale and Natural Source

Owing to the limited market scale of the source country is, or the inflating demand of economic development for natural resource, seeking a large market overseas and abundant supply of natural resource is also a common reason for multinational enterprises to carry out foreign direct investment activities. Blonigen et al. (2007) use the sample of OECD countries, and find that although geographical distance is an objective factor of limiting FDI inflow, the establishment of export platforms to occupy the market is the important reason for the flow of FDI from the United States to Europe. A similar phenomenon also occurs in the FDI flowing into China. In the study of Wei (2005), he points out that the reason why China receives more FDI from OECD countries than India, which is China has a larger domestic market and has a closer international trade relationship with OECD countries.

In addition, the natural resource of the host country is also an important reason to attract FDI. The natural resource of the host country can not only increase the inflow of FDI, but also change the structure of foreign direct investment. Campos and Kinoshita (2003) observe that the conditions of abundant natural resource had a particularly significant impact on the FDI inflow of former Soviet Union countries. In the research of Asiedu (2006), compared with the policy and institutional factors of the host country, the market size and natural resource have more significant influence on the inflow of FDI in Africa. Poelhekke and Ploeg (2013) observe the impact of newly discovered oil resource on subsequent FDI flows in resource countries, and find that the discovery of new resource leads to a significant decline in non-resource FDI inflows to host countries.

The natural resource above mainly includes mineral, petroleum and other physical natural resource. However, the environmental resource of the host country may also be one of the purposes for FDI activities of multinational enterprises. For example, due to the strict environmental protection standards of FDI source countries, multinational enterprises may transfer part of high-polluting production activities to the developing countries with lax environmental protection, to avoid environmental regulations and reduce production costs, which is the so-called pollution paradise hypothesis (Copeland and Taylor, 1994). In the existing studies, it is often taken as the side evidence of pollution transfer, according to the phenomenon that reduction of FDI inflow as the intensity of environmental regulation and the increase of the emission cost in the host country, or multinational enterprises tend to entry the regions with loose environmental regulation and weak environmental policies (Chichilnisky, 1994; Keller and Levinson, 2002; Kellenberg, 2009). Combined with China's experience, foreign direct investment plays a double-edged sword role, it promotes economic growth, labor productivity improvement and technological innovation, while it also leads to the increase of urban pollution emissions (Wang et al., 2013). At contrast, some studies find that FDI is more likely to choose the regions with transparent and stable environmental regulation, and multinational enterprises prefer to use clean energy and technology, which effectively improves the local environmental quality (Eskeland and Harrison, 2003; Kirkpatrick and Shimamoto, 2008; Albulescu et al., 2019; Hille et al., 2019), we do not discuss here further.

According to the above research, the market size of the host country is attractive for multinational enterprises to transfer part of the production to the host country, so as to provide more convenient products and services for the local enterprises and residents. The affluence of natural resource also has a positive effect on the inflow of resource FDI, while it will cause a crowding out effect on non-resource FDI, which may affect the industrial structure and economic growth of the host country.

#### 5. Cultural Distance and Social Network

The increase in management costs caused by the increasing physical and cultural distance is also an important reason for the decrease in international investment of multinational enterprises (Blonigen and Piger, 2014; Blonigen et al., 2019). With the development of transportation facilities and communication technology, the geographical distance between the source country and host country is no longer the main determinant in FDI location decision, while the impact of cultural differences on FDI inflow and the entry mode of multinational enterprises has become increasingly prominent. Li et al. (2019) consider that compared to smaller, newer and non-state-owned enterprises, larger, older and state-owned enterprises in China usually own more resource, state-own enterprises pay less attention in the geographic distance which may lead to higher operating costs in the FDI activities, but they are poor to overcome big cultural differences due to lacking environmental adaptation ability. They use the data of 2001-2013 China's OFDI proves the hypothesis, and find that state-owned enterprises may pay more attention to cultural factors in the international investment. Du et al. (2012) use the data of foreign enterprises from six major source countries of FDI in China, and find that the larger the cultural distance between the source country and China, multinational enterprises are more likely to avoid the regions with poor economic system when choosing the location of international investment, and it was more obvious

when the enterprises were wholly foreign-owned.

Since international investment is faced with incomplete information and uncertainty, the existence of social network could increase the access to acquire information for investors, which could reduce the potential risks of foreign direct investment effectively, thus improve the willingness of FDI activities of multinational enterprises. Therefore, social network will also a important determinant of FDI location choice. Tan and Meyer (2011) find that the same source country of FDI tend to have more effective information exchange between investors, thus it is better to reduce negative effects which is brought by uncertainty. According to the FDI information of Vietnam, they find that when the institutional environment is worse and dependence of FDI in the local economy is greater, it is more likely to result in the enterprises come from the same source country gathered together, rather than the enterprise come from the same industry. Buch et al. (2006) use the data of German immigrants and find that the region where the immigrants come from the same country usually have higher FDI inflows. Gao (2003) find that the existence of Chinese social network significantly promoted the foreign direct investment in the source countries to China, through the proportion of Chinese population in the source countries of FDI. All the above studies verify the positive role of social networks in attracting FDI inflows.

## 6. Conclusion

Based on the summary of existing literature, this paper classifies the main determinants on FDI location choice of MNEs into four aspects, which are institution and investment environment, trade cost and industrial agglomeration, market size and natural resource, cultural distance and social network. First, in order to successfully carry out production and operation activities, multinational enterprises usually investigate the institution design and investment environment of the host country at the macro level, so as to reduce possible systemic risks such as political instability and sovereign crisis. Secondly, in order to reduce the trade cost with the host country, and take the productivity improvement brought by agglomeration effect, multinational enterprises prefer the areas with lower trade costs and higher degree of industrial agglomeration. Thirdly, for strategic purposes, multinational enterprises usually prefer the host countries with large markets and rich natural resource, while in the pursuit of natural resource by FDI activities, which may take a crowding-out effect on non-resource FDI. Finally, when the factors at above are relatively close, the cultural distance between the source country and host country of FDI has gradually become an important determinant on MNCs' location choice. The closer the cultural distance is, the less uncertainty the MNCs will face. When faced with the risks caused by incomplete information, the social network between the source country and the host country will increase the channel to get information for multinational enterprises, which could reduce the potential risk in the international investment.

Judging from the main content of this paper, when promoting opening up to the world, countries should continue to improve the institution quality and business environment, as well as the efficiency and integrity of governments, reduce the operating costs of enterprises, promote industrial agglomeration, increase household consumption with economic growth as the driving force, enforce cultural exchanges with the world, strengthen exchanges with other countries, to attract FDI and other types of investment, and promote the country's economic growth and social development better.

According to the United Nations Conference of Trade and Development report, due to the COVID-19 in 2020, global FDI activity has dropped by 42% compared with the same period last year, Predictably, it will have a long-term impact on international economic activities, including FDI. At the same time, countries' position in the global value chain may also reshape as a result of the impact of the epidemic. It is valuable to pay attention to the impact of COVID-19 on the real economy and the expected changes to enterprises and residents, it is also one direction of our following research.

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