

**INTENTION TO ADOPT ACTIVITY-BASED
COSTING IN JORDANIAN MANUFACTURING
INDUSTRY**

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INDUSTRY**

by

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DEDICATION

To my parents, who
always advised me to study and observe.

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LIST OF ABBREVIATIONS

AA	Activity Analysis
ABB	Activity-Based Budgeting
ABC	Activity-Based Costing
ABM	Activity-Based Management
ACA	Activity Cost Analysis
ASE	Amman Stock Exchange
CBJ	Central Bank of Jordan
CEO	Chief Executive Officer
GDP	Gross Domestic Product
IS	Information System
IT	Information Technology
JMFC	Jordanian manufacturing companies
ROI	Return on Investment
SPSS	Statistical Package for Social Sciences
TCS	Traditional Costing System
TQM	Total Quality Management
UK	United Kingdom
USA	United States of America
WCM	World-class manufacturing

KEINGINAN UNTUK MENERIMA PAKAI PENGEKOSAN BERASASKAN AKTIVITI DALAM INDUSTRI PEMBUATAN DI JORDAN

ABSTRAK

Penggunaan dan pelaksanaan Pengekosan Berasaskan Aktiviti (ABC) telah dikaji secara meluas di negara maju. Walau bagaimanapun, di negara-negara membangun seperti Jordan, penyelidikan mengenai isu-isu ini secara umum, dan dalam syarikat pegangan saham pembuatan Jordan secara khusus, masih sangat terhad. Penyelidikan ini cuba meningkatkan pemahaman penggunaan ABC dalam syarikat pegangan saham pembuatan Jordan. Sehubungan itu, kajian semasa telah meneroka faktor yang mempengaruhi penggunaan ABC dalam industri pembuatan Jordan. Maka, kajian ini menyiasat kesan inovasi & teknologi, struktur kos, komitmen pengurusan atasan, dan persaingan terhadap penggunaan ABC dalam sektor pembuatan Jordan. Selain itu, kajian ini menilai kesan pengantaraan penggunaan ABC antara hubungan inovasi & teknologi, struktur kos, komitmen pengurusan atasan, persaingan, dengan Prestasi Firma. Akhir sekali, kajian ini cuba menilai kesan penyederhanaan budaya organisasi dalam hubungan penggunaan ABC dan prestasi firma. Kerangka teori kajian ini adalah berdasarkan teori kontingensi dan resapan teori inovasi. Sampel kajian ini ialah industri pembuatan Jordan di seluruh Jordan dan dikenal pasti melalui persampelan rawak berstrata. Sebanyak 201 data telah dikumpul berdasarkan strata yang ditetapkan. Analisis data dilakukan menggunakan Smart PLS versi 3.2.8 dan SPSS versi 23.0. Hasil kajian menunjukkan wujud hubungan positif yang signifikan antara inovasi & teknologi, struktur kos, dan komitmen pengurusan atasan terhadap penggunaan ABC. Tambahan pula, hasil kajian juga mengesahkan peranan

pengantarpenggunaan ABC antara inovasi & teknologi, struktur kos, dan komitmen pengurusan tertinggi dengan Prestasi Firma. Akhirnya, hasil kajian ini mendedahkan bahawa budaya organisasi sederhana seperti yang dihipotesiskan. Kajian ini diharapkan dapat membantu pengurusan tertinggi industri pembuatan di Jordan dalam penggubalan dasar mereka tentang faktor-faktor yang berkaitan dengan inovasi & teknologi, struktur kos, komitmen pengurusan tertinggi, dan persaingan untuk mengguna pakai ABC dan seterusnya memberi kesan kepada prestasi firma.

INTENTION TO ADOPT ACTIVITY-BASED COSTING IN JORDANIAN MANUFACTURING INDUSTRY

ABSTRACT

Activity-Based Costing (ABC) adoption and implementation have been widely researched in developed countries. However, in developing countries like Jordan, research regarding these issues in general, and within the Jordanian manufacturing shareholding companies in specific, is still limited. The present research attempts to increase the understanding of ABC adoption in Jordanian manufacturing shareholding companies. In this wake, the current study has examined the factors influencing the adoption of ABC in the Jordanian manufacturing industry. Thus, this study investigates the impact of innovation & technology, cost structure, top management commitment, and competition towards the adoption of ABC in the manufacturing sector of Jordan. Moreover, this study evaluated the mediating effect of adoption of ABC between the relationships of innovation & technology, cost structure, top management commitment, competition, with Firm Performance. Finally, this study tries to assess the moderating effect of organizational culture in the relationships of adoption of ABC and firm performance. The theoretical framework of this study is based on the contingency theory and diffusions of innovation theory. The sample of this study was the Jordanian manufacturing industry across Jordan and was identified through Stratified random sampling. A total of 201 data was collected based on the assigned strata. Data analysis was done using Smart PLS version 3.2.8 and SPSS version 23.0. The results of the study showed that there exists a significant positive relationship between innovation & technology, cost structure, and top management

commitment towards adoption of ABC. Furthermore, the results of the study also confirmed the mediating role of adoption of ABC between innovation & technology, cost structure, and top management commitment with Firm Performance. Finally, the results of this study revealed that organizational culture moderates as hypothesized. This study is expected to help the top management of the manufacturing industry in Jordan in their policymaking on the factors related to innovation & technology, cost structure, top management commitment, and competition in order to adopt ABC and hence impact firm performance.

CHAPTER 1

INTRODUCTION

1.1 Introduction

ABC is widely regarded as the most significant management accounting breakthrough of the twentieth century. Nowadays, businesses confront intense competition on a worldwide scale, placing a premium on productivity and cost reduction. Thus, developing a mechanism for rigorously and precisely calculating the costs of the many products manufactured by the same company has evolved into a truly strategic objective (Almeida & Cunha, 2017). To overcome the shortcomings of traditional costing and to improve its precision and accuracy, accounting experts presented the ABC technique, which establishes that resources are consumed by activities and then by products and services.

ABC costing has been defined as a more efficient way for distributing overhead costs, determining the profitability of products, and managing operating costs. Additionally, the findings of various research indicate that utilising volume-based costing to compute product costs results in incorrect reports that are unsuitable for decision-making (Allain & Laurin, 2018a). On the other hand, experts and proponents of ABC assert that adoption will result in cost savings of three to five percent and revenue growth of five to fifteen percent (Yahiya & Rbaba, 2014; Malik, Al Jasimee & Alhasan, 2019).

Numerous studies have determined that only about 20% to 30% of businesses, particularly in industrialised nations, use ABC (Arnaboldi & Lapsley, 2005; Cugueró-Escofet & Fito, 2016). Other research, on the other hand, found that many businesses

implementing ABC are still in the early stages of adoption, particularly in wealthy countries (Al-Nuaimi, Mohamed, & Alekam, 2017; Zhang, Namazi, & Isa, 2017). ABC's adoption rate was poor in the 1990's, both in the United States of America (USA) and Europe. According to Grott (1999) and later Kajüter and Schröder (2019), approximately 18% of the investigated companies in the United States of America had implemented ABC, while 58% were exploring the idea.

Abdallah and Li (2008) demonstrated that in the United Kingdom (UK), in 1994, 352 out of 544 largest corporations (64.7 percent) used ABC, however between 1994 and 1999, only 177 out of 348 largest companies (51%) used ABC, indicating a static trend. However, statistics indicate that the current ABC adoption rate is between 16% and 20%. In continental Europe, such as Germany, Hungary, and the Netherlands, research indicates that ABC approaches are adopted at a slower rate (Quinn, Elafi, & Mulgrew, 2017). With the exception of France and Belgium, where adoption rates hovered around 20%, many countries have rates around 10%. (Clarke et al., 2002; Namazi, 2016). Agbejule (2006) discovered that the ABC adoption rate had increased from zero in 1986 to 104 adoptions in 1995 in a sample of 490 Finnish industrial businesses. The primary grounds for Finland's adoption of ABC were a lack of trust in the previous system's information in the new operating environment and the old system's inability to satisfy current managerial needs (Agbejule, 2006). The current rate in Finland, however, is unknown. In Canada, approximately 23% of surveyed businesses implemented ABC, while 18% contemplated adopting and 4% considered adopting in the near future (Cohen, Venieris, & Kaimenaki, 2005; Kneevi, 2010; FitóBertran, Llobet, & Cuguero, 2018). According to a survey of German businesses (services, insurance, banking, retail, and manufacturing), only 7% of

respondents use ABC as a stand-alone system, while 24% use ABC in conjunction with other cost systems, tools, and techniques (Friedl et al., 2009; Kajüter & Schröder, 2019; Angelopoulos & Pollalis, 2017). As such, one may claim that ABC is utilised in conjunction with other accounting systems.

Following 2005, studies from Australia and Asia present a contradictory picture. ABC adoption rates range between 12 and 56%. For example, Japan has low adoption rates, but businesses are exhibiting greater interest in adopting ABC; nevertheless, researchers in India identified ABC adoption rates of between 20% and 23% in 2018. (Cohen et al., 2005; Arora & Raju, 2018). Australia reported significant diversity in ABC adoption rates, with many reporting low rates of adoption in the private sector of between 10% and 17%. (Baird, 2007).

Numerous studies have also demonstrated that the majority of implementation attempts resulted in the limited adoption of ABC in insignificant services or underutilised systems. Additionally, there is mounting evidence that the majority of these businesses encountered difficulties during the ABC implementation process. Following their failure to attempt ABC, they abolished the ABC system entirely (Cagwin & Bouwman, 2002; de Treville, Cattani, & Saarinen, 2017; Mahal & Hossain, 2015). On the other hand, Traditional Costing Systems (TCS) are still widely used in the majority of businesses. This brought up the fundamental question of why management accounting advances, such as ABC adoption, have been so slow to catch up with the ever-changing, rapid speed of change in the organisational and technology environment over the preceding two decades.

However, in recent years, ABC has been advocated as a framework for strategic decision-making and profit improvement. McGowan and Klammer (1997) remarked, however, that while ABC has gained widespread acceptance, there remains much

disagreement over its efficacy. The contribution of ABC to an organization's bottom line improvement remained unclear. According to Tarr (2001b), ABC delivers the most value to an organisation when used as the information foundation for controlling and enhancing business. Additionally, Dodd, Lavelle, and Margolis (2002) argued that ABC is an effective strategy for increasing profit for businesses. Plowman (2001) corroborated this and suggested that ABC enables profitability to be increased. Contributing to this, Rafiq and Garg (2002a) discovered a strong correlation between increased performance and ABC application in their recent investigations. Cagwin and Bouwman (2002), on the other hand, suggested that additional strategic business initiatives such as total quality management (TQM), just-in-time (JIT), business process reengineering (BPR), and financial management systems (FMS) should be used to link ABC to improved financial performance. Except when combined with TQM, JIT, BPR, or FMS, there is no empirical proof that ABC increases financial performance (Cagwin & Bouwman, 2002, and Roztocki, 2001b). Thus by taking manufacturing industry of Jordan as the unit of analysis, this study has examined the factors affecting ABC implementation.

This study is focused on Jordan specifically since the manufacturing industry in Jordan is increasing, and with that expansion comes new accounting and economic issues for businesses. The most significant challenge began in 2000, when Jordan joined the World Trade Organization (WTO) and negotiated free-trade agreements with other parties, including the European Free Trade Association (EFTA), Jordan Free Trade Agreement, and other nations around the world in 2001 (Ministry of Industry and Trade, 2016). These agreements enticed more multinational firms to establish operations in Jordan, resulting in modifications to Jordan's management accounting procedures. These changes may be motivated by Jordanian businesses' desire to incorporate cost accounting innovations in

order to maintain a competitive edge in the market (Al-Halabi & Shaqqour, 2018).

According to the Jordanian Chamber of Commerce, Jordan has 17,966 enterprises, of which 2,281 are significant industrial enterprises (Jordan Chamber of Commerce, 2020). Additionally, manufacturing is the primary driver of economic growth in Jordan (Hasan, 2017). In 2020, manufactured exports amounted for 83.69 percent of overall industrial exports, including leather, chemical, food, plastic, and information technology. In Jordan, ABC adoption and implementation are being considered as a viable alternative to the more traditional methods of obtaining the benefits of ABC, such as arbitrary allocation of overheads to products, services, and customers (Al-Nahoud & Bani-Khalid, 2019; Rankin, 2020; Nassar, Aldeen Al-Khadash, & Sangster, 2011).

However, no substantial amount of scientific evidence exists to support the supposed benefits of ABC (Mahagaonkar & Kelkar, 2017; Oseifuah, 2018). Empirical study is required to ascertain the (financial) costs associated with ABC adoption (Byrne, Stower, & Torry, 2009; Durana, 2019). Additionally, there are only a few research available that examine ABC uptake in the Jordanian context. As such, the purpose of this research is to determine the key factors driving ABC adoption in Jordan.

The current study examined the elements that influence ABC adoption in Jordan's manufacturing industry. The chapter opens with introductory sections that discuss the study's context, problem statement, research objectives, research questions, definition of important words, the study's importance, and the organisation of the subsequent chapters.

1.2 Background of the Study

The studies on ABC adoption is overwhelmingly positive (Allain & Laurin, 2018; Bataineh, 2018; Bjrnenak & Mitchell, 2002). Until recently, the majority of scholars

believed that ABC could be the solution for many businesses because it improves business processes; it promotes rationality, efficiency, and ultimately profitability (Jansen, 2018); others concluded that ABC has a value-enhancing effect on pricing decisions and profit performance because it enables better price differentiation among products, customers, and markets; it filters out less relevant competitor prices from the decision-making process (McFarland, 2018).

The essential distinction between Traditional Costing (TC) and ABC is the technique by which indirect costs are allocated to specific cost objects (Brierley, 2010). While TC generally allocates indirect costs to cost objects using a single metric such as direct labour dollars or hours, ABC allocates indirect costs based on the resources spent, resulting in an enhanced cost object cost (Balakrishnan, Labro, & Sivaramakrishnan, 2011a, 2011b). However, despite the apparent demand for increased cost objectivity and accuracy, current research and studies indicate that businesses have not widely implemented ABC. On average, only 20% to 30% of businesses worldwide use ABC (Albalaki, Abdullah & Kamardin, 2019; Askarany, Yazdifar, & Askary, 2010; Alsayegh, 2020).

Most firms have seen rapid changes in their business environment in recent years. Management issues have been exacerbated by deregulation, as well as increased global rivalry and shorter product life cycles as a result of technology developments (Abdel-Kader & Luther, 2008; Fei & Isa, 2010b; Narong, 2009; Narsaiah, 2019). The development of modern manufacturing technology has resulted in increased automation and cost structure adjustments. Thus, accounting researchers paid close attention to the ABC scheme (Hanini, 2018). This field of accounting has been examined from a variety of angles. These include adoption drivers (Alsayegh, 2020; Aljabr, 2020; Ahmadzadeh,

Etemadi, and Pifeh, 2011; Al-Omiri & Drury, 2007; Anderson, 1995; Anderson & Young, 1999), factors associated with successful adoption (Madwe, Stainbank, & Green, 2020; Al-Omiri & Drury, 2007; Fei & Isa, 2010), and benefits associated with ABC (Hamid, 2021; Madwe, Stainbank, & Green, 2020; Abu Salama, 2008).

According to previous studies (such as Innes, Mitchell, & Sinclair, 2000; Popesko, 2010; Turney, 1996), ABC is a way for quantifying the cost and performance of activities and cost objects. It assesses costs to activities based on their resource use. Following that, it assigns costs to cost objects based on their activity usage. However, traditional cost accounting differs from it, as it is predicated on the premise that cost objects use resources (Vongchavalitkul, 2010). There is a dearth of empirical research on the ABC system's acceptance in countries throughout the world, and particularly in Arab countries (Hamid, 2021; Al-Otaibi, 2006). As a result, this research is likely to pave the way for future research on the Arabic world in general and the Jordanian environment in particular. This study examined the elements impacting the widespread adoption of ABC in Jordan's industrial sector, which is greatly needed.

Jordan's economy is generally market-oriented, but it includes both public and private sectors, with the government playing a significant role in overseeing and regulating the economy and attracting international investment. As a result, the production shareholding sector is today seen as a critical area of the economy that the country should prioritise in order to ensure the success of economic growth (Central Bank of Jordan, 2018). The production shareholding domain is primarily private sector-owned and is dominated by medium- and small-sized businesses (Hutaibat, 2005). Jordan's production shareholding sector is a subset of public stock corporations. Thus, in Jordan, a business that is public shareholding in nature may be founded by two or more shareholders whose responsibility

is limited to their respective portion of the firm's stock. The minimum amount of capital permissible is JD 500,000. Capital allocated must exceed JD 100,000 or 20% of approved capital. Jordan's manufacturing sector is comprised of 92 sectors classified as electrical, chemical, construction, food and beverage, engineering, ceramic and glass, paper and carton, cigarettes and tobacco, medical and pharmaceutical, packaging and printing, leather and textiles, and extraction and mining etc. Jordan shareholding's production enterprises were effective in establishing export markets, bringing in the most desired cash. There is no doubt that the overall contribution of production shareholding organisations to Jordan's GDP in 2019 will remain at 20%, as stated in the Ministry of Planning's report, The economic parameters, Amman, Jordan, 2019). Following that, the nature of exports is anticipated to account for 93.5 percent of total national exports. According to a report, the total number of production companies in Jordan is around 21,000, with over 173,000 employees; this represents roughly 48% of the total number of employees in Jordan (Ministry of Planning Report, The Economic Indicators 2009, Amman, Jordan, 2019).

Jordan became a member of the World Trade Organization (WTO) and signed Free-Trade Agreements with various parties, demonstrating that Jordan has developed into a potential centre for the advancement and expansion of the manufacturing sector (Central Bank of Jordan, 2007). Jordan's accession to the WTO necessitated the establishment of economic sectors, particularly production shareholding corporations, as this is the primary ideology behind a free market economy (Ministry of Industry and Trade, 2007). Additionally, Jordanian manufacturing companies created and increased their holdings to nearly 21% of GDP by 2006 as a result of the US-Jordan Free Trade Agreement, which was approved by the US Senate in 2001. This agreement resulted in the establishment of about 1,000 qualified industrial zones (QIZs) throughout the country (Ministry of Industry

and Trade, 2007). Generally, QIZs provide duty-free access to the US market and generate several products in the manufacturing business, such as ready-made clothing. In 2006, the QIZs were attributed to over US\$1.1 billion in exports based on official statements from the Jordanian government (Ministry of Planning Report, The Economic Indicators 2009, Amman, Jordan, 2009). Jordan's biggest exports in 2019 were calcium phosphates (\$672 million), knit sweaters (\$524 million), other knit garments (\$490 million), packaged medications (\$409 million), and potassic fertilisers (\$402 million).

It has been claimed that Jordan's membership to the WTO resulted in an increase in multinational corporations establishing joint ventures or regional offices in Jordan, which resulted in revisions to Jordan's management accounting practices. These revisions will be put to the test when Jordanian businesses are required to use cost accounting innovations in order to maintain a competitive advantage in the market. Significant economic progress in Jordan over the last two decades has resulted in a massive increase in the number of accountants, and the open economy is currently shifting toward an export-oriented economy, resulting in increased demand for the accounting profession, particularly in terms of practicality and expertise. As a result, it is recommended that businesses control, plan, and make decisions on projects that will ensure their survival, which can be accomplished through the use of cost accounting advancements (Hutaibat, 2005). Additionally, the steady expansion in the number of international corporations establishing operations in the region is the primary reason for Jordanian manufacturing companies to believe they are impacted by foreign accounting standards. Indeed, while "cost accounting methods" are not totally consistent (Luther and Longden, 2001, p. 315), certain approaches can be adopted and used in the context of Jordanian manufacturing joint stock enterprises.

As a result, this research has filled a knowledge and understanding gap about the various elements affecting ABC adoption in the Jordanian setting. As far as the researcher is aware, this is one of the few studies completed in the Jordanian context, as very little empirical research has been conducted to examine the feasibility of ABC adoption in Jordan's manufacturing industry. In this regard, the current study situates the Jordanian Manufacturing Industry within the specific objective of examining the elements influencing the adoption of ABC and therefore the firm's performance.

1.3 Problem Statement

Most of the Jordanian companies are still using the traditional costing system and that they are not familiar with the ABC system (Bataineh, 2018). Meanwhile, the adoption level of ABC in Jordan is still unexplored and all factors that affect the adoption of ABC. The adoption levels of the ABC in Jordanian manufacturing industry accounted for approximately 10% in 2001 (Khasharmeh, 2002), and afterwards, the level has not increased. Specifically in Middle Eastern context, the lack of accuracy in selecting the cost drivers and factors such as innovation, competition and top management commitment might be the main challenge to the adoption of the ABC (Al-Ghazzawi's, 2003; Hasan, 2017; Al-Qudah & Al-Hroot, 2017; Al, & Al, 2017; Rababah & Bataineh, 2016).

In Jordanian context, the studies have analyzed the improvement in financial performance associated with the use of ABC (for instance see, Al Kadash & Mahmoud, 2012). The results indicated that the intention level of using the ABC is high among financial managers even though the adoption of the ABC was still very low (10% to 15%). Since the past two decades, Jordanian companies have been facing strong competition due to shortened product life cycles and new kinds of customers (Abu Mogli, 2008). In this

environment, the number of products produced had increased with more complexity and diversity in the production process. While the use of technology in the production process had reduced direct labors cost, it increased overhead costs (Al- Khadash & Feridun, 2006; Hutaibat, 2005; Cavalcanti, 2016). Despite the many advantages of the ABC adoption, the problem is that ABC is implemented only by 20% to 30% of organizations in different parts of the world (Askarany & Smith, 2008; Innes et al., 2000; Innes & Mitchell, 1995; Kaplan & Anderson, 2004; Stratton, Desroches, Lawson, & Hatch, 2009). In addition, other studies (e.g. Arnaboldi & Lapsley, 2003; Byrne, Stower & Torry, 2009; Chung, Schoch & Teoh, 1997; Faudzaih & Rababah, 2011, 2012; Rasiah, 2011; Velmurugan & Nahar, 2010; Upadhyaya, 2017) revealed that many companies adopting ABC are still at the early stage of ABC adoption

In Jordan, Al-Khadash and Feridun (2006) and Hasan (2017) validated the result of Khasharmeh (2002) when they found that the adoption of ABC was less than 10.6% in the manufacturing industry. Moreover, there is rising evidence to suggest that most of these companies faced problems during the adoption of ABC and, in extreme cases did not have success with it, which later resulted in abandoning the ABC system altogether (Nassar et al., 2011). However, in case of Jordan specifically, there is scarcity of research literature that evaluated the impact of ABC on firm performance. The available research literature has established that ABC adoption positively impacts company financial performance through improved strategic decision-making and operational evaluation based on accurate cost and object costs (Ahmad, Teng, & Zabri, 2017; Al-Saidi & Gowda, 2015; Botha & du Toit, 2017; Byrne et al., 2009; Elhamma, 2012; Hasan, 2017; Hutaibat, 2005; Jänkälä & Silvola, 2012; Nuhu et al., 2017; Zhang, Hoque, & Isa, 2015). Few of these researchers claim that factors that affect the adoption of ABC had stronger associations with the ABC

in comparison with organizational culture. Fei and Isa (2010) stressed that only few research have studied the role of culture on ABC successful adoption.

Currently, there is a lot of competition among Jordanian companies due to the expansion of business sector (Azzam, 2014). In the past decade, Jordan is passing through an important phase of its industrial development, which is characterized by a new challenge arising from the fact that companies are expected to face increased competition due to the new world policy of having internationally open markets (Hasan, 2017). Jordan has free trade agreements with many countries which is why Jordan encourages foreign investment by giving foreign companies many incentives and exemptions. Most of these investments went into industrial projects (Jordan Investment Board, 2019). This has led to increased competition in the Jordanian market.

Understanding the reasons of why ABC is not more widely adopted can provide invaluable information to companies contemplating, adopting or using ABC. The available empirical research has shown mixed results on ABC adoption and its ability to improve firm performance (Doyle, Duffy, McCahey, & Schools, 2008; Pavlatos, 2010; Hadid, 2019) and there is a dearth of literature to find the relationship between different factors to adopt ABC in industrial sector of developing economies. Therefore, this study has aimed to examine the relationship between factors affecting ABC (innovation & technology, cost structure, top management commitment, organizational culture and competition) and adoption of ABC and further its impact on firm performance.

1.4 Research Objectives

Based on the problem statement discussed above, the present research will explore the adoption of ABC with the help of the following objectives:

- 1) To examine the factors (innovation & technology, cost structure, top management commitment and competition) influencing the intention to adopt ABC.
- 2) To examine the relationship between the intention to adopt ABC and firm performance.
- 3) To examine the mediating effect of the intention to adopt ABC on the relationship between factors affecting ABC (innovation & technology, cost structure, top management commitment and competition) and firm performance.
- 4) To examine the moderating effect of organizational culture on the relationship between the intention to adopt ABC and firm performance.

1.5 Research Questions

This study has the following research questions to address the above research objectives.

- 1) Do innovation & technology, cost structure, top management commitment and competition influence the intention to adopt ABC?
- 2) Is there any relationship between the intention to adopt ABC and firm performance?
- 3) Does the intention to adopt ABC mediate the relationship between the factors (innovation & technology, cost structure, top management commitment and competition) and firm performance?
- 4) Does organizational culture moderate the relationship between the intention to adopt ABC and firm performance?

1.6 Significance of the study

Although previous research has established that the intention to adopt ABC is country-specific (Askarany & Yazdifar, 2012), they have been unable to establish a consistent association between other parameters and ABC adoption, with the exception of the

importance of cost information (Askarany et al., 2010; Charaf & Bescos, 2013; Schoute, 2011). Thus, the outcome of this work has benefited both conceptually and practically.

1.6.1 Theoretical Perspective

From a theoretical standpoint, this study's overall model is based on contingency theory and diffusion of innovation theory. These theories presuppose a relationship between the adoption and intention to adopt management accounting systems and performance effectiveness (Haldma & Lääts, 2002). Additionally, the contingency-based approach presupposes that management accounting systems are used to accomplish organisational goals and improve the firm's performance. These theories have been rarely tested in Jordan's unique cultural and socioeconomic contexts. As a result, this is also a significant aspect of this study.

Additionally, the findings from this study contributed to the growing corpus of ABC adoption literature, expanding our understanding of the various characteristics that predict ABC adoption. Understanding the relationship between the various aspects affecting ABC adoption is crucial for businesses to build a process for correctly evaluating the merits of ABC and maybe other MA advances for their current and future operational environments. Additionally, knowing the factors underlying low ABC acceptance can assist businesses in identifying the influence of their own and industry sector-specific factors on ABC adoption.

The adoption of ABC and the intention to adopt ABC has been studied empirically, elucidating the organisational and technical variables that determine its success (Brown, Booth & Giacobbe 2004; Anderson & Young 1999). Other research examined the relationship between these success characteristics and ABC success measurements (Foster

& Swenson 1997; Shields 1995). Businesses that have not implemented ABC have cast doubt on its practical merits (Innes & Mitchell 1998). This study examined these challenges and developed a model for the successful adoption and implementation of ABC systems. While the model is based on previously published research, it was refined and evaluated in this work.

1.6.2 Practical Perspective

From a practical standpoint, because it is well recognised that ABC may contribute significantly to an organization's performance in developing economies such as Jordan, this research will provide a valid explanation for current trends in the intention to adopt ABC, ABC acceptance, adoption, and success. This quantitative study considerably increased the body of information regarding the intention to adopt ABC and ABC adoption by manufacturing firms in developing nations by using Jordan. The findings of this study can be utilised by industry to justify initiating, concluding, or continuing to use ABC.

Additionally, understanding the relationship between the intention to adopt ABC and other parameters can provide a large competitive advantage for adopters and a significant competitive disadvantage for non-adopters. For non-ABC adopting companies, the study's findings provided insight into whether their competitors have adopted ABC, which may influence their decision to adopt. For businesses considering the intention to adopt ABC, the findings of this study may have an effect on their decision. For companies that have embraced ABC, the study's findings informed and reinforced their decision, while also providing insight into the chance that their competitors have adopted ABC. For policymakers and regulators, the study can aid in the development of an efficient management system based on activities, allowing for resource reallocation and structural

cost reduction, hence supporting increased profitability, even in increasingly competitive settings.

1.7 Definition of Key Terms

For clarity of understanding to the reader in comprehending the context of the research, definitions of key terms used throughout this research are presented. While not exhaustive, this list includes terms germane to the investigation of the relationship among different factors and ABC adoption.

Activity-based costing (ABC). Activity based costing is a managerial accounting method that traces overhead costs to activities and then assigns them to objects. It is a way to allocate indirect, overhead costs to products or departments that generate these costs in the production process (Maiga & Jacob, 2007).

Adoption of ABC. Adoption of ABC for this study refers to the intention to adopt ABC. This study defines ‘the adoption of ABC’ as the adoption of the idea of ABC due to the fact that the idea, although it may not be implemented at all, still affects the way of thinking in an organisation (Bjornenak 1997). Hence, the adoption rate of ABC in the study includes a number of firms with intention to adopt ABC, which are defined as firms that have implemented ABC, are currently implementing it or plan to do so.

Competition. Competition is a key situational factor in the total number of factors that comprise the firm’s environment. This study conceptualized market competition as consisting of price, product differentiation, product distribution and other market factors (Chong & Rundus, 2004).

Cost structure. Cost structure refers to the various types of expenses a business

incurs and is typically composed of fixed and variable costs. Fixed costs are costs that remain unchanged regardless of the amount of output a company produces, while variable costs change with production volume (Pavlatos, 2011).

Top Management Commitment. Direct participation by the highest-level executives in a specific and critically important aspect or program of an organization (Intakhan, 2014).

Innovation & Technology. Innovation and Technology is the ability of an organization to adopt new products and processes and significant technological changes of products and processes (Askarany, Smith & Yazdifar, 2007).

Organizational culture. A set of shared values, norms and beliefs in the organization that get everybody heading in the same directions (Baird, Harrison & Reeve, 2007).

Firm Performance. Firm Performance can be characterized as a measure of a firm's efficiency and effectiveness. Firm Performance is considered as the achievement of the firm's targets in terms of quality, market share, service, cost and productivity (Škerlavaj, Štemberger & Dimovski, 2007).

1.8 Organization of the Chapters

The study is organized into sequentially related chapters. Chapter 1 presents the background of the study being conducted, highlighting the research problems, research objectives and the research questions and significance sought in the study. Chapter 2 is the literature review that has presented a summary of pertinent previous studies and their findings on the issues of innovation & technology, cost structure, top management

commitment, competition, Firm Performance, adoption of ABC, organizational culture and Firm Performance. Chapter 2 also presented the theoretical framework and formulation of the research hypotheses of this study. Chapter 3 has provided the research methodology employed in the current study. It contains a detailed discussion of the research design, population and sample determination, data collection procedures, measurement instruments, and the statistical analyses employed in the study. The fourth chapter presents the analysis and outcome of the empirical data collected. Finally, the conclusion drawn from the findings is to be presented and discussed in Chapter 5.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter exhibits all the research work that has already been done on the variables currently under study. The chapter starts with a detailed review of the fundamental theories on which the current research is based and a concise description of the previous literature about ABC. Then the literature review is followed by findings of the research regarding the performance of the business, the culture of the organization, modernization and technology, adoption of ABC, higher management, cost structure, competition, and dedication. This is followed by forming a theoretical framework based on the literature review and its underlying theories, which leads to the identification of research gaps and their justification. At the end of this chapter, research hypotheses are established, followed by a summary of the overall discussion.

2.2 Underlying Theories

The researchers discovered a dearth of theoretical frameworks when they examined the adoption of ABC (Oseifuah, 2018; Zhang et al., 2017). The current study examines the implementation of ABC from a contingency theory and innovation theory perspective.

This research aims to examine all aspects of ABC adoption and the factors that influence it in Jordan's manufacturing industry. The following ideas appear to be rather appropriate after a thorough examination of the relevant literature for the current investigation. Theories such as contingency theory, diffusion of innovation theory, expectancy theory and theory of constraints have been widely used to explore the factors

impacting the intention to adopt ABC. As originally formulated by Vroom (1964), expectancy theory explains how an individual chooses between alternative forms of behavior and continues to be used in a variety of contexts to provide a motivation theory-based explanation for individual behavioral intentions (Baker, Ravichandran, & Randall, 1989; Fusilier, Ganster, & Middlemist, 1984; Harrell, Caldwell, & Doty, 1985; Nickerson & McClelland, 1989; Isaac et al., 2001). The essence of expectancy theory proposes that individuals will exert effort to do those things that are expected to lead to outcomes that they value (or find attractive); it has often been referred to as an expectancy-value theory. Thus, an individual's perception of the likelihood that effort will lead to specific outcomes, coupled with the perception of the attractiveness of those outcomes, are proposed under the theory to be important determinants of that individual's motivation to perform particular acts. In the context of this study, the theory proposes that the motivation of the company to use an ABC system is determined by his/her perception of the likelihood that the ABC system will lead to specific outcomes, coupled with the his/her perception of the attractiveness of those outcomes.

While the theory of constraints is a five-step management philosophy/methodology that focuses on identifying and correcting the bottleneck of the process. The steps are identifying the constraint, exploiting it, altering the rest of the system to aid in the elimination of the bottleneck, improving the constraint and repeating the process. However, the relationship between ABC and numerous work-related components is best explained by contingency theory, demonstrating the topic's significance as explained by Lodhi, Batool, and Iqbal, Malmi and Granlund (2009), Luft and Shields (2003), and Zhang et al. (2017). Additionally, prior research indicates that adopting ABC is exceptionally advantageous to a firm's performance, provided it can meet complex needs and preserve

stability among its constituents. (Malik, Al Jasimee, and Alhasan, 2019; Chenhall, 2003; Otley, 2016; Sartorius, Eitzen, and Kamala, 2007; Sartorius, Eitzen, and Kamala, 2007). The following section of this chapter will discuss the applicability of contingency theory to the current investigation.

2.2.1 Contingency Theory

Contingency theory sheds light on the ABC implementation dynamics (Pham, Nguyen, Doan & Pham, 2021; Cadez & Guilding, 2017; Alexander, 2017; McAdam, Miller, & McSorley, 2016, 2019; Otley, 2016). From the 1960s to the present, this idea has been used to explain changes in management accounting procedures. As a result, this study will be founded on this hypothesis. Pham et al (2021), Lagstedt and Dahlberg (2018), Thompson (2017), Donaldson (2001), and Morgan (1996) build on the rules of contingency theory in terms of organisational practice. Organizations are fundamentally an open system that requires careful management to meet and stabilise internal requirements and adapt to changing environmental conditions.

Additionally, there is a lack of a single optimal method of management. The appropriate form is determined by the nature of the work or circumstance. Another critical issue is that the management's primary purpose must be to achieve alignments and good fits. Finally, changing circumstances necessitate the formation of diverse types of organisations.

The core notion of contingency theory is a lack of universally applicable best management practices that are feasible in all scenarios (Haveman & Wetts, 2019; Gordon & Miller, 1976; Otley, 1980). According to contingency theory, no uniform organisational structure will work for any organisation (Clegg & Hardy 1999, p. 51; Haveman & Wetts,

2019; Kitsantas, Vazakidis & Stefanou, 2022). The optimal organisational structure varies according to company size and strategy. Contingency theory must identify unique characteristics of an accounting system that are associated with specific scenarios and provide a proper match (Otley 1980, p. 414; Sharma, 2019). Management control systems (MCS) research is being conducted to assess how well-designed and implemented MCS (ABC, a subset of it) are at resolving the selected factors. These are situational aspects that may influence the pattern of MCS. They include external factors such as culture and environment and internal factors such as size, structure, and technology.

Drazin and Van de Ven (1985) distinguished three theoretical frameworks for contingency fit. These views are as follows: (1) Fit for Selection, (2) Fit for Interaction, and (3) Fit for System. Numerous selection studies (Abdel-Kader & Luther 2008; Gosselin 1997; Krumwiede 1998; Kranich & Wald, 2018) examine the association between various MCS characteristics and phases without making any conclusions about organisational success. The hypothesis in selection fit is that businesses operate in a balanced environment (Hoque 2006). Interaction studies (Cagwin & Bouwman, 2002; Ittner, Lanen & Larcker, 2002) evaluate various MCS patterns and reveal that multiple components operate differently. The hypothesis in interaction fit is that a small number of organisations operate in an unbalanced manner (Hoque, 2006). System studies (Chenhall & Langfield-Smith, 1998; de Lautour, 2018) highlight the structure of MCS as a separate factor affecting performance outcomes. The aggregate of multiple contexts and performance indicators results in a measure of system fit. As a result, organisational characteristics are developed to address specific conditions to maintain high performance (Donaldson, 2001; Daowadueng, 2019). These are discussed in greater detail in the following section.

2.2.2 Previous studies that used contingency theory

The idea of contingency sheds light on the dynamics affecting the implementation of ABC (Mazbayeva, Barysheva, & Saparbayeva, 2021; Cadez & Guilding, 2017; Alexander, 2017; McAdam, Miller, & McSorley, 2016, 2019; Otley, 2016). Between the 1960s and the present, this idea has been used to explain changes in management accounting procedures. As a result, our study will be built on this hypothesis. Hamid (2021) Lagstedt and Dahlberg (2018), Thompson (2017), Donaldson (2001), and Morgan (1996) all expand on the rules of contingency theory as they apply to organisations. Organizations are primarily comprised of an open system that necessitates judicious management to meet and stabilise internal needs and adapt to changing environmental conditions.

Additionally, there is no one-size-fits-all management strategy. The appropriate format is determined by the nature of the task or circumstance. Another critical factor is that management's primary goal must be to achieve alignments and fit. Finally, changing circumstances necessitate the formation of various organisational forms.

The core tenet of contingency theory is a dearth of universally applicable best management practises that are effective in all conditions and applicable to all organisations (Haveman & Wetts, 2019; Gordon & Miller, 1976; Otley, 1980). According to contingency theory, no one-size-fits-all organisational structure will work for any organisation (Clegg & Hardy 1999, p. 51; Haveman & Wetts, 2019). The optimal organisational structure varies according to the size and strategy of the organisation. Contingency theory must identify certain characteristics of an accounting system associated with specific scenarios and provide an appropriate match (Otley 1980, p. 414; Sharma, 2019). Management control systems (MCS) research is being conducted to assess

how well-designed and implemented MCS (ABC, a subset of them) are at resolving the selected factors. These are situational factors that may affect the pattern of MCS. They include external factors such as culture and environment and internal factors such as size, structure, and technology.

Drazin and Van de Ven (1985) distinguished three theoretical approaches to contingency fit. (1) Selection fit, (2) Interaction fit, and (3) System fit are the three views. Several selection studies (Abdel-Kader & Luther 2008; Gosselin 1997; Krumwiede 1998; Kranich & Wald, 2018) examine the association between various MCS characteristics and phases without making any conclusions about organisational effectiveness. In selection fit, the notion is that businesses operate in a balanced manner (Hoque 2006). Interaction studies (Cagwin & Bouwman, 2002; Ittner, Lanen, & Larcker, 2002) evaluate various MCS patterns and discover that multiple components behave differently. In interaction fit, the notion is that a small number of organisations operate in an unbalanced fashion (Hoque, 2006). System studies (Chenhall & Langfield-Smith, 1998; de Lautour, 2018) identify the geometry of MCS as a separate element affecting performance outcomes. A system's fit is determined by the aggregate of multiple contexts and performance metrics. As a result, organisational characteristics are geared toward resolving problems and sustaining high performance (Donaldson, 2001; Daowadueng, 2019). The following section expands on each of these points.