

**T. C.
OKAN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES**

**THE IMPACT OF ORGANIZATIONAL AGILITY AND
ORGANIZATIONAL LEARNING CAPABILITY ON COMPETITIVE
INTELLIGENCE**

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(132016004)**

DOCTORAL DISSERTATION

DEPARTMENT OF BUSINESS ADMINISTRATION

PROGRAM OF BUSINESS ADMINISTRATION (ENGLISH)

ADVISOR

Prof. Dr. Uğur Yozgat

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ABSTRACT

In today's unpredictable economy and intensive forces of globalization, organizations must do their best to keep pace with the rapid and extensive ever-changing business environment for the sake of long term surviving and success. Both organizational agility, which is the organizational ability to proactively detect and quickly and effectively respond to sudden and unpredictable changes within business environment, and facilitating factors of organizational learning are considered as prerequisites for organizational survival in today's markets. Organizations must know their competitors if they need to survive in contemporary shrinking markets, through supporting intelligence activities and considering CI as a formal activity.

This dissertation, using means of quantitative approach, seeks to make up for the main gaps in existing knowledge by investigating the potential relationships between organizational agility, organizational learning capability, and competitive intelligence, as well as exploring the effect of organizational agility on competitive intelligence through organizational learning capability at the commercial banking sector in Jordan. Study population consists of the entire Jordanian banking sector while study sample is composed of all the commercial banks in Jordan. Unit of sampling and analysis comprised of the top and middle level managements working within the Jordanian commercial banks. A new "Emerging PCMM-incorporated Measurement Scale" was developed and validated for measuring constructs under study, a questionnaire was designed for data collection, and structural equation modeling was conducted for evaluating the proposed model fit and testing hypotheses.

Findings indicate the existence of a significant and direct impact for organizational agility on competitive intelligence, organizational agility on organizational learning capability, and organizational learning capability on competitive intelligence. Further, findings confirm the mediating role of organizational learning capability in the relationship between organizational agility and competitive intelligence at the Jordanian commercial banks. Key findings conclude that administrators working within agile organizations and enjoying a top management support towards learning capability; would be able to plan and focus the necessary information as well as process information and business data to actionable intelligence. Findings encourage decision makers of Jordanian commercial banks to practice agility and reinforce learning capabilities. This dissertation affirms the importance of intelligence, and searches the factors boosting competitive intelligence through affirming the strategic value of organizational agility, and recommending some mechanisms for creating a field of agility and acquiring learning capabilities within commercial banks.

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ÖZET

Bugünün öngörülemeyen ekonomisi ve küreselleşmenin hızlandığı güçler durumunda, kurumlar, uzun süreli hayatta kalma ve başarı sağlamak amacıyla hızlı ve kapsamlı bir şekilde sürekli değişen iş ortamına ayak uydurmak için ellerinden geleni yapmalıdır. Hem iş ortamında ani ve beklenmeyen değişiklikleri proaktif olarak tespit eden ve hızlı ve etkin bir şekilde yanıt veren bir durum olan örgütsel çeviklik hem de örgütsel öğrenmeyi kolaylaştırıcı faktörler, günümüz piyasalarında kurumsal olarak hayatta kalmak için önkoşullar olarak kabul edilmektedir. Günümüzün daralan piyasalarında ayakta kalmak isteyen kurumların istihbarat faaliyetlerini destekleyerek ve rekabet istihbaratını (CI) resmi bir faaliyet olarak ele alarak rakiplerini tanıması gerekmektedir.

Nicel yaklaşım araçlarını kullanan bu tez, Ürdün ticari bankacılık sektöründe örgütsel öğrenme yeteneği aracılığıyla örgütsel çevikliğin rekabetçi istihbarat üzerindeki etkisini keşfetmenin yanı sıra örgütsel çeviklik, örgütsel öğrenme yeteneği ve rekabetçi istihbarat arasındaki potansiyel ilişkiyi araştırarak mevcut bilimizdeki temel boşlukları kapatmak istemektedir. Araştırmanın örnekleme, Ürdün'deki tüm ticari bankalardan oluşurken, araştırma popülasyonu tüm Ürdün bankacılık sektöründen oluşmaktadır. Örneklem ve analiz birimi, Ürdün ticari bankalarında çalışan üst ve orta düzey yönetimlerden oluşmaktadır. Yeni bir "PCMM içeren Ölçüm Skalası", çalışma kapsamındaki yapıların ölçülmesi amacıyla geliştirilmiş ve geçerliliği kabul edilmiştir. Veri toplamak için bir anket tasarlanmış ve önerilen modelin uyumunun değerlendirilmesi ve hipotezlerin test edilmesi için yapısal eşitlik modellemesi uygulanmıştır.

Bulgular; örgütsel çevikliğin rekabetçi istihbarat üzerinde, yine örgütsel çevikliğin örgütsel öğrenme yeteneği üzerinde ve örgütsel öğrenme yeteneğinin rekabetçi istihbarat üzerinde anlamlı ve doğrudan bir etkisinin varlığını göstermektedir. Bunların dışında, bulgular, örgütsel öğrenme yeteneğinin, Ürdün ticari bankalarında örgütsel çeviklik ve rekabetçi istihbarat arasındaki ilişkideki arabuluculuk rolünü tasdik etmektedir. Temel bulgulara göre; çevik kuruluşlar ve üst yönetimin öğrenme yeteneğini desteklediği kuruluşlarda çalışan yöneticilerin, gerekli bilgiler üzerinde plan yapması ve odaklanmasının yanı sıra bilgiyi ve ticari verileri eyleme geçirilebilir istihbarat olarak işleme mümkündür. Bulgular, Ürdün ticari bankalarındaki karar vericileri, çevikliği uygulama ve pratik öğrenme yeteneklerini güçlendirme konusunda teşvik etmektedir. Bu tez, istihbaratın önemini doğrulamakta ve örgütsel çevikliğin stratejik değerini doğrulayarak rekabetçi istihbaratı artırma faktörlerini araştırmaktadır. Ayrıca, ticari bankalarda bir çeviklik alanı oluşturmak ve öğrenme yetenekleri edinmek için bazı mekanizmalar tavsiye etmektedir.

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LIST OF ABBREVIATIONS

OA	Organizational Agility
OLC	Organizational Learning Capability
CI	Competitive Intelligence
OL	Organizational Learning
PDTM	Practices Directed Towards Mastering Change
PVHR	Practices Valuing Human Resources
CP	Cooperative Practices
PVCC	Practices of Value Creation for Customers
EXP	Experimentation
RT	Risk Taking
ENTER	Interaction with the External Environment
DIA	Dialogue
PDM	Participative Decision Making
CIP	Competitive Intelligence Process
CIC	Competitive Intelligence Context

Chapter 1 Introduction

This chapter presents a preliminary entrance and comprehensive foundations for current dissertation starting with a general overview and background related to the research topic, ending with conclusion regarding this chapter.

1.1 Background and Overview

Changes of business economy, which led to development of business systems and creation of new management and manufacturing philosophies, are occurring more quickly and more unexpectedly in recent years than ever (Sharifi & Zhang, 1999). Wherefore, and early in the 1990s, agility emerged as the new solution (Alzoubi, Al-otoum, & Albataineh, 2011), as an essential capability (Goldman, Nageel, & Preiss, 1995), and as a strategic weapon (Almahamid, Awwad, & McAdams, 2010), for managing, operating and coping with this unpredicted turbulent environment.

OA can be defined as the organizational ability to proactively detect and quickly and effectively respond to sudden and unpredictable changes within business environment. An agile mind is characterized by a quick shifty and adaptive mentality (Merriam-Webster, 2015). Agility is the ability and adaptability for surviving and thriving in an unpredictable business environment (Yu & Heng, 2006). However, one company's effort to ensure agile capabilities is different from that of a similar competitor (Dove, 2001), thus agility should be built into the long range organizational planning (Ashrafi, Xu, Kuilboer, & Koehler, 2006).

In another context, with this rapid change in global market in terms of innovations and august manpower (El Badawy, Srivastava, & Sadek, 2014) and this high competitive economy, the future would belong to those who are ready to take big risks and have got a system of a new knowledge and learning to serve the emerging market (Khan, 1999). Therefore, organizational learning (OL) assumes a willingness to change (Sanaei & Shahtalebi, 2014), and is deemed as important and crucial for organizations to grow and survive (Liao & Wu, 2009), for both private and public organizations (Goh & Richards, 1997). The role played by

the people in the learning process is important at three levels; organization, team and individual (Khan, 1999).

However, before taking actions for improving OL, an organization should evaluate its current capabilities and practices with respect to learning (Goh & Richards, 1997), since learning cycle is operating when we can do things we could not do before, and evidence of new skills and capabilities deepens our confidence that real learning is occurring (Senge, Kleiner, Roberts, Ross, & Smith, 1994). Accordingly, OLC is the organizational ability to practice the processes and activities that can manage learning effectively (Garvin, 1994). OLC contributes to the way an organization learns the internal and external incidents thus an organization would be aware of the changes and environment (Mat & Cherazak, 2011). Therefore, OLC considered as an important way to assist the corporate drive to perform, grow and succeed (Hsu & Fang, 2009), and as a strategic lever to gain competitive advantage (Goh, 2003).

In other context, success in today's turbulent environment depends on getting a good understanding about competitive activities (Antia & Hesford, 2007), which depends on the companies' ability to collect and process information and the amount of related information used in the process of planning (Nasri, 2011). Therefore, an attention towards competitive intelligence (CI) is noticed at industrial practitioners and professionals in the business field (Ben sassi, Frini, Ben Abdessalem, & Kraiem, 2015). CI is a process of collecting, analyzing, and communicating the environmental information to assist in making strategic decisions (Dishman & Calof, 2008), to allow a firm to anticipate or forecast what will happen in its competitive environment (Bose, 2008), and to track the activity of direct and indirect competitors (Rouach & Santi, 2001), in order to get a better position in out selling, out smarting and out negotiating the competition (Johns & Doren, 2010). While CI system is organizing the flow of knowledge, ensuring that CI gets on time, to the right user, and ensuring that decision makers are taking actions with awareness and preparedness (Miller & Miller, 2009).

Accordingly, CI includes intelligence about both the competitors and the other components of the competitive business environment (Olivier, Viviers, & De la Harpe, 2003), and thus CI

needs unique experiences, high skills, management and decision making skills, and knowledge about the organizational conditions and industry (Stefanikova, Rypakova, & Moravcikova, 2015). CI supports marketing communications, keeping up strategies, human resources, and working out new products (Gaidelys, 2010), it enhances achievement of competitive advantage (Qiu, 2008) and achieves better performance (Adidam, Banerjee, & Shukla, 2012). It is considered as a strategic tool (Viviers & Muller, 2004), as an important issue for strategic planning (Wang & Borges, 2013), and as a core capability (Prescott, 1999). Therefore, implementation of CI should be in all types of businesses (Stefanikova et al., 2015), and every enterprise should be supported by a platform of CI (Xianjint & Sujuan, 2006).

Literature on agility and role of OA has begun to accumulate (Attafar, Ghandehari, & Momeni, 2012), for formulating a new paradigm for successful corporations in the 21st century (Sanchez & Nagi, 2001). Further, OLC is the firm's activities for enhancing OL process (Tohidi, Mohsen Seyedaliakbar, & Mandegari, 2012), and thus OLC is much talked about amongst academicians and managers (El Badawy et al., 2014) stressing the importance of OLC and what should managers take into account to develop their OLC (Chiva & Alegre, 2009). Furthermore, CI is relatively new management concept (Radun, 2006), and there are a lot of international studies and researches of CI which confirm the CI positive effect on business (Stefanikova et al., 2015). CI concept in addition of being recognized by some alert firms such as Sony, which has a competitor-centered business strategies and groups of employees aware for the CI subject (Hannon, 1997), it is also being recognized by the financial services industry in general and banking sector in particular (Wright, Eid, & Fleisher, 2009).

Proceeding from that there has been significantly growing interest in OA, OLC, and CI, amongst both academic and practitioner communities, and drawing on previous literature which affirms that OA promotes OL (Mavengere & Tikkamäki, 2013), while OL acts as an antecedent to CI (Tuan, 2013), and considered agility as a fundamental factor in the improvement and success of business intelligence system (Knabke & Olbrich, 2013), in addition to the mediation role of OL in the relationship between organizational intelligence and OA (Bahrami, Kiani, Montazeralfaraj, Zadeh, & Zadeh, 2016); this dissertation presumes

that a relationship might exist between OA, OLC, and CI at the Jordanian commercial banks, develops a new “emerging PCMM-incorporated scale” for measurement, empirically tests the research model, and extracts conclusions that could be useful for industry in general, and for commercial banking in particular.

1.2 Statement of Research Problem and Research Questions

It can be noticed easily that the turbulent environment characterized by substantial changes and how organizations can predict these changes became an essential issue for both academics and managers. Organizational learning (OL) has the ability to predict readiness to change (Sanaei & Shahtalebi, 2014). However, an organization should get benefit from agility and learning in order to be competitive within the prevailing business environment (Mavengere & Tikkamäki, 2013), while developing a unique strategy through analysis of changes (Preda, 2013) requires increasing both agility and learning. At the same time, OL has a meaningful and positive relationship with competitive intelligence (CI) (Shimakalantarian, Baratimarnani, & Salavati, 2012), while business intelligence systems should firstly become agile, since changes in the business environment would necessitate changes in the related data fallout (Zimmer, Baars, & Kemper, 2012).

As a conclusion, strategic success of organizations on the long term, including commercial banks, requires characterizing organizations with agility, in addition to taking into account capability of learning with its components, and understanding the role these factors play in supporting CI. In light of this, and due to the increased recognition of CI area in the financial services industry in general and banking sector in particular (Wright et al., 2009), and that most organizations rush towards development to keep pace with development movement, especially in the era of economy global knowledge, and the important role of banking sector in Jordan as one of the main sectors that supply the Jordanian national economy with expertise; ***It has become necessary to investigate the potential relationships between organizational agility, organizational learning capability, and competitive intelligence, and to explore “what is the effect of organizational agility on competitive intelligence through organizational learning capability at Commercial Banking Sector in Jordan”.***

Consequently, it is possible to represent the research problem through evoking the following main questions which are established in chapter two, with an attempt to answer them in the application section of chapter three;

Q1. Is there a significant direct impact for organizational agility on competitive intelligence at commercial banks in Jordan?

Q2. Is there a significant direct impact for organizational agility on organizational learning capability at commercial banks in Jordan?

Q3. Is there a significant direct impact for organizational learning capability on competitive intelligence at commercial banks in Jordan?

Q4. Is there a significant indirect impact for organizational agility on competitive intelligence through organizational learning capability at commercial banks in Jordan?

Mainly, this dissertation argues that different OA practices are appropriate and applicable for enhancing CI system with existence of facilitating factors of OL. This study fills a gap in extant literature by describing and understanding the phenomenon of OA and its supportive influence, accompanied with OLC, on CI at Jordanian commercial banks.

This dissertation contributes to knowledge with a new emerging measurement scale calling it “Emerging PCMM-incorporated scale”. It also provides a new idea for future research which focuses on a few key areas of research and opens the horizon for research to new prospects, and offers some theoretical standpoints for further research regarding the effects of OA and OLC on CI within different industrial fields. Further, it addresses challenges for professionals transforming organizations in response to today’s changing business environment with OA as a core differentiator.

1.3 Justification for the Research

For organizations, communities, and those who are planning for their future, understanding the nature of change seems essential but unfortunately few researches pay attention to organization spiritual assets (Bahrami et al., 2016) such as organizational agility (OA), organizational learning capability (OLC), and competitive intelligence (CI). And based on theoretical and empirical knowledge and through empirical analysis, this dissertation

highlights the relation between OA, OLC, and CI at Jordanian commercial banks, and seeks to answer the main question ***“Does organizational agility have an impact on competitive intelligence through organizational learning capability at the Jordanian Commercial Banks?”***, in order to realize better intelligence, and thus higher competitive advantage, profitability, and probability of organizational survival. For more clarification, dissertation justifies its significance from the following;

First, previous theoretical and empirical works elaborate that companies compete on how quickly and effectively they respond to unpredictable environment through agility and depending on what knowledge they have, how fast learning they can realize, and how well they exploited it previously (Stefanikova et al., 2015); for the sake of achieving the final goal which is gaining competitive advantage and profitability, or even for ensuring survival. Additionally, previous works illustrate that OA promotes OL (Mavengere & Tikkamäki, 2013), OL acts as an antecedent to CI (Tuan, 2013), while agility can create or change the system of business intelligence; agility is an important factor in the BI improvement and success (Knabke & Olbrich, 2013), and evidence the mediation of OLC between certain variables or constructs.

Proceeding from previous theoretical and empirical literature, this dissertation proposes a relationship between OA, OLC, and CI and a mediating role for OLC between OA and CI. *This dissertation develops such a model of organizational agility, organizational learning capability and competitive intelligence, and carries out a quantitative analysis for correlation.*

Second, despite the increasing interest in OA and OLC, the supportive role OA plays in OL, and their impact in enhancing competitive advantage and competitiveness, and despite the large number of studies focusing on importance of CI and relation between OL and CI (as it is clarified in details within chapter two), two critical gaps have emerged in the literature; First, only little empirical work linking OA with CI, and only a few related studies were done and achieved in developing countries. Second, there is lack and scarcity of previous work addressing the linkage between OA, OLC, and CI collectively, and related research at the Middle East area, especially in the banking sector of Arab countries, like Jordan, is limited.

Therefore, this dissertation presents the first ever research findings addressing the relation between OA, OLC, and CI at the commercial banking sector of one of the developing countries, i.e. Jordan. *This dissertation thereby makes a contribution in the previous two pre-mentioned aspects.*

Third, “empirical studies on the practice of CI in the banking sector, regardless of continent, are, at best, minimal” (Wright et al, 2009, p.943), and due to the main role that banking sector, especially commercial banks, plays in economic development as it is clarified within chapter two and three, *this dissertation examines the enhancing impact of organizational agility and organizational learning capability on competitive intelligence at the Commercial Banking sector.*

Fourth, PCMM scale was partially incorporated within the pre-established scale of each variable under study, producing a new scale as a one unit, and calling it “Emerging PCMM-incorporated measurement scale”. A questionnaire, as an instrument for data collection, was constructed consisting of this scale for measuring variables. Reliability and validity of the scale were evaluated. *This dissertation thereby validates a newly developed scale “Emerging PCMM –incorporated Measurement Scale” for measuring the multiple variables under study.*

Fifth, results of this dissertation, in addition to showing the nature and extent of the relationship between OA, OLC and CI (as will be addressed through chapter four), they would also serve to develop a model of OA, OLC, and CI which leads a discussion of to what extent OA affects CI through OLC, and open horizons for other researches addressing these organizational capabilities and concerning about them. *This dissertation provides a substantial contribution to knowledge in fields of agility, learning, and intelligence, offers recommendations for future and further research, and provides a substantial basis for future qualitative research.*

Sixth and finally, based on the conclusions of this dissertation, a number of practical implications and recommendations are proposed, as will be presented in chapter five, to provide advice for practitioners in banking sector, particularly in Jordanian commercial

banking, to acquire the importance of OA, and to take into consideration the great role OLC plays in enhancing the CI. A high quality research is useful to the business community, since it helps those people in an ongoing effort to achieve the goals and improve the competitive advantages of their banks, and thus provides benefits to the national economic development, through this highly intelligent banking sector. *This dissertation provides practical contributions to the commercial banking managements in order to achieve the private and public interests.*

1.4 Methodology

For this dissertation, a quantitative research was conducted using the newly “Emerging PCMM-incorporated Measurement Scale” as a measure, a survey as the method, a questionnaire as the research instrument, and explanatory method for literature review.

Initially, and based on previous literature, the author proposed a research model. From this model, research questions were set up. Then pre-established scales with PCMM scale were incorporated as a one unit measurement scale. A questionnaire as a research tool was constructed since it is considered more scientific and objective than other forms and usually used by researchers in order to make generalizations.

However, before setting up the final version of the research instrument which was used in this research, the survey was administered in a pilot study using a convenient sample. Feedback was requested and incorporated on clarity of instructions, practices and approaches that required further definition and any other feedback to improve the questions, format, and scales (Creswell, 1994).

Afterward, the research tool was distributed to the 200 individuals representing the top and middle management levels within the Jordanian commercial banks. Only 158 of this unit of analysis did respond to the tool, in which represented this study sample.

Thereafter, Confirmatory Factor Analysis (CFA) was performed on the survey data collected, in order to validate the hypothesized theoretical constructs and measure the validity of the newly developed scale measuring these constructs. After establishing reliability as well as

content and construct validity, analytical tools such as path analysis were conducted for testing hypotheses and examining the proposed model.

1.5 Outline of this dissertation

To develop the objective of this research, after this introduction in chapter one, the second chapter depicts the theoretical and empirical literature providing the foundations of the constructs as well as explaining and evidencing the relation between organizational agility and organizational learning capability, organizational learning capability and competitive intelligence, as well as organizational agility and competitive intelligence. Based upon it, hypotheses are established and research model is displayed.

Once theoretical and empirical framework is established, the third chapter covers the methodology of empirical investigation; justifying methodology used, and discussing quantitative method used to collect data and quantitative analyses of data.

The fourth chapter represents findings of SEM analysis. CFA is conducted for measuring validity of constructs and their measurements (the measurement scale), as well as validity and reliability of measurement models. Several statistical tools, such as path analysis, are used for quantitative analysis. The analysis of data generated from the sample shows that there is statistically significant evidence with which to answer the research questions.

Finally, through the fifth chapter, expanded conclusions, discussing thoroughly the research findings of quantitative analysis, were drawn based on both the sample and the existing knowledge base, and implications of the study to both academic research and practitioners as well as to future and further research were clarified.

This thesis provides empirical evidence to support a detailed theoretical model of the relationship between OA, OLC, and CI. It also presents a perspective on the value of each of these variables in context. Key findings suggest that OA contributes to CI and utilization of related business information, especially if agility implemented in a way that boosts facilitators of learning process. This research is one of the first to attempt inclusion of OLC when examining the relation between OA and CI.

1.6 Definitions and key terminology from literature review

Several terms used throughout this study have been reduced to an abbreviated form. While the theoretical value of each term is debated further in the literature review chapter, each term is presented here with one abbreviated definition to make the following chapters clearer for readers:

1.6.1 Organizational Agility (OA)

The organizational capability to survive and prosper in a continuous and unpredictable changing and competitive environment by reacting effectively and quickly to changing markets, driven by custom-designed products and services (Cho, Jung, & Kim, 1996, p.323), and was measured in current study through mastering change, value creation for human resources, cooperative practices, and creating value to customers;

1.6.1.1 Mastering Change

Organizing to master change means practices that enable the firm to thrive on change and uncertainty, providing it a flexible structure for a quick and proper utilization of resources (Goldman et al., 1995).

1.6.1.2 Valuing Human Resources

It is the practices that improve the value of human resources with emphasizing work force empowerment (Charbonnier-Voirin, 2011), since agility requires employees at all organizational levels and locations, who take initiative to recognize opportunities and threats in the marketplace, rapidly redeploy, spontaneously collaborate, innovate, and learn (Dyer & Shafer, 1998).

1.6.1.3 Cooperative Practices

Are practices for obtaining the strategy of opportunistic pool with other organizations, including the competitors, in main capabilities (Yaghoubi, Kazemi, Dahmardeh, & Arhami, 2011); these practices include cooperation, internally and with other companies (Goldman et al., 1995).

1.6.1.4 Value Creation for Customers

Means that organizations provide continuously the different products and services which customers pay money for (Yaghoubi et al., 2011), and that customers perceive the products of an agile company to be solutions for their individual problems (Goldman et al., 1995).

1.6.2 Organizational Learning Capability (OLC)

Is the set of management practices and organizational characteristics which are essential conditions for learning to be achieved in the organization (Goh & Rechards, 1997), and it is measured in current study through experimentation, risk taking, interaction with the external environment, dialogue, and participative decision making.

1.6.2.1 Experimentation

It is the level to which new suggestions and ideas are brought, presented, and dealt with sympathetically (Chiva, Alegre, & Lapiedra, 2007).

1.6.2.2 Risk Taking

Risk taking defined by Wiklund and Shepherd (2003) as “committing resources to projects where the outcomes are unknown” (p.1309). Wiklund and Shepherd go on with their definition as “the organization’s willingness to break away from the tried and true and venture into the unknown” (p.1309).

1.6.2.3 Interaction with the external environment

It is the extent and range of relationships with the external environment (Chiva et al., 2007). It is the interaction between internal actors (within organization) and external actors (outside the organization) (Chiva & Alegre, 2009).

1.6.2.4 Dialogue

Is the uninterrupted collective inquiry, into the certainties, assumptions, and processes that form everyday experience, according to the definition of William Isaacs (as cited in Querubin, 2011).

1.6.2.5 Participative decision making

Is the amount of influence and power organizational members enjoying when making a particular decision (Cotton, Vollrath, Foggat, Lengnick-Hall, & Jennings, 1988).

1.6.3 Competitive Intelligence (CI)

It is the process of producing actionable intelligence by planning, collecting through ethical and legal methods, processing, and disseminating information about the competitive environment (Pellissier & Nenzhelele, 2013).

1.6.4 Commercial Banks

The word “commercial” means that the bank dedicates and assigns its resources for meeting the financial demands of business firms, while it makes its own major profit from the difference between the revenues of credits and the cost of deposits (Abu Orabi, 2012). The means of payment characteristic of demand deposits is indeed a feature differentiating commercial banks from those of other intermediaries (Tobin, 1963).

1.6.5 People Capability Maturity Model (PCMM)

Is a roadmap or approach for directing and guiding the implementation of the essential workforce practices and capabilities, in order to improve the organizational workforce (Curtis, Hefley, & Miller, 2001).

1.7 Conclusion

This chapter established the foundations for the dissertation. The author within this chapter provided an overview related to research subject, clarified the research problem and its research questions, justified the research, briefly described and justified the methodology, outlined the dissertation, and presented the definitions. Based on these foundations, author can proceed with the dissertation with a detailed description for the research.

Chapter 2 Literature Review

This chapter provides the theoretical background related to variables under study, followed by conclusions from the literature review, and finally constructs and represents the proposed research model.

2.1 Organizational Agility

This section of literature review provides a comprehensive picture about organizational agility, by firstly providing a theoretical overview about this construct, presenting the conceptual definitions of agility and a background about agile organizations, elucidating the diverse aspects of agility, the agility across different fields, and significance of OA, and finally illustrating the OA conceptual model and measurement.

2.1.1 Organizational Agility: an overview

Today's firms face huge environmental turbulence due to changing technology, demand fluctuation, competition, supply chain disruption, etc. (Ojha, 2008). Within this turbulence, the change itself is the only thing that does not change (Yaghoubi & Dahmardeh, 2010). However, today's change is occurring faster than before, and environmental uncertainty and turbulence may cause failure in the business industry (Lin, Chiu, & Tseng, 2006). Firms usually die because they keep doing their work for a very long time (Doz & Kosonen, 2008). Therefore, there is a need to develop organizational flexibility and responsiveness and to manage uncertainty and reduce risk (Yaghoubi & Dahmardeh, 2010), and the issue of how firms can deal with this constantly changing and unpredictable environment has been a prevalent topic in both academia and industry since a few decades (Attafar et al., 2012).

In order to survive and prosper in this turbulent situation, an organization should have the capabilities of recognizing and understanding its changing environment and responding

properly to unforeseen changes (Sharifi & Zhang, 2001). Therefore, a new system called organizational agility has emerged, as a dynamic, context-specific, aggressively change-embracing, and growth-oriented system (Goldman et al., 1995), as a way for managing these unforeseen changes and managing risks faced by firms (Khoramgah, 2012), and as a key competitive imperative (Tallon & Pinsonneault, 2011). In other words, OA “can embrace almost any competitiveness interest with considerable intuitive appeal” (Dove, 2001, p.3), and can lead to organizational survival in economic crises (Nijssen & Paauwe, 2012). Anyway, the western industry response to competition from Japan and the other Pacific Rim area countries in the 1980s had led to start applying agile manufacturing methods (Tsourveloudis & Valavanis, 2002).

2.1.2 Conceptual Definitions of Organizational Agility

Gallagher and Worrell (2008) classify agility into two levels; business unit level and organizational level. Business unit agility is the ability of sensing and responding to changes in local competitive environments, while organizational agility is the ability of sensing and responding to changes in wider and broader competitive environments or organization-wide (Gallagher & Worrell, 2008).

There are different facets of organizational agility and thus various views in the literature (Yusuf, Sarhadi, & Gunasekaran, 1999), due to the vagueness and multidimensionality of the agility construct (Tsourveloudis & Valavanis, 2002). Therefore, there is no consensus on the exact meaning of agility or on how to achieve agility, and even today, no commonly acceptable definition in academic communities exists (Su, 2011). However, all related terms and concepts to OA focus on the organizational abilities to adapt its strategies, processes, resources, production lines to respond to changes (Almahamid et al., 2010), and all agility definitions stress the ability to respond quickly to any unforeseen change (Zimmer et al., 2012). Table (1) represents a composition of the main literature contributions provided for defining agility. However, author of this dissertation expresses and defines OA as; “*the organizational ability to proactively detect and quickly and effectively respond to sudden and unpredictable changes within business environment*”.

Table (1) a composition of the main literature contributions provided for defining agility

No	Definition of Organizational Agility	References
1	"The Agility that arises can be used for competitive advantage, by being able to respond rapidly to changes occurring in the market environment and through the ability to use and exploit a fundamental resource - knowledge. People need to be brought together, in dynamic teams formed around clearly defined market opportunities, so that it becomes possible to lever one another's knowledge. Through this process is sought the transformation of knowledge into new products and services"	(Kidd, 1994, p.10)
2	"Agility is dynamic, context specific, aggressively change embracing and growth oriented. It is not about improving efficiency, cutting costs, or battenning down the business hatches to ride out fearsome competitive storms. It is about succeeding and about winning profits, market share and customers in the very center of competitive storms that many companies now fear"	(Goldman et al., 1995, p.42)
3	The capacity to be infinitely adaptable without having to change. It is viewed as a necessary core competence for organizations operating in dynamic external environments.	(Dyer & Shafer, 1998, p.6)
4	"The capability to survive and prosper in a competitive environment of continuous and unpredictable change by reacting quickly and effectively to changing markets, driven by customer-designed products and services"	(Gunasekaran, 1998, p.1223)
5	"The ability to cope with unexpected changes, to survive unprecedented threats of business environment, and to take advantage of changes as opportunities" (p.9) / "The ability to detect the changes in the business environment, and respond to them by providing the appropriate capabilities" (p.21)	(Sharifi & Zhang, 1999)
6	"Is the successful exploration of competitive bases (speed, flexibility, innovation proactivity, quality and profitability) through the integration of reconfigurable resources and best practices in a knowledge-rich environment to provide customer- driven products and services in a fast changing market environment"	(Yusuf et al., 1999, p.37)
7	"Agility is characterized by cooperativeness and synergism (possibly resulting in virtual corporations), by a strategic vision that enables thriving in face of continuous and unpredictable change, by the responsive creation and delivery of customer-valued, high quality and mass customized goods/services, by nimble organization structures of a knowledgeable and empowered workforce, and facilitated by an information infrastructure that links constituent partners in a unified electronic network"	(Sanchez & Nagi, 2001, p.3561)
8	"Is the ability to manage and apply knowledge effectively, so an organization has the potential to thrive in a continuously changing and unpredictable business environment"	(Dove, 2001, p.9)
9	"The ability of an enterprise to operate profitably in a rapidly changing and continuously fragmenting global market environment by producing high-quality, high-performance, customer-configured goods and services"	(Tsourveloudis & Valavanis, 2002, p.330)
10	"Is the ability of a firm to face and adapt proficiently in a continuously changing and unpredictable business environment"	(Kassim & Zain, 2004, p.174)
11	"The ability of firms to sense environmental change and respond readily. As such, enterprise agility consists of two components: sensing and responding"	(Overby, Bharadwaj, & Sambamurthy, 2006, p.121)
12	Agility is the adaptability to thrive in a continuously changing and unpredictable business environment.	(Yu & Heng, 2006, p.551)

Table (1) *Continued*

No	Definition of Organizational Agility	References
13	“Agility is a persistent behavior or ability of a sensitive entity that exhibits flexibility to accommodate expected or unexpected changes rapidly, follows the shortest time span, uses economical, simple and quality instruments in a dynamic environment and applies updated prior knowledge and experience to learn from the internal and external environment”	(Qumer & Henderson-Sellers, 2006, p.505)
14	A method is an agile method when it “is people focused, communications-oriented, flexible (ready to adapt to expected or unexpected change at any time), speedy (encourages rapid and iterative development of the product in small releases), lean (focuses on shortening timeframe and cost and on improved quality), responsive (reacts appropriately to expected and unexpected changes), and learning (focuses on improvement during and after product development)”	(Qumer & Henderson-Sellers, 2008, p.281)
15	“Agility is a dynamic organization design capability that can sense the need for change from both internal and external sources, carry out those changes routinely, and sustain above-average performance”	(Worley & Lawler, 2010, p.194)
16	“Is both the ability to detect opportunities for competitive actions as well as to initiate appropriate actions. The detection of opportunities occurs either through a process of sensing and probing the environment or through a process of anticipating future trends, opportunities, or threats. Competitive actions are launched either reactively as a response to sensed opportunities or proactively to create competitive leadership opportunities as first movers”	(Ahmadi, 2011, p.619)
17	“The ability to adapt to new values and cultures, and the ability to re-design in order to cope with the required change that represent the most important means of successful organizations in both private and public institutions, regardless of their objectives or the type of activity”	(Alzoubi et al., 2011, p.504)
18	Is a response capability which enables the organization to act efficiently in a changing environment characterized in particular by complexity, turbulence, and uncertainty	(Charbonnier-Voirin, 2011, p.123)
19	“The organization's ability to achieve its objectives, through the development of its products increasing knowledge of its human resources, effecting the development of the organization and lightening its movement in a rapidly changing environment”	(Nafei, 2016, p.274)

2.1.3 Agile Organizations

Organizations need quick adaptation to new conditions (Almahamid et al. 2010), and organizations that are both highly turbulent and highly successful are considered agile ones (Yauch, 2011). Agile organizations aggregate business processes, people, system/IT, and facilities in a coordinated organization in order to respond quickly to changes (Yaghoubi et al., 2011). Chung, Liang, Peng, and Chen (2012) contend that the response of an agile organization is an innovation; the ability of sensing problems quickly and accurately identifying solutions provides the organization with more certainty in selecting and performing innovative ideas.

Agile organizations achieve competitive advantage by being the first to recognize opportunities and threats in changing business markets and by being more skilled than competitors in exploiting the opportunities and avoiding the threats (Dyer & Shafer, 1998). These organizations develop more insight and foresight due to their sensitivity to the voice of the customer, and higher appreciation for agility and knowledge of their business partners (Sambamurthy, Bharadwaj, & Grover, 2003). However, transition to an agile organization is a challenging process and the form of agility is different from one firm to another; they need to choose features that are appropriate to their situation and industry, as concluded by Worley and Lawler (2010).

2.1.4 Diverse Aspects of Agility

Since firms may in fact have diverse ways of responding to their environmental changes, organizational agility may have polymorphous aspects that lead to distinctive ways of responding to different situations (Sambamurthy, Wei, Lim, & Lee, 2007). And thus OA construct is characterized by vagueness and multidimensionality (Tsourveloudis & Valavanis, 2002). However, the universal characteristics of OA that are applied to all organizational aspects include speed, flexibility, culture of change, responsiveness, low complexity, and integration, (Attafar et al., 2012). Doz and Kosonen (2008) argue that two major forces call for constant agility; the first is speed, the second is change.

Sharifi and Zhang (1999) emphasize that OA concept consists of two main factors; responding to expected or unanticipated changes properly and due time, and taking advantage of changes and exploiting them as opportunities. In the same context, Su (2011) implies that three characteristics map the multidimensionality of OA; ability to sense, respond, and seize opportunities. Furthermore, OA involves both the exploration and exploitation of opportunities for market balance (Sambamurthy et al., 2003). Exploitation is extension and refinement of existing competences, paradigms, and technologies, with positive, predictable, and proximate returns, while Exploration is experimentation with new alternatives, with distant, negative, and uncertain returns (March, 1991). Anyway, OA

emerges from an exploration process more than from a prescriptive, mechanistic, and commoditized technique and technology (Galliers, 2007, p.11).

Dyer and Shafer (2003) clarify that OA combines two constituents, an agility-oriented organizational infrastructure and an agility oriented HR strategy. Dove (2001) implies that agility has two components (response ability & knowledge management). Moreover and as mentioned before, scholars characterize OA from different aspects, so they classify types of agility from different bases accordingly; for example, Lu & Ramamurthy (2011) identify two types of OA; market capitalizing agility and operational adjustment agility. Market capitalizing agility is the organization's ability to rapidly respond to changes through a continuous monitoring and a quick improvement of products and services for addressing needs of customers (Lu & Ramamurthy, 2011), while operational adjustment agility is the ability of organization's business processes to achieve accuracy, speed, and cost economy when exploiting opportunities (Sambamurthy et al., 2003). However, Sambamurthy et al. (2003) and Khoramgah (2012) propose three types for agility: operational agility, partnering agility, and customer agility, while Sambamurthy et al. (2007) and Ahmadi et al. (2011) adopt the perspective of Bharadwaj and Sambamurthy (2005) through categorizing the types of OA into entrepreneurial agility and adaptive agility.

While referring to the theoretical background of agility, its characteristics and definitions, and as a result of the multidimensional view and the different facets of this construct; author of dissertation could realize some conceptual confusion that one may fall in, such as agility and flexibility, or agility and leanness;

2.1.4.1 Agility and Flexibility

Flexibility is the degree or level to which an organization has a diversity of managerial capabilities, and how quickly they can be activated, for increasing the control ability of both management and organization (Volberda & Rutges, 1999). Agility includes flexibilities of several types (Narasimhan, Swink, & Kim, 2006). Some researchers use both agility and flexibility with the same concept, while some others differentiate between them (Yaghoubi & Dahmardeh, 2010). From a manufacturing view, flexibility is the product range using specific strategies of production, while agility is the quick change or movement of the whole

firm in a specific direction (Tsourveloudis & Valavanis, 2002). Flexibility is applied for the predictable changes and thus, it is a base for agility, not equivalent or synonymous (Yaghoubi & Dahmardeh, 2010).

Agility means quick moving, nimble, and active, and it is clear that this is not the same as flexibility which implies adaptability and versatility (Kidd, 1994, p.9). Agility extends the concept of flexibility that can be engineered into the organizational processes and IT systems for addressing largely predictable changes with a predetermined response (Lu & Ramamurthy, 2011). In other context, flexibility is reactive adaptation, while agility is proactive adaptation (Attafar et al., 2012). Agility includes a combination of reactive and proactive behaviors and a high level of flexibility in what is offered, how, where, when, and by whom it is offered (Brown & Bessant, 2003). However, response of organization in agility situations is more innovative and radical than in situations where simple flexibility would be enough (Sena, Coget, & Shani, 2009). Consequently, we can conclude, and with referring to the OA conceptual definitions of various scholars, that flexibility is a main attribute for OA.

2.1.4.2 Agility and Leanness

Conboy and Fitzgerald (2004) define leanness as the maximization of quality, simplicity, and economy, and clarify that leanness is eliminating all the wastes, while agility demands waste to be eliminated, but not to the extent that restrains its ability of responding to changes. Narasimhan et al. (2006) define leanness as the efficient use of resources through the waste minimization, and add that lean production is achieved with minimal waste due to inefficient operations, unneeded operations, or excessive buffering in operations, while agile production is to efficiently change operating states in response to changing demands.

Agility is to use market knowledge for exploiting profitable opportunities in an unstable marketplace, while leanness is to eliminate all waste, including time, and to ensure a level schedule (Naylor, Naim, & Berry, 1999). Hallgren and Olhager (2009) imply that lean and agile manufacturing have different strategies, and impact performance in different ways, and add that leanness is recommended for make-to-stock operations, while agility is emphasized for make-to-order operations. Furthermore, Leanness is to respond to competitive pressures with limited resources, while agility is to respond to complexity resulted from constant

changes (Sanchez & Nagi, 2001). However, leanness could be considered as an antecedent for OA, according to Roth (1996).

2.1.5 Significance of Agility in Practice and Theoretically

OA is fundamental for all organizations; it can support competitiveness interests, and lead to cycle time reduction, mass customization, virtual enterprise, and reengineering (Yu & Heng, 2006). Agility ensures the firm's survival as well as its long-term growth and expansion (Zain, Kassim, & Masrom, 2006), and firms that possess OA are likely to produce better outcomes (Sambamurthy et al., 2007). The ability to become agile and to produce mass customized goods can create competitive advantage for firms (Brown & Bessant, 2003). OA provides a new mind-set on producing, new measures for evaluating performance and new forms of commercial relationships (Zain et al., 2006). Increasing agility would decrease the confusion caused by change transition, and thus reduce the time and cost of transition period to the minimum (Dove, 1995).

Theoretically, a lot of researchers and scholars have studied the different relationships between organizational agility and other constructs in the business field. Here are some examples; Lu and Ramamurthy (2011) show that there is a significant positive relationship between IT capability and the two types of OA (market capitalizing agility and operational adjustment agility). Khoramgah (2012) examines the impact of entrepreneurial activities on agility and flexibility. Sambamurthy & his colleagues (2007) investigate the positive impact of firms' IT and operational capabilities on these two types of agility (Entrepreneurial agility and adaptive agility), and how this leads to sustainable competitive advantage. Study of Ahmadi (2011) investigates the role OA plays as a mediator between organizational citizenship behavior and performance, while paper of Almahamid et al. (2010) investigates the relationships between agile capabilities, knowledge sharing, and competitive advantage. Study of Kassim and Zain (2004) examines how the factors of agility are related to the use of IS and IT for becoming a more agile and competitive firm. Nijssen and Paauwe (2012) in their paper show how applying organizational and HR practices leads to coping with the dynamic environment, and thus increasing the OA levels. Dyer & Shafer (2003) illustrate

that agility requires engaging employees at all levels in generative, adaptive, and proactive behaviors and agility-oriented mindset which is supported by HR strategies.

Tallon & Pinsonneault (2011) in their study clarify that embedding resources in business processes and in a location closer to the locus of change would enhance OA. Chung and his colleagues (2012) in their research empirically confirm the mediating role of agility between knowledge creation and performance. Sambamurthy et al. (2003) discuss the mediating role of agility as a dynamic capability, in the relation between IT investments and capabilities and organizational performance. Some studies, such as Sambamurthy et al. (2003), investigate the impact of OA at the collective level (at the firm and team levels), while some other, on the contrary, investigate OA at the individual level, such as Chung, Lee, and Kim (2014).

2.1.6 Agility Conceptual Model

Different several conceptual models were developed for OA, but a unique and collectively confirmed OA model is not provided yet (Yaghoubi et al., 2011). Worley and Lawler (2010) represent a new agility framework with the basic features: robust strategy, an adaptable organization design, shared leadership and identity, and value-creating capabilities. Qumer and Henderson-Sellers (2008) develop an analytical framework (4-DAT) for assessing the agility degree in six selected agile methods and two traditional methods. Researchers such as Sahrifi and Zhang (1999); Zhang and Sharifi (2000); Sharifi and Zhang (2001); and Lin et al. (2006), divide factors of OA into three main factors; agility drivers, agility capabilities and agility enablers or practices. They construct a conceptual model for agility implementation with these three constituting elements (Yaghoubi & Dahmardeh, 2010). Agility capabilities and agility practices (enablers) with agility drivers provide the firm with a practical way for taking the OA into its characteristics (Sharifi & Zhang, 1999).

Agility capabilities considered as essential abilities that enable the organization to properly respond to change, as indicated by Sharifi and Zhang (1999), Sharifi and Zhang (2001), and Yaghoubi and Dahmardeh (2010). There are four agility capabilities; responsiveness, competency, flexibility, and quickness (Yaghoobi & Azadikhah, 2011). The main agility driver is change (Yusuf et al., 1999). Zhang and Sharifi (2000) imply that agility drivers are

the pressures or changes from the competitive environment which demand searching for new ways of doing the business for ensuring competitive advantage. Yusuf et al. (1999) categorize OA drivers into; automation and price/cost consideration, widening customer choice and expectation, competing priorities, integration and pro-activity, and finally achieving manufacturing requirements in synergy.

Agility enablers (practices) are the practices, methods, tools, and models that are implemented in the different organizational levels, for improving operations (Sharifi & Zhang, 1999). Agility enablers (practices) are the means used for obtaining agility capabilities, and are supposed to be brought from the four major environmental areas; organization, people, technology, and innovation (Sharifi & Zhang, 2001). These enablers directly affect the organizational ability to response quickly to changes (Yaghoubi & Dahmardeh, 2010). According to Yaghoubi and Dahmardeh (2010), enablers are divided into content enablers (like: Partnership, Information technology, Knowledge management, Human resources management) and structural enablers (like: Learning Organization creation, Organizational structure, Integration, Team working and Concurrent engineering). Yaghoobi and Azadikhah (2011) clarify four organization agility enablers; (1) structure of organization through participating with other organization, improving flexibility through decentralization and building flexible structures, and distributing reconstruction (2) individuals in that the ability and inflexibility of people have a key role in agile organization (3) information technology by having high informational capacity and exchanged information among cooperated organizations, and (4) innovation and creativity which is providing solutions for customers more than selling the production and meeting all the costumers' needs.

Agility practices represent the most operational level of OA and reinforce the development of agile capabilities, as Charbonnier-Voirin (2011) emphasizes. Goldman et al. (1995) categorize agile practices into; organizing to master change and uncertainty, leveraging the impact of people and technology, cooperating to enhance competitiveness, and enriching the customer. Other scholars such as Kassim and Zain (2004) and Charbonnier-Voirin (2011), follow the same categorization for agility practices and develop their conceptual framework accordingly. Author of this dissertation constructs and depicts the research conceptual model of OA in the following section (Agility Measurement);

2.1.7 Agility Measurement

Due to the vagueness and multidimensionality of the agility concept (Tsourveloudis & Valavanis, 2002), there is a wide variety of types and techniques for measuring OA (Yauch, 2011). Dove (1995) and Yu and Heng (2006) measure agility according to the four change-proficiency metrics; time of change, cost of change, robustness of change, and scope of change. However, Ahmadi (2011) and Sambamurthy et al. (2007) use entrepreneurial agility and adaptive agility as agility measures. Overby et al. (2006) propose a measurement strategy suggesting that enterprise agility can be measured as a function of the individual sensing and responding capabilities in the firm.

Sambamurthy et al. (2003) and Tallon and Pinsonneault (2011) operationalize agility using these three dimensions; customer agility, partnering agility, and operational agility. Long (2000) operationalizes OA using the same dimensions mentioned above, with a scale of six dimensions; understanding core capabilities, clarity of vision, selecting strategic targets, knowledge of clients, knowledge of competitors and taking action, shared responsibility. Lu and Ramamurthy (2011) and Chung et al. (2014) use Operational Adjustment Agility and Market Capitalizing Agility as agility measures. Gren, Torkar, & Feldt (2015) believe in combining the work of So and Sholl (2009) with the agile adoption framework of Sidky, Arthur, & Bohner (2007), and use thirteen dimensions in the perceptive agile measurement; some of them: Customer access, Customer acceptance tests, Dedication to team work and results, Open communication, Leadership style, Continuous integration and testing, and Stand-up meetings. Yauch (2011) develops an agility measure that catches both environmental turbulence and organizational success.

Goldman et al. (1995) identify four dimensions for OA; organizing to master change and uncertainty, leveraging the impact of people and technology, cooperating to enhance competitiveness, and enriching the customer. Kassim and Zain (2004) assess four agility measures; enriching customers, mastering change, leveraging resources, and cooperate to compete. Different scholars such as Goldman, Sharifi and Zhang, Yusuf, Dove, and Lin, have used different dimensions for measuring OA. But the base of agility factors is derived

from Goldman et al. (1995), as stated by Yaghoubi et al. (2011). Since OA is not directly observable and requires a set of agile practices to be determined (Charbonnier-Voirin, 2011); Charbonnier-Voirin (2011) follows the literature of Goldman et al. (1995) and Kassim and Zain, (2004), and develops and validates a new tool for measuring OA using dimensions derived mainly and conceptually from Goldman et al. (1995) and which is applicable to all types of organizations. Proceeding from the necessity to use the agility practices - which represent the most operational level of OA and contribute to its development (Charbonnier-Voirin, 2011), and that OA is a multidimensional and latent construct and that it cannot be observed directly; author of this dissertation chooses the agile practices as dimensions for agility measurement and adopts the measurement tool of Charbonnier-Voirin (2011) with the following dimensions.

1) Practices Directed towards Mastering Change

Organizing to master change means practices for allowing the firm to thrive on change and uncertainty, providing it a flexible structure for a quick and proper utilization of resources (Goldman et al., 1995). Mastering change is the organizational abilities to respond to changes and the actions undertaken for this purpose, such as scanning and proactivity, reactivity, accompanying change, and clarity of strategic vision and communication (Charbonnier-Voirin, 2011), thus these practices involve environmental scanning and sharing and learning insights which are supported by employee communication and training and development programs (Dyer & Shafer, 1998). Mastering change is done by stimulating progress and being filled with technical, personal and organizational skills (Walick, 1997).

Change is the most important factor of driving OA, and this change could be observed in market, competitive criteria, customer needs, and social and technological factors (Boudlaie, Golabdoust, & Golabdoust, 2014). However, there is no certain right structure or size for an agile organization, it is organized in a way that grants personnel the ability of applying all the essential resources for a profitable exploitation of changing market opportunities, and creates a knowledgeable and motivated personnel for converting, routinely and rapidly, the changes and uncertainties into new opportunities (Goldman et al., 1995).

2) Practices Valuing Human Resources

These practices include empowering the work force, participating in making decisions, sharing knowledge, developing skills of collaborators, and enhancing creativity of employees (Charbonnier-Voirin, 2011). Agile manufacturing is considered as a structure supported by primary resources, such as empowering people with skills and knowledge up (Ling, Tsuen, & Hsu, 2008). Therefore, these practices emphasize empowerment for increasing the employee's adoption to autonomy and responsibility required for responding efficiently and quickly with unpredictable situations (Charbonnier-Voirin, 2011). Similarly, agile characteristics are key components of HR strategy that cannot be neglected when searching for horizontal and vertical alignment (Dyer & Shafer, 1998).

Leveraging the impact of people and information, as explained by Goldman et al. (1995), means that management, in an agile firm, nourishes a firm culture that increases and powers the impact of people and information on operations, by providing the needed resources for personnel, distributing authority, and rewarding innovations. Goldman et al. (1995) assert that people (with what knowledge they possess, skills and proficiencies they have, initiatives they offer) and information are the factors that differentiate between organizations in an agile competitive environment.

3) Cooperative Practices

Are the methods used to encouraging internal cooperation and developing partnerships (Charbonnier-Voirin, 2011), these practices include enhancing internal and external cooperation, such as establishing partnerships with suppliers (Goldman et al., 1995). Internal and external cooperation leads to synergy and plays an important role in developing OA (Sanchez & Nagi, 2001).

Additionally, the agile firm should gain the strategy of opportunistic pool with other firms, even with competitors, in main competencies, in order to respond to market demands (Yaghoubi et al., 2011). Cooperative practices internally and externally improve the enterprise offering, enhance the innovation, and decrease the response times (Sanchez & Nagi, 2001). Cooperation, both internal and external cooperation, is the first choice of operational strategy for an agile firm, which relies on current or simultaneous engineering

practices (Goldman, et al., 1995). Further, Goldman et al. (1995) add that partnerships, cross-functional teams, empowerment, and business processes reengineering are all means for leveraging resources through cooperation.

4) Practices of Value Creation for Customers

As identified by Charbonnier-Voirin (2011), are practices for providing the company with knowledge about customer expectations and their development and for introducing innovative offerings. Value creation for customers involves a rapid detecting and understanding of the needs and unique demands of each individual customer and quickly providing them (Goldman, et al., 1995). These practices focus on satisfying customers, by providing customers with solutions and ensuring the perception of customers of the value of these proposed solutions, as Goldman, et al. (1995) claim.

Creating value for customers is to continuously provide different products and services for which the customer pays money (Yaghoubi et al., 2011). The term “customer enrichment”- which means that customers of an agile organization perceive the agile organization as enriching them significantly, and perceive products of the agile organization as solutions to their individual problems (Goldman, et al., 1995) - can also be used for expressing practices of value creation for customers, as Goldman, et al. (1995) express and clarify. The conceptual model of OA for this dissertation is constructed and depicted in Figure (1).

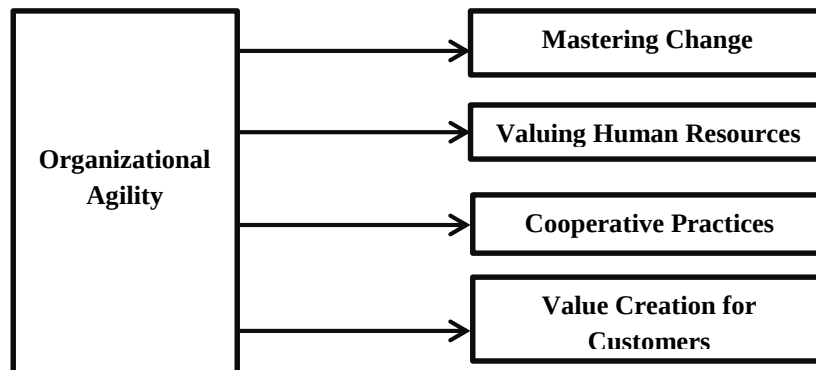


Figure (1) Conceptual Model of Organizational Agility

2.2 Organizational Learning Capability

This section of literature review provides a comprehensive picture about organizational learning capability, by going through the entire organizational learning literature, providing a theoretical background about organizational learning capability, clarifying significance of OLC, and finally illustrating the OLC measurement and conceptual model.

2.2.1 Organizational Learning Literature

This subsection presents an overview about the organizational learning (OL) literature from the previous theoretical literature point of view.

2.2.1.1 Categorizations of Organizational Learning Literature

There are different schools of OL (Schimmel & Muntslag, 2009). Organizational learning (OL) literature is divided into prescriptive/normative literature (learning organization) and descriptive literature (organizational learning), according to Argyris and Schön (1996) and Tsang (1997).

Prescriptive research on learning organization is concerned with the question of “how the organization should learn” (Tsang, 1997). Literature of the learning organization is prescriptive, more practically orientated, and is published mainly by consultants and members of companies and organizations (Chiva-Gómez, 2004). OL literature focuses on normative models for creating learning organizations (Onağ, Tepeci, & Başalp, 2014). Nevis, Dibella, and Gould (1995) analyze the prescriptive literature and address the facilitating factors that can improve the learning systems for gaining a learning organization. Prescriptive literature combines actual behavioral changes since practitioners (its target audience) are action-oriented (Tsang, 1997). Goh and Richards (1997) clarify that prescriptive literature tries to explain what managers must do for building a learning organization, and imply that experimentation and rewards, clarity of purpose and mission, transfer of knowledge, leadership commitment and empowerment, , and teamwork and group problem-solving, are the prescriptive organizational practices and characteristics that foster OL.

Descriptive research on OL is concerned with the question of “how the organization does learn”, and academics are the target audience of this literature and it is produced by them, in addition to that a crucial issue for this literature is to determine whether learning has occurred in an organization, according to Tsang (1997). This literature focuses on the learning process of an organization (Chiva & Alegre, 2009).

In spite that most of the proposals for OLC measurement focused mainly on the learning organization research, OL literature also studied the facilitating factors for learning (Alegre & Chiva, 2008). However, researches from both OL and learning organization literatures have proposed factors for facilitating the learning (Chiva & Alegre, 2009), such as researches of Chiva-Gómez (2004) and Chiva et al. (2007). Therefore, all analyses of the literature on the OL facilitating factors must take into account both literatures; the OL literature and learning organization literature (Chiva & Alegre, 2009). Following a comprehensive literature review and proceeding from this idea, Chiva et al. (2007) identify the following five facilitating factors for OL; experimentation, risk taking, interaction with the external environment, dialogue and participative decision making. A comprehensive clarification about OL, learning organization, and OLC is presented through the following sections;

2.2.1.2 Organizational Learning

Learning is one of the organizational phenomena which have drawn the attention of many researchers and this explains why there are many studies focusing on learning in the existing literature (Chrysostome, Nigam, & Jarilowski, 2013). One of the main reasons of the expansion of OL concept is the appearance of new characteristics for the business environment, according to El Badawy et al. (2014). OL is considered as a multidimensional construct (Tohidi et al., 2012). OL is a long lasting change in behavior due to the experience and repetition, leading to a better and faster achievement of tasks, according to Teece et al. (as cited in Gunsel, Siachou, & Acar, 2011). Argyris and Schön (1996) shortly define OL as detecting the error and fixing process, while Dibella, Nevis, and Gould (1996) define OL as the processes or the organizational capacity to enhance performance based on experience.

The sources of OL are exploration and exploitation (March, 1991). OL is a dynamic process; it does learning over three levels (the individual, the group, and the organization), and creates

a tension between assimilating new learning and exploiting what has already been learned (Crossan, Lane, & White, 1999). In the same context, OL is a continuous, dynamic, and cooperative process between individuals, groups, and organizations (Jitnom & Ussahawanitchakit, 2010). OL is a system-level phenomenon because, even if individuals change, it stays within the organization (Nevis et al., 1995). The general schema of OL includes some informational content (Argyris & Schon, 1996). OL includes the knowledge conversion process from the individual and team level (Vargas, 2013). OL is a process linked with acquired knowledge and improved performance (Garvin, 1994), since all businesses competing in changing environments should follow the learning processes (Slater & Narver, 1995).

OL is related to the organizational members' actions and experiences (Goh, 2003). Individuals are the most important constituent of the OL process in the organization (Khan, 1999). OL indicates individual learning but OL indicates more the group or organizational learning, and the people should change individual learning to the collective and organizational learning (Rasouli, Valipour, & Moradi, 2014). Two types of OL exist; adaptive learning or single-loop learning which means learning that results in a change in strategies or assumptions without changing the value of a theory in action, and generative learning or double-loop learning which means learning that results in changes in strategies and assumptions with changing the value of theory in-use, according to Argyris and Schön (1996).

2.2.1.3 Learning Organizations

The concept of a learning organization comes from accumulated ideas and theories since years about the change within organizations (Senge et al., 1994). Senge (1990) defines learning organization as ones “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (p.13). Garvin (1994) defines learning organization as “an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights” (p.20).

The learning organization concept is about building learning and knowledge creating capacity in individuals and dissemination of this knowledge through the organization (Thomas & Allen, 2006), thus an organization may be said to learn when it acquires information of any kind and by whatever means (Argyris & Schön, 1996). Accordingly, learning organizations are organizations which adopt learning as a team, systems thinking, and creating a vision, as Serinkan, Kiziloglu, Akcit, & Enli (2014) define. Human factor is the most important factor to create learning organizations, and thus at the learning organization, managers should be objective, open to new approaches, keep themselves modern for adapt, and should appreciate team-oriented studies (Serinkan et al., 2014). The most important factor which is required in these learning organizations is the existence of the sense of a continual and collective learning culture connected to the well-spelt strategic intent; it requires a lot of will power on the part of the leader, and it involves reorienting the whole system towards a new learning culture (Khan, 1999).

A learning organization is the one where employees are continuously encouraged for gaining new knowledge, trying new ways for problem solving, learning new behaviors and obtaining feedback and evaluation as a result of experimentation (Goh, 2003). Therefore, learning organizations develop procedures and structures that enable them to learn (Popper & Lipshitz, 1998). We build a learning organization; for superior performance, improving quality, competitive advantage, for customers, for a committed workforce, for managing change, and for recognizing our interdependence, as Senge et al. (1994) demonstrate. They illuminate the aspiration, reflection and conversation, and conceptualization as the skills and capabilities that characterize learning organizations.

2.2.2 Organizational Learning Capability: A Theoretical Background

There is an increasing need to know more about the most proper conditions for OL, since OL is a prerequisite for the organizational survival (Lähtenmäki, Toivonen, & Mattila, 2001). OL may be increased by building on existing capabilities or developing new ones (DiBella et al., 1996). Organizations should establish the internal conditions that foster OL, according to

Goh (2003). Similarly, Ulrich, Jick, & Von Glinow (1993) imply that achieving and enabling OL requires some managerial practices.

OLC is the managerial practices, or the enablers and conditions that facilitate OL and enable the organization to be a learning one (Goh & Richards, 1997). OLC is the ability that enables the process of OL by implementing factors that foster the OL process (Nwankpa & Roumani, 2014). Similarly, OLC is the organizational ability to practice the processes and activities that can manage learning effectively, according to Garvin (1994). OLC is the managerial capacity within an organization to create and generalize ideas with impact (Ulrich et al., 1993). Ulrich et al. (1993) clarify the following actions that can be achieved by managers for ensuring OLC; Build a commitment to learning capability, Work to generate ideas with impact, and Work to generalize ideas with impact. According to Hult and Ferrell (1997), OLCs are the factors that integrate the relationships and activities existing in the three sub processes of OL (information acquisition, information dissemination, and shared interpretation) at the cognitive levels of learning. While Jitnom and Ussahawanitchakit (2010) define OLC as the potential to explore and exploit knowledge through learning stream that creates likelihood the development, evolution and utilization of knowledge corpus in organizational practice for members.

In the same context, Alegre and Chiva (2008) conceptualize OLC as the characteristics, attributes and skills which facilitate the OL process of knowledge creation, dissemination and use, while Alikhani and Fazlollahtabar (2014) consider OLCs as a combination of the necessary tangible and intangible skills and resources for achieving competitive advantages. OLC is the capability of organizational members to learn (Hashim, 2013). Hsu and Fang (2009) identify OLC as the ability to acquire and convert a new knowledge and apply it to new product development with high production speed and competitive advantage.

Based on this rationale, the concept of OLC stresses the significance of the facilitating factors of OL or the organizational tendency to learn (Chiva, Alegre, & Lapiedra, 2006). However, there is no one best method or approach for enhancing OL, and the learning facilitators and consequences of promoting learning are not the same for all organizations, as Tannenbaum (1997) expresses. As a result, since OLC considered as a set of management practices and organizational characteristics that are the essential conditions for creating OL

(Goh & Rechards, 1997), and that these managerial procedures and structures enable an organization to learn (Popper & Lipshitz, 1998); Goh and Richards (1997) claim and proof that in order to evaluate and assess OLC, the impact of these management practices and organizational conditions on OL should be identified and evaluated.

2.2.3 Significance of OLC in Management and Theoretically

Better & faster learning than competitors are the only source of strength and survival of organizations (Sharifi & Eslamieh, 2008). OL is fundamental for improving performance (Tippins & Sohi, 2003) and (Serinkan et al., 2014). OL considered as an antecedent of innovation, according to Vargas (2013). OL prioritizes innovation and learning new science (Rasouli et al., 2014). Aslam, Javaid, Tanveer, Khan, and Shabbir (2011) imply that organizations should benefit from learning as a competitive advantage. Researchers such as Lei, Slocum, and Pitts (1999), Gunsell et al. (2011), Hashim (2013), Nwankpa and Roumani (2014), Onağ et al. (2014), and Rasouli et al. (2014) consider OL as a source for competitive advantage. Further, OL is considered as a strategic capability (Jerez G´omez, Céspedes Lorente, & Valle Cabrera, 2004), and it leads to the success of manufacturing implementation (Aiman-Smith & Green, 2002).

With regard to OLC, OLC is an antecedent for performance, according to Prieto and Revilla (2006), Akgün, İmamoğlu, Koçoğlu, İnce, and Keskin (2014), and Nwankpa and Roumani (2014). OLC improves new product development performance (Hsu and Fang, 2009), and is associated with the innovative performance of the productions (Fernández-Mesa, Alegre-Vidal, Chiva-Gómez, & Gutiérrez-Gracia, 2012). Learning capacity is a key index of the organizational effectiveness and ability to grow and innovate (Jerez-Gómez, Céspedes-Lorente, & Valle-Cabrera, 2005). A learning culture is a key antecedent for building OLC (Anderson, Covin, & Slevin, 2009).

Competitive advantage of a company will depend on how good the company is being facilitated and fuelled by OLC developed over a period of time (Khan, 1999). In the same context, the capability to embed knowledge in the firm through OL is one of the capabilities that are able to fulfill sustainable competitive advantage (Ho, Ahmad, & Thurasamy, 2013).

Through OLC, the firm learns how to change or to develop technology which in turn enhances competitive advantage (Mat & Cherazak, 2011). Strategic learning capability is a part of capabilities that create dynamic capabilities and thus making sustainable competitive advantage (Jitnom & Ussahawanitchakit, 2010).

The high quality knowledge utilization may be considered a strategic asset for OLC in a team and vice versa (Shukla, 2013). Similarly, a firm that holds a higher level of learning capability will probably have a full insight of knowledge outside its borders, the ability to utilize the knowledge at a faster speed, and thus a higher circumstance of succeeding in learning and knowledge acquirement (Jiang & Li, 2008). OLC enhances innovation (Akgün et al., 2014), (Nwankpa & Roumani, 2014), and (Onağ et al., 2014), while market-based OLC enhances the strategic innovation capability (Preda, 2013). In another context, OLC is an antecedent for dynamic capabilities (Fernández-Mesa et al., 2012), since dynamic capabilities are resulted from OL mechanisms (Zollo & Winter, 2002).

HR practices are essential tools for enhancing OLC (Perez Lopez, Montes Peon, & Vazquez Ordas, 2005). Training strategies and policies reinforce the individuals' commitment to learning, facilitates communication among employees, increase the degree of openness and experimentation, thus create a climate of learning and enhance OLC (Jerez Gómez et al., 2004), since the attitude of individuals towards learning endeavors depends largely on the learning environment that prevails in the organization (Khan, 1999). In the context of Ho et al.'s (2013) study, close relationship among human resources and workplace familism are viewed as an organization's resource that enable it to translate into OLC. Tannenbaum (1997) notes that individuals who felt that their organization provided people with greater opportunities to learn and openness to new ideas and change, reported greater satisfaction with their development since joining the company. Bahadori, Hamouzadeh, Qodoosinejad, and Yousefvand (2012) note that only those organizations are successful in near future which have benefited from their capabilities and learning capacity of all people at all organizational levels accordingly.

Theoretically, a lot of researchers and scholars have studied the different relationships between OLC and other constructs in the business field. For example; study of Mat and Cherazak (2011) explores the relationship between OLC and knowledge complexity and their

effect on technological innovation implementation success, while study of Fernández-Mesa, Alegre-Vidal, Chiva-Gómez, and Gutiérrez-Gracia (2013) tests the effect of OLC and design management capability on product innovation in the ceramic tile industries in Italy and Spain. Alegre and Chiva (2008) search the influence of OLC on product innovation performance, while Gunsell et al. (2011) examine the influence of knowledge management on OLC and their impact on organizational innovativeness.

In the same direction, Onağ et al. (2014) investigate the effects of OLC on organizational innovativeness. Nevertheless, Preda (2013) investigates the relation between entrepreneurial orientation, market-based OLC, and strategic innovation capability in Romanian firms, while Vargas (2013) has found evidence, with a case study of Hyundai, that OLC contributes to innovation capability and promote the planning of technological learning process in developing countries. Chiva and Alegre (2008) study the mediating role of OLC between emotional intelligence and job satisfaction in the Spanish ceramic tile sector. Chiva and Alegre (2009) study the correlation between dimensions of OLC and job satisfaction in the Spanish ceramic tile sector, while study of El Badawy et al. (2014) evaluates the moderating effect of OLC on emotional intelligence and job satisfaction relation, in a comparative study between Egypt and India. However, Jolodar and Jolodar (2012) analyze the impact of OLC on job satisfaction in Tejarat Bank in Iran.

Alikhani and Fazlollahtabar (2014) represent a mathematical model for maximizing OLC focusing on required cost, labor, and capital, for implementation of some effective dimensions on OLC, while study of Bahadori et al. (2012) determines the level of OLCs among nurses in health care organizations in Iran. Akgün et al. (2014) propose OLC as an enhancing factor linking customer relationship management with performance in the banking sector in Turkey. Ho et al. (2013) show how OLC mediates the relationship between workplace familism and business performance. Farsani, Bidmeshgipour, Habibi, and Rashidi (2012) examine the effect of intellectual capital on OLC at the Iranian petrochemical industry. Jerez Gómez et al. (2004) observe the relation between orientation towards ongoing training and OLC. However, Hashim (2013) observes the mediation role of OLC in the relation between HR management practices, servant leadership and organizational commitment, while Jerez-Gómez et al. (2005) analyze the impact of compensation strategy

on OLC, and Shukla (2013) examines the relationship between knowledge utilization and OLC in a team environment.

After the detailed holistic and contingent view of OLC, that was provided in the previous sections, a clarification about OLC measurement and its adopted conceptual model is conducted in the following section;

2.2.4 Organizational Learning Capability Measurement and Conceptual Model

OLC has been conceptualized within the existing literature as a multidimensional and complex construct (Jerez Gómez et al., 2004). In the literature, there is a lack of a methodical approach for measuring OLC (Onağ et al., 2014). OLC is a set of accountabilities and managerial actions (Ulrich et al., 1993). Measuring the progress in these management actions and practices can be done periodically for evaluating the progress in OLC improvement (Goh, 2003).

Thus, an organization with a high OLC should exhibit a high degree of learning in these key dimensions (Nwankpa & Roumani, 2014). There are variations in OLC because of the several ways organizations use to create and increase OL (DiBella et al., 1996). The identification of OLC dimensions, as Jerez-Gómez et al. (2005) mention, defines the OL areas in which managers can improve this capability. Instruments for measuring OLC are organized according to the main facilitating factors of OL, which are used as the dimensions (Chiva et al., 2007). From literature, it can be realized that scholars such as Goh and Richards (1997), Jerez-Go´mez et al. (2005), and Chiva et al. (2007) are using these dimensions for measuring OLC.

The importance of facilitating factors has been stressed mainly by the prescriptive literature (learning organization literature), such as in Ulrich et al. (1993) and Hult and Ferrell (1997). However, descriptive literature (OL literature) also suggested facilitating factors for learning, which were adopted by other scholars, such as in Nevis et al. (1995) and Tannenbaum (1997).

For instance, regarding the prescriptive literature of OL (literature of learning organizations), Goh and Richards (1997) develop an OL survey instrument for measuring OLC using the

five dimensions of learning organizations: transfer of knowledge, empowerment and leadership commitment, clarity of purpose and mission, group problem solving and teamwork, and experimentation and rewards. Goh (2003) also develops a measurement tool for OLC by using the same five organizational characteristics and management practices. Further, Jerez Gómez et al. (2004), Jerez-Gómez et al. (2005), Bahadori et al. (2012), Ho et al. (2013), Akgün et al. (2014), and Nwankpa and Roumani (2014) identify four dimensions of OLC: openness and experimentation, systems perspective, managerial commitment to learning, and knowledge transfer and integration. In the same context, Shukla (2013) measure OLC through: learning intent, transparency, receptivity, dissemination of information, and shared interpretation. However, dimensions used by Hult and Ferrell (1997) and Serinkan et al. (2014) were; learning orientation, systems orientation, team orientation, and memory orientation.

Regarding the descriptive literature on OL (literature of organizational learning), Nevis et al. (1995) consider scanning imperative, performance gap, concern for management, experimental mind-set, climate of openness, continuous education, operational variety, and multiple advocates, involved leadership, and systems perspective, as the learning facilitating factors, while Tannenbaum (1997) considers the experimentation & openness to change, mistake and risk acceptance, leadership commitment to learning, transparency and knowledge transfer, as the factors. However, Popper and Lipshitz (2000) claim that risk acceptance, workers who want to learn, interaction with the uncertain environment, and commitment to learning are the facilitating factors.

As clarified previously, some scholars analyze the learning organization literature for determining the facilitating factors of learning and some others analyze the organizational learning literature. However, Chiva-Gómez (2004) proposes and analyzes fifteen facilitating factors suggested by both the OL and the learning organization literatures, and claims that almost all of these factors determined by both literatures are universal; are perceived and applicable for all organizations and sectors (Chiva-Gómez, 2004). Following the same comprehensive approach, Chiva et al. (2007) analyze both literatures, develop and provide a new OLC measurement instrument with taking all the literatures involved in the facilitating factors into account.

The fifteen facilitating factors proposed by Chiva-Gómez (2004), were grouped together by Chiva et al. (2007) and included into five underlying dimensions in order to simplify the proposal of Chiva-Gómez (2004) and develop a measurement scale, as emphasized by Alegre and Chiva (2008) and Chiva and Alegre (2009). Chiva and his colleagues (2007) identified the following five dimensions for OLC (facilitating factors); experimentation, risk taking, interaction with the external environment, dialogue, and participative decision making. These five dimensions are key enabling factors for the OL process and represent the OLC of a particular firm (Alegre & Chiva, 2008). The OLC measurement scale proposed by Chiva et al. (2007) is at the employee level. However, Alegre and Chiva (2008) conduct a methodological contribution to the empirical validation of Chiva et al.'s (2007) scale for assessing the OLC at the firm level.

Chiva and Alegre (2008), Chiva and Alegre (2009), Mat and Cherazak (2011), Jolodar and Jolodar (2012), Fernández-Mesa et al. (2013), Hashim (2013), Vargas (2013), and El Badawy et al. (2014) are examples of researches which take the same comprehensive approach and adopt the measurement tool of Chiva et al. (2007). Consequently, author of this dissertation concludes that OLC could be operationalized as the five dimensions construct and adopts the measurement instrument of Chiva et al. (2007). These five dimensions (facilitating factors) are identified and explained as follow;

1. Experimentation

Experimentation defined as the level to which new suggestions and ideas are brought, presented, and dealt with sympathetically (Chiva et al., 2007). Experimentation refers to the level of freedom employees have in applying new working methods and in taking risks, as Goh and Richards (1997) identify. Experimentation is trying out new things, being curious about how things work, being able to play with things, and accepting failures (Nevis et al., 1995). Experimentation is induced by opportunity and extending horizons and uses the scientific methods to systematically search for and test new knowledge (Garvin, 1994). It involves creating a structure that encourages new ideas and technologies and embraces new innovations for both current and future challenges (Nwankpa & Roumani, 2014).

Mat and Cherazak (2011) consider failure as a learning process in organization, and confirm that failure should be analyzed and experimentation should be proceeded in order to enable the organization to learn. Therefore, experimentation involves trying out new suggestions and ideas, in order to ask about how things work or inquire into norms and processes (Chiva & Alegre, 2009). Experimentation enhances learning by pushing an organization up all the stages of knowledge hierarchy (Garvin, 1994). Similarly, experimentation and openness provides support and encouragement by using external sources to create ideas (Abedi & Eslami 2014). Experimenting new technology could accelerate an effective organizational innovation in new technology (Vargas, 2013). In the same context, and according to Chiva and Alegre (2009), experimentation implies taking risks and making mistakes; an organization that supports mistakes and allows risks would assist and support experimentation. Experimentation needs an organizational culture which increases the risk taking and supports the notion that one can learn from the experiments and mistakes of other ones (Slater & Narver, 1995).

The organizational structure and systems should support experimentation, which considered as the most consistent managerial practice observed in learning organizations (Goh & Richards, 1997). Senge et al. (1994) state that “because no single organization has the resources to conduct all the necessary experiment on its own, managers seek to learn about each other’s attempts, results, and reflections” (P.6). Therefore, an organization is supposed to allow and encourage experimentation with new work methods (Senge, 1990), since the lack of experimentation is considered as one of the causes for the lack of double loop learning, and learning barriers could be resulted from lack of experimentation (Schimmel & Muntslag, 2009). Some factors such as, support for new ideas, continuous training, and workers who want to learn and improve, were included in experimentation (Chiva & Alegre, 2009).

2. Risk Taking

Risk taking defined by as Wiklund and Shepherd (2003) as “committing resources to projects where the outcomes are unknown” (p.1309). Wiklund and Shepherd go on with their definition as “the organization’s willingness to break away from the tried and true and venture into the unknown” (p.1309). Risk taking is the toleration and bearing of errors,

uncertainties, and ambiguity (Chiva et al., 2007). Organizations assuming risks and accepting mistakes could facilitate OL (Onağ et al., 2014). Risk taking is confirming environmental uncertainty, tendency to accept risk, and determining long-term objective (Abedi & Eslami 2014).

Risk acceptance or taking incorporates the possibility of failures and mistakes occurring (Chiva et al., 2007). Risk taking provides opportunity for firm in achieving technological innovation (Mat & Cherazak, 2011). Importantly, for creating a learning culture, organizations need exploiting learning opportunities from which to acquire new knowledge (March, 1991). Risk taking causes learning from successes and mistakes which in turn leads to opening new and further opportunities (Vargas, 2013). Therefore, taking risks and exploring new novel product domains and markets promotes a learning culture (Anderson et al., 2009). Failure is required for OL which can inspect the pros and cons of success and error, while the benefit breeds from error is risk tolerance, according to Sitkin (as cited in Chiva & Alegre, 2009).

3. Interaction with the External Environment

External environment is considered as the factors that are not under the direct control of organizations (Chiva & Algre, 2008). Interaction with external environment is the extent and range of relationships with the external environment (Chiva et al., 2007). It is the extent of relationships that organizations possess and adhere in their immediate environment (Alegre & Chiva, 2008). Abedi and Eslami (2014) clarify that interaction with the external environment includes achieving information about the organizational capacities, collecting information and disseminating information and organizational contacts. The increase in environmental turbulence leads to increase in organizational need for learning (Popper & Lipshitz, 2000). Therefore, Chiva and Alegre (2009) imply that learning occurs through a self-organizing process which is a result of agents' connections and interactions, and define these interactions as the interaction between internal actors (within organization) and external actors (outside the organization).

Chiva et al. (2007) imply that external environment consists of industrial elements such as competitors, legal and political systems, monetary system, and social and economic systems. Chiva et al. (2007) emphasize the importance of connections and relations with the

environment, because a firm tries to develop simultaneously with its changing environment. Vargas (2013) clarify that organizations should deal with external shocks and set up relationships with external parties or agents such as competitors, customers, government agencies, and universities. Vargas (2013) adds that this collaboration provides firms with benefits such as the latest changes affecting firms. Thus, alliances can boost and promote a unique learning atmosphere by bringing organizations together with unique capabilities and skills (Shukla, 2013).

4. Dialogue

Dialogue is the uninterrupted collective inquiry, into the certainties, assumptions, and processes which form everyday experience, according to the definition of William Isaacs (as cited in Querubin, 2011). Dialogue is the interactions between internal actors (within the organizations) (Chiva & Alegre, 2009). Oswick, Anthony, Keenoy, Mangham, and Grant (2000) consider dialogue as the process that bridges the gap between individuals and OL. Oswick et al. (2000) imply that dialogue generates OL, since dialogue creates collective perceptions and plural comprehensions.

Dialogue is important for realizing learning (Gear et al, 2003). Accordingly, Chiva et al. (2007) illuminate that individuals who can create a dialogic culture or community are those who meet for solving a problem or who work together. Mat and Cherazak (2011) indicate that dialogue produces better understanding among organizational members by sharing meaning on related issues, thus organizational members achieve mutual understanding and relieve speed in information sharing. Goh and Rechard (1997) illustrate that individuals should help each other to achieve organizational goals, and thus organizational systems and structures are supposed to support and promote teamwork and group problem-solving between employees and decrease the employees' dependence on the top managers (Goh & Rechard, 1997).

In the same context, dialogue is part of OL since dialogue promotes and encourages communication and leads to sharing the same conclusion between groups and teams (Mat & Cherazak, 2011), thus meeting people from other areas and groups enhances OL (Chiva et al., 2007). An intra-organizational dialogue provides organizational members with

opportunity to falsify premises and conclusions in existing knowledge structures (Senge, 1990). The absence of dialogue may result in problems with double loop organizational learning, so learning barriers could be due to absence of dialogue (Schimmel & Muntslag, 2009). Some factors like, teamwork or collaboration, diversity, and communication, were included in dialogue (Chiva et al., 2007) and (Chiva & Alegre, 2009).

5. Participative Decision Making

Participative decision making is the amount of influence and power organizational members enjoy when making a particular decision (Cotton et al., 1988). Participative decision making considered by Abedi and Eslami (2014) as a management vision and incentives of the employees, it is the participation of the employees in establishing guidelines. Slater and Narver (1995) claim that workers should participate in decision making in order to achieve learning. Therefore, according to Mat and Cherazak (2011), management is required to incorporate and include all related parties and this can be accomplished by decreasing bureaucratic problem within organization.

Factors such as, honest interaction, system perspective and participative decision making require cohesiveness, trust and good relationship, not only among members in the organization but also between owners/managers and their employees (Ho et al., 2013). Participative decision making is assessed in terms of its consequences, including employees' involvement in decisions, reduction of industrial conflict, and workforce democratization (Cotton et al., 1988). Factors such as knowledge of the organization, flexible organizational structure, and delegation, were integrated and incorporated in participative decision making (Chiva & Alegre, 2009). However, some other factors such as, involved leadership, commitment to learning, and learning as an essential element in the strategy, were considered to be implicit in all the previous five underlying dimensions (Chiva et al., 2007) and (Chiva & Alegre, 2009). Based upon the review of literature, the conceptual model, which is proposed by Chiva et al. (2007), is adopted for this dissertation and depicted in Figure (2).

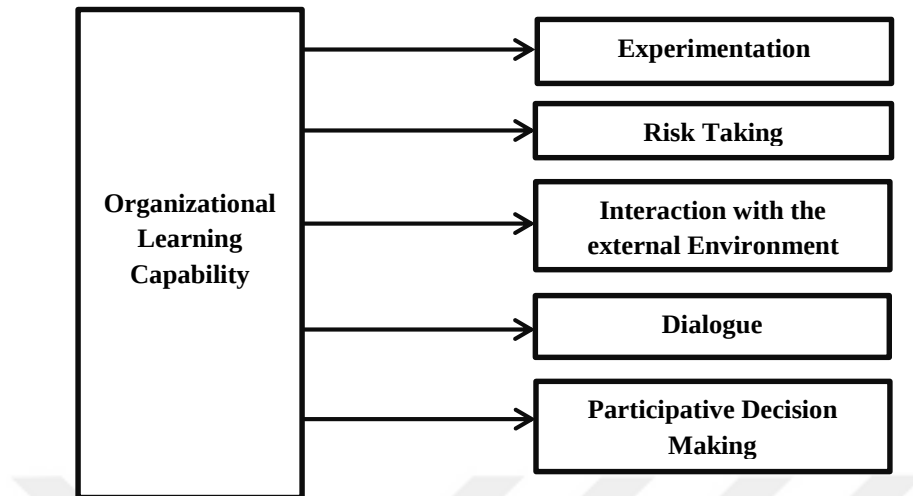


Figure (2) Conceptual Model of Organizational Learning Capability

2.3 Competitive Intelligence

This section of literature review provides a comprehensive picture about competitive intelligence (CI), by going through a theoretical overview about this construct, presenting the conceptual definitions of CI, elucidating the various labels for CI, providing a clarification about CI process, as well as about CI system, practices, and programs, Afterward, explaining the overlapping elements of CI, and finally addressing the significance of CI.

2.3.1 Competitive Intelligence: An Overview

In concurrent shrinking markets and competitive environments, an organization needs to adapt to its surroundings and to know its competitors if they want to survive and prosper (Colakoglu, 2011) and (Mollayaaghobi & Badiee, 2011). Therefore, CI deals with the firm's competitive environment (Ben sassi et al., 2015), its activities are a protection against market changes and threats, and act as a method for finding new trends and opportunities (Wang & Borges, 2013). Thus, improvement of intelligence in the modern world is one of the very important necessities for most organizations for being able to strengthen their capabilities (Parvizi & Siadat, 2014).

CI is not a new concept (Wright, Badr, Weiss, & Pickton, 2004) and has a set of application tools since 1980s (Ting, Kaihu, & Kaichao, 2008). CI concept has a rich and valuable heritage (Juhari & Stephens, 2006) and has attracted the attention in the last years (Bouthillier & Jin, 2005). CI was evolved from elements of military intelligence, economics, business administration, innovation and technology management, marketing, and government administration (Miller & Miller, 2009). So, companies turn to CI for building and maintaining an edge (Johns & Doren, 2010). CI is an unavoidable need of the corporation and the development of market competition (Ting et al., 2008). However, firms of different sizes or in different industries or countries would use different CI methods (Agarwal, 2006). Many corporations have formal CI units, such as IBM, Eastman Kodak, Proctor and Gamble, General Motors, Citicorp, and Motorola (Vedder & Guynes, 2002), and CI considered as a main competitive asset in Japanese firms (Rouach & Santi, 2001).

2.3.2 Conceptual Definitions of Competitive Intelligence

Since CI is a process launched in dynamic situations where players are moving forward in a continuously changing environment (Brody, 2008), and since scholars and experts with different experiences and backgrounds have different various perceptions to CI (Safa et al., 2015), and because CI is both a process and a product (Pellissier & Nenzhelele, 2013);

CI has no universal or standard definition (Safa et al., 2015). Fleisher and Bensoussan (2015) in their book, imply that there are different definitions for CI and that there is no single definition for CI that is accepted universally. Most of definitions consider CI as a process (Pellissier & Nenzhelele, 2013), in spite that a lot of definitions consider CI as a product as well (Brody, 2008). Because of the military origins of this concept, it is referred to CI as an art (Pellissier & Nenzhelele, 2013). Table (2) is a synthesis of the main definitions of CI devoted by the previous literature.

Table (2) a synthesis of the main definitions of CI devoted by previous literature

No	Definitions of Competitive Intelligence	References
1	"The acquisition, analysis, and distribution of information pertaining to (1) a company's resources and capabilities, (2) the current and potential resources and capabilities of its competitors, or (3) the external business environment in which the company operates"	(Hannon, 1997, p.67)
2	It is "information that tells us how competitive the firm is. It's understanding the competitive arena, being able to predict competitors' and customers' intentions, government actions, and so forth"	(Zanasi, 1998, p.45)
3	"The set of legal and ethical methods used to gather information about competitor activities from public and private sources"	(Vedder & Guynes, 2002, p.49)
4	Is identifying and anticipating industry and competitors, with including consideration of competitor responses to customer/ consumer needs and perceptions and one's own responses in the strategic decision making process	(Wright, Pickton, & Callow, 2002, p.350-351)
5	"The purposeful and coordinated monitoring of your competition within a specific marketplace"	(Agarwal, 2006, p.309)
6	CI is a strategic concept; CI comprises a set of different methods, techniques and tools, applied integrally and continually, CI is an ethical and legal concept, and CI is an external Knowledge Management (KM) system, as it serves to the top management as means of analysis of the competitive environment, with the purpose of gathering, analyzing and producing knowledge about the position and movements of the competitors.	(Radun, 2006, p.1298)
7	Is regarded as a system of environmental scanning (as a predecessor of CI) which integrates the knowledge of everyone in the company and encompasses marketing, structural, strategic and other organizational elements.	(Calof & Wright, 2008, p.718)
8	"Refers to all related information of competitors and competitive environment the competition main body (for example, a region or enterprise) required for maintaining a competitive advantage. It is the knowledgeable information formed by a collection, analysis and management of external information to be possible to affect planning, decision-making and operation of companies"	(Ting et al., 2008, p.204)
9	"It is an ethical process for obtaining information on the competitive environment for use in organizational decision making. As a result competitive intelligence collection and analysis has both tactical and strategic importance for companies"	(Weiss & Naylor, 2010, p.30)
10	"Is art of collecting, processing and storage of information that people in all levels of the Organization have access to it, according to their needs and helps them shape their future and will protect them against competitive threats"	(Rezaie Dollatabady, Ghandehari, & Amiri, 2011, p.942)
11	"Is the process by which individuals working in a business setting, analyze information which it has obtained legally about its competitors, customers, environments, and markets, to enable it to anticipate changes in its industry and assist in making the correct strategic decisions"	(Blenkhorn & Fleisher, 2013, p.62)
12	"A process or practice that produces and disseminates actionable intelligence by planning, ethically and legally collecting, processing and analyzing information from and about the internal and external or competitive environment in order to help decision-makers in decision-making and to provide a competitive advantage to the enterprise" This CI definition "outlines the CI process, deliverable, ethicality, legality, source, purpose, benefit and beneficiaries. Therefore, this definition is comprehensive and clearly sets out the borders of CI for common understanding"	(Pellissier & Nenzhelele, 2013, p.5)

Table (2) *continued*

No	Definitions of Competitive Intelligence	References
13	“The process by which organizations gather actionable information about competitors and the competitive environment and, ideally, apply it to their planning processes and decision-making in order to improve their enterprise’s performance”	(Fleisher & Benssousan, 2015, p.9)
14	According to the definitions of Society of Competitive Intelligence Professionals (SCIP); “The legal and ethical collection and analysis of information regarding the capabilities, vulnerabilities, and intentions of business competitors” (SCIP, 2015 a) “The process of monitoring the competitive environment and analyzing the findings in the context of internal issues, for the purpose of decision support. CI enables senior managers in companies of all sizes to make informed decisions about everything from marketing, R&D, and investing tactics to long term business strategies” (SCIP, 2015 b)	(SCIP, 2015)

SCIP: Society of Competitive Intelligence Professionals, established in 1986, is a global nonprofit membership community of business experts across industry, academia, and government who come together to build and share strategic intelligence, research decision-support tools, processes and analytics capabilities (SCIP, 2015 a).

2.3.3 Various Labels for Competitive Intelligence

Viewing CI as a progression from raw inputs to finished outputs is a way for understanding CI (Fleisher & Benssousan, 2015). However, scholars use many terms for supplementing or substituting for CI (Brody, 2008). Therefore, there are many numerous labels for CI (Mollayaaghobi & Badiie, 2011), including: environmental scanning (Adidam et al., 2012); business intelligence; strategic intelligence; competitor analysis; market intelligence (Dishman & Calof, 2008); competitive technical intelligence (Colakoglu, 2011); corporate intelligence; customer intelligence (Brody, 2008); technological Intelligence; and competitors’ intelligence (Rouach & Santi, 2001).

According to CI and market research, CI interacts with more various resources from more diverse stakeholders, and tries not just to find answers for current questions but also to find new inquiries and to direct actions, than market research (Wang & Borges, 2013). CI is used for making decision in general, while marketing intelligence is used for performing the marketing issues, and thus CI is broader than marketing intelligence (Liu & Wang, 2008). CI is a more comprehensive and thorough term involving a broader range of activities (Wright et al., 2002). Wright et al. (2002) clarify that CI extends the role of competitor intelligence,

which is determining and anticipating competitors, to include competitor responses to customer needs and demands.

CI is to acquire, analyze, and distribute information (Hannon, 1997), it is a process for transforming information into actionable intelligence (Du Toit, 2013), while business intelligence (BI) is a wide set of applications and technologies for collecting, accessing to, and processing data, thus the BI concept indicates having a holistic knowledge about all factors that influence business (Ranjan, 2009). The concept of BI is broader than CI; BI encompasses software and technology for data mining and data extraction (Brody, 2008).

The system of total intelligence (introducing the BI system and practicing CI) provides a firm with a 360-degree real time view of all factors that influence business (Pranjić, 2011). *Organizational intelligence* is “the capacity of an organization to mobilize all of its brain power and focus that brain power on achieving the mission” (Albrecht, 2002, p.2).

2.3.4 Competitive Intelligence is a Process and/or a Product

CI is a process as well as a product (Vedder, Vanecek, Guynes, & Cappel, 1999). Vedder and his colleagues (1999) imply that CI as a process is the set of ethical and legal methods a firm uses to benefit from information that helps in achieving success within business environment, while CI as a product, is the information from private and public sources about activities of competitors, and its scope is the present and future behavior of customers, suppliers, competitors, markets, products and services, acquisitions, and technologies.

Brody (2008) illustrates that CI was defined in the literature either as a process or as a product or as a both of them. Pellissier and Nenzhelele (2013) consider CI as both a process and a product, and define the term of CI accordingly. The term ‘CI product’ has to be understood in a broad sense (CI product on paper or electronic documents, interactive decision support systems, meetings, expert’s contributions, and visits) (Salles, 2006). However, the following section provides further illustration regarding CI process and its steps;

2.3.4.1 Competitive Intelligence Process

CI is a process, but is not a process closed within the organizational boundaries (Radun, 2006). All members and organizational parties, including CI users (decision-makers and managers) and CI practitioners (analysts and supply chain partners), should be involved in the CI process (Miller & Miller, 2009). The systematic process used in developing CI products is called the intelligence cycle which progresses through a set of steps including planning, collecting, analyzing, and disseminating data (Fleisher, 2004). Similarly, CI process is a continuous cycle (Saayman et al., 2008), since CI progresses from one phase to another in a cyclical continual process, and the final product of this flow is the intelligence, which is knowledge on competition, gathered, processed, analyzed, and distributed to management (Radun, 2006). This cycle contains progressing from data to information to intelligence; the intelligences are the outputs of CI process (Safa et al., 2015).

CI cycle generally composed of four steps/ activities; Planning, Collection, Analysis, and Communication/Dissemination, according to Rouach and Santi (2001), Fleisher (2004) and Calof and Wright (2008). Other scholars such as Bernhardt (1994) and Radun (2006), imply that CI process is a cycle of 5 steps/phases; planning and direction, collecting information, processing, analysis and forecast, and dissemination, while others such as (Boss, 2008) indicate that CI process/ cycle include these steps; planning and direction, collection, analysis, dissemination, and feedback.

However, the most common process of CI was adopted by a lot of scholars, such as McGonagle and Vella (2002), Olivier et al. (2003), Dishman and Calof (2008), Saayman et al. (2008), Nasri (2011), and Ben sassi et al. (2015). This CI process includes the four steps of planning, collection, analysis and communication, with the two continuous steps of culture/awareness, and process and structure (Ben sassi et al., 2015). According to Dishman and Calof (2008), organizational culture and awareness as well as intelligence process and structure have direct impact on all the various phases in the CI course. In the same context, awareness, culture, process and structure were explored to be influence drivers in CI process (Smith, Wright, & Pickton, 2010). See figure (3) adopted from Ben sassi et al. (2015).

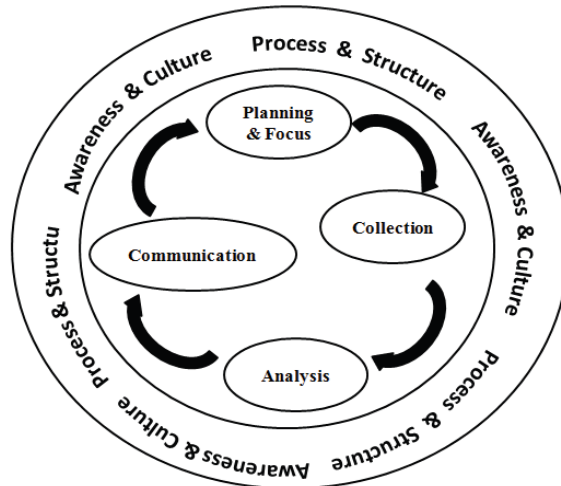


Figure (3) Competitive Intelligence Cycle

2.3.4.2 The Six Steps of CI Process

Theoretical literature emphasizes six main steps for CI process as follows;

1. Planning & Focus: This phase identifies the firm's demands in terms of what information is needed, why it is needed, and when it is due (Bose, 2008). This phase assesses and determines the resources required for the CI project (Saayman et al., 2008). This phase is important for understanding the users' need and the time-frame for ensuring the CI process success and for determining the allocation of resources and the type of collection processes to be used (Rouach & Santi, 2001). Planning is carried out repeatedly and involves both decision makers and CI analysts (Bose, 2008), and thus a phase of active planning and focus is expected when investigating the CI process (Dishman & Calof, 2008).

2. Collection: it is identifying all the potential sources of information and then researching and gathering the right data in a legal and ethical way (Bose, 2008). Collection involves gathering the raw data to convert it into usable intelligence (Rouach & Santi, 2001). This phase is also about confirming that the information and its sources are examined for credibility and reliability (Saayman et al., 2008). Collection is a series of steps or a continuum that begin with secondary/public collection, then social media collection and finally primary/human collection (Weiss & Naylor, 2010). Collection of publicly disseminated or accessible information considered as legal and ethical collection (Olivier et

al., 2003). Consequently, collecting and gathering information is conducted as a phase in the CI process (Dishman & Calof, 2008), and considered as the fundamental process of CI (Wang & Borges, 2013).

3. Analysis: this phase represents the core of CI process; it turns information into intelligence (Rouach & Santi, 2001). This step involves analyzing gathered data to identify patterns, relationships, or related abnormalities (Bose, 2008). Analysis is to deliver some meaning from the gathered data and information (Safa et al., 2015). In other words, this phase means examining systematically the relevant data and transforming the results into actionable intelligence (Bose, 2008). Therefore, intelligence is the information that becomes intelligence after required analysis (Liu & Wang, 2008). SWOT analysis is the most commonly used method of analysis (Pranjić, 2011), and CI practitioners are analysts executing the actual steps of CI process and are most involved in CI activities (Miller & Miller, 2009). Therefore, a lot of work was conducted in the areas of environmental analysis, competitive analysis, and strategic analysis (Olivier et al., 2003).

4. Communication and Dissemination: outputs and findings of CI process should be communicated to those with the responsibility and authority to act on the results (Olivier et al., 2003). In this phase, the analysts propose possible actions and distribute it to end users (Rouach & Santi, 2001). Communicating or disseminating the outputs can be in the form of a meeting, a report, or a dashboard, while these outputs are used as inputs to carry out more analyses (Bose, 2008). Saayman et al. (2008) indicate that CI communication can be done by presentations, e-mails, alerts, special memos, ad hoc reports, competitor files, and news briefs. There are internal communication of intelligence, which is transferring and sharing intelligence within organization, and external communication of intelligence, which is transferring and sharing intelligence between competitors (Radun, 2006). Antia and Hesford (2007) imply that increasing the dissemination of CI would increase the flow of information about competitors which in turn would decrease information uncertainty.

5. Process/Structure: this stage includes the appropriate policies, procedures, strategies, and a formal or informal infrastructure for enabling the employees in contributing effectively to the CI system and getting the benefits from the CI process (Olivier et al., 2003). Within literature, there is a full-time intelligence structure versus part-time one (Dishman & Calof,

2008). Olivier et al. (2003) add that the more formal structure devotes CI managers for coordinating the collection, storage, analysis and dissemination of intelligence. Therefore, achieving an effective intelligence efficacy requires building the internal infrastructure (Nasri, 2011).

6. Organizational Awareness/Culture: this step guarantees the proper execution of CI (Ben sassi et al., 2015). An appropriate organizational awareness of CI and a culture of competitiveness should exist within organization in order an organization can successfully utilize and exploit its CI efforts and deliverables (Slater & Narver, 1995). In other words, CI should build on and around the culture of an organization (Rouach & Santi, 2001), and both an organizational awareness and a culture of competitiveness exist within the organization for conducting intelligence (Dishman & Calof, 2008).

However, Saayman et al. (2008) categorize CI into CI process and CI context. They clarify that CI process is influenced by certain contextual influences; by CI context in which CI occur. Saayman and his colleagues claim that CI context, in which CI occur, should be evaluated in order to assess CI performance, and that an improvement in CI context could enhance CI capability. According to Saayman et al. (2008), *CI process* consists of three factors; (1) Planning & focus, (2) collection, and (3) analysis & communication. While *CI context*, in which CI takes place, consists of four factors: (1) awareness/culture, (2) internal information, (3) formal infrastructure, and (4) employee involvement. Author of this dissertation adopts the measurement scale of Saayman et al. (2008) for measuring CI, with its categorization into CI process and CI context.

2.3.5 Competitive Intelligence System, Practices, and Programs

CI system is the part of the company information system ‘specialized’ on environment (Salles, 2006). Concept of CI system emerges in the competitive strategy of enterprise (Ting et al., 2008). CI system organizes the knowledge flow and ensures the intelligence arrival to the right user, on the right time (Miller & Miller, 2009). Consequently, CI systems help the organization in dealing with information effectively and protecting and maintaining its own knowledge (Zangouinezhad & Moshabaki, 2009). Agarwal (2006) imply that CI systems are “home grown”; CI systems are tailored to the firm’s needs instead of buying CI software.

However, technological developments and cost reductions could lead to expansion of CI system to the whole organizational stakeholders (Mollayaaghobi & Badiie, 2011). Four core components of CI system exist; competitive service, competitive and industry direction, competitive strategies, and competitive positioning (Johns & Doren 2010).

With regard to CI practices, CI improvement and assessment get better by carrying out CI practices (Colakoglu, 2011). Therefore, CI considered as a set of various practices; it is a body of practicing and acting rather than a body of knowing and knowledge (Brody, 2008). Wright et al. (2009) illustrate that CI practice consists of four types/ strands; Attitude (immune attitude, task driven attitude, operational attitude, and strategic attitude), Gathering (easy and hunter gathering), Use (joneses, knee jerk, tactical, and strategic user), and Location (Ad-Hoc location, designated location). However, the best CI practice is the integration of strategic attitude, hunter gathering, strategic user, and designated location, as Wright et al. (2002) conclude. Regarding to CI programs, in general they are decentralized and do not have a common format, in spite that some types of CI programs disseminate and communicate CI concepts through conferences and engaging all in training and workshops (Smith et al., 2010). CI programs used by a firm lead the firm to better understand its competitive situation and landscape (Vedder et al., 1999).

2.3.6 Overlapping Elements in Competitive Intelligence

CI in content consists of several overlapping elements that work together for bringing out intelligence; such as information, knowledge, and ethics.

2.3.6.1 Competitive Intelligence and Information

Most practitioners consider CI as a term for expressing the competitive information (McGonagle & Vella, 2002). Information is a strategic resource for CI, as Ting et al. (2008) retain. The major aim of CI is to add value to the information and to disseminate it (Rouach & Santi, 2001), and thus Xianjint and Sujuan (2006) imply that CI measures the full usage of information for achieving competitive advantage. CI collects information related to the firm's competitive power, in a systematic, ordered, and continuous base (Xianjint & Sujuan, 2006),

it collects information about competitors and all the other related parties within the business environment (Ting et al., 2008). Levels of informational intelligence are; what information the firm has, what information the firm tries to get, and what information the firm ignores not having it (Saba, Rémur, & Gerbaix, 2014). 90% of information the firm needs to understand its competitors and business markets is already public (McGonagle & Vella, 2002). For the collection phase of intelligence process, different and diverse sources of information are used, such as qualitative and quantitative sources and textual and human information sources (Dishman & Calof, 2008).

Nasri (2011) categorizes sources of environmental information for CI into primary and secondary sources. Primary sources are sources which include customers, reports, academics, competitors, suppliers, employees, and trade association officials (Nasri, 2011). These information sources include employees, specifically employees who enjoy connections with competitors, according to Fleisher/Schoenfeld (as cited in Hannon, 1997). Secondary sources are sources which include public records, trade formal, newspapers, company-published, online and subscriber databases, and worldwide webs (Nasri, 2011). These information sources include published materials, like financial reports and patent filings, according to Fleisher/Schoenfeld (as cited in Hannon, 1996). Therefore, technological development and the extensive availability of information through emails and communication networks have led to more significant CI (Wright & Calof, 2006).

2.3.6.2 Competitive Intelligence and Knowledge

CI is knowledge in action; it applies knowledge (Radun, 2006). Agarwal (2006) considered CI as a knowledge asset. Knowledge creation starts from information that is assimilated into some useful form and ends at knowledge, and this could be proposed as a linear sequence where information and knowledge are on the two ends, and CI is lying at the middle where in CI is neither a raw data nor a final knowledge product (Mollayaaghobi & Badiiee, 2011). Similarly, Pranjić (2011) elucidate that knowledge represents a strategic resource, and that using CI tools and techniques is an effective way for creating and using knowledge. Thus, Miller and Miller (2009) consider CI as a user of the knowledge management system, and not the opposite. On the other hand, Lee and Chang (2006) demonstrate that integrating knowledge management encourages CI adoption. Literature on CI points out that knowledge

enhances the employees' ability to collect, analyze, and utilize CI, thus knowledge can result in better CI behaviors (Mariadoss et al., 2014).

2.3.6.3 Competitive Intelligence and Ethics

In opposite to espionage, activities of CI range from reaching publicly open and accessible sources of information about competitors like the annual reports, to reaching products of competitors such as buying the product (Hannon, 1997). The legal and ethical dimension of CI is distinguished from the unethical and illegal techniques of tracing and research competition, which is called economic or industrial espionage (Radun, 2006). A lot of CI definitions emphasize the ethical aspect of intelligence and strongly exclude the industrial espionage from the CI practicing field (Brody, 2008). McDermott (1994, p. 32) states that "many corporate intelligence specialists insist that 99% of the most useful competitive information about any company is available through perfectly legal means". According to Safa et al. (2015), most of the ethical issues focus on the methods used for collecting information and thus CI process must be an ethical tool and CI practitioners should keep themselves away from suspicious techniques for information collection. In other words, the information the CI professional looks for can be obtained through the legal ways and means of public sources, such as interviews, public documents, and in-house expertise (Fleisher & Bensoussan, 2015), and thus a firm may gain additional information using a safe, legal, quick, and cheap way without being accused or charged with industrial espionage (Zanasi, 1998).

2.3.7 Significance of Competitive Intelligence

After the holistic and contingent view of CI, that was provided in the previous sections, a clarification is constructed below about CI role and significance at organizational level and how it contributes to a wide range of fields and areas, such as decision making, competitive advantage, performance, planning process, and innovation.

Intelligence about opportunities and threats in the global competitive environment is needed by firms seeking the sustainable growth (Johannesson & Palona, 2010). CI is a key asset (Liu & Wang, 2008). CI aims to predict and anticipate environmental evolutions, actions and moves of competitors, and customers' needs (Anica-Popa & Cucui, 2009), and thus

understanding the nature of CI enables corporations to evaluate their capability in survival and development in the surrounding environment (Stalinski, 2004).

With regard to CI significance in decision making, developing CI helps in making sound business decisions (Agarwal, 2006), and acknowledging decision makers (Rezaie Dollatabady et al., 2011). Similarly, CI is a very important part in the strategic decision making process, as Dishman and Calof (2008), Anica-Popa and Cucui (2009), Johannesson and Palona (2010), and Wang and Borges (2013) point out. CI provides actionable knowledge that is directed towards decision makers' demands, and thus management will face change with awareness and preparedness (Miller & Miller, 2009). Therefore, without intelligence, a firm may take inappropriate or unwise business decisions (Johns & Doren, 2010).

With respect to CI significance in competitive advantage, CI provides organizations with competitive advantage (Pellissier & Nenzhelele, 2013). This positive relationship between CI and competitive advantage indicates that organizations are in a better position to achieve more quality, decrease costs and make better general insight (Zangouenezhad & Moshabaki, 2009). In the same context, scanning for CI provides managers with knowledge of competitive actions that enables them to better evaluate the organizational strengths and weaknesses, and thus achieve better competitive advantage (Qiu, 2008). CI fosters competitive advantage by using the existing information and helping firms in better understanding the needs of customers and the relationship management (Parvizi & Siadat, 2014), and by monitoring environment, and early warning and information actions in sequence (Xianjint & Sujuan, 2006). Therefore, most scholars confirm CI as a main technique for achieving competitive advantage, such as Bose (2008), Johns and Doren (2010), Colakoglu (2011), Nasri (2011), and Adidam et al. (2012).

With respect to CI significance in organizational performance, CI is a main component for every service business performance (Marin & Poulter, 2004). According to Alampalli (2002), objective of CI is maximizing revenues and minimizing expenses, and accordingly Wright et al. (2009) recognize that CI system may increase profitability and revenues, and thus increase share value. Herring (2007) indicates that intelligence makes money, and thus information that makes money considered intelligence. Therefore, firms exhibiting and practicing a

higher level of CI would create higher financial performance (Cappel & Boon, 1995). Mariadoss, Milewicz, Lee, and Sahaym (2014) expect that the salesperson's product knowledge may affect salesperson CI behaviors which in turn affect salesperson performance. In the same context, Rapp, Agnihotri, and Baker (2015) suggest that facilitating the collection and use of individual CI would foster the individual performance. A performance management system must fulfill its control task through the CI budget dynamics, as Opait, Bleoju, Nistor, and Capatina (2016) clarify.

Regarding CI significance in planning process, CI is essential for strategic planning (Wang & Borges, 2013); CI enhances strategic planning process and helps businesses in planning (Trim & Lee, 2008). With regard to significance in innovation, Rezaie Dollatabady et al. (2011) show that CI is a key factor for innovation; CI can support the company's innovation project development activities (Miller & Miller, 2009). Therefore, intelligence processes of information generation, dissemination, utilization, and responsiveness to an environment are required for innovation (Dayan, 2006).

2.4 Relation between Organizational Agility & Competitive Intelligence

Emotional intelligence is needed by leadership agility, for sensing, acknowledging and responding to the predominant mood so employees can be committed to the change (McKenzie & Aitken, 2012). In other context, centralizing business intelligence within large enterprises allows companies to improve overall business agility (Keycorp, 2003), and more decentralized BI approaches might foster agility (Zimmer et al., 2012), in addition to that Cloud BI solutions considered as a means to ensure increased agility at low cost (Mircea, Ghilic-Micu, & Stoica, 2011). In other direction, the term BI agility explained by Zimmer et al. (2012) as to be able to rapidly respond to volatile requirements regarding the implementation of BI solutions. Krawatzeck, Dinter, and Thi (2015) in their study establish a structured and systematic overview about the agile BI actions. Chen (2012) investigates that BI reinforces the sensing role of OA, while Xianjint and Sujuan (2006) show that CI enhances the competitive advantage of supply chain agility by monitoring environment and

providing accurate and timely intelligence for decision making, and thus CI plays an essential role in agility.

In contrast and conversely, CI is part of BI (Chen, 2012) and the agility requirements come from immediate changes in order to exploit more BI, with the impact of setting up higher sensing capability (Zimmer et al., 2012). Agility can create or change the system of business intelligence; agility is an important factor in the BI improvement and success (Knabke & Olbrich, 2013). Although the relation between CI and OA is mostly conceived in terms of intelligent behavior as one of the antecedents for agility, the feedback loop whereby the quick sensing and responding abilities influence the intelligence can be float clearly on the surface.

OA is a strategic weapon in dealing with a changing and unpredictable business environment (Almahamid et al. 2010); it is the ability of the firm to sense and respond to opportunities and threats readily (Overby et al. 2006), and agile organizations include scanning the environment (Dyer & Shafer, 1998). As it is known to the field, environmental scanning is detecting opportunities and threats through gathering information from external environment, while CI is the conversion of this information into knowledge. CI considered as an environmental scanning system integrating knowledge in the firm; as a predecessor of CI (Calof & Wright, 2008). Since environmental scanning is an initial step in structuring and processing CI (Hambrick, 1981), and since CI is essential for dealing with organizational change (Guimaraes, 2000), and CI objective and aim is identifying, detecting, and assessing the opportunities of the market (Alampalli, 2002), the threats of the market (Prescott & Bhardwaj, 1995), and the risks in the market (McGonagle & Vella, 2002), and OA is the ability to quickly identify and detect these market opportunities and threats; it would be reasonable to assume that there is a linkage between OA and CI. *Therefore, this dissertation may infer theoretically and hypothesize that organizational agility has a significant direct impact on competitive intelligence and formulate the first research question “Is there a significant direct impact for OA on CI at commercial banks in Jordan?”*

2.5 Relation between Organizational Agility & Organizational Learning Capability

Embracing the competitive environment requires effective tools for success, such as the agility (the ability of an organization to make changes so that it may utilize the opportunities induced by the changes) and the OL (ability to learn vigorously and collectively and tend to change continually so that firms can collect, manage and utilize the information more effectively) (Shahrabi, 2012), since the firm can detect opportunities through its capability to learn and gain knowledge (Teece, 2007). In other words, OL and OA play a key interrelated role in enhancing performance and organizations with both learning and agility capabilities can develop competitive advantage by being among the leaders in recognizing threats and opportunities and being able to take advantage from it (Mavengere & Tikkamäki, 2013).

In other context, learning agility as a concept is defined by Lombardo and Eichinger (2000) as the ability and genuine desire to learn from feedback and experience in order to perform under the first-time or different situations and conditions, while defined by Tavares (2010) as the ability to deal with first time situations and the willingness to learn from experience. According to Dai, De Meuse, and Tang (2013), learning agility means learning new ways of dealing with sudden opportunities and problems. Similarly, according to Dries, Vantilborgh, and Pepermans (2012), in order for organizations to maintain an optimal level of agility, they need to focus on a workforce that is willing and able to engage in continuous learning, i.e. a workforce high in learning agility.

Embedding OL as one of the dynamic organizational competencies is required to achieve marketplace agility (Dyer & Shafer, 1998). Therefore, everyone in the organization should engage in Agility-Oriented Mindset for achieving agility by articulating the necessity of embedding OL (Dyer & Shafer, 2003). Similarly, practices with regards to fast OL are considered as a competency for OA (Nijssen & Paauwe, 2012), since responding to environment requirements as a broad dimension for agility, calls for intense skills and competences which mature through OL (Mavengere & Tikkamäki, 2013), and therefore, becoming a learning organization helps to boost the agility (Dumaine, 1994). Further, OA demands an organizational transformation from a mechanistic working machine to an organic, quick learning organization (Roth, 1996). Thus, one of the common phases in the

transformation to OA is the improvement or reinforcement of OLCs (Worley & Lawler, 2010).

Tallon and Pinsonneault (2011) imply that IT use promotes agility through learning, while Hassan, Arshad, Mustapha, and Jaafar (2013) explore how OL may influence IT capability to achieve OA. However, Idris and Al-Rubaie (2013) investigate the effect of strategic learning on strategic agility at business organizations, while Kuwada (1998) approves the key role strategic learning plays in achieving agility in the product development process. Further, Mackinnon, Grant, and Cray (2008) clarify the essential role of learning and knowledge in enabling strategic agility within organizations.

Lyytinen and Rose (2006) examine how IT innovation and OL influence information system development agility, since sensing and responding capabilities (agility capabilities) depend on the extent to which the organization is able to balance the two learning capabilities – exploration and exploitation. They conclude that while being agile, organizations need to swiftly explore (sense and quickly match opportunities arising from the base innovation), and then exploit these new competencies (respond effectively to resulting IS delivery challenges). Study of Sena et al. (2009) explores the relationship between design of OL mechanisms and agility and demonstrates that development of organizational capabilities for agility requires making informed choices of learning mechanisms.

According to the above and to that the change is the primary motive force of OA (Yu & Heng, 2006), and since learning is a main component of organizational change (Shahrabi, 2012) and OL considered as an essential capacity for competing in the modern markets (Santos-Vijande, López-Sánchez, & Trespalacios, 2012), and since OL allow companies to remain flexible and adaptable (Hashim, 2013), and because of the positive relationship between OLC and organizational readiness for change (Sanaei & Shahtalebi, 2014) and that the ability to identify environmental changes quickly and opportunistically needs employees to be prepared to transformed, which is achieved through learning (Birdthistle & Fleming, 2005); we may conclude that agility can demand a learning organization (Yu & Heng, 2006). In other words, OL is an element of agility and consequently there is a relationship between learning and agility (Shahrabi, 2012), by supporting and improving the two main dimensions of agility; sensing and responding to the environment.

In contrast and conversely, agile leaders can learn actively and help others to learn (McKenzie & Aitken, 2012), leadership agility achieves learning by encouraging dialogue between groups that facilitates continuous and daily learning, and by supporting the knowledge management practices which address the collective learning achievement (McKenzie & Aitken, 2012). Additionally, OA is required to develop and sustain OL competency (Dyer & Shafer, 1998) because agile organizations are always prepared to learn (Shahrabi, 2012). OA promotes OL, in that as the organization senses and responds to the environmental pressures so it learns from the experience and thus develops OL (Mavengere & Tikkamäki, 2013). Simultaneously, OLC is the processes and factors that facilitate or impede OL (DiBella et al., 1996). Therefore, *this dissertation may hypothesize a significant direct impact for Organizational agility on organizational learning capability and formulate the second research question “Is there a significant direct impact for OA on OLC at commercial banks in Jordan?”*

2.6 Relation between Organizational Learning Capability and Competitive Intelligence

Although the relation between learning and intelligence is usually conceived in terms of learning as one of the preconditions for intelligence behavior, the feedback loop whereby information processing abilities and cognitive operations influence the course of learning is beginning to be appreciated (Friedman, Das, & Oconer, 2012). For example; Bonthous (1995) implies that measuring intelligence means portraying critical elements which foster learning and thus intelligence could enhance OLCs. While Dishman and Pearson (2003) suggest that improving the intelligence process strengthens the overall knowledge acquisition which, in turn, improves learning curves.

In other context, EI has a positive impact on OLC (Chiva & Alegre, 2008). Clarke (2010) explains how EI abilities influence learning by assisting the learner to process emotional information, therefore affecting the learning strategies and the depth of dialogue that supports learning. In the same direction, EI represents social cognitive skills that foster communication skills as a means to improve the learning team environment, and thus

improve learning outcomes and learning team effectiveness (Dunaway, 2013). In a similar way, Gottlieb (2006) concludes that EI in managers positively correlates to OL in teams, while Singh (2007) show that EI has a positive relation with OL.

In contrast and conversely, the massive and revolutionary changes in the business market are realized as the main debate for implementing CI system at the organizations, as learning organizations per se (Radun, 2006). However, many efforts have yielded few convincing results and a general impression of very low correlation between learning abilities and measures of intelligence (Friedman et al., 2012). The estimation that OL can strengthen intelligence is confirmed by abundant studies of OL by practice, by theoretical analyses, and by case observations (Levitt & March, 1988). For example;

Emotional intelligence pushes employees to work in conditions that conciliate their social and emotional capabilities such as participation, dialogue, risk taking, and teamwork (Chiva & Alegre, 2008). Therefore, study of El Badawy et al. (2014) explores the impact of OLC on EI. In other context, Hashim (2013) implies that OL implementation demands a set of characteristics for developing the learning process and, at the end the firm becomes an intelligent organization. Thus, organizations take more OL to bring intelligent responses to the evolving demands and anticipations of customers, stakeholders, and shareholders (McKenzie & Aitken, 2012).

Further, OL is an important instrument of organizational intelligence, and learning and providing organizations with capabilities to learn quickly and precisely would improve intelligence (Levitt & March, 1988). Hence, the intelligent organization can be considered as a learning organization (Glynn, 1996), and OL theories can be a starting point for providing directions about how firms can acquire, disseminate, and utilize information for CI (Dayan, 2006). Similarly, study of Dishman and Pearson (2003) states that OL is important for implementing any intelligence unit and it is a necessary part in any effective intelligence process. While Murray and Carter (2005) show that integration of organizational learning capacity improve market intelligence, by facilitating new knowledge and driving difficult change agendas normally blocked by formal structure.

In the same direction, CI can be considered as a part of the OL systems, since OL systems create, communicate, and interpret competitive knowledge that is needed for the strategic decision making process (Shrivastava & Grant, 1985). From the idea that learning can enrich the pool of information capital, Jo & Joo (2011) show that learning organization culture is significantly associated with knowledge-sharing intention. Accordingly, learning enhances CI by providing information about the current and future behaviors of the general business environment including customers, markets, acquisitions, technologies, suppliers, and competitors (Vedder & Guynes, 2002). Shimakalantarian et al. (2012) conclude that OL has a positive impact on CI in food industry, and claim that managers institutionalize OL culture, so they can enhance CI to survive in today's changing environment.

In other words, OLC plays a role in CI. Tuan (2013) confirms that OL acts as an antecedent to CI; it increases CI and positively relates to CI scanning. Parallel to that point, OLC must be connected to other operational activities of the organization such as CI for ensuring the organizational survival for a long time (Goh, 2003). Therefore, *this dissertation may hypothesize a significant direct impact for organizational learning capability on competitive intelligence and formulate the third research question "Is there a significant direct impact for OLC on CI at commercial banks in Jordan?"*

2.7 Mediating role of Organizational Learning Capability

Many studies have considered and analyzed how OLC mediates the relationship between certain variables or constructs. For example; study of Mallén, Chiva, Alegre, and Guinot (2016) investigates that OLC fully mediates the relationship between the degree of structure organicity and organizational performance, while study of Mallén, Chiva, Alegre, and Guinot (2015) analyzes OLC as a mediator between altruistic leader behaviors and performance in Spanish firms, and claims that OLC can explain how altruistic leadership impacts organizational performance, since OLC facilitates creating a participative and dialogue-based environment that boosts OL. Similarly, study of García-Morales, Jiménez-Barrionuevo, and Gutiérrez-Gutiérrez (2012) investigates the mediating role of OL in the relationship between transformational leadership and organizational performance in Spanish firms, while study of

Mutahar, Rasli, and Al-Ghazali (2015) analyzes the dynamic capabilities of OL as a mediator in the relationship between transformational leadership and organizational performance in telecom sector of Kingdom of Saudi Arabia.

On the other hand, some other few studies have considered and analyzed how OL mediates the relationship between intelligence and OA, such as study of Bahrami et al. (2016) which proves empirically that OL acts as a mediator in the relationship of organizational intelligence and OA at teaching hospitals in Iran, illustrating that intelligence and learning together have a greater impact on agility. Bahrami et al. (2016) indicate that only few researches assess or pay attention to organization's spiritual assets such as organizational intelligence, OL, and OA, and suggest that using smart staff and appropriate technology creates a field of intelligent and agile organizations, and that in this environment, staff training, established communication with staff, and provision of the necessary information for them on time are important.

However, although there is a relation between OA and CI, as earlier clarified and inferred from literature, there is a scarce of studies considering and analyzing how certain variables or constructs mediate this relationship, in addition to a lack of researches paying attention to organization spiritual assets together such as OA, OLC and CI. This dissertation can therefore propose that OA is a contributing factor to OLC by boosting facilitators of learning process, and that through OLC, agility can enhance CI and become a strategic force for improving CI systems; *this dissertation may hypothesize the mediating role of organizational learning capability in the relationship between organizational agility and competitive intelligence and aim to examine this role, by formulating the fourth research question “is there a significant indirect impact of OA on CI at Commercial Banks at Jordan through OLC?”*

2.8 Commercial Banks and the Jordanian Banking Sector: an overview

In general, banks are categorized into commercial banks and central bank, where commercial banks are the providers of banking services for profit (Somashekar, 2009). Commercial banks are classified into industrial banks, agricultural banks, miscellaneous banks, savings

banks, deposit banks, and exchange banks, while central bank function is to control these commercial banks and the other different economic activities (Somashekar, 2009).

Commercial banking is the most modern banking system. The word “commercial” means that the bank dedicates and assigns its resources for meeting the financial demands of business firms, while it makes its own major profit from the difference between the revenues of credits and the cost of deposits, as Abu Orabi (2012) emphasize. In other words, a commercial bank is a financial institution and a profit-seeking business firm, deals with money through accepting money deposits from the public and keeping them in its safe custody (Somashekar, 2009). However, in the past, commercial banks were characterized by their deposit-taking and lending activities. More recently, commercial banks expanded their activities into domains traditionally associated with investment banks, brokerage houses, and insurance companies, leading them to evolving into all-purpose financial institutions (Demsetz, 1997).

Commercial banks, as a financial intermediary, have an essential function of satisfying the portfolio preferences of firms or individuals (Tobin, 1963), but the means of payment characteristic of demand deposits is indeed a feature differentiating commercial banks from those of other intermediaries (Tobin, 1963). At the same time, commercial banks serve as cash depositories for nonbank intermediaries as well as for the public, and that’s why researchers attribute commercial banks with “uniqueness” (Aschheim, 1970).

According to the Central Bank of Jordan (CBJ), the banks working in Jordan at end of 2014 were in total 25 banks; 13 of which are commercial, three Islamic banks, and nine foreign banks (CBJ, 2014b). These banks were working through a network of 767 branches and 78 representative offices. Further, the branches of Jordanian banks working abroad were 174 branches and 18 representative offices in 2014, according the annual report of CBJ (2014b).

The Central Bank of Jordan (CBJ) introduced a considerable set of instrumental policies and measures to synchronize banks operations, improve their ability to finance economic activities, and to strengthen the soundness of the banking sector in the kingdom (CBJ, 2014a). Accordingly, the total assets/ liabilities of licensed banks reached 44.9 billion JD at end of 2014 (CBJ, 2014a), while the licensed banks' operations in 2014 displayed an increase

in their extended credit by 1.8 percent and an increase in total customers deposits by 9.7 percent compared with the preceding year (CBJ, 2014c). In the Jordanian banking sector, there is a dramatic and intense increase in the total assets, credit facilities, and total deposits of the licensed banks, which reflects the evolution of the Jordanian commercial banks and the growing significance of banking sector in the economic development, as Zeitun and Benjelloun (2013) illustrate.

2.9 Conclusions from the Literature Review

In sum and briefly, OL is an element of agility and consequently there is a reciprocal relationship between agility and learning and between learning and agility (Shahrabi, 2012); one of the common phases in the transformation to OA is the improvement or reinforcement of OLCs (Worley & Lawler, 2010), and, conversely, OA promotes OL (Mavengere & Tikkamäki, 2013). At the same time, OLC should be connected to other operational activities in the organization such as CI, for ensuring the organizational survival for a long time (Goh, 2003). CI is an attitude towards OL (Wright et al., 2009), and, conversely, OL acts as an antecedent to CI (Tuan, 2013). However, CI plays an essential role in agility (Xianjint & Sujuan, 2006), and, conversely, agility is a fundamental feature and an important factor in the BI improvement and success (Knabke & Olbrich, 2013).

Within the current competitive business environment, firms can compete depending on what knowledge they have, how fast learning they can realize, and how well they exploited it previously (Stefanikova et al., 2015), and how quickly and effectively they respond to this unpredictable environment; for the sake of achieving the final goal which is gaining competitive advantage and profitability, or even for ensuring survival. Proceeding from this main idea, in addition to referring to the previous theoretical and empirical works that evidence and confirm the relationships between OA and CI, OA and OLC, and OLC and CI, as well as the mediating role of OLC between certain variables or constructs;

Researcher of this dissertation could assume that a relationship between OA, OLC, and CI might exist, and a relation between OA and CI through OLC may also exist. Therefore, this dissertation highlights the impact of OA and OLC on CI.

And due to the main role that banking sector, especially commercial banks, plays in the Jordanian economic development as was clarified previously in this chapter, this dissertation examines the impact of OA and OLC on CI at the Jordanian commercial banks, and seeks to answer the main question: *“does OA have an impact on CI through OLC at the Jordanian commercial banks?”*

2.10 Proposed Study Model (Conceptual Study Framework)

In determining the dimensions of OA, author depends on Charbonnier-Voirin (2011). In the context of determining OLC dimensions, Chiva et al. (2007) is adopted. Regarding the CI variable, it is measured using the measurement scale of Saayman, et al. (2008) according to indicators related to CI process and CI context.

Depending on the literature review and the hypotheses explained and presented earlier in this chapter, the author proposes a research model to guide this research as shown in Figure (4). This conceptual model provides a good clarification and grasp for the organizational abilities that reinforce CI throughout an organization. The model shows how practices directed towards mastering change, practices towards valuing human resources, cooperative practices, and practices of value creation for customers, influence CI. At the same time, this proposed model presents the experimentation, risk taking, interaction with external environment, dialogue, participative decision making as antecedents for CI and as consequences for OA and agility predictors. Furthermore, a clear picture of the mediating OLC in the relation between OA and CI was drawn out. Figure (4) illustrates the conceptual study framework indicating the nature of relationships under study.

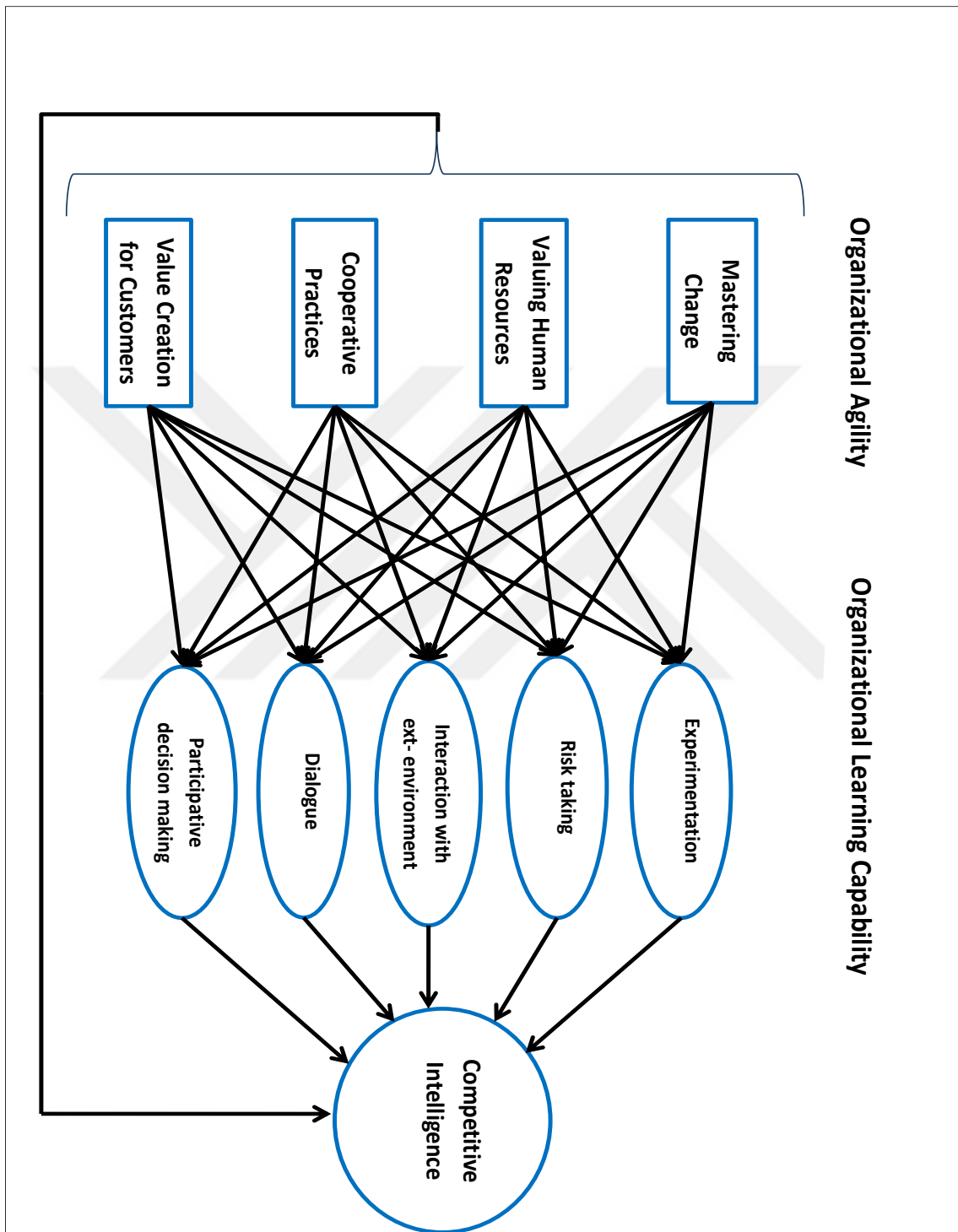


Figure (4) Proposed Conceptual Model of Research

Chapter 3 Methodology

3.1 Introduction and Overview

Current research aims to show the effect of organizational agility on competitive intelligence and the role of organizational learning capability at the commercial banks in Jordan. To achieve this goal, the research adapts the quantitative approach through using the empirical method that includes the use of several statistical procedures and treatments relating to the study topic.

This chapter represents the method used for analysis, justification for the proposed methodology, study population and sample, unit of sampling and analysis, measurement scale and study instrument, data collection sources, the used statistical treatments, description of demographic variables for the study sample members, and testing reliability and consistency of research instrument. After establishing reliability at the end of this chapter, content and construct validity as well as correlations between constructs are examined and compared to the hypothesized correlations within the next chapter.

3.1.1 Study Aim and Objectives

This study aims to show the effect of organizational agility on competitive intelligence and the role of organizational learning capability at commercial banks in Jordan, through the following objectives which are addressed through the study:

- 1) Determining the direct impact of Organizational Agility on Competitive Intelligence at commercial banks in Jordan.
- 2) Representing the direct impact of Organizational Agility on Organizational Learning Capability at commercial banks in Jordan.
- 3) Showing the direct impact of Organizational Learning Capability on Competitive Intelligence Formulation at commercial banks in Jordan.

4) Illustrating the indirect impact of Organizational Agility on Competitive Intelligence at commercial banks in Jordan through Organizational Learning Capability.

3.1.2 Study Hypotheses

The following hypotheses, presented in table (3), were tested through this study in order to achieve the research main aim and objectives;

Table (3) Research Hypotheses

Hypothesis	Relationship
Organizational Agility → Competitive Intelligence	
Ha	There is a significant direct impact of Organizational Agility on Competitive Intelligence at commercial banks in Jordan.
Ha1	There is a significant direct impact of Practices directed towards mastering change on competitive Intelligence in Banking Sector at Jordan.
Ha2	There is a significant direct impact of Practices valuing human resources on competitive Intelligence in Banking Sector at Jordan.
Ha3	There is a significant direct impact of Cooperative practices on competitive Intelligence in Banking Sector at Jordan.
Ha4	There is a significant direct impact of Practices of value creation for customers on competitive Intelligence in Banking Sector at Jordan.
Organizational Agility → Organizational Learning Capability	
Hb	There is a significant direct impact of Organizational Agility on Organizational Learning Capability at commercial banks in Jordan.
Hb1	There is a significant direct impact of Organizational Agility on Experimentation at commercial banks in Jordan.
Hb11	There is a significant direct impact of Practices directed towards mastering change on Experimentation in Banking Sector at Jordan.
Hb12	There is a significant direct impact of Practices valuing human resources on Experimentation in Banking Sector at Jordan.
Hb13	There is a significant direct impact of Cooperative practices on Experimentation in Banking Sector at Jordan.
Hb14	There is a significant direct impact of Practices of value creation for customers on Experimentation in Banking Sector at Jordan.
Hb2	There is a significant direct impact of Organizational Agility on Risk taking at commercial banks in Jordan.
Hb21	There is a significant direct impact of Practices directed towards mastering change on Risk taking in Banking Sector at Jordan.
Hb22	There is a significant direct impact of Practices valuing human resources on Risk taking in Banking Sector at Jordan.
Hb23	There is a significant direct impact of Cooperative practices on Risk taking in Banking Sector at Jordan.
Hb24	There is a significant direct impact of Practices of value creation for customers on Risk taking in Banking Sector at Jordan.

Table (3) *continued*

Hypothesis	Relationship
Organizational Agility → Organizational Learning Capability	
Hb3	There is a significant direct impact of Organizational Agility on Interaction with the external environment at commercial banks in Jordan.
Hb31	There is a significant direct impact of Practices directed towards mastering change on Interaction with the external environment in Banking Sector at Jordan.
Hb32	There is a significant direct impact of Practices valuing human resources on Interaction with the external environment in Banking Sector at Jordan.
Hb33	There is a significant direct impact of Cooperative practices on Interaction with the external environment in Banking Sector at Jordan.
Hb34	There is a significant direct impact of Practices of value creation for customers on Interaction with the external environment in Banking Sector at Jordan.
Hb4	There is a significant direct impact of Organizational Agility on Dialogue at commercial banks in Jordan.
Hb41	There is a significant direct impact of Practices directed towards mastering change on Dialogue in Banking Sector at Jordan.
Hb42	There is a significant direct impact of Practices valuing human resources on Dialogue in Banking Sector at Jordan.
Hb43	There is a significant direct impact of Cooperative practices on Dialogue in Banking Sector at Jordan.
Hb44	There is a significant direct impact of Practices of value creation for customers on Dialogue in Banking Sector at Jordan.
Hb5	There is a significant direct impact of Organizational Agility on Participative decision making at commercial banks in Jordan.
Hb51	There is a significant direct impact of Practices directed towards mastering change on Participative decision making in Banking Sector at Jordan.
Hb52	There is a significant direct impact of Practices valuing human resources on Participative decision making in Banking Sector at Jordan.
Hb53	There is a significant direct impact of Cooperative practices on Participative decision making in Banking Sector at Jordan.
Hb54	There is a significant direct impact of Practices of value creation for customers on Participative decision making in Banking Sector at Jordan.
Organizational Learning Capability → Competitive Intelligence	
Hc	There is a significant direct impact of Organizational Learning Capability on Competitive Intelligence at commercial banks in Jordan.
Hc1	There is a significant direct impact of Experimentation on Competitive Intelligence at commercial banks in Jordan.
Hc2	There is a significant direct impact of Risk taking on Competitive Intelligence at commercial banks in Jordan.
Hc3	There is a significant direct impact of Interaction with the external environment on Competitive Intelligence at commercial banks in Jordan.
Hc4	There is a significant direct impact of Dialogue on Competitive Intelligence at commercial banks in Jordan.
Hc5	There is a significant direct impact of Participative decision Making) on Competitive Intelligence at commercial banks in Jordan.

Table (3) *continued*

Hypothesis	Relationship
Organizational Agility → Organizational Learning Capability → Competitive Intelligence	
Hd	There is a significant indirect impact of Organizational Agility on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.
Hd1	There is a significant indirect impact of Practices directed towards mastering change on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.
Hd2	There is a significant indirect impact of Practices valuing human resources on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.
Hd3	There is a significant indirect impact of Cooperative practices on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.
Hd4	There is a significant indirect impact of Practices of value creation for customers on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.

3.2 Justification for the proposed methodology

Quantitative approach is identified with positivism. Positivism is a tenet that unbiased observations of social and physical reality comprise a scientific reality, according to Gall et al. (1996, as cited in Willis, 2007). Creswell (1994) recommends that the quantitative approach be chosen based upon the approach that the researcher uses to develop the theoretical framework and hypotheses for the study, and the primary audience for the study should also be taken into account. Therefore, in quantitative studies, in general, the research hypotheses or questions are constructed following the literature review, and the previous theories, findings, and results of previous researches are used for forming the hypotheses (Castellan, 2010), while qualitative methodology is required for addressing a research problem containing the people's perceptions and structuring of meanings which are not detected or explored yet (Hassard, 1991). Additionally, Castellan (2010) concludes that the purpose of quantitative research is the generalizability, explanation, and prediction, through evaluating validity, testing hypotheses, and illustrating the correlations between constructs. Likewise, the quantitative approach give the researcher the opportunity to implement a robust and well-structured study that use a different data collection techniques on a large and representative sample, after that checking the reliability and validity of measures used in this research (Amaratunga, Baldry, Sarshar, & Newton, 2002).

In brief, quantitative approach described as being realist, positivist, and more reliable and objective, especially that numerical studies fit the business world where business people measure performance and control outcomes. And this approach can be used to make generalizations and test hypotheses. Author of this dissertation deduces and infers the theoretical framework and hypotheses based on previous literature, with research problem including previously explored and operationalized variables, which is in line with quantitative research. Also quantitative research fits the primary audience of this study. This research is seeking to explore to what extent OA and OLC have impact on CI and identify relationships between these variables. Therefore, author decided to conduct a quantitative research for analysis.

The survey built upon previous survey research (Anderson, Rungtusanatham, & Schroeder, 1994). The survey was chosen to collect the quantitative data needed to prove the existence of statistically significant relationships between variables; to find out the relationships between OA, OLC, and CI.

The survey questionnaire is a new instrument composed of items from a previous survey combined with new items (Clarke, 2006) derived from PCMM scale. The data of questionnaires are typically analysed quantitatively (Harris & Brown, 2010). By questionnaires, large amounts of information can be collected from a large number of people in a short period of time, in addition to that questionnaires can be analyzed more ‘scientifically’ and objectively than other forms of research (University of Surrey, n.d.). Questionnaires are considered as a more objective research instrument which can make and provide generalizable results because the sample sizes are large (Harris & Brown, 2010). Thus researchers usually use questionnaires in order that they can make generalizations. Therefore, author decided to use the questionnaire as a survey tool, consisting of pre-established items combined with new items extracted from PCM Model as a one unit scale for measurement.

For measuring construct validity of measurement scale, the author conducted CFA; since CFA “seeks to determine if the number of factors and the loadings of measured (indicator) variables on them conform to what is expected on the basis of pre-established theory” (Garson, 2006, p. 2).

3.3 Data Collection and Data Analysis Techniques

This section illustrates the method used for analyzing the data, the study population and sample, unit of sampling and analysis, the newly developed measurement scale, sources of data collection and study instrument, demographic characteristics of sample, and finally testing the reliability of the measurement scale.

3.3.1 Methods of data analysis

Current research conducts the quantitative approach. Descriptive method for the demographic variables analysis was used. SEM analysis for testing the relationships within the proposed model was conducted; particularly for identifying the influence of organizational agility on competitive intelligence and the role of organizational learning capability at the commercial banks located within Jordan. For achieving the previous, this dissertation depends on the following;

1. The theoretical method: the researcher sought to study and view the available literature, references, and the different periodic articles that have addressed the topics of the current study, in an attempt to enrich the theoretical frame and to pave the formation of a clear picture about this study.
2. The field survey method: The study population was surveyed through a selected sample, and a number of individuals working within it. The purpose of this selection is for determining who will deal with the study instrument (the questionnaire) which was developed and designed for the study purposes.

3.3.2 Study Population and Sample

Study population consists of the banks located in the Hashemite Kingdom of Jordan, which are (25) banks, While the study sample includes the commercial banks in the Hashemite Kingdom of Jordan, which are (13) commercial banks in total, according to the classification

of the Jordanian central bank. Accordingly, the study sample took the purposeful form in its selection.

Banks are very efficient and influential partners in the economic development process (Sharma & Sarangdevot, 2011). Banks are very helpful and beneficial for utilizing the national resources and mobilizing and driving the savings for the investment purposes (Abu Orabi, 2012). Further, banks consider CI as a supportive factor in their business operations, especially when providing customers with competitive offers, since CI may increase profitability and revenues, and thus increase share value (Wright et al., 2009). Therefore, choosing the banking sector as a study population arises from the important role banking sector plays in the economic situation of the nation and the necessity for banks to be intelligent, because their responsibility exceeds merely achieving their own aims to achieving national economy improvement.

Due to the existence of commercial banking system in the 19th century, the European industrial revolution had occurred (Somashekar, 2009). In major countries, commercial banks possess around one-quarter of the total assets of all financial foundations (Abu Orabi, 2012). Commercial banks support the implementation of government monetary policy, provide credits, and buy debt securities, as Abu Orabi (2012) asserts. Thus, commercial banks are both the safe stores of the national wealth and the custodies of resources needed for economic development (Somashekar, 2009), and commercial banking considered as a major constituent in the financial system and has a huge influence on the national economy (Abu Orabi, 2012). Therefore, commercial banks were chosen to be under the current research.

Notwithstanding the negative repercussions of political instability in the region, the Jordanian economy productively managed to adjust and, hence, achieved sustainable improvement in major economic indicators (Central Bank of Jordan, 2014c). Zeitun and Benjelloun (2013) state that “according to the World Bank (2003), Jordan is considered a bank-based financial system where banks play a major role in financing the economic activities” (p.2). Jordanian commercial banks and their importance in the national economic development have been growing and increasing because of the dramatic increases in the total deposits, total assets, and credit facilities within this sector in Jordan (Zeitun & Benjelloun, 2013). Further, commercial banking in developing countries, such as Jordan, is considered by Somashekar

(2009) as the backbone of the economy. For those reasons and because of the large number of banks spreading throughout Jordan, the commercial banks of Jordan represent the study sample and are targeted in order to get benefits of the research implications.

3.3.3 Unit of Sampling and Analysis

Unit of sampling and analysis consists of the general managers, assistant managers, and the heads of divisions working within the commercial banks of Jordan, which are (200) individuals.

The questionnaire targeted senior managers such as general managers, assistant managers, and heads of divisions within the Jordanian Commercial Banks. The author believes that senior informants have wider and deeper knowledge of multi-aspects of organizational issues, while junior informants may have more focused knowledge related to limited issues. Therefore, the author took the decision to collect data from the top and middle management level within these banks.

(200) questionnaires were distributed to the banks under study. Afterward, the researcher could receive back (158) of the total distributed questionnaires, with a percentage of (79%). After testing the returned questionnaires, it was found that total of (0) questionnaires were invalid or un-usable for the statistical analysis. Therefore, the total number of the usable questionnaires for the statistical analysis are (158) questionnaires distributed between the individuals of the unit of sampling and analysis, with a percentage of (79%) from the total number of the distributed questionnaires.

3.3.4 Towards a Newly Developed Emerging Scale (The Emerging PCMM-incorporated Measurement Scale)

At first, let's go through some clarifications about the People Capability Maturity Model, and afterward crawl towards the emerging PCMM-incorporated Measurement Scale.

3.3.4.1 People Capability Maturity Model

The PCMM framework establishes a standardized path for structuring the HR framework for all firms and business fields (Ajitabh, 2006), and PCMM considered as a reference for HR management systems due to its systematic modular approach, according to Türetken and Demirörs (2002). Therefore, PCMM supplies unsteady organizations with a structured approach for being more stable (Kulpa, 2007).

PCMM is a documented roadmap for organization's improvement in both the practices and capability of the workforce (Curtis et al., 2001), shaping the workforce in to an organization which can adapt to business and technological changes in an agile manner, and suggesting a system of criteria to aim and achieve sustainable improvements in performance and motivation (Arslan, 2010). PCMM is an organizational change model that looks for setting refinements in the people-side of management (Wademan, Spuches, & Doughty, 2007) and considered as a process-based model that considers workforce practices as standard organizational processes that are developed through methods similar to those for the other organizational processes (Curtis et al., 2001). These workforce practices are applicable for any organization aims to recover and develop the workforce's capability (Türetken & Demirörs, 2004).

Curtis et al. (2001) define the capability maturity model (CMM) as a roadmap or approach for directing the implementation of essential practices from the domains of organizational process, and indicate that a new level of organizational capability, called maturity level, was brought about through transforming one or more domains of organizational processes. PCMM has five maturity levels; inconsistent management, people management, competency management, capability management, and change management. As shown in table (4) below, each maturity level represents a different level of organizational capability for the workforce management and development; each maturity level, except for the initial level, consists of three to seven process areas, and each process area consists of a set of related practices (Curtis et al., 2001).

Table (4) Stages of People-CMM; Source (Kulpa, 2007)

<i>Level</i>	<i>Process Areas</i>
5 <i>Optimizing</i>	•Continuous Workforce Innovation •Organizational Performance Alignment •Continuous Capability Improvement
4 <i>Predictable</i>	•Mentoring •Organizational Capability Management •Quantitative Performance Management •Empowered Workgroups •Competency-Based Assets •Competency Integration
3 <i>Defined</i>	•Participatory Culture •Workgroup Development •Competency-Based Practices •Career Development •Competency Development •Workforce Planning •Competency Analysis
2 <i>Managed</i>	•Compensation •Training and Development •Performance Management •Work Environment •Communication and Coordination •Staffing

3.3.4.2 The New Emerging PCMM- incorporated Measurement Scale

This dissertation proposes and introduces a newly developed emerging measurement scale, calling it “The Emerging PCMM-incorporated Measurement Scale”, for the purpose of measuring the study factors, answering the research questions, and inferring conclusions about research problem and related field.

For constructing this emerging PCMM- incorporated scale, PCMM scale, adopted from Arslan (2010), was integrated and incorporated partially within the pre-established scales which were evaluated and tested earlier by previous scholars specialized in the fields of OA, OLC, and CI. Table (5) presents each variable under study with its pre-exist scale and the combined PCMM process areas scale adopted for measurement.

Banking success is determined by managing people. The liberalization policy has affected the competitiveness of banks due to the global pressures resulting into combination of Human Resource Management with business policies (Kour & Gakhar, 2015). Banks' changing human resource needs should have the most pronounced effect in the sales and teller occupations (Demsetz, 1997). Indeed banking sector involves mainly a customer-oriented approach in order to gain positive performance outcomes (Akgün et al., 2014). The recent focus is expanding the PCMM to everybody and to all firms that depend on human resources (people) for achieving the work (Kulpa, 2007). Therefore, and since research problem was interested in the banking sector, PCMM scale was adopted and integrated during the current research scale construction.

The Managed Level, maturity level 2, is the most essential level, because its process areas focus on implanting disciplines and rules into workforce activities for accomplishing repeatability, and thus this level is the building block for all the following levels (Kulpa, 2007). Therefore, as could be noticed from table (5), maturity level 2 was adopted most frequently while designing the scale of this research.

Table (5) a synthesis of the Emerging PCMM-incorporated Measurement Scale

<i>Variables</i>	<i>Pre- Exist Scales</i>	<i>PCMM Scale (Arslan, 2010)</i>
Practices directed towards mastering change	(Charbonnier-Voirin, 2011)	-----
Practices valuing human resources	(Charbonnier-Voirin, 2011)	Process areas of PCMM maturity level 2 (Staffing/ Goal 5/ AB2) (Communication & coordination/ goal 1/ P1) (Work environment/goal 2/ P6) (Training and development/goal 2/ P7) (Compensation/ goal 2/ P11)
Cooperative practices	(Charbonnier-Voirin, 2011)	Process areas of PCMM maturity level 2 (Communication & coordination/goal 4/ CO2 with AB2) (Communication & coordination/ goal 3/ P8) Process Areas of PCMM Maturity Level 4 (Empowered workgroups/goal 4/ AB3)
Practices of value creation for customers	(Charbonnier-Voirin, 2011)	-----
Experimentation	(Chiva et al., 2007) and (Onağ et al., 2014)	Process Areas of PCMM Maturity Level 2 (Communication & coordination/goal 2/ P4) Process Areas of PCMM Maturity Level 4 (Mentoring/goal 1/ P1) Process Areas of PCMM Maturity Level 5 (Continuous workforce innovation/ goal 2/ P8 with P9)

Table (5) *continued*

<i>Variables</i>	<i>Pre- Exist Scales</i>	<i>PCMM Scale (Arslan, 2010)</i>
Risk taking	(Chiva et al., 2007) and (Onağ et al., 2014)	Process Areas of PCMM Maturity Level 2 (training and development/goal 3/ CO1/ CO2/ AB4/ ME1)
Interaction with the external environment	(Chiva et al., 2007)	Process Areas of PCMM Maturity Level 3 (competency analysis/goal 4/ AB3) (competency development/ goal 4/ AB3) (competency-based practices/goal 4/ AB1)
Dialogue	(Chiva et al., 2007) and (Onağ et al., 2014)	Process Areas of PCMM Maturity Level 2 (communication & coordination/ goal 4/ CO3/ AB1/ VE2) Process Areas of PCMM Maturity Level 3 (workgroup development/goal 4/ P13)
Participative decision making	(Chiva et al., 2007) and (Onağ et al., 2014)	Process Areas of PCMM Maturity Level 3 (participatory culture/ goal 2/ P9) (participatory culture/ goal 3/ P10 with P11/ P8) (empowered workgroups/ goal 3/ CO1)
Competitive Intelligence	(Saayman et al., 2008)	Process Areas of PCMM Maturity Level 2 (communication and coordination/ goal 1/ P2/ P3) (compensation/goal 4/ ME3/ ME2) Process Areas of PCMM Maturity Level 3 (workforce planning/ goal 4/ AB1) (participatory culture/ goal 1/ P3)

3.3.5 Sources of Data Collection and Study Instrument

To achieve the study goals, the researcher resorted to the use of two main sources for data collection, which are;

The secondary sources: the researcher, for treating the theoretical frame of the study, directed to the secondary data sources that include books, previous international references related to the study topic, the periodic, articles and reports, researches and previous studies that addressed the study subject, and searching through diverse internet sites. The aim of the researcher from resorting to the secondary sources in the study is for recognizing the appropriate scientific methods and principles in writing the theses, and for taking a general perspective about the up to date knowledge and recent development that took place in the topics of this study.

The primary sources: in order to conduct the quantitative analysis and analytical sides of the study topic, the researcher resorted to gathering the primary data through a questionnaire,

designed by the researcher with the cooperation of the advisor Prof. Dr. Ugur Yozgat, as the study basic instrument. The questionnaire, consisting of “the Emerging PCMM- incorporated Measurement Scale” discussed in the previous section, was distributed and asked to the top management level (general managers, deputy managers, and heads of divisions) working at the Jordanian commercial banks. The purpose of this survey instrument was to collect quantitative data about Organizational Agility, Organizational Learning Capability and Competitive Intelligence at the Banking Sector in Jordan.

The questionnaire includes a number of items reflecting the study goals and questions and being answered by the study sample. Likert Five Scale was used, where each answer took a relative importance. While for the analysis purposes, the statistical program SPSS with AMOS 20 were used. The questionnaire consists of four sections as follow;

Section one: the section for the demographic variables of the study sample which are (5) variables (age, gender, scientific qualification, years of experience, and managerial level), for the purpose of describing the study sample, and making some comparisons of the sample individuals response to the variables under the study in the light of the demographic variables.

Section two: includes organizational agility measure, through four main dimensions (mastering change, valuing human resources, cooperative practices, and value creation for customers), and using a total of 54 items for measuring it (46 pre-exist items and 8 PCMM items). Extent of response ranges from (1: strongly agree to 5: strongly disagree) according to five Likert scale.

Section three: includes the organizational learning capability measure, through five main dimensions, (experimentation, risk taking, interaction with external environment, dialogue, and participative decision making), and using a total of 42 items for measuring it (23 pre-exist items and 19 PCMM items). Extent of response ranges from (1: strongly agree to 5: strongly disagree) according to Likert scale.

Section four: includes the competitive intelligence measure with its two components (process and context), through using a total of 44 items for measuring it (38 pre-exist items

and 6 PCMM items). Extent of response ranges from (1: strongly agree to 5: strongly disagree) according to Likert scale.

3.3.6 Statistical Treatments used

For answering the study questions and testing its hypotheses, the researcher resorted to the Statistical Package for Social Sciences –SPSS- in addition to using Amos version 20 program supported by SPSS program. Through these programs, the researcher used the following statistical methods:

- Frequencies and percentages to describe the demographic variables of the study sample individuals.
- Cronbach's Alpha Coefficient to test the consistency degree of the used measure.
- Structural Equation modelling (SEM) as a multivariate analysis technique for defining latent variables using observed variables, and for imputing relationships between unobserved constructs (latent variables) from observable variables. Through conducting;
- Confirmatory Factor Analysis for validating the observed variables (or items) representing each theoretical construct as well as validating the theoretical constructs.
- Path Analysis for testing hypotheses and investigating the direct and indirect relationships between the study variables.

3.4 Demographic Characteristics of Study Sample

Tables (6) below illustrate the demographic characteristics of the respondents (age, gender, scientific qualification, years of experience, and managerial level). Table (6) shows that 0.6% of the study sample is those who are 25 years old or less, 30.4% of individuals in the analysis unit have ages ranging from 26-less than 35 years old, while 47.5% have ages ranging from 35- less than 45 years old, and 21.5% of them have ages from 45years or more. Regarding the gender variable, 57% of analysis unit's individuals are male while 43% are female. Concerning

the scientific qualification variable, 7.0% were holding Diploma, 55.1% holding the Bachelor degree, 5.7% holding high diploma, 29.7% holding Master degree, and finally, 2.5% holding Doctorate degree. Regarding years of experience, 5.1% of individuals in analysis unit are those with 5 years of experience or less, 57% with 6-less than 15 years of experience, 27.8% with years of experience ranging from 15-less than 25 years, and 10.1% with experience of 25 years or more. Finally, regarding the managerial level of individuals in analysis unit, 27.2% were managers, 25.9% assistant managers, finally 46.8% of individuals of unit analysis were Heads of divisions.

Table (6) distribution of individuals of analysis unit according to the demographic characteristics of study sample

<i>Variables</i>	<i>Categorization</i>	<i>Frequency</i>	<i>Percent</i>
<i>Age</i>	25 Years or less	1	0.6
	26 – less than 35 Years	48	30.4
	35 – less than 45 Years	75	47.5
	45 Years or more	34	21.5
<i>Gender</i>	Male	90	57.0
	Female	68	43.0
<i>Qualification</i>	Diploma	11	7.0
	Bachelor	87	55.1
	High Diploma	9	5.7
	Master	47	29.7
	Doctorate	4	2.5
<i>Experience</i>	5 Years or less	8	5.1
	6 – less than 15 Years	90	57.0
	15 – less than 25 Years	44	27.8
	25 Years or more	16	10.1
<i>Managerial level</i>	Manager	43	27.2
	Assistant Manager	41	25.9
	Head of Division	74	46.8
<i>Total</i>		158	100.0

3.5 Reliability and Internal Consistency of Study Instrument

This section represents the reliability analysis and level of internal consistency for the pilot study and the measurement scale.

3.5.1 Pilot Study and its Reliability

The author conducted a pilot study using an appropriate sample, before setting up the final version of the research instrument which was used in this research. Before collecting the data, a pilot study is supposed to be performed for editing and adjusting any weaknesses or inadequacies may present in the research tool (Sekaran & Bougie, 2010). Author of this dissertation asked the respondents about any ambiguity or confusions they have faced while answering and filling the questionnaire, in order to specify any misunderstandings or difficulties in words, terms, and expressions. Afterward, the pilot study data was used for testing the reliability of each construct measurement scale.

The questionnaire was given to a sample of Jordanian banks consisting of 30 respondents conducted in Amman. Then, the questionnaire was checked and revised by the researcher for any inadequacy that may have emerged when the respondents' answer the items. After that, the data was analyzed using SPSS for reliability. Table (7) below shows the reliability coefficient (Cronbach's Alpha) for multiple used items in the pilot study.

Table (7) Reliability Coefficient for Multiple Items in Pilot Study (n = 30)

Variable name	No. of items	Cronbach's Alpha Pilot/30
Practices directed towards mastering change	16	0.890
Practices valuing human resources	12	0.873
Cooperative practices	6	0.803
Practices of value creation for customers	12	0.893
Organizational Agility	46	0.953
Experimentation	4	0.845
Risk taking	3	0.735
Interaction with the external environment	3	0.794
Dialogue	7	0.832
Participative decision making	6	0.822
Organizational Learning Capability	23	0.920
Competitive Intelligence Process	19	0.907
Competitive Intelligence Context	19	0.920
Competitive Intelligence	38	0.943
PCMM for Practices valuing human resources	5	0.807
PCMM for Cooperative practices	3	0.715
PCMM for Experimentation	3	0.682
PCMM for Risk taking	4	0.791
PCMM for Interaction with the external environment	3	0.772
PCMM for Dialogue	4	0.724
PCMM for Participative decision making	5	0.828
PCMM for Competitive Intelligence	6	0.772
People Capability Maturity Model (PCMM)	33	0.931
Total	140	0.972

As shown in Table (7) above, each variable (construct) has acceptable values of Cronbach's alpha, which are above 0.60 as an acceptable value according to Hair, Black, Babin, and Anderson (2010). A reliability value for all constructs range from 0.682 to 0.953. This indicates that all constructs have acceptable internal consistency. Thus, the final actual distribution was conducted without any modification as explained in distribution method.

3.5.2 Scale Reliability Testing

For measuring reliability and internal consistency among the items in the measurement model, Cronbach's alpha was calculated, as shown in Table (8).

Table (8) Reliability Test for all Measurement Items

Variable name	No. of items	Cronbach's Alpha
Practices directed towards mastering change	16	0.881
Practices valuing human resources	12	0.862
Cooperative practices	6	0.782
Practices of value creation for customers	12	0.888
Organizational Agility	46	0.947
Experimentation	4	0.838
Risk taking	3	0.724
Interaction with the external environment	3	0.794
Dialogue	7	0.813
Participative decision making	6	0.819
Organizational Learning Capability	23	0.913
Competitive Intelligence Process	19	0.898
Competitive Intelligence Context	19	0.911
Competitive Intelligence	38	0.937
PCMM for Practices valuing human resources	5	0.785
PCMM for Cooperative practices	3	0.710
PCMM for Experimentation	3	0.676
PCMM for Risk taking	4	0.760
PCMM for Interaction with the external environment	3	0.775
PCMM for Dialogue	4	0.741
PCMM for Participative decision making	5	0.825
PCMM for Competitive Intelligence	6	0.770
People Capability Maturity Model (PCMM)	33	0.928
Total	140	0.978

Reliability analysis showed that all items were higher than the acceptable level of 0.60, with others attaining more than 0.80 (good) and more than 0.90 (excellent) (George & Mallery, 2003) and therefore considered reliable for the purpose of this study. All these values showed acceptable to good level of internal consistency.

Chapter 4 Results

4.1 Introduction

This chapter represents the examination of the proposed research framework for investigating the nature of the proposed relationships between variables, through SEM analysis. However, empirical validation of the proposed model for the both organizational abilities (OA and OLC) and CI was earlier evaluated in this chapter. CFA showed that the theorized CFA models fit well with the observed sample data. The hypothesized research model also exhibited a good fit with observed data.

4.1.1 Structural Equation Modeling (SEM)

Structural Equation Modeling is a powerful multivariate technique which enables researchers to measure the direct and indirect relationships and to perform research models with several dependent variables (Mehdi Karimimalayer & Anuar, 2012). SEM is statistical modeling technique combines factor analysis with regression or path analysis and represents the theoretical constructs by the latent factors (Hox & Bechger, 1998). SEM specifies and assigns a group of related procedures, not a single statistical technique (Kline, 2011, p.7), that provides researchers with ability to test and explore the relationships between the measured variables and latent constructs as well as between the latent constructs (Hair et al., 2010). According to Hair et al. (2010), SEM is characterized by the ability to estimate multiple relationships, to represent unobserved variables within these relationships, calculate measurement errors, and design a model for explaining the relationships.

4.1.2 Confirmatory Factor Analysis (CFA)

CFA is a statistical technique for examining the relationships between observed variables (measures), examining if these observed variables presumed for a construct are consistent or not, and measuring the construct itself as well. Kline (2011, p.112) indicate that “the

technique of CFA analyzes a priori measurement models in which both the number of factors and their correspondence with the indicators are explicitly specified”. Kline (2011, p.231) add that “factor loadings estimate the direct effects of factors on indicators and are interpreted as regression coefficients. Standardized factor loadings are estimated correlations between the indicator and its factor, for indicators specified to load on a single factor”.

According to Hair et al. (2010), CFA is for testing or confirming a pre-specified relationship, and combining the construct validity tests with the CFA results determines the quality of measures. CFA identifies the items that explain the latent constructs or factors and which are explained through the path loadings. Afterward, CFA makes refinement and confirmation for each structure of constructs, and then the measurement model is developed. The measurement model determines the relationships between the items (observed variables) and the constructs (latent variables) (Webster & Fisher, 2001). Webster and Fisher (2001) clarify that CFA identify the reliability and validity of the observed and latent variables, and this should be conducted before fitting the SME for testing the relationships between latent variables.

4.1.3 Overall Model Fit

Goodness of fit points out the similarity between observed and estimated covariance matrices; it specifies how well the proposed model reproduces the observed covariance matrix among the items (Hair et al., 2010). This dissertation uses some measures for evaluating the overall model fit, such as the χ^2 test and goodness of fit indices (GFI, CFI, NFI, and AGFI). Chi-square (χ^2 statistic) is a primary measure for the differences between the observed and estimated covariance matrices (Hair et al., 2010). In SEM, the model does not fit the data (the two covariance matrices are statistically different) if χ^2 is significant (P-value <0.05), but the model fits the data (no statistically difference between the two matrices) if χ^2 is not significant (P-value is >0.05), according to Hair et al. (2010).

Measuring data through using SEM usually takes place by, deploying goodness of fit measures. The CFA functions that may be deployed involve the following (Byrne, 2010);

estimates the loading factors for each construct or factor, examines the measurement errors, and validates and produces the model. The researcher used Amos version 20.0 in this study. For measuring the exogenous variables and endogenous variables, there are many key terms of SEM such as absolute fit index, incremental fit level, and parsimonious fit level as shown in Table (9), with their acceptable values as were determined by Hair et al. (2010).

Table (9) Recommendation Values of Measurement for all Exogenous and Endogenous Variables

GOF Measures	Acceptable values
Absolute Fit Indices	
P- value of χ^2	P- value ≥ 0.05
GFI	0.90 and greater
RMSEA	Smaller than 0.08
CMIN/df (χ^2 divided by df)	Smaller than 5.0
Incremental Fit Indices	
NFI	0.90 and greater
TLI	0.90 and greater
CFI	0.90 and greater
Parsimony Fit Indices	
AGFI	0.90 and greater
SMC (R^2)	Bigger better

According to Byrne (2010, p.7), structural equation modeling can be divided into two sections: measurement model and structural model, the measurement model can measure the correlation between observed and unobserved variables. Likewise, the structural model can measure the relationship between unobserved variables. According to Hair et al. (2010), as shows in Table (9) above, the recommendation values of fit model were pointed out as following;

i) Absolute Fit Index (AFI): Alkhaldi and Al-Faoury (2007) indicate that such as Chi-square (χ^2) with the degree of freedom of the model and its probability (P-value), the root mean square error of approximation (RMSEA), and goodness of fit index (GFI) are usually utilized here. RMSEA < 0.08, GFI > 0.90, P-value > 0.05, and CMIN/df < 5.

ii) Incremental Fit Index (IFI): Tucker-Lewis index (TLI), comparative fit index (CFI), and the normative fit index (NFI) are commonly used. CFI > 0.90, TLI > 0.90, and NFI > 0.90.

iii) Parsimonious Fit Index (PFI): Adjusted goodness of fit index (AGFI) can be used. AGFI > 0.90, and SMC (R^2) > 0.00.

The main goal of this chapter is to examine the relationships between exogenous and endogenous variables. However, the individual variables related to measurement model should be measured at the first.

4.2 Instrument Refinement and Validation

Of 140 item scales developed from the previous study and literature review, a further attempt at refinement, and validation of the factor structure was made using CFA for each construct (or factor). This provides a better understanding of what items truly measure the factors identified in the research model. CFA was conducted on all the variables to check whether all items load significantly on their respective (or hypothesized) variable, and whether they provide a more satisfactory account of the model fit. Items were dropped in many cases on the basis of the variance explained, the path loading, and the standardized residual value, and the factor structure was gradually refined and revised based on significant findings from the multiple model runs.

4.2.1 Confirmatory Factor Analysis for Organizational Agility

This section represents the CFA for the four dimensions of OA construct, CFA for the OA construct as a whole, as well as the Convergent Validity Analysis and Composite Reliability for OA.

4.2.1.1 Confirmatory Factor Analysis for Practices Directed Towards Mastering Change

A total of 16 items were developed to measure Practices directed towards mastering change. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.133, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (3.766). In contrast, GFI and AGFI values were 0.748 and 0.670,

respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.622 and 0.686.

From the analysis, all item loadings were over 0.50, with the exception of six items (5, 6, 7, 8, 9 and 16) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.071 and 1.794, respectively. These two values were acceptable. GFI and AGFI values were 0.947 and 0.887, respectively. Both two values were acceptable. NFI and CFI values were 0.963 and 0.922, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (5) shows the confirmatory factor analysis for Practices directed towards mastering change.

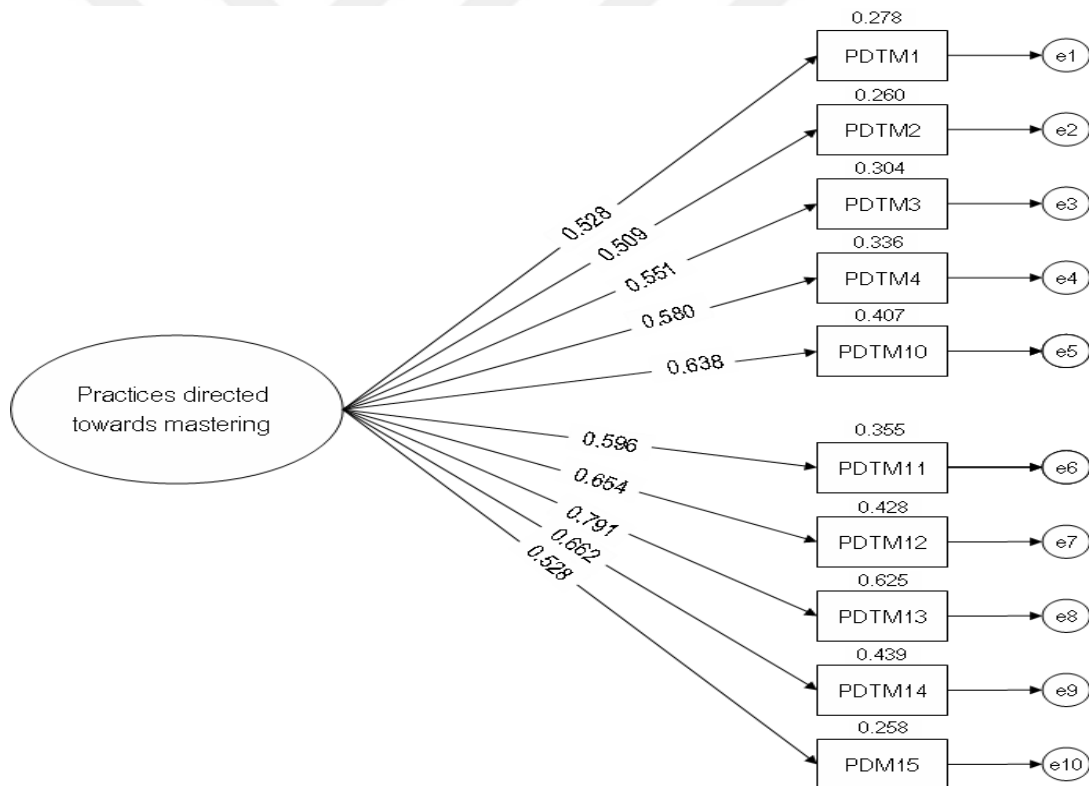


Figure (5) Confirmatory factor analysis model of Practices directed towards mastering change

Looking to the overall model fit, all values were acceptable for Practices directed towards mastering change construct as shown in table (10-1).

Table (10-1) overall fit indices of Practices directed towards mastering change

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.071	1.794	0.947	0.887	0.922	0.963
Saturated model			1.000		1.000	1.000
Independence model	0.279	13.260	0.429	0.303	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (10-2).

Table (10-2) estimated values of Practices directed towards mastering change

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
PDTM → PDTM1	1.000			0.528	0.278
PDTM → PDTM2	0.884	0.142	6.217	0.509	0.260
PDTM → PDTM3	1.095	0.212	5.166	0.551	0.304
PDTM → PDTM4	1.018	0.187	5.441	0.580	0.336
PDTM → PDTM10	1.382	0.243	5.689	0.638	0.407
PDTM → PDTM11	0.996	0.199	5.002	0.596	0.355
PDTM → PDTM12	1.230	0.217	5.676	0.654	0.428
PDTM → PDTM13	1.618	0.261	6.190	0.791	0.625
PDTM → PDTM14	1.398	0.245	5.707	0.662	0.439
PDTM → PDTM15	0.966	0.199	4.867	0.508	0.258

4.2.1.2 Confirmatory Factor Analysis for Practices Valuing Human Resources

A total of 17 items were developed to measure Practices valuing human resources. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.150, which indicated poor fit. Also, CMIN/DF value was (4.514). In contrast, GFI and AGFI values were 0.708 and 0.624, respectively. Both values were within unacceptable limits. In addition, NFI and CFI values were 0.535 and 0.590.

From the analysis, all item loadings were over 0.50, with the exception of eight items (17, 18, 21, 108, 109, 110, 111 and 112) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.054 and 1.463, respectively. These two values were acceptable. GFI and AGFI values were 0.960 and 0.910, respectively. Both two values were acceptable. NFI and CFI values were

0.950 and 0.983, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (6) shows the confirmatory factor analysis for Practices valuing human resources.

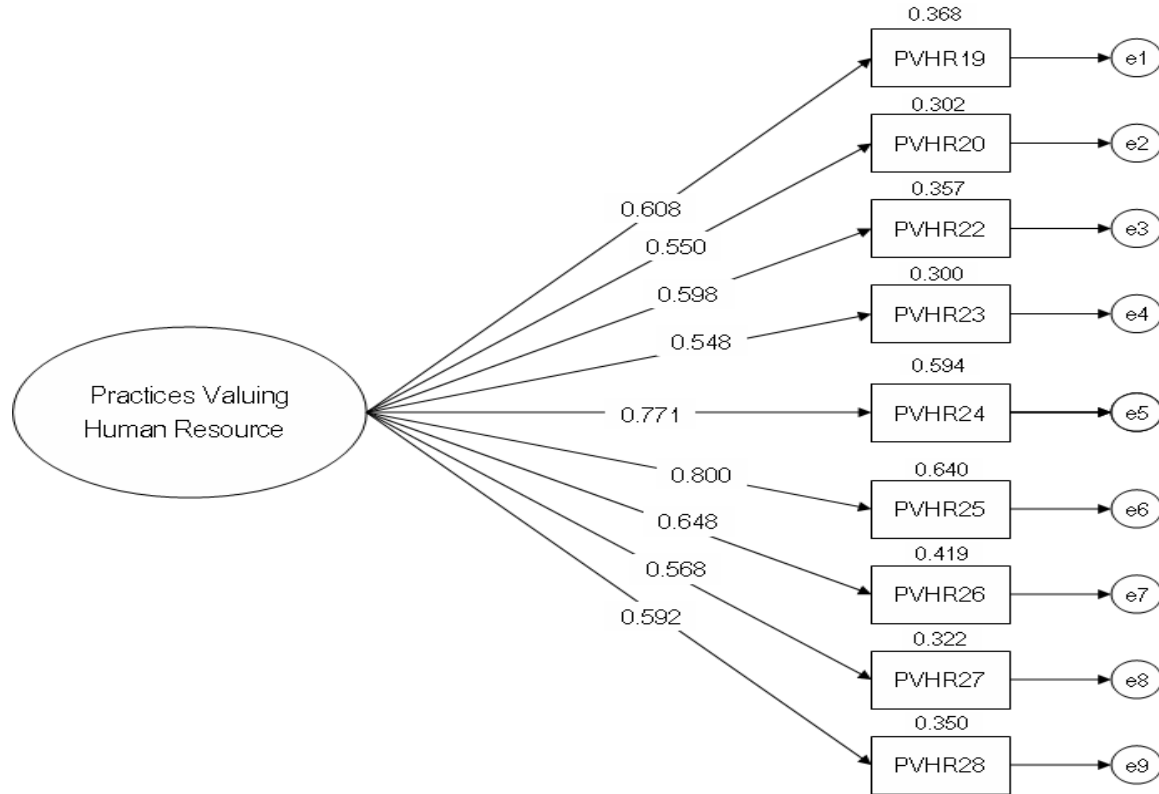


Figure (6) Confirmatory factor analysis model of Practices valuing human resources

Looking to the overall model fit, all values were acceptable for Practices valuing human resources construct as shown in table (11-1).

Table (11-1) overall fit indices of Practices valuing human resources

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.054	1.463	0.960	0.910	0.983	0.950
Saturated model			1.000		1.000	1.000
Independence model	0.312	16.290	0.429	0.286	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (11-2).

Table (11-2) estimated values of Practices valuing human resources

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
PVHR → PVHR19	1.000			0.608	0.369
PVHR → PVHR20	0.696	0.110	6.297	0.550	0.302
PVHR → PVHR22	1.011	0.169	6.002	0.598	0.357
PVHR → PVHR23	0.802	0.143	5.598	0.548	0.300
PVHR → PVHR24	1.163	0.160	7.274	0.771	0.594
PVHR → PVHR25	1.185	0.167	7.081	0.800	0.640
PVHR → PVHR26	0.880	0.147	6.003	0.648	0.419
PVHR → PVHR27	0.749	0.160	4.672	0.568	0.322
PVHR → PVHR28	0.732	0.146	5.012	0.592	0.350

4.2.1.3 Confirmatory Factor Analysis for Cooperative Practices

A total of 9 items were developed to measure Cooperative practices. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.1920, which indicated poor fit. Also, CMIN/DF value was (6.817). In contrast, GFI and AGFI values were 0.791 and 0.651, respectively. Both values were within unacceptable limits. In addition, NFI and CFI values were 0.573 and 0.603.

From the analysis, all item loadings were over 0.50, with the exception of 3 items (113, 114 and 115) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA value was 0.000, which indicated rich fit. Also, CMIN/DF indicated a rich fit model with a value of (0.975). In contrast, GFI and AGFI values were 0.986 and 0.958, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.977 and 1.000. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure () shows the confirmatory factor analysis for Cooperative practices. Figure (7) shows the confirmatory factor analysis for Cooperative practices.

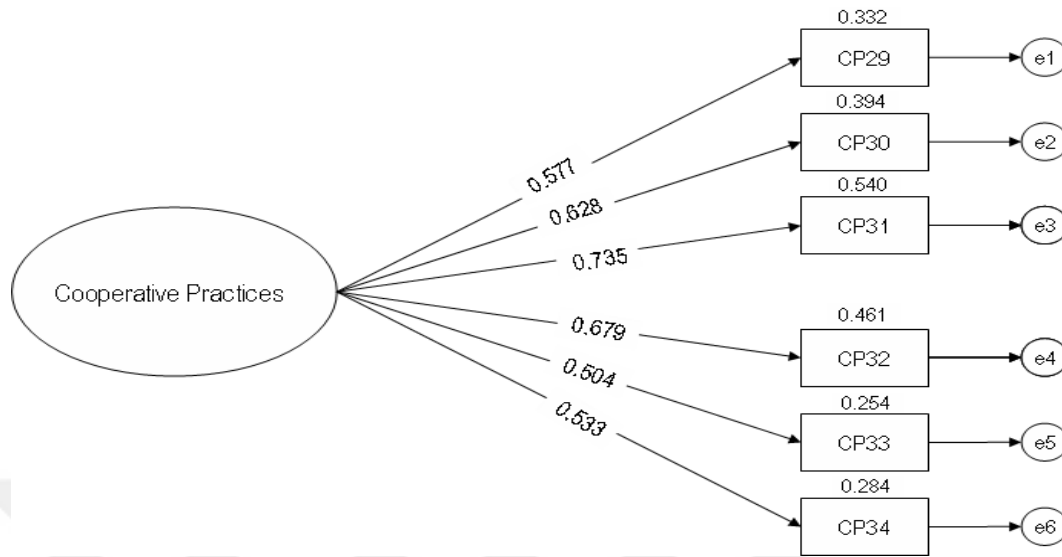


Figure (7) Confirmatory factor analysis model of Cooperative practices

Looking to the overall model fit, all values were acceptable for Cooperative practices construct as shown in table (12-1).

Table (12-1) Overall fit indices of Cooperative practices

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.000	0.975	0.986	0.958	1.000	0.977
Saturated model			1.000		1.000	1.000
Independence model	0.394	20.128	0.558	0.381	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (12-2).

Table (12-2) estimated values of Cooperative practices

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
CP → CP29	1.000			0.577	0.332
CP → CP30	1.261	0.204	6.181	0.628	0.394
CP → CP31	1.850	0.378	4.889	0.735	0.540
CP → CP32	1.640	0.342	4.799	0.679	0.461
CP → CP33	0.943	0.249	3.782	0.504	0.254
CP → CP34	0.962	0.244	3.950	0.533	0.284

4.2.1.4 Confirmatory Factor Analysis for Practices of Value Creation for Customers

A total of 12 items were developed to measure Practices of value creation for customers. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.162, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (5.141). In contrast, GFI and AGFI values were 0.760 and 0.654, NFI and CFI values were 0.699 and 0.738.

From the analysis, all item loadings were over 0.50, with the exception of three items (35 and 46) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.079 and 2.056, respectively. These two values were acceptable. GFI and AGFI values were 0.934 and 0.865, respectively. Both two values were acceptable. NFI and CFI values were 0.929 and 0.962, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (8) shows the confirmatory factor analysis for Practices of value creation for customers.

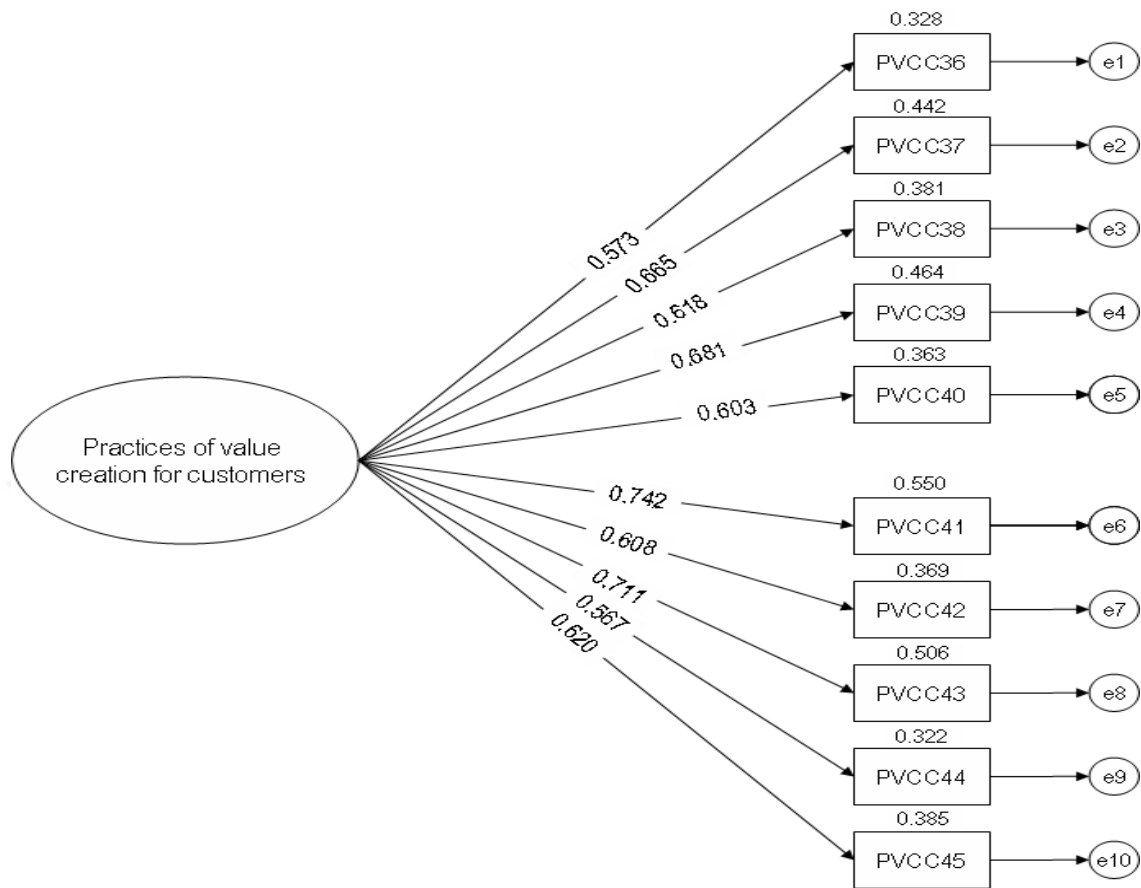


Figure (8) Confirmatory factor analysis model of Practices of value creation for customers

Looking to the overall model fit, all values were acceptable for Practices of value creation for customers construct as shown in table (13-1).

Table (13-1) Overall fit indices of Practices of value creation for customers

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.079	2.056	0.934	0.865	0.962	0.929
Saturated model			1.000		1.000	1.000
Independence model	0.324	17.486	0.353	0.209	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (13-2).

Table (13-2) estimated values of Practices of value creation for customers

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
PVCC → PVCC36	1.000			0.573	0.328
PVCC → PVCC37	1.232	0.152	8.117	0.665	0.442
PVCC → PVCC38	1.044	0.185	5.650	0.618	0.381
PVCC → PVCC39	1.156	0.193	5.994	0.681	0.464
PVCC → PVCC40	1.031	0.186	5.529	0.603	0.363
PVCC → PVCC41	1.386	0.215	6.459	0.742	0.550
PVCC → PVCC42	1.101	0.191	5.758	0.608	0.369
PVCC → PVCC43	1.313	0.206	6.376	0.711	0.506
PVCC → PVCC44	1.015	0.185	5.478	0.567	0.322
PVCC → PVCC45	1.151	0.194	5.929	0.620	0.385

4.2.1.5 Measurement Model for Organizational Agility (All Constructs)

After finishing the confirmatory factor analysis for each individual variable for Organizational Agility, the researcher proceeds to estimate the confirmatory factor analysis for the model as one unit, called the measurement model for Organizational Agility. The measurement model will be run with all the latent variables. Convergent Validity and Composite Reliability are estimated. Table (14-1) shows the overall fit indices for measurement model with all construct.

Table (14-1) Overall fit indices of Organizational Agility Measurement Model with all Constructs

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.078	2.548	0.988	0.940	0.911	0.905
Saturated model			1.000		1.000	1.000
Independence model	0.178	5.954	0.236	0.187	0.000	0.000

From the table above, the measurement model with all constructs showed a good fit for all indices. Table (14-2) shows path loading, critical ratios (C.R), and R square values in the Organizational Agility Measurement Model with all Constructs.

Table (14-2) estimated values of Organizational Agility Measurement Model with all Constructs

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
PDTM → PDTM1	1.000			0.551	0.303
PDTM → PDTM2	0.924	0.165	5.599	0.552	0.304
PDTM → PDTM3	1.062	0.191	5.569	0.558	0.311
PDTM → PDTM4	0.869	0.165	5.271	0.518	0.268
PDTM → PDTM10	1.500	0.236	6.358	0.717	0.515
PDTM → PDTM11	1.014	0.174	5.823	0.637	0.406
PDTM → PDTM12	1.204	0.201	5.999	0.669	0.447
PDTM → PDTM13	1.464	0.227	6.456	0.747	0.558
PDTM → PDTM14	1.259	0.217	5.807	0.623	0.388
PDTM → PDTM15	0.900	0.181	4.973	0.504	0.254
PVHR → PVHR19	1.000			0.611	0.373
PVHR → PVHR22	1.053	0.165	6.400	0.625	0.391
PVHR → PVHR23	1.005	0.148	6.786	0.684	0.468
PVHR → PVHR24	1.262	0.161	7.852	0.841	0.707
PVHR → PVHR25	1.113	0.150	7.433	0.756	0.571
PVHR → PVHR26	0.806	0.130	6.197	0.596	0.355
CP → CP29	1.000			0.622	0.387
CP → CP30	1.128	0.163	6.928	0.666	0.443
CP → CP31	1.151	0.182	6.326	0.694	0.482
CP → CP32	1.024	0.176	5.821	0.623	0.389
CP → CP33	0.821	0.166	4.952	0.514	0.264
CP → CP34	0.857	0.162	5.284	0.551	0.304
PVCC → PVCC36	1.000			0.620	0.385
PVCC → PVCC37	1.234	0.162	7.595	0.723	0.522
PVCC → PVCC38	1.007	0.152	6.619	0.639	0.409
PVCC → PVCC39	1.104	0.157	7.030	0.697	0.486
PVCC → PVCC40	0.958	0.151	6.332	0.606	0.368
PVCC → PVCC41	1.244	0.170	7.316	0.721	0.520
PVCC → PVCC42	1.100	0.161	6.831	0.659	0.434
PVCC → PVCC43	1.245	0.170	7.333	0.726	0.528
PVCC → PVCC44	0.999	0.158	6.337	0.598	0.358
PVCC → PVCC45	1.091	0.162	6.718	0.637	0.405

All standardized regression weight values were (>0.5), and all of the critical ratios (C.R.) were (>1.96). Janssens, Wijnen, Pelsmacker, and Kenhove (2008) argue that the factor loading for each latent variable must be equal to or greater than (0.50), and must also be significant (C.R. = t-value > 1.96). Figure (9) shows the confirmatory factor analysis for Organizational Agility (All Constructs).

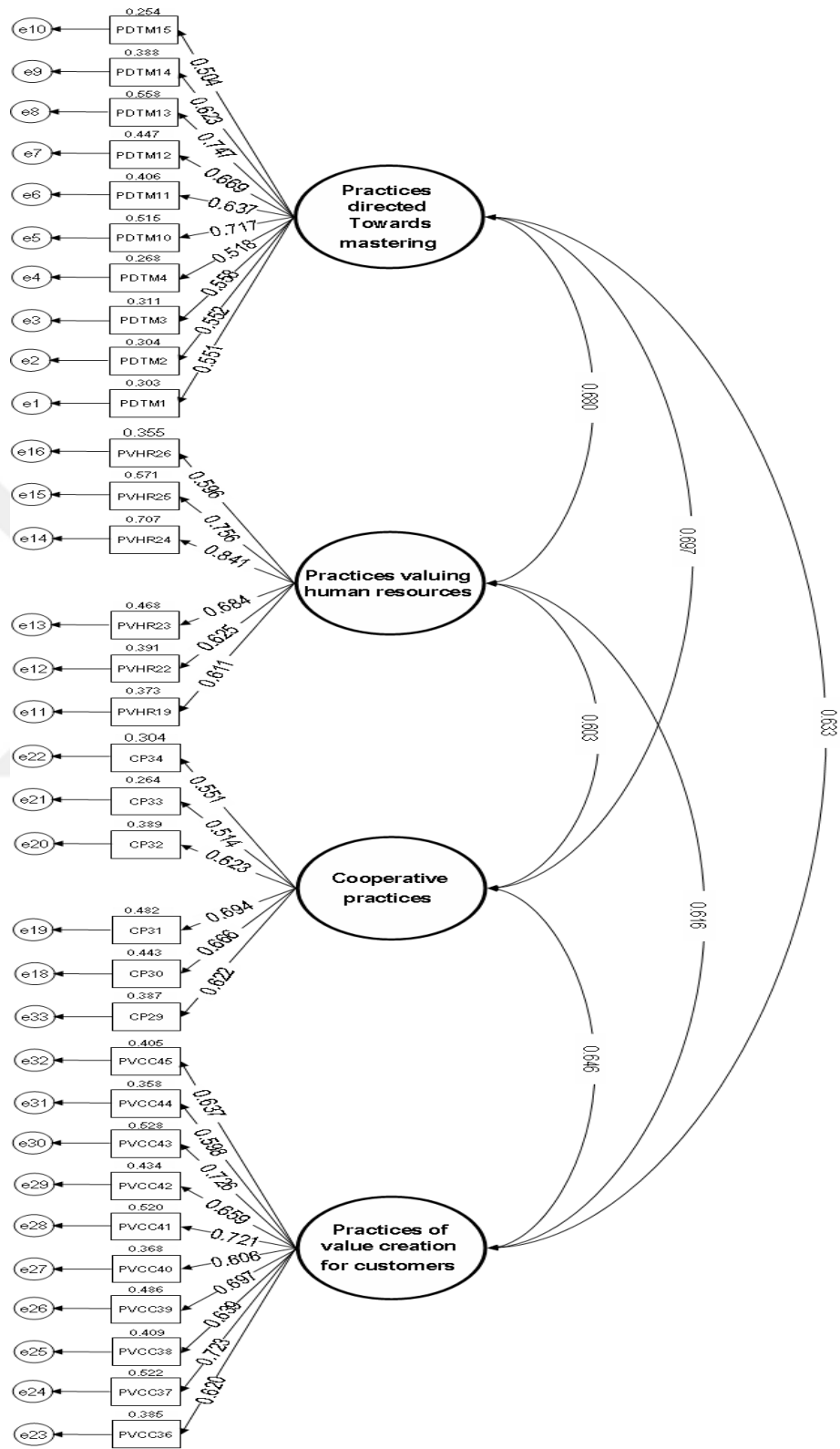


Figure (9) the confirmatory factor analysis for Organizational Agility (All Constructs)

4.2.1.6 Convergent Validity Analysis and Composite Reliability for organizational agility

In this case, all the criteria were within acceptable limits and thus confirmed the convergent validity by calculating the average variance extracted (AVE) and construct reliability by calculating the composite reliabilities (CR). Table (15) shows AVE and CR.

Table (15) Average Variance Extracted (AVE) and Composite Reliability (CR) for organizational agility

Construct	Factor Loadings	Squared Multiple Correlations (R ²)	1 - Squared Multiple Correlations (R ²)	Average Variance Extracted (AVE)*	Composite Reliability (CR)*
Practices directed towards mastering					
PDTM1	0.551	0.303	0.697	69.289	85.529
PDTM2	0.552	0.304	0.696		
PDTM3	0.558	0.311	0.689		
PDTM4	0.518	0.268	0.732		
PDTM10	0.717	0.515	0.485		
PDTM11	0.637	0.406	0.594		
PDTM12	0.669	0.447	0.553		
PDTM13	0.747	0.558	0.442		
PDTM14	0.623	0.388	0.612		
PDTM15	0.504	0.254	0.746		
Σ	6.076	3.754	6.246	-	-
Squared (R ²)	-	14.092	-	-	-
Σ Factor Loadings ²	36.917	-	-	-	-
Practices valuing human resources					
PVHR19	0.611	0.373	0.627	72.361	84.364
PVHR22	0.625	0.391	0.609		
PVHR23	0.684	0.468	0.532		
PVHR24	0.841	0.707	0.293		
PVHR25	0.756	0.571	0.429		
PVHR26	0.596	0.355	0.645		
Σ	4.113	2.865	3.135	-	-
Squared (R ²)	-	8.208	-	-	-
Σ Factor Loadings ²	16.916	-	-	-	-

Table (15) *continued*

Construct	Factor Loadings	Squared Multiple Correlations (R ²)	1 - Squared Multiple Correlations (R ²)	Average Variance Extracted (AVE)*	Composite Reliability (CR)*
Cooperative practices					
CP29	0.622	0.387	0.613	57.979	78.306
CP30	0.666	0.443	0.557		
CP31	0.694	0.482	0.518		
CP32	0.623	0.389	0.611		
CP33	0.514	0.264	0.736		
CP34	0.551	0.304	0.696		
Σ	3.670	2.269	3.731	-	-
Squared (R ²)	-	5.148	-	-	-
Σ Factor Loadings ²	13.468	-	-	-	-
Practices of value creation for customers					
PVCC36	0.620	0.385	0.615	77.728	88.714
PVCC37	0.723	0.522	0.478		
PVCC38	0.639	0.409	0.591		
PVCC39	0.697	0.486	0.514		
PVCC40	0.606	0.368	0.632		
PVCC41	0.721	0.520	0.480		
PVCC42	0.659	0.434	0.566		
PVCC43	0.726	0.528	0.472		
PVCC44	0.598	0.358	0.642		
PVCC45	0.637	0.405	0.595		
Σ	6.626	4.415	5.585	-	-
Squared (R ²)	-	19.492	-	-	-
Σ Factor Loadings ²	43.903	-	-	-	-

* Average Variance Extracted (AVE) = $\Sigma (\text{Squared Multiple Correlations})^2 / \Sigma (\text{Squared Multiple Correlations})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

* Composite Reliability (CR) = $\Sigma (\text{Factor Loading})^2 / \Sigma (\text{Factor Loading})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

From table (15), the values of the Average Variance Extracted for constructs within the measurement model are greater than (0.50) as recommended by Malhotra and Stanton (2004), who explained that the Average Variance Extracted (AVE) should be greater than (0.50) to validate employing a construct. In addition, a composite reliability (CR) index for constructs within the measurement model is greater than (0.70) that indicates satisfactory internal consistency as recommended by Hair et al. (2010).

4.2.2 Confirmatory Factor Analysis for Organizational Learning Capability

This section represents the CFA for the five dimensions of OLC construct, CFA for the OLC construct as a whole, as well as the Convergent Validity Analysis and Composite Reliability for OLC.

4.2.2.1 Confirmatory Factor Analysis for Experimentation

A total of 7 items were developed to measure Experimentation. After running the first analysis, the range model fit was poor for fit indices. The RMSEA value was 0.191, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (6.746). In contrast, GFI and AGFI values were 0.866 and 0.731, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.805 and 0.782, respectively, both values were acceptable.

From the analysis, all item loadings were over 0.50, with the exception items (116 and 117) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.000 and 0.810, respectively. These two values were acceptable. GFI and AGFI values were 0.992 and 0.970, respectively. Both two values were acceptable. NFI and CFI values were 0.990 and 1.000, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (10) shows the confirmatory factor analysis for Experimentation.

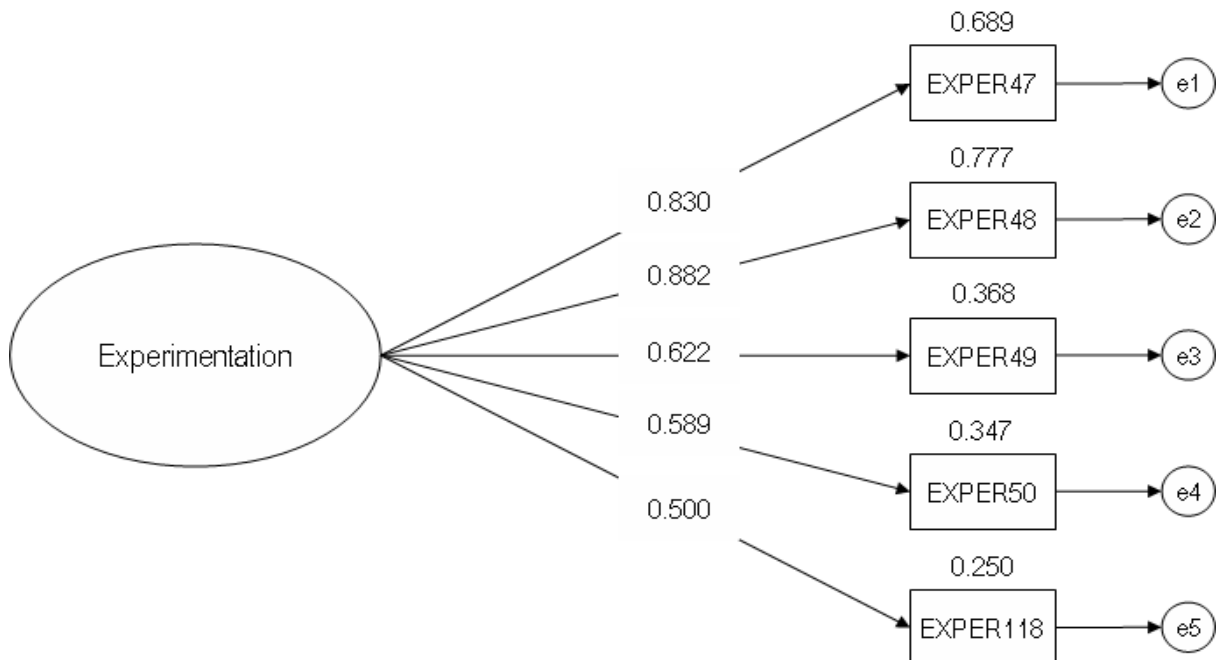


Figure (10) Confirmatory factor analysis model of Experimentation

Looking to the overall model fit, all values were acceptable for Experimentation as shown in table (16-1).

Table (16-1) Overall fit indices of Experimentation

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.000	0.810	0.992	0.970	1.000	0.990
Saturated model		0.000	1.000		1.000	1.000
Independence model	0.441	314.817	0.493	0.239	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (16-2).

Table (16-2) estimated values of Experimentation

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
EX → EX47	1.000			0.830	0.689
EX → EX48	1.205	0.110	10.932	0.882	0.777
EX → EX49	0.866	0.110	7.880	0.622	0.386
EX → EX50	0.829	0.113	7.343	0.589	0.347
EX → EX118	0.671	0.109	6.151	0.500	0.250

4.2.2.2 Confirmatory Factor Analysis for Risk Taking

A total of 7 items were developed to measure Risk taking. After running the first analysis, the range model fit was poor for fit indices. The RMSEA value was 0.197, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (7.063). In contrast, GFI and AGFI values were 0.840 and 0.680, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.702 and 0.677, respectively, both values were acceptable.

From the analysis, all item loadings were over 0.50, with the exception of four items (51, 52, 53 and 119) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.046 and 2.011, respectively. These two values were acceptable. GFI and AGFI values were 0.998 and 0.997, respectively. Both two values were acceptable. NFI and CFI values were 1.000 and 1.000,

respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (11) shows the confirmatory factor analysis for Experimentation.

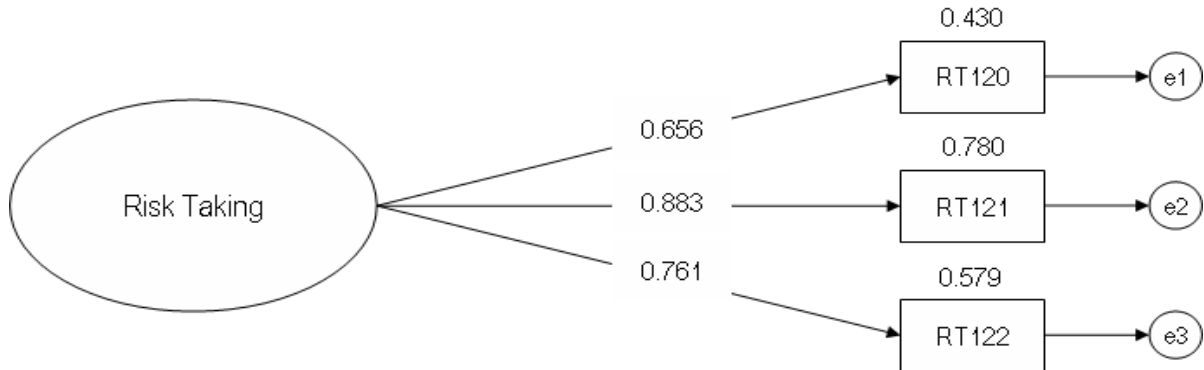


Figure (11) Confirmatory factor analysis model of Risk taking

Looking to the overall model fit, all values were acceptable for Risk taking as shown in table (17-1).

Table (17-1) overall fit indices of Risk taking

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.046	2.011	0.998	0.997	1.000	1.000
Saturated model			1.000		1.000	1.000
Independence model	0.465	34.983	0.684	0.369	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (17-2).

Table (17-2) estimated values of Risk taking

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
RT → RT120	1.000		8.431	0.656	0.430
RT → RT121	0.733	0.063	11.594	0.883	0.780
RT → RT122	0.626	0.063	9.868	0.761	0.579

4.2.2.3 Confirmatory Factor Analysis for Interaction with the External Environment

A total of 6 items were developed to measure Interaction with the external environment. After running the first analysis, the range model fit was poor for fit indices. The RMSEA value was 0.305, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (15.562). In contrast, GFI and AGFI values were 0.771 and 0.466, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.541 and 0.548, respectively, both values were acceptable.

From the analysis, all item loadings were over 0.50, with the exception of three items (123, 124 and 125) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. The RMSEA value was 0.063, which indicated rich fit. Also, CMIN/DF indicated a rich fit model with a value of (3.224). In contrast, GFI and AGFI values were 0.962 and 0.946, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 1.000 and 1.000, respectively, both values were acceptable. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (12) shows the confirmatory factor analysis for Interaction with the external environment.

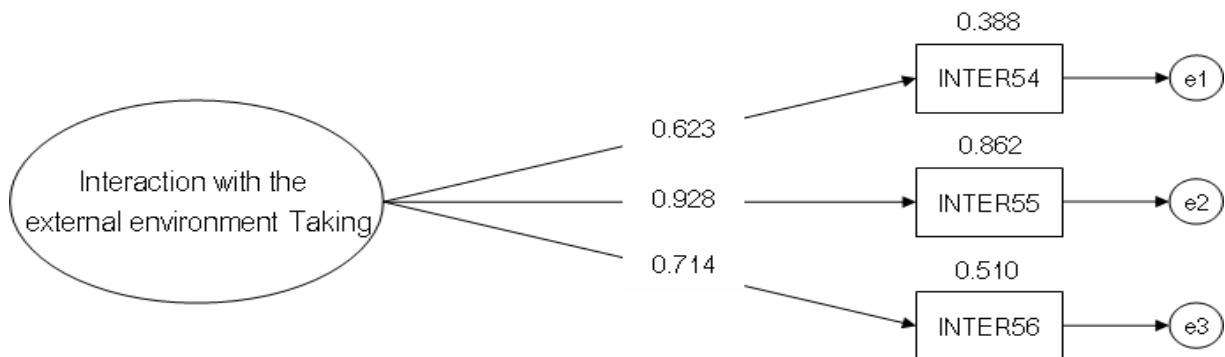


Figure (12) Confirmatory factor analysis model of Interaction with the external environment

Looking to the overall model fit, all values were acceptable for Risk taking as shown in table (18-1).

Table (18-1) overall fit indices of Interaction with the external environment

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.063	3.224	0.962	0.946	1.000	1.000
Saturated model			1.000		1.000	1.000
Independence model	0.571	52.122	0.607	0.214	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (18-2).

Table (18-2) estimated values of Interaction with the external environment

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
INTER → INTER54	1.000			0.623	0.388
INTER → INTER55	1.545	0.228	6.786	0.928	0.862
INTER → INTER56	1.071	0.147	7.299	0.714	0.510

4.2.2.4 Confirmatory Factor Analysis for Dialogue

A total of 11 items were developed to measure Dialogue. After running the first analysis, the range model fit was poor for fit indices. The RMSEA value was 0.220, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (8.631). In contrast, GFI and AGFI values were 0.756 and 0.593, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.562 and 0.584, respectively, both values were acceptable.

From the analysis, all item loadings were over 0.50, with the exception of six items (62, 63, 126, 127, 128 and 129) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. The RMSEA value was 0.000, which indicated rich fit. Also, CMIN/DF indicated a rich fit model with a value of (0.610). In contrast, GFI and AGFI values were 0.995 and 0.977, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.993 and 1.000, respectively, both values were acceptable.

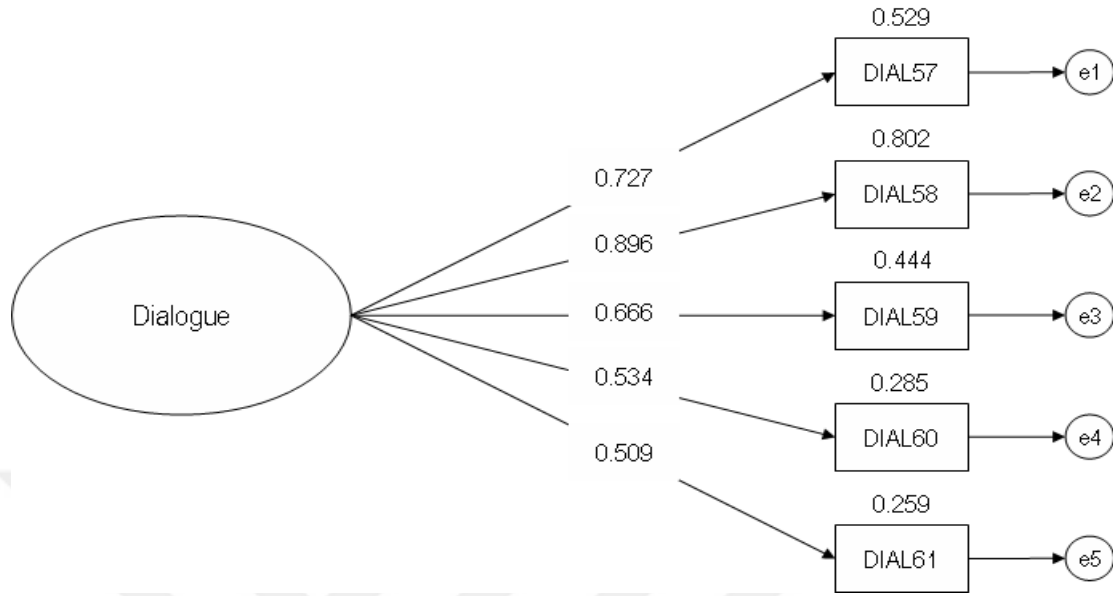


Figure (13) Confirmatory factor analysis model of Dialogue

Looking to the overall model fit, all values were acceptable for Dialogue construct as shown in table (19-1).

Table (19-1) Overall fit indices of Dialogue

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.000	0.610	0.995	0.977	1.000	0.993
Saturated model			1.000		1.000	1.000
Independence model	0.409	27.322	0.521	0.282	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (19-2).

Table (19-2) estimated values of Dialogue

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
DIA → DIA57	1.000			0.727	0.529
DIA → DIA58	1.350	0.157	8.617	0.896	0.802
DIA → DIA59	0.913	0.119	7.659	0.666	0.444
DIA → DIA60	0.737	0.119	6.213	0.534	0.285
DIA → DIA61	0.703	0.128	5.475	0.509	0.259

4.2.2.5 Confirmatory Factor Analysis for Participative Decision Making

A total of 11 items were developed to measure Participative decision making. After running the first analysis, the range model fit was poor for fit indices. The RMSEA value was 0.224, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (8.857). In contrast, GFI and AGFI values were 0.692 and 0.487, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.576 and 0.598, respectively, both values were acceptable. From the analysis, all item loadings were over 0.50, with the exception of six items (69, 130, 131, 132, 133, and 134) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. The RMSEA value was 0.000, which indicated rich fit. Also, CMIN/DF indicated a rich fit model with a value of (0.485). In contrast, GFI and AGFI values were 0.996 and 0.981, respectively. Both values were within acceptable limits. In addition, NFI and CFI values were 0.995 and 1.000, respectively, both values were acceptable.

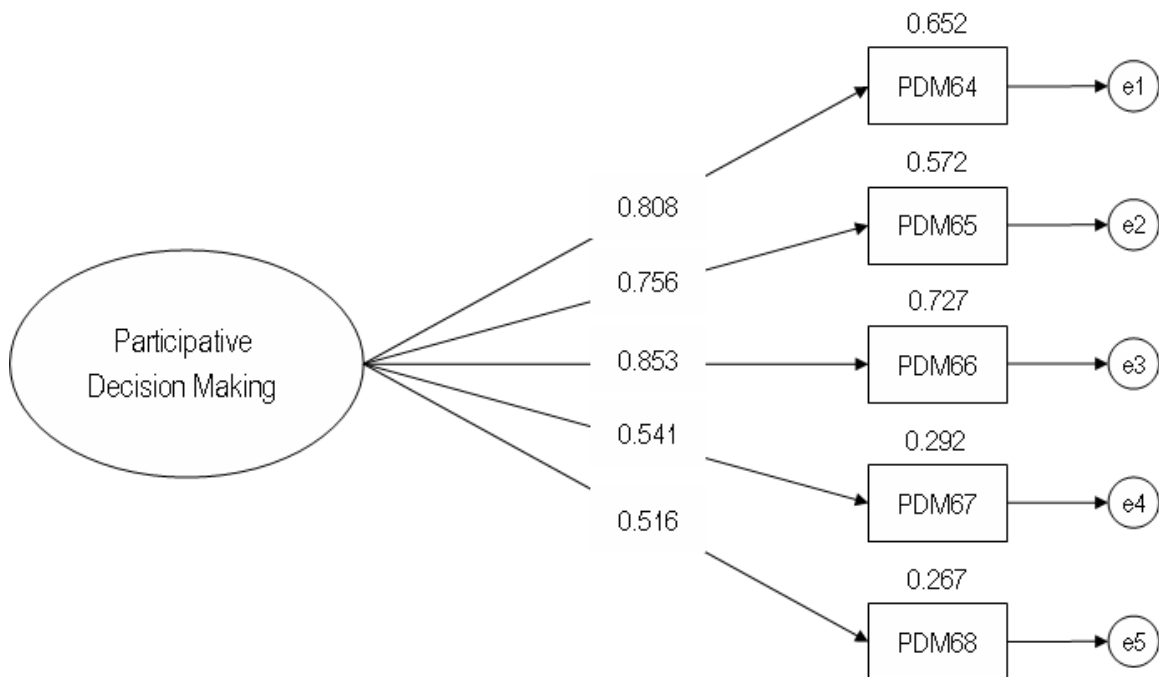


Figure (14) Confirmatory factor analysis model of Participative Decision Making

Looking to the overall model fit, all values were acceptable for Participative decision making construct as shown in table (20-1).

Table (20-1) Overall fit indices of participative decision making

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.000	0.485	0.996	0.981	1.000	0.995
Saturated model			1.000		1.000	1.000
Independence model	0.414	27.974	0.511	0.267	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (20-2).

Table (20-2) estimated values of participative decision making

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
PDM → PDM64	1.000			0.808	0.652
PDM → PDM65	0.843	0.116	7.247	0.756	0.572
PDM → PDM66	1.074	0.130	8.242	0.853	0.727
PDM → PDM67	0.666	0.116	5.721	0.541	0.292
PDM → PDM68	0.672	0.117	5.764	0.516	0.267

4.2.2.6 Measurement Model for Organizational Learning Capability (All Constructs)

After finishing the confirmatory factor analysis for each individual variable for Organizational Learning Capability, the researcher will proceed to estimate the confirmatory factor analysis for the model as one unit, called the measurement model for Organizational Learning Capability. The measurement model will be run with all the latent variables. Convergent Validity and Composite Reliability will be estimated. Table (21-1) shows the overall fit indices for measurement model with all construct.

Table (21-1) Overall fit indices of Organizational Learning Capability Measurement Model with all Constructs

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.000	0.999	0.922	0.882	1.000	0.912
Saturated model			1.000		1.000	1.000
Independence model	0.214	8.174	0.311	0.242	0.000	0.000

From the table above, the measurement model with all constructs showed a good fit for all indices. Table (21-2) shows path loading, critical ratios (C.R), and R square values in the Organizational Learning Capability Measurement Model with all Constructs.

Table (21-2) estimated values of Organizational Learning Capability Measurement Model with all Constructs

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
EXPER → EXPER 47	1.000			0.812	0.659
EXPER → EXPER 48	1.293	0.099	13.000	0.902	0.814
EXPER → EXPER 49	0.935	0.106	8.789	0.658	0.432
EXPER → EXPER 50	0.886	0.110	8.046	0.611	0.374
EXPER → EXPER118	0.725	0.108	6.712	0.519	0.270
RT → RT 120	1.000			0.667	0.445
RT → RT 121	1.272	0.157	8.077	0.840	0.705
RT → RT 122	1.171	0.149	7.837	0.769	0.592
INTER → INTER54	1.000			0.645	0.416
INTER → INTER55	1.416	0.168	8.426	0.877	0.769
INTER → INTER56	1.125	0.141	7.956	0.760	0.577
DIA → DIA57	1.000			0.740	0.548
DIA → DIA58	1.272	0.125	10.162	0.850	0.722
DIA → DIA59	0.931	0.113	8.229	0.688	0.474
DIA → DIA60	0.747	0.112	6.673	0.559	0.312
DIA → DIA61	0.745	0.124	6.008	0.496	0.246
PDM → PDM64	1.000			0.623	0.388
PDM → PDM65	0.889	0.121	7.368	0.615	0.378
PDM → PDM66	1.075	0.165	6.523	0.656	0.430
PDM → PDM67	1.164	0.171	6.806	0.722	0.522
PDM → PDM68	1.173	0.177	6.648	0.689	0.475

All standardized regression weight values were (>0.5), and all of the critical ratios (C.R.) were (>1.96). Janssens et al., (2008) argue that the factor loading for each latent variable must be equal to or greater than (0.50), and must also be significant (C.R. = t-value > 1.96). Figure (15) shows the confirmatory factor analysis for Organizational Learning Capability (All Constructs).

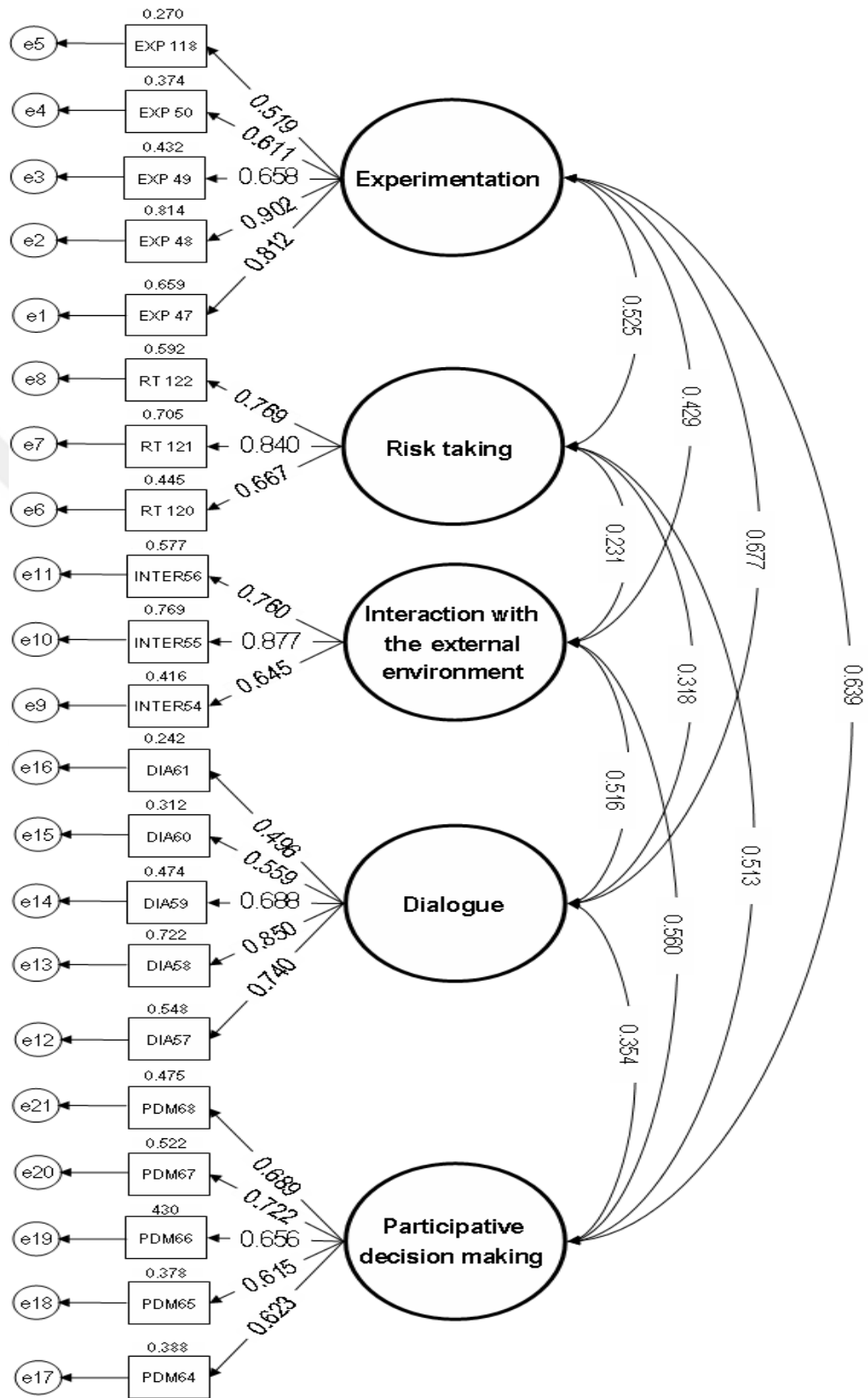


Figure (15) the confirmatory factor analysis for Organizational Learning Capability (All Constructs)

4.2.2.7 Convergent Validity Analysis and Composite Reliability for Organizational Learning Capability

In this case, all the criteria were within acceptable limits and thus confirmed the convergent validity by calculate the average variance extracted (AVE) and construct reliability by calculate the composite reliabilities (CR). Table (22) shows AVE and CR.

From table (22), the values of the Average Variance Extracted for constructs within the measurement model are greater than (0.50) as recommended by Malhotra and Stanton (2004) who explained that the Average Variance Extracted (AVE) should be greater than (0.50) to validate employing a construct. In addition, a composite reliability (CR) index for constructs within the measurement model is greater than (0.70) that indicates satisfactory internal consistency as recommended by Hair et al. (2010).

Table (22) Average Variance Extracted (AVE) and Composite Reliability (CR) for Organizational Learning Capability

Construct	Factor Loadings	Squared Multiple Correlations (R ²)	1 - Squared Multiple Correlations (R ²)	Average Variance Extracted (AVE)*	Composite Reliability (CR)*
Experimentation					
EXPER 47	0.812	0.659	0.341	72.608	83.345
EXPER 48	0.902	0.814	0.186		
EXPER 49	0.658	0.432	0.568		
EXPER 50	0.611	0.374	0.626		
EXPER 118	0.519	0.270	0.730		
Σ	3.502	2.549	2.451		
Squared (R ²)	-	6.497	-		
Σ Factor Loadings ²	12.264	-	-		
Risk Taking					
RT 120	0.667	0.445	0.555	70.689	80.459
RT 121	0.840	0.705	0.295		
RT 122	0.769	0.592	0.408		
Σ	2.276	1.742	1.258		
Squared (R ²)	-	3.034	-		
Σ Factor Loadings ²	5.180	-	-		
Interaction with the External Environment					
INTER54	0.645	0.416	0.584	71.487	80.791
INTER55	0.877	0.769	0.231		
INTER56	0.760	0.577	0.423		
Σ	2.282	1.762	1.238		
Squared (R ²)	-	3.104	-		
Σ Factor Loadings ²	5.207	-	-		
Dialogue					
DIA57	0.740	0.548	0.452	66.262	80.457
DIA58	0.850	0.722	0.278		
DIA59	0.688	0.474	0.526		
DIA60	0.559	0.312	0.688		
DIA61	0.496	0.246	0.754		
Σ	3.333	2.302	2.698		
Squared (R ²)	-	5.299	-		
Σ Factor Loadings ²	11.108	-	-		
Participative Decision Making					
PDM64	0.623	0.388	0.612	63.143	79.555
PDM65	0.615	0.378	0.622		
PDM66	0.656	0.430	0.570		
PDM67	0.722	0.522	0.478		
PDM68	0.689	0.475	0.525		
Σ	3.305	2.193	2.807		
Squared (R ²)	-	4.809	-		
Σ Factor Loadings ²	10.923	-	-		

* Average Variance Extracted (AVE) = $\Sigma (\text{Squared Multiple Correlations})^2 / \Sigma (\text{Squared Multiple Correlations})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

* Composite Reliability (CR) = $\Sigma (\text{Factor Loading})^2 / \Sigma (\text{Factor Loading})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

4.2.3 Confirmatory Factor Analysis for Competitive Intelligence

This section represents the CFA for the two indicators of CI construct, CFA for the CI construct as a whole, as well as the Convergent Validity Analysis and Composite Reliability for CI.

4.2.3.1 Confirmatory Factor Analysis for Competitive Intelligence Process

A total of 19 items were developed to measure competitive intelligence Process. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.131, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (3.689). In contrast, GFI and AGFI values were 0.713 and 0.642, NFI and CFI values were 0.588 and 0.656.

From the analysis, all item loadings were over 0.50, with the exception of five items (70, 71, 75, 76 and 88) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.057 and 1.515, respectively. These two values were acceptable. GFI and AGFI values were 0.914 and 0.908, respectively. Both two values were acceptable. NFI and CFI values were 0.929 and 0.958, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (16) shows the confirmatory factor analysis for competitive intelligence Process.

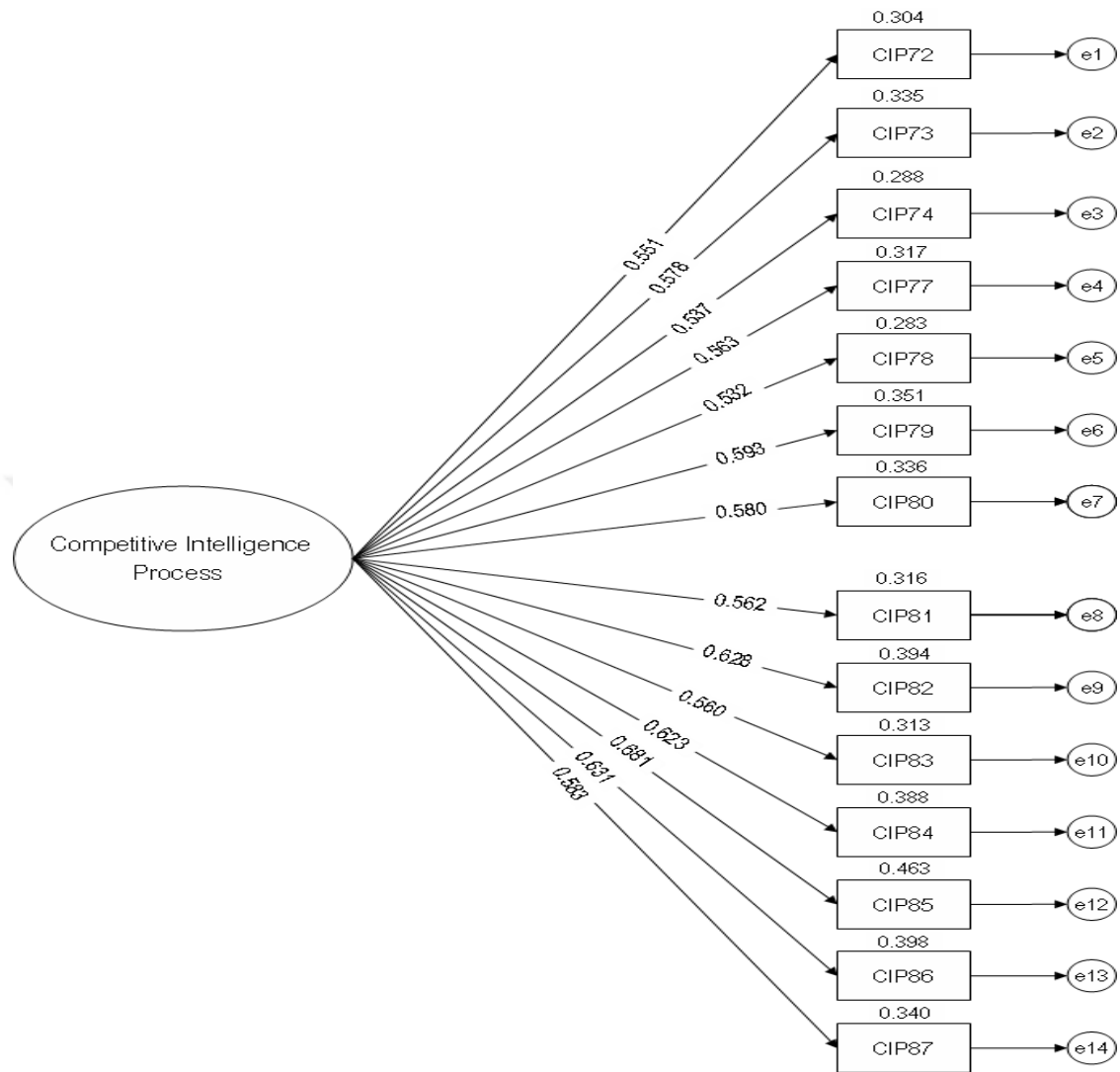


Figure (16) Confirmatory factor analysis model of competitive intelligence Process

Looking to the overall model fit, all values were acceptable for competitive intelligence process construct as shown in table (23-1).

Table (23-1) Overall fit indices of competitive intelligence process

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.057	1.515	0.914	0.908	0.958	0.929
Saturated model			1.000		1.000	1.000
Independence model	0.242	10.179	0.360	0.262	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (23-2).

Table (23-2) estimated values of competitive intelligence process

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
CIP → CIP72	1.000			0.551	0.304
CIP → CIP73	1.138	0.140	8.108	0.578	0.335
CIP → CIP74	1.052	0.164	6.425	0.537	0.288
CIP → CIP77	1.017	0.187	5.447	0.563	0.317
CIP → CIP78	0.972	0.186	5.217	0.532	0.283
CIP → CIP79	1.239	0.220	5.627	0.593	0.351
CIP → CIP80	1.084	0.195	5.555	0.580	0.336
CIP → CIP81	1.064	0.196	5.420	0.562	0.316
CIP → CIP82	1.173	0.200	5.875	0.628	0.394
CIP → CIP83	1.050	0.198	5.307	0.560	0.313
CIP → CIP84	1.054	0.184	5.736	0.623	0.388
CIP → CIP85	1.325	0.223	5.931	0.681	0.463
CIP → CIP86	1.111	0.196	5.682	0.631	0.398
CIP → CIP87	1.117	0.204	5.485	0.583	0.340

4.2.3.2 Confirmatory Factor Analysis for Competitive Intelligence Context

A total of 19 items were developed to measure competitive intelligence Context. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.142, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (4.171). In contrast, GFI and AGFI values were 0.692 and 0.616, NFI and CFI values were 0.612 and 0.671.

From the analysis, all item loadings were over 0.50, with the exception of three items (89, 90, and 91) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.063 and 1.632, respectively. These two values were acceptable. GFI and AGFI values were 0.900 and 0.899, respectively. Both two values were acceptable. NFI and CFI values were 0.915 and 0.955, respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (17) shows the confirmatory factor analysis for competitive intelligence context.

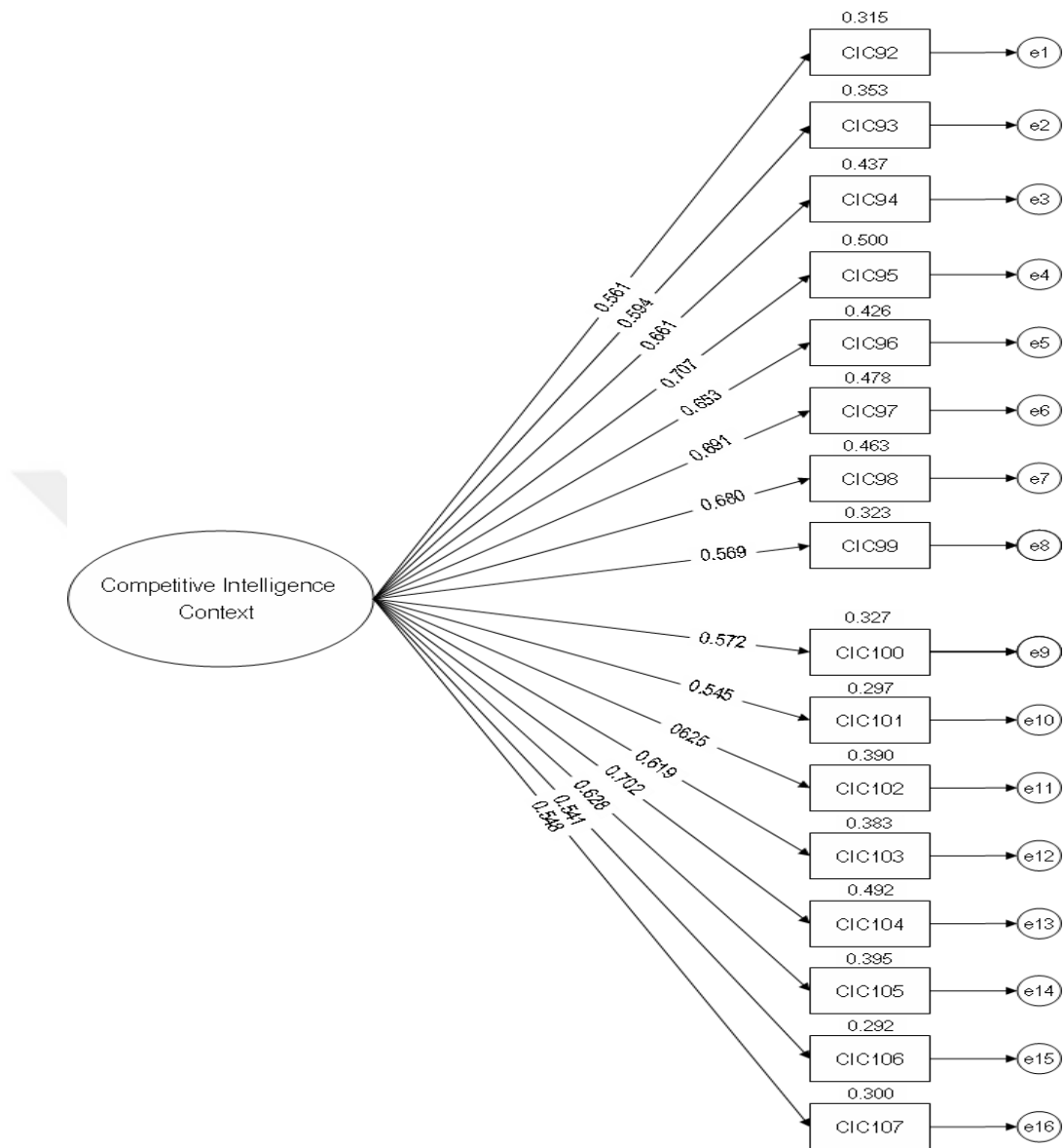


Figure (17) Confirmatory factor analysis model of competitive intelligence context

Looking to the overall model fit, all values were acceptable for competitive intelligence context construct as shown in table (24-1).

Table (24-1) Overall fit indices of competitive intelligence context

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.063	1.632	0.900	0.899	0.955	0.915
Saturated model			1.000		1.000	1.000
Independence model	0.259	11.491	0.282	0.186	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (24-2).

Table (24-2) estimated values of competitive intelligence context

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
CIC → CIC92	1.000			0.561	0.315
CIC → CIC93	1.001	0.124	8.074	0.594	0.353
CIC → CIC94	1.171	0.186	6.296	0.661	0.437
CIC → CIC95	1.217	0.188	6.471	0.707	0.500
CIC → CIC96	1.114	0.181	6.140	0.653	0.426
CIC → CIC97	1.296	0.201	6.432	0.691	0.478
CIC → CIC98	1.284	0.206	6.245	0.680	0.463
CIC → CIC99	0.974	0.176	5.540	0.569	0.323
CIC → CIC100	1.075	0.193	5.578	0.572	0.327
CIC → CIC101	0.966	0.178	5.419	0.545	0.297
CIC → CIC102	1.132	0.192	5.895	0.625	0.390
CIC → CIC103	1.142	0.190	6.014	0.619	0.383
CIC → CIC104	1.160	0.177	6.570	0.702	0.492
CIC → CIC105	1.100	0.182	6.052	0.628	0.395
CIC → CIC106	0.894	0.163	5.487	0.541	0.292
CIC → CIC107	0.976	0.178	5.472	0.548	0.300

4.2.3.3 Confirmatory Factor Analysis (PCMM for Competitive Intelligence)

A total of 6 items were developed to measure PCMM for Competitive Intelligence. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.190, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (6.643). In contrast, GFI and AGFI values were 0.890 and 0.744, respectively. Both values were unacceptable limits. In addition, NFI and CFI values were 0.794 and 0.816, respectively. Both values were unacceptable.

From the analysis, all item loadings were over 0.50, with the exception of two item (CI135 and CI136) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.023 and 1.081, respectively. These two values were acceptable. GFI and AGFI values were 0.997 and 0.966, respectively. Both two values were acceptable. NFI and CFI values were 0.995 and 1.000,

respectively. Both values were within the acceptable limits. All the factor loadings were over 0.50 and all critical ratios were higher than 1.96. Figure (18) shows the confirmatory factor analysis for PCMM for Competitive Intelligence.

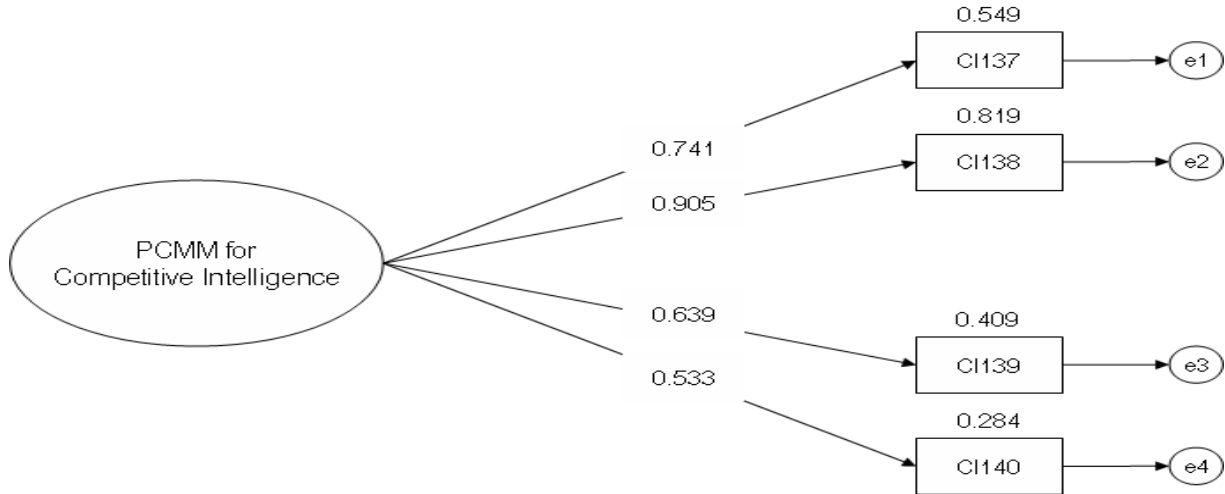


Figure (18) Confirmatory factor analysis model of PCMM for Competitive Intelligence

Looking to the overall model fit, all values were acceptable for PCMM for Competitive Intelligence construct as shown in table (25-1).

Table (25-1) Overall fit indices of PCMM for Competitive Intelligence

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.023	1.081	0.997	0.966	1.000	0.995
Saturated model			1.000		1.000	1.000
Independence model	0.458	33.887	0.577	0.296	0.000	0.000

Based on the analysis, the researcher found that all of the standardized loadings were over 0.50, and the critical ratios were more than 1.96, as shown in Table (25-2).

Table (25-2) estimated values of PCMM for Competitive Intelligence

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
CI → C137	1.000			0.741	0.549
CI → C138	1.200	0.149	8.054	0.905	0.819
CI → C139	0.933	0.123	7.571	0.639	0.409
CI → C140	0.693	0.139	4.995	0.533	0.284

4.2.3.4 Measurement Model for Competitive Intelligence (All Constructs)

After finishing the confirmatory factor analysis for each individual variable for competitive intelligence, the researcher will proceed to estimate the confirmatory factor analysis for the model as one unit, called the measurement model for competitive intelligence. The measurement model will be run with all the latent variables. Convergent Validity and Composite Reliability will be estimated.

A total of 34 items were developed to measure competitive intelligence. After running the first analysis, the range model fit was poor for some fit indices. The RMSEA value was 0.114, which indicated poor fit. Also, CMIN/DF indicated a poor fit model with a value of (3.053). In contrast, GFI and AGFI values were 0.589 and 0.536, respectively. Both values were unacceptable limits. In addition, NFI and CFI values were 0.483 and 0.576.

From the analysis, all item loadings were over 0.50, with the exception of 13 items (72, 73, 77, 78, 80, 81, 82, 83, 84, 86, 137, 138 and 140) which had factor loadings less than 0.50. After running the second analysis, the model fit showed a good fit model. RMSEA and CMIN/DF values were 0.008 and 1.011, respectively. These two values were acceptable. GFI and AGFI values were 0.912 and 0.874, respectively. Both two values were acceptable. NFI and CFI values were 0.901 and 0.999, respectively. Both values were within the acceptable limits. Table (26-1) shows the overall fit indices for measurement model with all construct.

Table (26-1) Overall fit indices of competitive intelligence Measurement Model with all Constructs

Model	RMSEA	CMIN/DF	GFI	AGFI	CFI	NFI
Default model	0.008	1.011	0.912	0.874	0.999	0.901
Saturated model			1.000		1.000	1.000
Independence model	0.209	7.871	0.272	0.199	0.000	0.000

From the table above, the measurement model with all constructs showed a good fit for all indices. Table (26-2) shows path loading, critical ratios (C.R), and R square values in the competitive intelligence Measurement Model with all Constructs.

Table (26-2) estimated values of competitive intelligence Measurement Model with all Constructs

Structural Relation	Regression weight	Standard Error (SE)	Critical Ratio (C.R.)	Standardized regression weights	Squared multiple correlation (SMC)
CI 74	1.000			0.566	0.320
CI 79	1.050	0.220	4.780	0.554	0.306
CI 85	1.003	0.224	4.482	0.572	0.327
CI 87	0.981	0.222	4.428	0.568	0.322
CI 92	1.131	0.232	4.879	0.549	0.301
CI 93	1.181	0.230	5.135	0.607	0.368
CI 94	1.335	0.253	5.270	0.658	0.432
CI 95	1.422	0.258	5.514	0.722	0.522
CI 96	1.252	0.239	5.245	0.640	0.410
CI 97	1.400	0.265	5.281	0.653	0.426
CI 98	1.396	0.267	5.234	0.645	0.416
CI 99	1.070	0.225	4.756	0.546	0.298
CI 100	1.228	0.249	4.934	0.569	0.324
CI 101	1.077	0.228	4.722	0.531	0.282
CI 102	1.262	0.250	5.039	0.607	0.369
CI 103	1.318	0.254	5.195	0.622	0.387
CI 104	1.339	0.244	5.494	0.703	0.495
CI 105	1.279	0.244	5.236	0.635	0.404
CI 106	1.069	0.217	4.932	0.563	0.317
CI 107	1.183	0.236	5.017	0.575	0.331
CI 139	1.084	0.227	4.776	0.540	0.292

All standardized regression weight values were (>0.5), and all of the critical ratios (C.R.) were (>1.96). Janssens et al., (2008) argue that the factor loading for each latent variable must be equal to or greater than (0.50), and must also be significant ($C.R. = t\text{-value} > 1.96$). Figure (19) shows the confirmatory factor analysis for competitive intelligence (All Constructs). Figure (19) shows the confirmatory factor analysis for competitive intelligence.

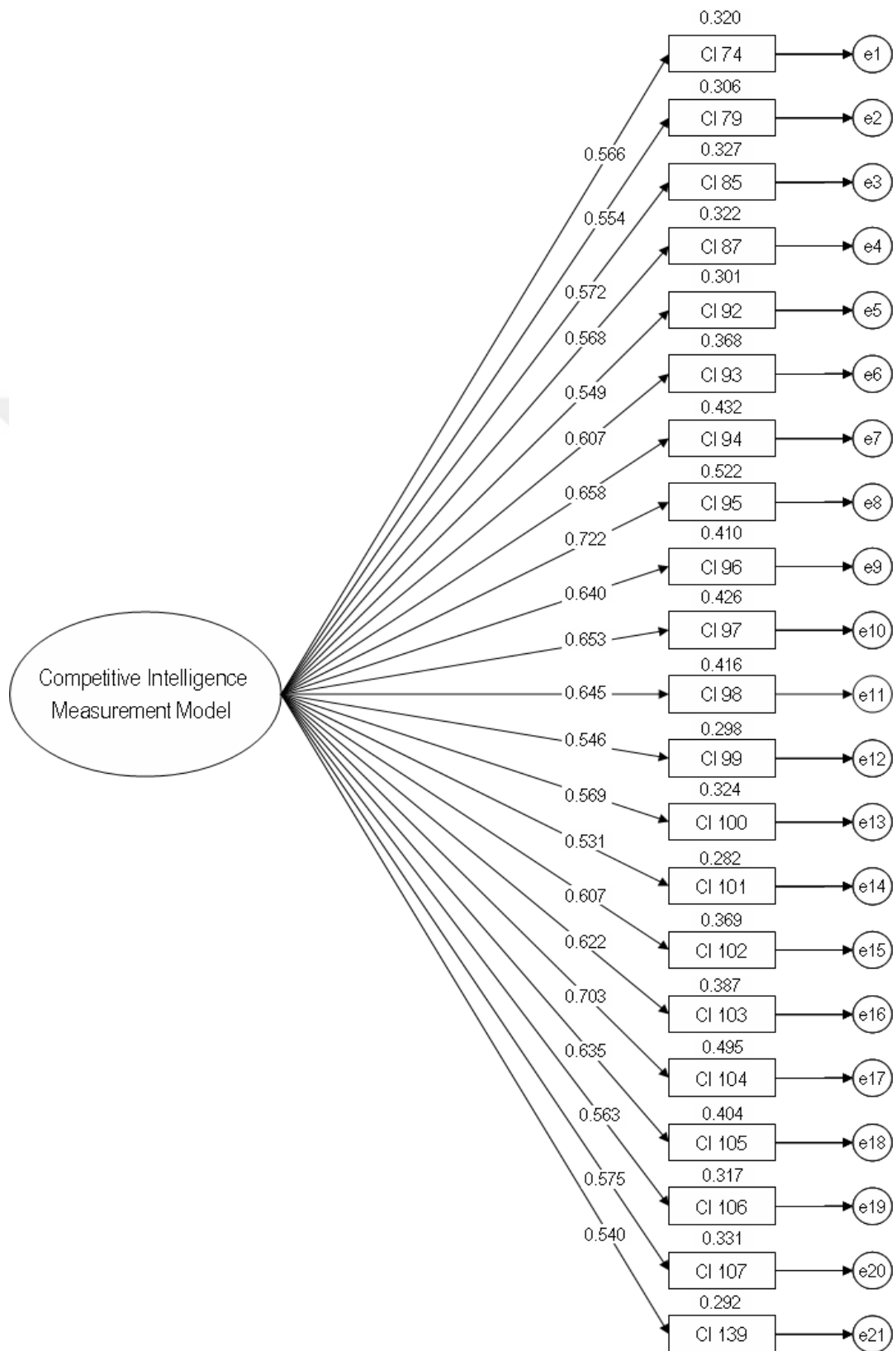


Figure (19) the confirmatory factor analysis for competitive intelligence (All Constructs)

4.2.3.5 Convergent Validity Analysis and Composite Reliability for competitive intelligence

In this case, all the criteria were within acceptable limits and thus confirmed the convergent validity by calculate the average variance extracted (AVE) and construct reliability by calculate the composite reliabilities (CR). Table (27) shows AVE and CR.

Table (27) Average Variance Extracted (AVE) and Composite Reliability (CR) for competitive intelligence

Construct	Factor Loadings	Squared Multiple Correlations (R ²)	1 - Squared Multiple Correlations (R ²)	Average Variance Extracted (AVE)*	Composite Reliability (CR)*
CI 74	0.566	0.320	0.680		
CI 79	0.554	0.306	0.694		
CI 85	0.572	0.327	0.673		
CI 87	0.568	0.322	0.678		
CI 92	0.549	0.301	0.699		
CI 93	0.607	0.368	0.632		
CI 94	0.658	0.432	0.568		
CI 95	0.722	0.522	0.478		
CI 96	0.640	0.410	0.590		
CI 97	0.653	0.426	0.574		
CI 98	0.645	0.416	0.584		
CI 99	0.546	0.298	0.702		
CI 100	0.569	0.324	0.676	81.420	92.271
CI 101	0.531	0.282	0.718		
CI 102	0.607	0.369	0.631		
CI 103	0.622	0.387	0.613		
CI 104	0.703	0.495	0.505		
CI 105	0.635	0.404	0.596		
CI 106	0.563	0.317	0.683		
CI 107	0.575	0.331	0.669		
CI 139	0.540	0.292	0.708		
Σ	12.625	7.649	13.351		
Squared (R ²)	-	58.507	-		
Σ Factor Loadings ²	159.390	-	-		

* Average Variance Extracted (AVE) = $\Sigma (\text{Squared Multiple Correlations})^2 / \Sigma (\text{Squared Multiple Correlations})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

* Composite Reliability (CR) = $\Sigma (\text{Factor Loading})^2 / \Sigma (\text{Factor Loading})^2 + \Sigma (1 - \text{Squared Multiple Correlations})$.

From table (27), the values of the Average Variance Extracted for constructs within the measurement model are greater than (0.50) as recommended by Malhotra and Stanton (2004) who explained that the Average Variance Extracted (AVE) should be greater than (0.50) to validate employing a construct. In addition, a composite reliability (CR) index for constructs

within the measurement model is greater than (0.70) that indicates satisfactory internal consistency as recommended by Hair et al. (2010).

4.3 Correlations

Correlations between variables under study were estimated. Table (28) represents the Pearson Correlation between each two variables and shows that each variable is significantly correlated with the others.

Table (28) Correlations between variables

Variable	PDTMC	PVHR	CP	PVCC	OA	EXPER	RT	INTER	DIAL	PDM	OLC	CI
PDTMC	1											
PVHR	.621**	1										
CP	.566**	.555**	1									
PVCC	.582**	.569**	.544**	1								
OA	.851**	.805**	.768**	.851**	1							
EXPER	.501**	.646**	.457**	.521**	.641**	1						
RT	.320**	.399**	.307**	.484**	.466**	.522**	1					
INTER	.517**	.437**	.459**	.339**	.528**	.374**	.216**	1				
DIAL	.452**	.495**	.498**	.468**	.572**	.605**	.297**	.446**	1			
PDM	.485**	.576**	.435**	.509**	.612**	.518**	.397**	.451**	.296**	1		
OLC	.625**	.712**	.593**	.639**	.778**	.848**	.633**	.655**	.736**	.756**	1	
CI	.529**	.581**	.480**	.674**	.695**	.605**	.562**	.395**	.400**	.584**	.699**	1

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

4.4 Testing Hypotheses

This section, using SEM analysis, addresses the examination of proposed structural model in order to find the correlations between variables under study, and presents the results of testing hypotheses derived from research model.

4.4.1 The Structural Model

Speculation testing requires the improvement of a structural model with all the eleven variables that were evaluated in the estimation model. Likewise, the speculated connections were detailed between these builds and the consequences of running the structural model will

be talked about in ensuing segments. Figure (20) demonstrates the structural model with the theorized connections between all develops;

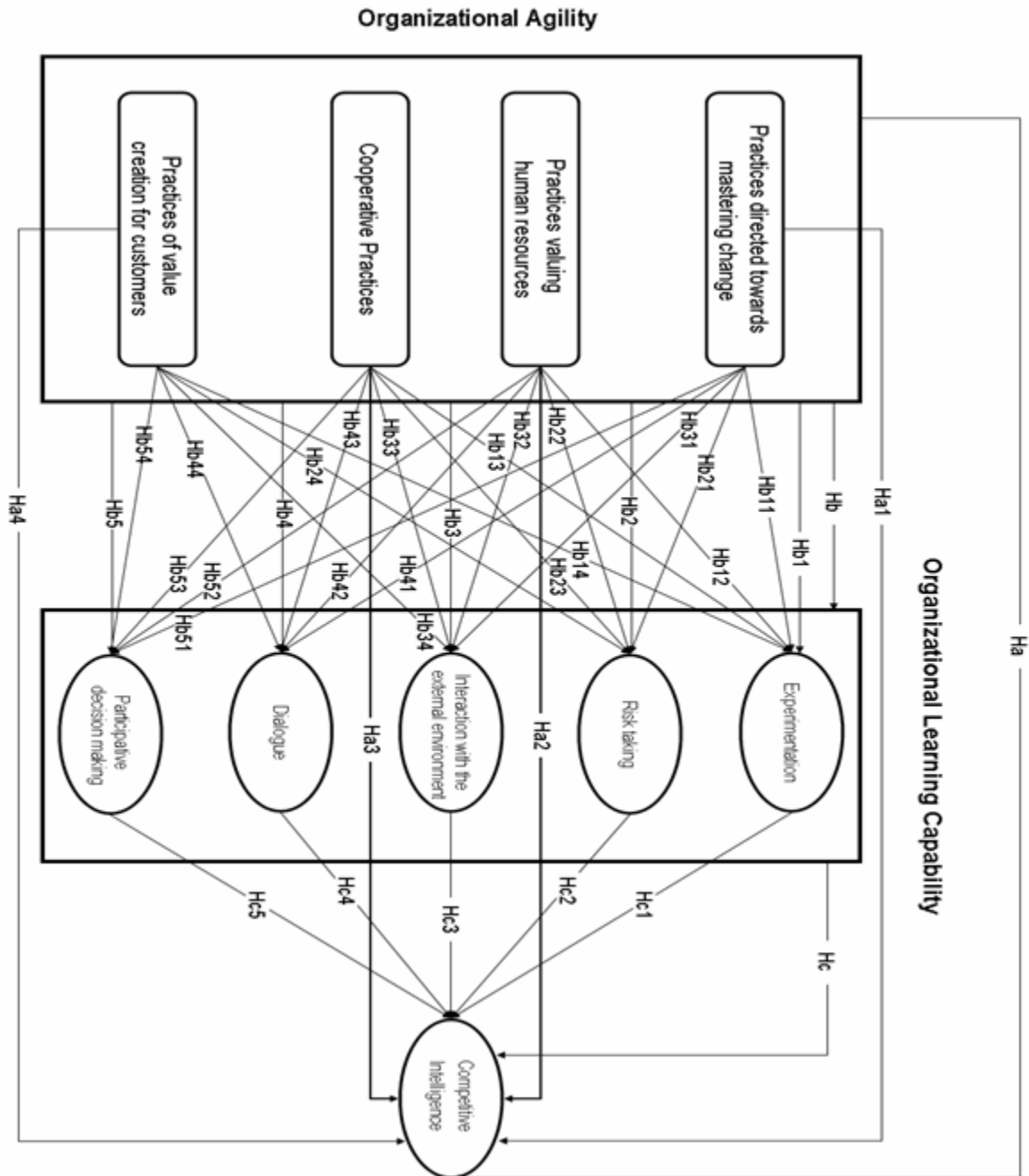


Figure (20) Structural Model of research

Of the structural model in Figure (20), a number of hypotheses can be derived for the purpose of this study, as shown previously in Table (3) within the third chapter. The structural model with all constructs showed a good fit for all indices, as shown in Table (29).

Table (29) Overall fit indices of Structural Model with all Constructs

Model	RMSEA	CMIN/DF	GFI	CFI	NFI
Default model	0.069	1.758	0.987	0.994	0.987
Saturated model			1.000	1.000	1.000
Independence model	0.327	17.828	0.318	0.000	0.000

4.4.2 Path Analysis for Testing Hypotheses

This section presents path analysis, which is conducted using AMOS 20.0, in order to examine the proposed structural model and get out with the results of testing current hypotheses.

4.4.2.1 Direct effect Hypotheses

The following sub sections address and test the different direct relationships hypothesized between variables under study.

4.4.2.1.1 Independent variable → Dependent variable

The first direct impact is the impact of the independent variable (exogenous) on the dependent variable (endogenous). This hypothesis is tested by evaluating estimate of regression weight, standard error of regression weight, critical ratio for regression weight which equals (C.R= dividing the regression weight estimate by the estimate of its standard error gives), and significance of each path coefficient. Table (29) and Figure (20) represent the results of these direct hypotheses testing.

Table (30) presents each parameter's C.R., Estimate and S.E. Hence, Organizational Agility has a significant positive and direct impact on competitive Intelligence ($\beta = 0.402$, $C.R = 4.471$; $P\text{-value} = ***$) or H_a is supported.

Practices directed towards mastering change has no a significant positive and direct impact on competitive Intelligence ($\beta = 0.049$, $C.R=0.689$; $P\text{-value} = 0.491$) or Ha1 is not supported.

Practices valuing human resources has no a significant positive and direct impact on competitive Intelligence ($\beta = 0.024$, $C.R=0.413$; $P\text{-value} = 0.697$) or Ha2 is not supported.

Cooperative practices has no a significant positive and direct impact on competitive Intelligence ($\beta = 0.028$, $C.R=0.495$; $P\text{-value} = 0.620$) or Ha3 is not supported.

Practices of value creation for customers has a significant positive and direct impact on competitive Intelligence ($\beta = 0.284$, $C.R=4.657$; $P\text{-value} = ***$) or Ha4 is supported.

Table (30) Direct Hypotheses Testing Result (independent variable→dependent variable)

Hypothesis	Regression Weights		Estimate	SE	C.R.	P value	Hypothesis
	From	To					
Ha	OA	CI	0.402	0.090	4.471	***	Accepted
Ha1	PDTM	CI	0.049	0.071	0.689	0.491	Not Accepted
Ha2	PVHR	CI	0.024	0.058	0.413	0.679	Not Accepted
Ha3	CP	CI	0.028	0.056	0.495	0.620	Not Accepted
Ha4	PVCC	CI	0.284	0.061	4.657	***	Accepted

4.4.2.1.2 Independent variable → mediate variable

The second direct impact is the impact of the independent variable (exogenous) on the mediating variable (endogenous). This hypothesis is tested by evaluating estimate of regression weight, standard error of regression weight, critical ratio for regression weight which equals ($C.R=$ dividing the regression weight estimate by the estimate of its standard error gives), and significance of each path coefficient. Table (31) and Figure (20) represent the results of these direct hypotheses testing.

Table (31) Direct Hypotheses Testing Result (Independent variable → mediate variable)

Hypothesis	Regression Weights		Estimate	SE	C.R.	P value	Hypothesis
	From	To					
Hb	OA	OLC	0.809	0.052	15.528	***	Accepted
Hb1	OA	EX	0.878	0.084	10.472	***	Accepted
Hb11	PDTM	EX	0.089	0.105	0.852	0.394	Not Accepted
Hb12	PVHR	EX	0.449	0.078	5.724	***	Accepted
Hb13	CP	EX	0.097	0.082	1.178	0.239	Not Accepted
Hb14	PVCC	EX	0.209	0.086	2.439	0.015	Accepted
Hb2	OA	RT	0.695	0.105	6.590	***	Accepted
Hb21	PDTM	RT	-0.036	0.135	-0.267	0.790	Not Accepted
Hb22	PVHR	RT	0.190	0.101	1.888	0.059	Not Accepted
Hb23	CP	RT	0.024	0.106	0.226	0.821	Not Accepted
Hb24	PVCC	RT	0.474	0.110	4.286	***	Accepted
Hb3	OA	INTER	0.825	0.106	7.788	***	Accepted
Hb31	PDTM	INTER	0.470	0.136	3.462	***	Accepted
Hb32	PVHR	INTER	0.195	0.101	1.918	0.055	Not Accepted
Hb33	CP	INTER	0.277	0.106	2.610	0.009	Accepted
Hb34	PVCC	INTER	-0.079	0.111	-0.710	0.478	Not Accepted
Hb4	OA	DIA	0.730	0.083	8.749	***	Accepted
Hb41	PDTM	DIA	0.106	0.108	0.977	0.329	Not Accepted
Hb42	PVHR	DIA	0.186	0.081	2.305	0.021	Accepted
Hb43	CP	DIA	0.257	0.085	3.032	0.002	Accepted
Hb44	PVCC	DIA	0.174	0.089	1.967	0.049	Accepted
Hb5	OA	PDM	0.879	0.091	9.688	***	Accepted
Hb51	PDTM	PDM	0.123	0.116	1.055	0.291	Not Accepted
Hb52	PVHR	PDM	0.390	0.087	4.481	***	Accepted
Hb53	CP	PDM	0.093	0.091	1.024	0.306	Not Accepted
Hb54	PVCC	PDM	0.244	0.095	2.562	0.010	Accepted

Table (31) presents each parameter's C.R., Estimate and S.E. Hence, Organizational Agility has a significant positive and direct impact on Organizational Learning Capability ($\beta = 0.809$, $C.R = 15.528$; $P\text{-value} = ***$) or Hb is supported.

Organizational Agility has a significant positive and direct impact on Experimentation ($\beta = 0.878$, $C.R = 10.472$; $P\text{-value} = ***$) or Hb1 is supported.

Practices directed towards mastering change has no a significant positive and direct impact on Experimentation ($\beta = 0.089$) respectively; ($C.R=0.852$) respectively; ($P\text{-value} = 0.394$) respectively, or Hb11 is not supported.

Practices valuing human resources has a significant positive and direct impact on Experimentation ($\beta = 0.449$) respectively; ($C.R=5.724$) respectively; ($P\text{-value} = ***$) respectively, or Hb12 is supported.

Cooperative practices has no a significant positive and direct impact on Experimentation ($\beta = 0.097$) respectively; ($C.R=1.178$) respectively; ($P\text{-value} = 0.239$) respectively, or Hb13 is not supported.

Practices of value creation for customers has a significant positive and direct impact on Experimentation ($\beta = 0.209$) respectively; ($C.R=2.439$) respectively; ($P\text{-value} = 0.015$) respectively, or Hb14 is supported.

Furthermore, Table (31) represent that the Organizational Agility has a significant positive and direct impact on Risk taking ($\beta = 0.695$, $C.R = 6.590$; $P\text{-value} = ***$) or Hb2 is supported.

Practices directed towards mastering change has no a significant positive and direct impact on Risk taking ($\beta = -0.036$) respectively; ($C.R= -0.267$) respectively; ($P\text{-value} = 0.790$) respectively, or Hb21 is not supported.

Practices valuing human resources has no a significant positive and direct impact on Risk taking ($\beta = 0.190$) respectively; ($C.R=1.888$) respectively; ($P\text{-value} = 0.059$) respectively, or Hb22 is not supported.

Cooperative practices has no a significant positive and direct impact on Risk taking ($\beta = 0.024$) respectively; ($C.R=0.226$) respectively; ($P\text{-value} = 0.821$) respectively, or Hb23 is not supported.

Practices of value creation for customers has a significant positive and direct impact on Risk taking ($\beta = 0.474$) respectively; ($C.R = 4.286$) respectively; ($P\text{-value} = ***$) respectively, or Hb24 is supported.

As well as, Table (31) represent that the Organizational Agility has a significant positive and direct impact on Interaction with the external environment ($\beta = 0.825$, $C.R = 7.788$; $P\text{-value} = ***$) or Hb3 is supported.

Practices directed towards mastering change has a significant positive and direct impact on Interaction with the external environment ($\beta = 0.470$) respectively; ($C.R=3.462$) respectively; ($P\text{-value} = ***$) respectively, or Hb31 is supported.

Practices valuing human resources and Practices of value creation for customers has no a significant positive and direct impact on Interaction with the external environment ($\beta = 0.195$ and -0.079) respectively; ($C.R = 1.918$ and -0.710) respectively; ($P\text{-value} = 0.055$ and 0.478) respectively, or Hb32 and Hb34 is not supported.

Cooperative practices has a significant positive and direct impact on Interaction with the external environment ($\beta = 0.277$) respectively; ($C.R=2.610$) respectively; ($P\text{-value} = 0.009$) respectively, or Hb33 is supported.

Organizational Agility has a significant positive and direct impact on Dialogue ($\beta = 0.730$, $C.R = 8.749$; $P\text{-value} = ***$) or Hb4 is supported.

Practices directed towards mastering change has no a significant positive and direct impact on Dialogue ($\beta = 0.106$) respectively; ($C.R=0.977$) respectively; ($P\text{-value} = 0.329$) respectively, or Hb41 is not supported.

Practices valuing human resources, Cooperative practices and Practices of value creation for customers has a significant positive and direct impact on Dialogue ($\beta = 0.186$, 0.257 and 0.174) respectively; ($C.R=2.305$, 3.032 and 1.967) respectively; ($P\text{-value} = 0.021$, 0.002 and 0.049) respectively, or Hb42, Hb43 and Hb44 is supported.

Finally, Organizational Agility has a significant positive and direct impact on Participative decision making ($\beta = 0.879$, $C.R = 9.688$; $P\text{-value} = ***$) or Hb5 is supported.

Practices directed towards mastering change has no a significant positive and direct impact on Participative decision making ($\beta = 0.123$) respectively; ($C.R= 1.055$) respectively; ($P\text{-value} = 0.291$) respectively, or Hb51 is not supported.

Furthermore, Table (31) represents the Practices valuing human resources has a significant positive and direct impact on Participative decision making ($\beta = 0.390$) respectively; ($C.R= 4.481$) respectively; ($P\text{-value} = ***$) respectively, or Hb52 is supported.

In the same context, table (31) represents the Cooperative practices has no a significant positive and direct impact on Participative decision making ($\beta = 0.093$) respectively; ($C.R=1.024$) respectively; ($P\text{-value} = 0.306$) respectively, or Hb53 is not supported.

Finally, table (31) represents the Practices of value creation for customers has a significant positive and direct impact on Participative decision making ($\beta = 0.244$) respectively; ($C.R= 2.562$) respectively; ($P\text{-value} 0.010$) respectively, or Hb54 is supported.

4.4.2.1.3 Mediate variable → Dependent variable

The third direct impact is the impact of the mediating variable (exogenous) on the dependent variable (endogenous). This hypothesis is tested by evaluating estimate of regression weight, standard error of regression weight, critical ratio for regression weight which equals (C.R= dividing the regression weight estimate by the estimate of its standard error gives), and significance of each path coefficient. Table (32) and Figure (20) represent the results of these direct hypotheses testing.

Table (32) presents each parameter's C.R., Estimate and S.E. Hence, Organizational Learning Capability has a significant positive and direct impact on competitive Intelligence ($\beta = 0.405$; **C.R** = 4.679 and **P-value** = ***) or Hc is supported.

Experimentation, Risk taking and Participative decision making has a significant positive and direct impact on competitive Intelligence ($\beta = 0.152, 0.139$ and 0.121) respectively; (**C.R**=2.500, 3.212 and 2.425) respectively; (**P-value** = 0.012, 0.001 and 0.015) respectively, or Hc1, Hc2 and Hc5 are supported.

Interaction with the external environment and Dialogue has no a significant positive and direct impact on competitive Intelligence ($\beta = 0.043$ and -0.055), (**C.R**= 1.001 and -0.964) respectively; (**P-value** = 0.317 and 0.335) respectively, or Hc3 and Hc4 are not supported.

Table (32) Direct Hypotheses Testing Result (Mediate variable → Dependent variable)

Hypothesis	Regression Weights		Estimate	SE	C.R.	P value	Hypothesis
	From	To					
Hc	OLC	CI	0.405	0.086	4.679	***	Accepted
Hc1	EX	CI	0.152	0.061	2.500	0.012	Accepted
Hc2	RT	CI	0.139	0.043	3.212	0.001	Accepted
Hc3	INTER	CI	0.043	0.043	1.001	0.317	Not Accepted
Hc4	DIA	CI	-0.055	0.057	-0.964	0.335	Not Accepted
Hc5	PDM	CI	0.121	0.050	2.425	0.015	Accepted

4.4.2.2 Indirect effect Hypothesis

This section addresses and tests the indirect relationships hypothesized between variables under study.

Independent variable → mediate variable → Dependent variable

For this study, we tested the mediating effects of Organizational Learning Capability in the relationship between Organizational Agility and Competitive Intelligence as shown in Table (33). The direct effect was significant and the path from Organizational Agility to Competitive Intelligence through Organizational Learning Capability also was significant. This indicates that the Organizational Learning Capability mediate in the relationship between Organizational Agility and Competitive Intelligence. To conclude, these findings support the mediate Hypothesis.

Table (33) Mediating effect of Structural Model

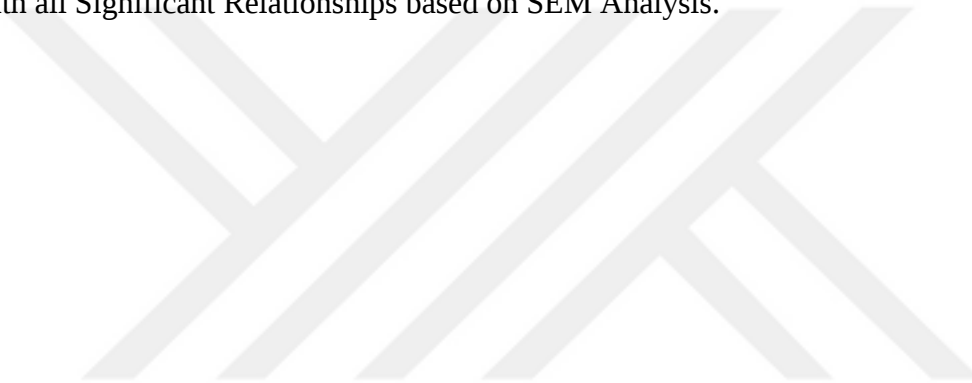
Hypothesis	From	Mediation	To	Direct effect			P value	Indirect effect	SMC	P value	Results
				From	To	Value					
Hd	OA	OLC	CI	OA	OLC	0.778	***	0.695	OLC = 0.606	***	Mediating
				OLC	CI	0.893	***		CI = 0.450		
Hd1	PDMC	OLC	CI	PDMC	OLC	0.625	***	0.558	OLC = 0.391	***	Mediating
				OLC	CI	0.893	***		CI = 0.450		
Hd2	PVHR	OLC	CI	PVHR	OLC	0.702	***	0.626	OLC = 0.393	***	Mediating
				OLC	CI	0.893	***		CI = 0.450		
Hd3	CP	OLC	CI	CP	OLC	0.593	***	0.529	OLC = 0.352	***	Mediating
				OLC	CI	0.893	***		CI = 0.450		
Hd4	PVCC	OLC	CI	PVCC	OLC	0.639	***	0.570	OLC = 0.409	***	Mediating
				OLC	CI	0.893	***		CI = 0.450		

Regarding to Table (33), there is a mediating impact of Organizational Learning Capability in the relationship between Organizational Agility and Competitive Intelligence (Hd) is supported. As shown in Table (33) above, the indirect impact of Organizational Learning Capability is (0.558) in the relationship between Practices directed towards mastering change and Competitive Intelligence (Hd1) is supported. The indirect impact of Organizational Learning Capability is (0.626) in the relationship between Practices valuing human resources and Competitive Intelligence (Hd2) is supported. The indirect impact of Organizational Learning Capability is (0.529) in the relationship between Cooperative practices and

Competitive Intelligence (Hd3) is supported. Finally, the indirect impact of Organizational Learning Capability is (0.570) in the relationship between Practices of value creation for customers and Competitive Intelligence (Hd4) is supported.

4.4.3 Resulted Structural Model based on SEM Analysis

Path analysis (a special case of SEM) was conducted on the structural model for testing hypotheses using Amos 20.0 software. The following figure (21) shows the structural Model with all Significant Relationships based on SEM Analysis.



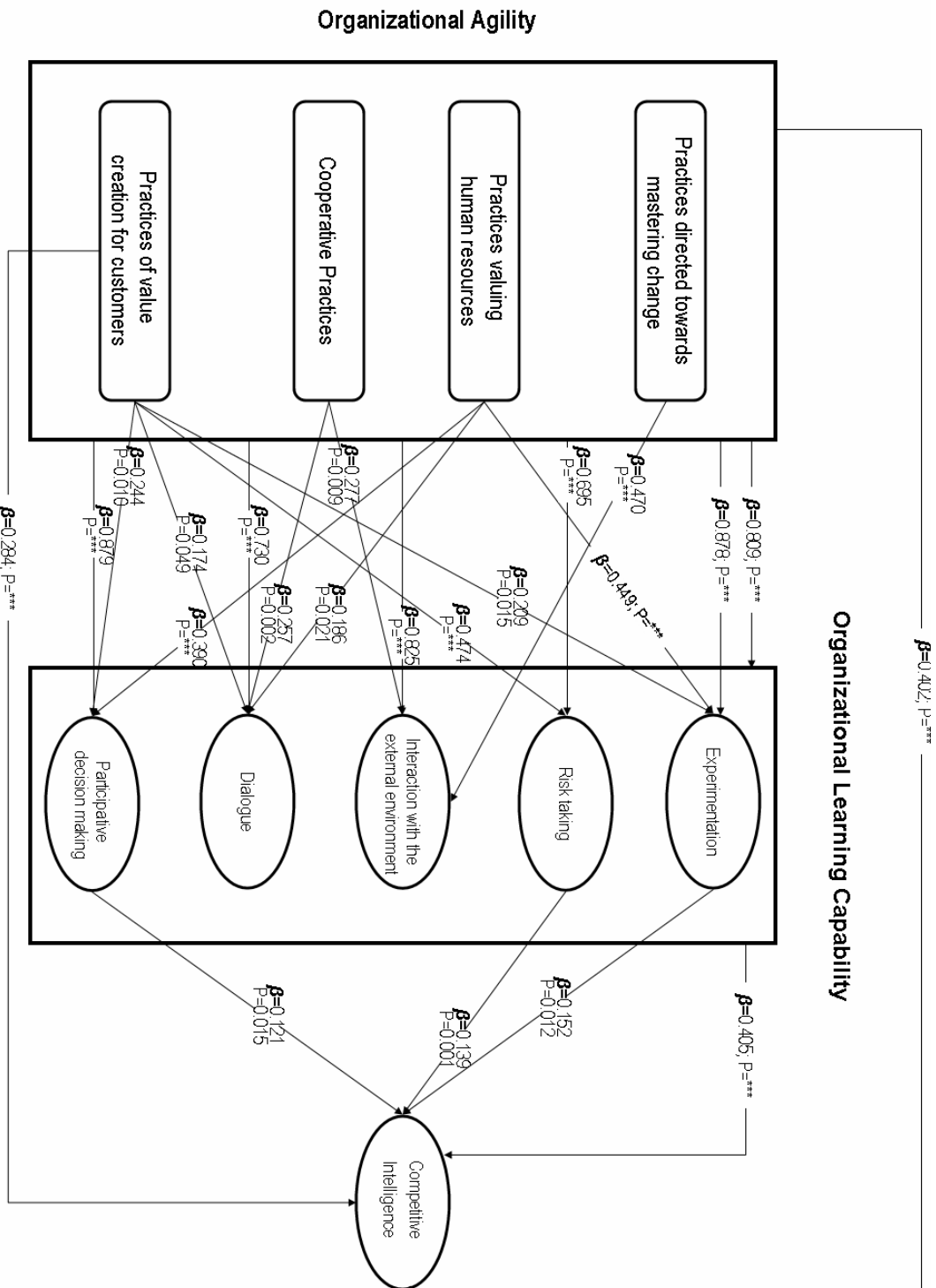


Figure (21) Structural Model with all Significant Relationships based on SEM Analysis

4.4.4 Conclusions

Based on the SEM analysis, the researcher concluded that some relationships were acceptable in this context, while others were not. Table (34) presents all those relationships acceptable or unacceptable in the context of this study.

Table (34) Summary of the Hypothesized Relationships in the Research Model

Hypothesis	Content	Empirical Support
Ha	There is a significant direct impact of Organizational Agility on Competitive Intelligence at commercial banks in Jordan.	Accepted
Ha1	There is a significant direct impact of Practices directed towards mastering change on competitive Intelligence in Banking Sector at Jordan.	Not Accepted
Ha2	There is a significant direct impact of Practices valuing human resources on competitive Intelligence in Banking Sector at Jordan.	Not Accepted
Ha3	There is a significant direct impact of Cooperative practices on competitive Intelligence in Banking Sector at Jordan.	Not Accepted
Ha4	There is a significant direct impact of Practices of value creation for customers on competitive Intelligence in Banking Sector at Jordan.	Accepted
Hb	There is a significant direct impact of Organizational Agility on Organizational Learning Capability at commercial banks in Jordan.	Accepted
Hb1	There is a significant direct impact of Organizational Agility on Experimentation at commercial banks in Jordan.	Accepted
Hb11	There is a significant direct impact of Practices directed towards mastering change on Experimentation in Banking Sector at Jordan.	Not Accepted
Hb12	There is a significant direct impact of Practices valuing human resources on Experimentation in Banking Sector at Jordan.	Accepted
Hb13	There is a significant direct impact of Cooperative practices on Experimentation in Banking Sector at Jordan.	Not Accepted
Hb14	There is a significant direct impact of Practices of value creation for customers on Experimentation in Banking Sector at Jordan.	Accepted
Hb2	There is a significant direct impact of Organizational Agility on Risk taking at commercial banks in Jordan.	Accepted
Hb21	There is a significant direct impact of Practices directed towards mastering change on Risk taking in Banking Sector at Jordan.	Not Accepted
Hb22	There is a significant direct impact of Practices valuing human resources on Risk taking in Banking Sector at Jordan.	Not Accepted
Hb23	There is a significant direct impact of Cooperative practices on Risk taking in Banking Sector at Jordan.	Not Accepted
Hb24	There is a significant direct impact of Practices of value creation for customers on Risk taking in Banking Sector at Jordan.	Accepted

Table (33) *continued*

Hypothesis	Content	Empirical Support
Hb3	There is a significant direct impact of Organizational Agility on Interaction with the external environment at commercial banks in Jordan.	Accepted
Hb31	There is a significant direct impact of Practices directed towards mastering change on Interaction with the external environment in Banking Sector at Jordan.	Accepted
Hb32	There is a significant direct impact of Practices valuing human resources on Interaction with the external environment in Banking Sector at Jordan.	Not Accepted
Hb33	There is a significant direct impact of Cooperative practices on Interaction with the external environment in Banking Sector at Jordan.	Accepted
Hb34	There is a significant direct impact of Practices of value creation for customers on Interaction with the external environment in Banking Sector at Jordan.	Not Accepted
Hb4	There is a significant direct impact of Organizational Agility on Dialogue at commercial banks in Jordan.	Accepted
Hb41	There is a significant direct impact of Practices directed towards mastering change on Dialogue in Banking Sector at Jordan.	Not Accepted
Hb42	There is a significant direct impact of Practices valuing human resources on Dialogue in Banking Sector at Jordan.	Accepted
Hb43	There is a significant direct impact of Cooperative practices on Dialogue in Banking Sector at Jordan.	Accepted
Hb44	There is a significant direct impact of Practices of value creation for customers on Dialogue in Banking Sector at Jordan.	Accepted
Hb5	There is a significant direct impact of Organizational Agility on Participative decision making at commercial banks in Jordan.	Accepted
Hb51	There is a significant direct impact of Practices directed towards mastering change on Participative decision making in Banking Sector at Jordan.	Not Accepted
Hb52	There is a significant direct impact of Practices valuing human resources on Participative decision making in Banking Sector at Jordan.	Accepted
Hb53	There is a significant direct impact of Cooperative practices on Participative decision making in Banking Sector at Jordan.	Not Accepted
Hb54	There is a significant direct impact of Practices of value creation for customers on Participative decision making in Banking Sector at Jordan.	Accepted
Hc	There is a significant direct impact of Organizational Learning Capability on Competitive Intelligence at commercial banks in Jordan.	Accepted
Hc1	There is a significant direct impact of Experimentation on Competitive Intelligence at commercial banks in Jordan.	Accepted
Hc2	There is a significant direct impact of Risk taking on Competitive Intelligence at commercial banks in Jordan.	Accepted
Hc3	There is a significant direct impact of Interaction with the external environment on Competitive Intelligence at commercial banks in Jordan.	Not Accepted
Hc4	There is a significant direct impact of Dialogue on Competitive Intelligence at commercial banks in Jordan.	Not Accepted
Hc5	There is a significant direct impact of Participative decision Making) on Competitive Intelligence at commercial banks in Jordan.	Accepted

Table (33) *continued*

Hypothesis	Content	Empirical Support
Hd	There is a significant indirect impact of Organizational Agility on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.	Mediating
Hd1	There is a significant indirect impact of Practices directed towards mastering change on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.	Mediating
Hd2	There is a significant indirect impact of Practices valuing human resources on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.	Mediating
Hd3	There is a significant indirect impact of Cooperative practices on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.	Mediating
Hd4	There is a significant indirect impact of Practices of value creation for customers on competitive Intelligence in Banking Sector at Jordan through Organizational Learning Capability.	Mediating

Chapter 5 Conclusions and Implications

5.1 Introduction

In the theoretical review, organizational agility (OA) is characterized as the quickness and swiftness, and the fast response of a group to the surrounding environmental changes in order to achieve their goals (Yeganegi & Azar, 2012). While it can be said that OA is a set of practices that organizations within competitive changing environment should always apply, it could be argued to be of critical importance to organizations that rely on competitive intelligence (CI) process to better perform and achieve higher economic returns. At the same time, literature on OA has investigated the role the agile methods and functions play in the development of strategic capabilities such as, organizational learning capability (OLC) which is considered by Jerez-Gómez et al. (2005) as a strategic capability.

This study is resulted in the identification of organizational agility, organizational learning capability, and competitive intelligence that have statistically significant relationships, and investigates the mediating role the organizational learning capability (OLC) plays in the relation between organizational agility and competitive intelligence at the commercial banks in Jordan. All four main hypotheses were supported, and thus this study has found out important new findings.

The author of this dissertation highlights that this study presents a new knowledge in the field. Some findings of this dissertation were supported before, by the field related research. However, this study is one of the first to:

1. Present findings on the state of the correlation between OA, OLC, and CI at the commercial banking sector in one of the developing countries, i.e. Jordan.
2. Carry out a quantitative analysis examining the relationship between OA, OLC and CI and develop a model of OA, OLC, and CI which leads a discussion of to what extent OLC mediates the effect of OA on CI.
3. Establish a new scale “The Emerging PCMM-incorporated Measurement Scale”, by inserting and merging the PCMM survey scale into the pre-established measurement scales

of the multiple variables under study. This may enhance and reinforce the pre-established measurement scales by validating the PCMM items derived for measuring the multiple variables under study.

Aim of current chapter is to elucidate the importance of the findings from chapter four, deduce conclusions, present implications for both academics and interested sectors especially banking sector, and provide directions for further research related to this field. To achieve this, the chapter will draw conclusions about the four research questions in order as well as about the research problem, drawing on both data from chapter four and the existing literature presented in chapter two.

Thereafter, this chapter will discuss implications for academic theory, and implications for managers and decision makers within commercial banks, Followed by presenting recent research issuing from this study, and propose recommendations on how research related to the field could evolve in the future referred to the new knowledge produced through this dissertation.

5.2 Conclusions about Research Questions and Problem

This section discusses the findings showing the important roles of organizational agility and organizational learning capability in enabling competitively intelligent organizations. This section will synthesize the empirical findings to answer the research questions and draw conclusions about research problem;

This dissertation could be the first study that empirically tests the contribution of OA to CI. Further, findings provide an empirical support that OA has a strategic value and should be considered as a strategic component for the organization because of its contribution to CI. From previous reviews, there is a significant impact for organizational intelligence on OA as was investigated by several researches such as Porkiani and Hejinipoor (2013), Razavinia and Feizi (2015), and Bahrami et al. (2016). However, all agility views relate in two broad dimensions, sensing the environment and responding as required (Mavengere & Tikkamäki, 2013); agility is the ability of the firm to sense and respond to opportunities and threats

readily (Overby et al. 2006), and agile organizations include scanning the environment (Dyer & Shafer, 1998) . As it is known to the field, environmental scanning is detecting opportunities and threats through gathering information from external environment, while CI is the conversion of this information into knowledge. CI considered as an environmental scanning system integrating knowledge in the firm; as a predecessor of CI (Calof & Wright, 2008). Since environmental scanning is an initial step in structuring and processing CI (Hambrick, 1981), and since CI is essential for dealing with organizational change (Guimaraes, 2000), and CI objective and aim is identifying, detecting, and assessing the opportunities of the market (Alampalli, 2002), the threats of the market (Prescott & Bhardwaj, 1995), and the risks in the market (McGonagle & Vella, 2002), and OA is the ability to quickly identify and detect these market opportunities and threats; author could infer and conclude theoretically that OA might be considered as an organizational antecedent to CI. Results support this conclusion and show, by answering the first research question, that OA can help increase CI by improving the ability to detect opportunities required for building CI.

Results add support to the notions stated by related literature that OA is a complex multidimensional construct. Practices directed towards mastering change, practices promoting the value of human resources, cooperative practices, and practices to create value for customers were considered as indicators for OA (Charbonnier-Voirin, 2011). The findings investigate that there are no significant impacts for these indicators on CI except for practices of value creation for customers. Value creation for customers or customer enrichment as called and expressed by Goldman, et al. (1995), provides a rapid detecting and understanding of the needs and unique demands of each individual customer and quickly providing them and these practices are focused on customer satisfaction. Practices of creation value for customers lead to engagement in collecting, analyzing and applying of customer knowledge in order to maximize the lifetime value of customers (Akgün et al., 2014). In other context, an organization should conduct systems and processes for legally gaining and analyzing information about its customers which enable it to anticipate industrial changes (Blenkhorn & Fleisher, 2013) in order to support CI. Therefore, the perception of customer needs, identifying the changes on customers' demands and preferences, and attempting to rapidly satisfying them means gathering information about these customers, related suppliers,

technology, environment and potentially business related communications, which in turn requires the organization to establish systems and processes for analyzing, communicating and disseminating this information about customers in order to get usable and actionable information or intelligence. As a consequence, customer enrichment directly enhances CI process and context. However, practices of mastering change particularly change in structure, valuing human resources particularly employees, and internal cooperation within organization could be fulfilled internally without concurrent monitoring and assessment of the outside market and competitors, and this could account for the non-significant direct relation between these practices and CI.

Literature review presents several empirical studies that support the positive relationship between OA and OL. OL has a statistical relationship with OA (Bahrami et al., 2016). Since agility is the organizational ability to deal and operate in a fast changing and continuously fragmenting global business environment (Tsourveloudis & Valavanis, 2002), agile leaders actively learn and help others to learn (McKenzie & Aitken, 2012) and learning organization could be identified as the organization agility characteristic contributing to high-performance in teams (Latham, 2014), thus OA promotes OL (Mavengere & Tikkamäki, 2013). And while OLC is the processes and factors that facilitate or impede OL (DiBella et al., 1996), author could infer and conclude theoretically that OA positively affects OLC. Results support the proposition that OA positively impacts OLC, through answering the second research question, in that sensing and responding to changes in the market, technology, and environment would increase the ability of employees to acquire experiences and improve new skills and competences, which mature through the training programs of the OA system. Thus, an agile organization would acquire skills and experiences that enhance capabilities of learning process and facilitate the effective learning of the organizational tasks.

Results add support to the notion stated by Jerez Gómez et al. (2004) and related literature that OLC is a multidimensional and complex construct. The dimensions; experimentation, risk taking, interaction with the external environment, dialogue, and participative decision making are the most underlined facilitating factors within the literature (Chiva et al., 2007). Results investigate that agile organizational culture reflects capabilities for learning. This culture reflects team and partnership working across boundaries, risk management,

employee's participation and empowerment, shared learning and innovation, processes and structures facilitating climate for experimentation, and strong market and customer focus with internal systems (Holbeche, 2011).

The organization must encourage experimentation and openness, which means "the search for and exploration of alternative routines, rules, technologies, goals, and purposes" (Lant & Mezias, 1992, p.49). Experimentation is to make experiments innovatively with new processes and methods of work. Managers and employees should have the skills required for performing and evaluating experiments and perceive the benefits of openness to new business methods (Garvin, 1994). Being a more agile organization through setting up systems and structures for anticipating and responding rapidly to environmental changes would encourage people for being more open and innovative in searching new ideas and new products, and to make mistakes through trial and error and support the notion that the person can learn from experiments and mistakes of others. Results support this proposition and show that OA has a significant positive and direct impact on experimentation.

Results show that practices valuing human resources and value creation for customers have a significant direct impact on experimentation, in that applying HR practices and techniques and perception of customer satisfaction and customer relationship management might encourage the firm to more openness and trying new innovative business methods. On the other hand, results reveal no direct impact for practices of mastering change and cooperation on experimentation. Organizations mastering change need motivated and knowledgeable personnel, in a routine and rapid base, for converting change into new opportunities (Goldman et al., 1995). Organizations mastering change and developing internal cooperation and external partnership might have fears from experimenting unidentifiable business methods and strategies and keep themselves away from making mistakes through trial and error, in order to diminish the probability of losing the motivated personnel and the established alliances with partners.

OA provides the ability to thrive in facing the unpredictable changes (Sanchez & Nagi, 2001), and this may lead employees to collaborate among themselves for decreasing fears and obtaining openness which in turn will motivate and stimulate taking new risks, according to Hurley and Hult (as cited in Mat & Cherazak, 2011). Results confirm that OA has a

significant direct and positive impact on risk taking, in that existence of OA and the ability to explore opportunities and threats for competitive actions and to set up right actions quickly and effectively would encourage the organization to take risks, learn from successes and resulted mistakes, and tolerate the uncertainty and possible errors and failures during the detection of a new product or a competitive market.

Results investigate a relation between practices of value creation for customers and risk taking. This can be referred to that setting up customer relationship management strategies and performing customer satisfaction, by exploring customer needs, identifying the changes on customers' preferences, and rapidly responding to their demands; needs recognizing and realizing the problems, trying to find solutions, and conducting various organizational responses which can be achieved through taking some risks, and this in turn would increase the organization's tendency to accept risk and enhance risk tolerance. However, results show no significant relation between practices toward (mastering change, valuing HR, and cooperation) and risk taking. Taking risk may include the possibility of facing failures and making mistakes (Chiva et al., 2007). This non-significant relation here could be referred to that organizations, including motivated and knowledgeable personnel produced from valuing human resources and needed for mastering change and developing internal cooperation and external partnership, might have fears from taking risk of and accepting mistakes resulted from trying unidentifiable un-pretested or ambiguous business methods and strategies and keep themselves away from taking or accepting risks, in order to diminish the probability of losing the motivated personnel and the established alliances with partners.

Agility which is the organizational capability of sensing the need for change and routinely following up these changes from both internal and external sources (Worley & Lawler, 2010), leads the entity to exhibit flexibility and apply previous experience and knowledge to learn from the internal and external environment (Qumer & Henderson-Sellers 2006), and this could result in alliances and bringing together the firms with unique skills and capabilities which foster a unique learning atmosphere (Shukla, 2013). In other words, agile system meets the continuously changing needs of the marketplace and realizes the latest changes in the unpredictable and competitive external environment which consists of customers, competitors, suppliers, infrastructure etc. These attempts to adapt and respond to

dynamic external environments would in turn encourage and push the agile organization to build bridges of cooperation and evolve its connections with the external environment. Results assure that OA has a significant positive and direct impact on interaction with the external environment.

Results indicate for a direct impact for both practices directed towards mastering change and cooperative practices on interaction with the external environment, since practicing the mastering change, which involves scanning the environment and sharing and learning the insights (Dyer & Shafer, 1998) as well as establishing partnerships with external components such as suppliers would support organization to interact with its external environment. However, results show no significant impact for both practices of valuing HR and value creation for customers on interaction with the external environment. This may refer to that external environment consists of a wide range of industrial factors such as competitors, legal and political systems, monetary systems, and social and economic systems (Chiva et al., 2007), while human resources and customers are merely some elements of business environment and represent solely a part of the whole external environment, and any few changes on these two components does not necessarily force the organization to interact with the whole external environment.

An agile method is people-focused and communications-oriented (Qumer & Henderson-Sellers, 2008). Agility is characterized by an information infrastructure connecting the constituent parties and partners within a united network (Sanchez & Nagi, 2001). A chance to conduct dialogues and share the same conclusions between teams and groups (Gear, Vince, Read, & Leonard Minkes, 2003), can be provided by this communication and information infrastructure and collectively coordinated response. This communication and information infrastructure enhances the dialogue- which is viewed by Brown and Duguid (1991) as a “social construction” that constructs a shared understanding depending on telling stories and on social relationships between workers. Therefore, agility facilitates group dialogue that encourages learning to daily practice (McKenzie & Aitken, 2012). Results support empirically the proposed positive and direct impact of OA on dialogue, as agility depends on a plural perception of the possible opportunities and threats and a collective enthusiasm for benefiting from and taking risk of initiating and executing a responsive action, which in turn

is supposed to lead to mutual understanding and sharing information that are established by dialogue between organizational members and teams, and to promote diversity, communication and teamwork.

Results confirm that practices valuing human resources, cooperation and value creation for customers have a significant positive and direct impact on dialogue. Valuing HR is achieved through applying HR practices and techniques, while cooperation through alliances, and valuing customers through achieving customer satisfaction. Reaching mutual understanding and alleviating the speed in sharing information among organizational members (Mat & Cherazak, 2011) is accomplished, in order to recognize customer related problems easily and to find out the proper solutions and decisions related to HR strategies and alliances, and this would certainly encourage dialogues conduction and interactions between work teams and individuals. However, results show no direct impact for mastering change on dialogue. Mastering change enables personnel to stratify all the substantial resources for exploiting opportunities and to be knowledgeable routinely and rapidly (Goldman et al., 1995) and this could be accomplished through technological communication and knowledge sharing systems without a direct proximity among people in an organization.

Agile organizational culture is reflected in intense customer and market focus with internal systems, structures and processes facilitating employee's empowerment and participation (Holbeche, 2011). As mentioned earlier, the agility concept is people-focused and communications-oriented (Qumer & Henderson-Sellers, 2008). Agility is characterized by an information infrastructure connecting the constituent parties and partners within a united network (Sanchez & Nagi, 2001), and thus the collective behavior and connectivity within the agile organization might improve the coherence between organizational members. Coherence, strong relations and trust between managers and employees are required for participative decision making (Ho, Ahmad, & Thurasamy, 2013). Results support the proposed significant positive and direct impact of OA on participative decision making, demonstrating that agility, which is defined by Yeganegi and Azar (2012) as the quickness or swiftness and the fast response of a group to changes, depends on a plural perception of the possible opportunities and threats and a collective enthusiasm for benefiting from and taking risk of initiating and executing a responsive action. This flexibility and collective behavior

within the agile entity would reduce bureaucracy and bureaucratic problem in organization, and increase delegation and flexibility of organizational structure, which lead management to empower employees and involve all related parties in the decision making process and thus increase participative decision making.

Practices valuing human resources and value creation for customers have a direct impact on participative decision making, in that taking the right managerial decisions and initiating the proper actions accordingly are required for setting up the appropriate HR strategies compatible with organizational environment and initiating effective HR practices and policies for leveraging individuals, and choosing efficient techniques for customer satisfaction and managing customer relationships. This consequently would push and lead the organization to activate the participation in making decisions for the sake of taking right and wisdom decisions and searching for business alternatives. However, results do not support the hypothesized direct impact of mastering change and cooperative practices on participative decision making. This may refer to conflict of interests resulted from the targeted organizational change domain and kind of partners to be selected for alliances, and as a sequence discourages the top management from empowering employees and engaging all other parties in decision making process.

This dissertation theoretically argues the direct contribution of OLC to CI and empirically investigates the relationship between them. Prescott (1999, p.38) considers CI “as a core capability” and claims that CI consists of; CI as learning and network analysis, intelligence infrastructures for multinationals, and managing the parallel process (Prescott, 1999). OLC should be connected to other different operational activities in the organization such as CI, for ensuring the organizational survival for a long time (Goh, 2003). OL acts as an antecedent to CI (Tuan, 2013), and OL is an important instrument of organizational intelligence, and learning can improve intelligence (Levitt & March, 1988). In spite that many efforts have yielded few convincing results and a general impression of very low correlation between learning abilities and measures of intelligence (Friedman et al., 2012), the author proposed theoretically and by referring to literature that OLC positively affects CI.

The third research question is answered and results approve empirically the direct relation of OLC with CI, pointing out that CI is maximized and be more effective if enacted by OLC

and enabled learning employees throughout the organization. This refers to that OL improves intelligence by facilitating new knowledge and driving complex change agendas (Murray & Carter, 2005), by supporting knowledge sharing intention (Jo & Joo, 2011), and by creating, communicating, and interpreting competitive knowledge (Shrivastava & Grant, 1985). Further, organizational environment characterized by learning capabilities provides communication skills that could foster the skills required for implanting a competitive intelligent environment. OLC provides the organization with information about its current and future competitors as well as enables it to assess competencies and behaviors of these competitors. OLC provides a gateway into how organizations can collect, analyze, distribute, and utilize information. In other words, enjoying the organization capabilities of learning and thus institutionalizing a culture of OL can improve CI for survival.

Experimentation is trying out new things, being curious about how things work, being able to play with things, and accepting failures (Nevis et al., 1995). Thus it allows accelerating innovations in new technology (Vargas, 2013), and involving the systematic searching for new knowledge and testing this new knowledge by using scientific methods (Garvin, 1994). Therefore, experimentation assists us in understanding and recognizing which principles guide intelligent actions and which mechanisms reproduce intelligent behaviors (Buchanan, Hendriks-Jansen, & Addis, 1994). Results confirm that experimentation has a significant direct impact on CI. This proceeds from that CI involves predicting moves of competitors, customers, and governments (Adidam et al., 2012), and supports keeping up strategies and purchasing new companies and mergers of included business (Gaidelys, 2010), and since experimentation means to be open and creative by using external sources for creating ideas, and this openness with external sources will provide a pool of data and information about signals, events, and perceptions as well as about competitors, suppliers, customers, technologies, and government within the business environment; experimentation results to better competitive methods and understanding and thus a further CI progression.

Risk-taking involves training programs that would improve individual skills in the diagnosis, planning and preparation, implementation, and learning that result from related behaviors (Campbell, 2000). Results show that risk taking has a direct impact on CI. Risk taking could increase experiences with loss, and thus improve employees' awareness and increase

diversity based on this experience. Organizations which are more inclined to take risks are more flexible in trying new solutions and competitive situations, and this leads employees to be more skilled, to have more desire to innovate in making decisions, and to be better at utilizing their skills in their acquisition, analysis, and dissemination of information and more innovative in processing it to actionable intelligence. As a consequence, leads to more effective CI.

Participative decision making is to involve the entire capacity of employees in generating new ideas and ways of working, in order to outperform competitors (Singh, 2009). Participative decision making requires divulging too much information, and needs subordinates who are informed and experienced (Parnell & Crandall, 2001), and thus participation in decision making provides better access to information and increases the quality and ownership of decision outcomes (Scott-Ladd & Chan, 2004), for achieving the objectives of both the employees and the organization (Kiyani et al., 2011). Results confirm that participative decision making has a direct impact on CI, in that information from both internal and external sources is required for the process of decision making, and since empowering employees increases their skills and grant them a wider variety of tasks and responsibility, participative decision making in turn helps in getting more relevant and reliable business information that makes the organization perform better than its competitors, and promotes their ability in identifying the needed information which is considered as the first step in conducting CI and thus enabling intelligent actions.

However, results prove no impact for both interaction with external environment and dialogue on CI. It may because intelligence requires high technological systems and more scientific and complex processes such as computer and communication technologies, which are different from the more simple technical processes and procedures used for both direct proximity between individuals within organization and interaction with external environment.

With regard to the fourth research question, OL acts as a mediator in the relationship of organizational intelligence and OA (Bahrami et al., 2016). The author in this dissertation hypothesizes the mediating role of OLC in the relationship between OA and CI. In this mediation of OLC, OA influences the OLC (mediator), which in turn influences CI. An agile

enterprise predicts and responds to opportunities and threats within competitive environment easily and quickly. An agile enterprise, which produces a motivated and knowledgeable personnel, in a routine and rapid base, for converting change into new opportunities (Goldman et al., 1995) and which facilitates the incorporation of employees, technology, and relationship management for responding to the changing needs of customers within an unpredictable marketplace (Boudlaie et al., 2014), can help organizational members to acquire skills and capabilities required for facilitating OL process and system, by increasing the ability and desire of taking risks and interacting with environment, by enhancing empowerment of employees and connections between stakeholders and team working, and by facilitating the creation of an open organizational space and learning from mistakes. This enhanced OLC would in turn facilitate processing information to actionable intelligence, by adopting the proper systems and programs for collecting and sharing business information, and transforming it to intelligence as well as providing the employees with the skills and qualifications required for supporting CI systems and being an intelligent organizational entity. Thus OA is supposed to have an impact on CI through OLC, which means that OA and OLC together have a greater impact on CI. Results of SEM discovered a significant indirect impact for OA on CI through OLC and this impact is partially mediated by OLC. Author could confirm that OA has a strategic value by significantly impacting CI through OLC.

Mastering change is done by stimulating progress and being filled with technical, personal and organizational skills (Walick, 1997). Practices directed towards mastering change involve environmental scanning and sharing and learning insights through supported employee communication and training and development programs (Dyer & Shafer, 1998), and thus these practices lead personnel to be motivated and knowledgeable, routinely and rapidly, enough to convert change and uncertainty into new opportunities (Goldman et al., 1995). This resulted climate of knowledgeable and informative personnel promotes the capability to learn effectively and quickly and the ability to plan and execute compatible learning strategies through having tendency to experiment, take risks, interact with external environment, conduct dialogue, and participate in decision making. This enhanced learning capability would in turn direct the personnel towards the appropriate systems needed for monitoring competitors and the best CI programs. Results assert that practices directed

towards mastering change have a significant indirect impact on CI through OLC. Accompanying these practices of mastering change with facilitating factors of OL simultaneously would lead to improved CI throughout the organization.

Valuing human resources can be recognized through HR management. HR management which provides personnel with extensive training and development for job-related skills, behavioral performance appraisal, and job-based pay should encourage OL (Diaz-Fernandez et al., 2016). Practices valuing human resources should include; empowering HR executives, training and development, analyzing employee skills and qualifications, and measuring the effectiveness of learning programs (Kapoor, 2010). Therefore, practices valuing human resources, through HR policies and practices which boost the employees' cognition and knowledge, would produce high-quality people in the right places and retain these high performing personnel within the organization, which in turn would produce personnel with higher capabilities for the learning process and be more professional learners. These improved learning capabilities would consequently strengthen information processing ability and thus enhanced CI. Results support the proposed indirect impact of practices valuing human resources on CI through OLC.

Cooperative practices include cooperation internally and with other companies, such as partnerships with suppliers or even with direct competitors (Goldman et al., 1995), in addition to that cooperative companies deal with one another honestly and openly (Goldman et al., 1995). Building long-term relationships with staff and reinforcing the concept of trust and mutuality are perceived as central to the concept of OL (Lee, 2004). Lei, Slocum, and Pitts (1997) imply that alliances provide the greatest chance for learning new skills, core competencies, and expertise from the partners, and that alliances balance the cooperation with competitors for learning new experiences and skills. Lei et al. (1997, p.222) state that "building cooperative advantage requires a long-term perspective that facilitates learning and knowledge flows among partners". Therefore, cooperative practices and synergy, resulting from internal and external cooperation, would facilitate knowledge flowing among cooperative parties, planning of managerial strategies, and business core skills acquisition, which consequently could foster the learning capabilities. This in turn would lead to higher recognition of competition within business environment and facilitated access to information,

resulting in developed CI. Results assert that cooperative practices have a significant indirect impact on CI with the existence of OLC.

Practices of value creation for customers include all techniques that produce customer satisfaction and loyalty. Implementation of customer feedback mechanisms facilitates OL by developing knowledge about customers' changing needs and identifying actions to improve the service delivery accordingly (Caemmerer & Wilson, 2010). Customer relationship management and OLC interact with each other for converting the efforts of building mutual and long lasting relationships with customers, into organizational performance (Akgün et al., 2014). Further, the managerial commitment to involving customers and setting up customer service policy results in maintaining the customer loyalty to the organization's products and services, which develops and improves OL through time (Lee, 2004). In other context, practices of value creation for customers and enabling customer satisfaction require making use of past experience and knowledge in guiding towards proactivity, and utilizing technological solutions for integrating and analyzing the customer data (Akgün et al., 2014). Therefore, organizations create value for customers by implementing customer oriented strategies and policies in order to increase customer satisfaction, customer value, and loyalty, and by continuously engaging with and gathering knowledge about customers, which in turn lead to leveraging facilitators of learning and encouraging an OL culture. This improved OLC would in turn reinforce CI. Results confirm empirically that practices of value creation for customers have a significant indirect impact on CI through OLC.

Regarding the resulted structural model with all significant relationships based on SEM analysis, which was presented previously in figure (21), it can be noticed that practices directed towards mastering change has only one significant effect on other variables; its effect on interaction with the external environment. In spite that the overall model fit estimated for the resulted structural model shows a good fit model, the weak significance of practices directed towards mastering change demanded a trial of removing this variable from the model and re-estimating the overall fit in order to get the best model of research. After running this analysis, the model fit did not show a better fit model than the previous one, and thus, this variable is supposed to remain within the current model. The significant direct effect of practices directed towards mastering change on the interaction with external

environment with path coefficient equals 0.470, the significant indirect effect of the same variable on CI through OLC with path coefficient equals 0.558, and the significant correlations between this variable and all the other variables under study may explain the importance of this variable and the necessity of keeping it within model.

Further and sequentially, it can be noticed that the two variables, interaction with the external environment and dialogue, have no direct effects on CI. In spite that the overall model fit estimated for the resulted structural model shows a good fit model, the absence of significance of interaction with the external environment demanded a trial of removing this variable from the model and re-estimating the overall fit in order to get the best model of research. After running the analysis, the model fit did not show a better fit model than the original one, and thus, this variable is supposed to remain within the current model. The role interaction with the external environment plays as a consequence of both practices directed towards mastering change and cooperative practices with path coefficients 0.470 and 0.277 respectively in addition of being a consequence of OA construct with path coefficient of 0.825, and the significant correlations between interaction with the external environment and all the other variables under study may explain the importance of this variable and the necessity of keeping it within model.

Afterward, and due to the absence of significance of dialogue, a trial of removing this variable from the model and re-estimating the overall fit was demanded in order to get the best model of research. After running the analysis, the model fit did not show a better fit model than the original one, and thus, this variable is supposed to remain within the current model. Considering the role dialogue plays as a consequence of practices valuing human resources, cooperative practices, and practices of value creation for customers with path coefficients 0.186, 0.257, and 0.174 respectively in addition of being a consequence of OA construct with path coefficient of 0.730, and the significant correlations between dialogue and all the other variables under study may explain the importance of this variable and the necessity of keeping it within model. As a result, it can be concluded that the current structural model, shown previously in figure (21), is the best model of research.

5.3 Implications for Theory

Findings of current dissertation provide a number of useful implications for research and managerial practices. This section presents the theoretical implications, while managerial implications are addressed in the following section (5.4). Findings provide the literature and knowledge with investigation, through a quantitative research, about the nature of the relationship between organizational agility, organizational learning capability, and competitive intelligence, and the impact of organizational agility on competitive intelligence with the presence and use of organizational learning capability as a mediator;

Firstly, this dissertation offers important implications for the organizational agility literature as well as for the organizational intelligence and Organizational learning literatures, through the following points;

- Findings affirm the strategic value of OA and suggest that this construct should be studied in synchronism and incorporation with other organizational capabilities, not be studied in isolation. Further, results expand the OA literature by clarifying how OA practices create CI through enforcing OLC, thus providing a theoretical foundation that explains why and how OA is important and convinces organizations to be agile ones. Results provide literature with a clarification of how agile organizations could enjoy a learning culture and knowledge sharing capabilities (Latham, 2014), by being more flexible and agile in their ways and styles of working (Gren et al., 2015) and acquiring skills of moving more quickly and easily.

- At the same time, this dissertation expands the OL literature by providing some of the first empirical evidence for OLC mediation role between OA and intelligence. Although the author of this dissertation has not involved the process of OL in her research framework, here it can be assumed that OL “has actually occurred” (Alegre & Chiva, 2008), since OLC considered as the organizational base for OL (Alegre & Chiva, 2008), which is achieved through the balance and trade-off between exploration and exploitation (March, 1991).

- This work emphasizes the importance of CI, which considered by Prescott (1999) as a core capability, and tries to better understand how organizations can be intelligent by maintaining its OLC with the right practices and activities of OA and further contributes to related knowledge by enriching the current understanding about how OLC may impacts CI.

-In particular, this dissertation provides an empirical support for the four practices of OA operationalized in Charbonnier-Voirin (2011), and empirical bolster for the five facilitators of OL operationalized in Chiva et al. (2007).

Secondly, in the propositions concerning the link between OA, OLC, and CI, the author theoretically argued and empirically investigated how OA helps in increasing organizations' CI and through which organizational capabilities OA can enhance CI. As a consequence, and since agile and learning capabilities are key prerequisites for competitive advantage (Mavengere & Tikkamäki, 2013) and CI adoption improves organizational performance (Antia & Hesford, 2007), competitive advantage and organizational performance would be enhanced, in addition to enhancing a wide range of other organizational abilities or affected theoretical constructs considered as descendants (successors), such as innovation, effectiveness, efficiency, customer satisfaction, and competitiveness.

Thirdly, this dissertation was conducted on the commercial banks as the organization type under study. Thus economic, financial or even banking related researches might get use of these study findings, which could be exploited for these researches' own contexts and goals and enrich their theoretical backgrounds.

Fourth and finally, this dissertation provides the knowledge and related field with a newly developed measurement scale "The Emerging PCMM-incorporated Measurement Scale", by integrating PCMM scale with the pre-existing scales of OA, OLC, and CI, reconstructing the instrument as a whole, validating it, and putting it as a complete one-unit measurement scale in front of the field-related quantitative researches for the sake of use.

5.4 Implications for Policy and Practice

From a practical and managerial contribution, many important avenues can be obtained from this dissertation for professionals and business leaders of both private and public sectors;

First, findings affirm the strategic value of organizational agility and its possession of a real and worthy business value for organizations. Managements should perceive that organizational agility doesn't just occur, and it should be intentionally followed and pursued

(Shafer, Dyer, Kilty, Amos, & Ericksen, 2000). Managements should recognize that when environmental conditions become more and more turbulent for firms, OA will be more important and crucial for firm's success. An agile organization can lead to innovation and development of methods and ideas, and can provide access to unique knowledge (Alzoubi et al., 2011); agility is about winning and succeeding for the business (Goldman et al., 1995). Thus, findings of dissertation call for the need to establish an agile organization, an organization that is able to predict and adapt to changes rapidly and effectively, which could, in turn, support the facilitating factors of organizational learning. Additionally, an organization should be aware that with understanding the real importance of OA as well as exercising practices of agility throughout strategy, it would be more intelligent especially when it is featured by high capability for learning.

- Professionals should take into account the practices directed towards mastering change, valuing HR, cooperation, and customer enrichment when planning learning programs, and should highly weight and value the experimentation, risk taking, and participative decision making as learning facilitators when setting intelligence objectives of their firms. However, professionals should recognize the five facilitators of learning being enhanced by agility practices, and realize how these learning capabilities enable organizations to; find ways for promoting work processes (Goh & Richards, 1997), beat and get rid of the strict bureaucratic system being practiced in the organization (Farsani et al., 2012), protect competitive advantages (Pucik, 1988), increase innovation (Vargas, 2013), and business performance (Som et al., 2010).

- Firms enjoying intelligence activities exceed and overpass firms without CI (Stefanikova et al., 2015). There is a need for intelligence processes at all times, since CI influences the current and future organizational success positively (Calof & Wright, 2008). Therefore, findings advocate the need of all types of businesses to implement CI in order to be flexible and be able to respond to various market shocks. Findings encourage firms to be always aware of the importance of keeping informed about their business environment by engaging in CI activities and including CI practitioners, and of CI importance in enhancing performance, competitive advantage, and achieving their goals on the long term. However, they should first be aware of the strengthening role that OA and its practices play in

supporting the CI culture throughout the firm, particularly when they are characterized as learners and their staff is performing the essential organizational learning capabilities.

Second, service industries such as the banking sector, have a great importance in the economic contexts of developing countries, and banking sector is expected to be very interested in this research to overcome the competitive business environment. Financial institutions such as banks should turn their information into a strategic weapon (Pottruck, 1988). Therefore, this dissertation assists managers within Jordanian banking sector in getting a better and more scientific understanding of importance of OA activities and provides managers with directives regarding the opportunities of enhanced CI that OA can offer, with presence of OLC, in the Jordanian turbulence economic environment.

-This might help managements of Jordanian commercial banks to promote and develop the financial position of their banks. This would increase their ability of serving customers to the optimal level, resulting in increased effectiveness and productivity of banking services (Abu Orabi, 2012), and help them to establish a set of practices, acquire skills and experiences, find out solutions and make sound decisions that enable their banks to overcome the business problems and the consequences of the slow progress within the current fast changing economic environment, as well as to keep pace with global competition and international economic development, and as a result, leads to the bank's success and stability.

Third, this dissertation suggests that managers of commercial banks looking for strategies to improve OLC should first be directed towards implementing OA. And managers searching for processes to improve CI and strengthening their CI programs should firstly focus on proceeding OA as well as improving their learning capabilities throughout the organization. The implication here is inspired from the significance of the factors that influence the CI throughout the organization.

-This includes the need to provide the managers a guidance for linking OA and OL capabilities for CI, and the development of measures as well as providing them a checklist that evaluate to what extent commercial banks are implementing OA and utilizing OLCs for performing CI.

Fourth, findings recommend firms to deal with OA as a core capability and competence. However, being agile cannot occur by chance; since moving to agility can be accomplished by integrating the external linkages, technologies, and skills strategically (Brown & Bessant, 2003). Therefore, author advises intelligence professionals and decision makers to facilitate the organizational transformation with OA through: (1) improving the ability of the firm to solve problems and make better decisions by facilitating the inclusion of knowledge sharing systems and consolidating IT systems and practices; (2) taking advantage of their limited resources for satisfying customer needs and exercising processes and procedures that push them to perform continually. This could be established by reducing unnecessary expenses and non-essential activities; and (3) achieving collaboration internally and externally and applying better performance measures, which in turn would decrease the conflict of interests and goals within the organization, and thus break the change restrictions and barriers.

Fifth, managers employing OA practices may improve their staff evaluation and promotion system which include rewarding employees who practice OLCs. Possession of facilitating factors for OL would in turn facilitate the management methodologies of CI system and the implementation of CI programs.

Sixth, the validated new measurement instrument containing the PCMM-derived items for measuring the constructs under study, which was constructed through this dissertation, could be used by commercial banks as an assessment tool for evaluating the executives' pursuit of agility practices, and assessing their participation and acquiring of skills for continuous organizational learning.

Seventh and finally, organizational executives should continuously explore the diverse influences that affect the performance of their CI systems and provide resources to address the dilemmas that prevent their success in CI systems implementation.

5.5 Limitations, delimitations, and recommendations for further and future research

Conclusions show how firm management can contribute through organizational agility and organizational learning capability to more efficient development of competitive intelligence.

However, a number of delimitations and limitations facing current dissertation should be taken into consideration for conclusions generalizability. Emerging from these limitations and delimitations, dissertation winds up with implications for future research avenues and constitutes a useful direction for further research.

5.5.1 Limitations and Key Assumptions

The insufficient cooperation of the banks managements with the researcher during the study application, and the difficult nature of accessing a sample of 200 executives- especially general managers and their assistants- who are involved in top management levels for research purposes. Additionally, the large number of commercial banks and their branches located within the borders of Jordan, and the large number of items (140 items) included in the questionnaire which was used as the study instrument for data collection. Several of executives working within the thirteen commercial banks of Jordan who agreed to participate had pulled out after the questionnaires were sent (158 respondents out of 200 respondents had responded), and if they had responded test significance might be stronger.

In general, the sample size may limit the conclusions generalizability to the population. However, the number of respondents to the current research questionnaires was not smaller than what would have constituted a representative sample, and the thirteen commercial banks under study consist and represent the whole commercial banking sector at Jordan. Thus, it would be possible that statistical results can support replication of the findings to the whole population and be generalized to the entire banking sector in Jordan. One of the avenues for future research is that we need to generalize with a more representative sample of Jordanian commercial banks.

While the use of questionnaires is common research practice in the OA, OLC, and CI fields, the questionnaire is still limited in its validity as there was no observation of the activities performed or products and services developed. Thus, it is possible that the respondents gave higher or lesser scores than reality depending on how the respondents desired the researcher to think about the activities and procedures of their banks.

Furthermore, as executives of banks are competing for a finite number of future promotions and since commercial banks in Jordan are competing for a finite number of privileges and exposed to the evaluation and ranking of banks by the Central Bank of Jordan and the World Bank, thus the self-assessment by these banks and their executives through the measurement tool of this study (questionnaire) could be biased, in addition to that the assessment by the general managers to their banks might also introduce an element of bias into the study. Thus, a myriad of extraneous variables could contribute to misleading findings.

There may be “possible misinterpretation of some questionnaire prompts, and greater control of content exposure in the questionnaire” (Harris & Brown, 2010, p.1), and in order to assure that the survey got to the heart of research problem and could be fully understood by possible respondents, a pilot study with a sample size of 30 was performed.

However, this dissertation assumes that commercial banks of Jordan with their managements were truthful in their assessment of their capabilities and thus assumes honesty and truthful responses. This dissertation also assumes that the respondents were able to understand all the terms included in each item of the study instrument and were able to accurately score their banks on the items therein and thus assumes that these measures are valid.

5.5.2 Delimitations of Scope and Recommendations for Future and Further Research

There are several delimitations determining the scope of this dissertation. From these delimitations, some recommendations that could be useful for future and related further research are provided accordingly;

First, spatial delimitation represented by the commercial banks located within the borders of Jordan.

Only commercial banks were included in the survey, excluding the banks falling in the other classifications stated by the Central Bank of Jordan, and this may limit external validity. Therefore, caution should be taken when conclusions are to be generalized to other types of Jordanian banks, such as Islamic Banks or Foreign Banks, or to the banking sector as a whole. Findings of this dissertation may reflect nature and characteristics that are unique to

commercial banks in particular. Dissertation recommends for future research surveying the Jordanian Islamic banks and foreign banks, to verify the model applicability for the entire banking sector in Jordan.

Further, generalizing the results to different regional or cultural cases is limited, and further research may conduct cross-national studies for comparing between results (Onağ et al., 2014). The data used in this dissertation were collected in Jordan; it means within a geographical boundary. Therefore, the findings can be subjected to certain characteristics of this specific economy, which is a relatively small economy in a developing country. Therefore, caution should be taken when generalizing conclusions to banks in other countries or cultures. Collecting more data across wider and different regional and cultural boundaries would robust the generalizability of the conclusions. Dissertation recommends future research to be established at commercial banks of other cultures and focus on other countries of origin which might produce results differently from findings of this dissertation.

Additionally, this dissertation investigates the relationships of the variables in question only among the commercial banking sector. This may limit external validity, and generalizing conclusions of a single industry analysis to other industries or sectors has to be considered with extreme caution. Dissertation recommends future research surveying other industrial fields, such as Jordanian mobile telecommunications sector, IT sector, universities and education establishments, or ministries and governmental institutions, to verify the model applicability for other business contexts.

Second, human delimitation represented by all the general managers, deputy managers, and heads of divisions working within the commercial banks of Jordan.

This dissertation was administered among the top and middle management levels within the banks under study with excluding the other staff members. This may constitute methodological limitation as the other stakeholders are not taken into account. Chiva and Alegre (2009) imply that assessing the generalizability of current findings requires from future research to test current hypotheses with several stakeholders. Therefore, it would be interesting to investigate the relations between OA, OLC, and CI at a more collective level, by including the low-level management, such as supervisors, controllers, and treasurers, etc.

Third, methodological delimitation presented by the quantitative approach used for analysis, the questionnaire designed for data collection, and the emerging measurement scale newly developed.

This dissertation conducts a quantitative approach for analyzing data and answering the research questions. The used questionnaire includes only closed-ended Likert scale, without including additional open-ended responses, which might make some potential respondents more willing to take and complete the survey. However, no single approach has the ability of capturing all aspects of reality and events in social sciences (Gorton, n. d.). Thus, a cause and effect quantitative study can be qualitatively studied to get a better understanding about the results of the quantitative study (Castellan, 2010). Qualitative studies may also enhance our understanding of the relationships studied and enable inclusion of other concepts (Guinot Chiva, & Roca-Puig, 2014). Additionally, Patton (1990, p.184) indicates that insights, meaningfulness, and validity resulted from qualitative inquiries can rich the information and increase the analytical or observational capabilities of the researcher. Therefore, future research might conduct quantitative approach along with qualitative research, such as making observations and conducting interviews on the target sample for the purpose of data collection.

In other context, this dissertation constructs and provides a newly developed “Emerging PCMM-incorporated Measurement Scale” for measuring variables under study. However, measurement scales may have limitations with regard to the subjectivity of the responses (El Badawy et al., 2014). Additionally, a further validation for the OLC measurement scale in other companies, sectors and industries is recommended by Chiva and Alegre (2009). Therefore, pre-established scales used to evaluate the variables under study; OA, OLC, and CI, might constitute a limitation, although they were validated previously by scholars and through this dissertation. Although statistical tests confirmed the reliability and validity of the new “Emerging PCMM-incorporated Scale”, this emerging scale could open the way for future and deeper research on further validation and more precisely scale testing.

Further, this dissertation adopts Charbonnier-Voirin (2011) for determining OA predictors and measures, while refers to Chiva et al. (2007) with regard to OLC dimensions, and uses study of Saayman, et al. (2008) for measuring CI. However, other different predictors

validated by other previous research can be used for measuring these constructs such as; response, competition, flexibility, and speed as OA predictors addressed in Bahrami et al. (2016), commitment, systems thinking, knowledge transfer and integration, and the previously used openness and experimentation as OLC dimensions addressed in Jerez G´omez et al. (2004), and the framework of attitude, gathering, user, and location descriptors as measures for assessing CI addressed in Liu and Wang (2008). Future research might resort to other construct models with different measures and scales validated by previous studies in order to evaluate constructs under study.

Fourth, scientific delimitation presented by examining the correlation between OA, OLC, and CI as latent constructs.

This dissertation addresses the importance of OA and its role as a contributing factor for CI. However, Gallagher and Worrell (2008) classify agility into two levels; business unit level and organizational level. Business unit agility is the ability of sensing and responding to changes in local competitive environments, while organizational agility is the ability of sensing and responding to changes in wider and broader competitive environments or organization-wide (Gallagher & Worrell, 2008). Future research can examine the other level of agility and explore the relation of business unit agility with other organizational capabilities for enhancing CI.

In other context, individual agility is the perceived agility at the personal level (Chung et al., 2014). This dissertation investigates OA (at the organizational level) as an antecedent of CI, but agility at the individual level might be the same for CI. Thus, future research has the chance to look into the impact of individual agility on CI. In other direction, agility can be a characteristic of a business network, a supply chain, a source such as IT, or an approach such as software development (Boudlaie et al., 2014). Advanced technological resources and information systems contribute in building and diffusing learning capability and facilitating information sharing and intelligence. A future research linking software development agility or IT agility with OLC and CI is recommended.

Further, the level of strategic learning contribution in achieving strategic agility was determined (Idris & Rubaie, 2013). A further research can be conducted for examining the

linkages between strategic agility, strategic learning capability and intelligence. In other direction, previous research addresses agility as the organizational consequence of important related concepts such as, business intelligence (Chen, 2012), emotional intelligence (Hosein & yousefi, 2012), and organizational intelligence. However, OA might be the organizational antecedent of these constructs, and this justifies an interesting future line of research for investigating and testing these propositions.

The global economic crisis started in 2008 with its up to day impacts, led to reduction of the CI budget (Opait et al., 2016). Wright et al. (2009) state that “empirical studies on the practice of CI in the banking sector, regardless of continent, are, at best, minimal” (p.943). Therefore, further theoretical and empirical researches have the chance to seek for alternative solutions and other different organizational capabilities that could support and improve the CI system of the organization directly or with a mediator, such as the OA and OLC that were already imposed for study through this dissertation.

This dissertation also addresses the importance of OLC as a mediating factor between OA and CI. The current research framework can be extended to involve the OL process by taking into consideration the different styles or methods of OL such as, the exploration and exploitation (March, 1991), the radical and incremental, and the internal and external learning (Bierly & Chakrabarti, 1996), and there is a need for developing more strict constructs for agility during exploitation and exploration (Lyytinen & Rose, 2006). Further, OL combines five disciplines; shared vision, personal mastery, mental models, team learning, and systems thinking (Senge, 1990). This dissertation does not take into consideration the OL process that is required for supporting intelligent organizations, and future research could take this variable into consideration and extend in depth with the different learning modes and skills which could be affected by OA and at the same time reinforce intelligence. Further, most studies of OL are related with OL capability, intensity, orientation, in addition to process; according to Tohidi (as cited in Hassan et al., 2013). Thus, further research can take OL orientation or OL intensity into consideration when studying the relation between OA and CI.

5.6 Discussion

It is apparent from findings that within organizations creating a field of agility and enjoying top management support towards learning capability, competitive intelligence appears and their administrators would be able to plan and focus the necessary information and convert these information and business data into actionable intelligence. Further, drawing upon an agility perspective provides a substantial effort towards organizational objectives and a thorough view about organizational goals (Akgün et al., 2014), and allows us to demonstrate that availability of organizational atmosphere characterized by mastering change, valuing HR, creating value for customers, and practicing cooperation internally and externally, would certainly affect the organization's ability and desire to experiment, take risk, set up dialogue, interact with environment, and participate in making decisions, and as a result would promote the intelligence process and context.

At banking sector, in today's unpredictable economy and intensive forces of globalization, a bank should make the maximum effort to keep pace with the rapid and extensive ever-changing business environment for the sake of long term surviving and success. OL and OA are both applied and practiced for adapting to the environment, reducing service delivery time and costs, enhancing competitive ability, and promoting employee satisfaction and quality of services (Shahrabi, 2012). At the same time, CI enables banks in strategizing and taking the proper decisions, through providing these banks with actionable intelligence (Wright et al., 2009), and performing a strong CI grants an organization a guarantee of long-term survival and success, and enhances performance and competitive advantage. Therefore, a commercial bank should introduce itself as an intelligent organization and senior management is supposed to consider CI as a formal activity in the bank and support intelligence activities. For this purpose, the bank is recommended to practice agility and reinforce OLCs. As a consequence, the banking sector would enjoy higher competitiveness, be more innovative and efficient, be able to anticipate the consequences of the local and international political changes and situations, enjoy cross-functional teams and multi-skilled employees, have the right directions for better decision makings regarding future events, and undoubtedly, achieve higher and higher competitive advantage and performance.

The current dissertation aims to cover the main gaps in the existing knowledge by trying to find the causative relationship between the targeted constructs in commercial banks, in particular by means of a quantitative study such as structural equations modeling. This dissertation contributes to a newly developed emerging scale and evaluated model that greatly fit with the needs of the national and international rapidly changing economic events. This dissertation affirms the importance of intelligence and searches the factors that boost CI. Key findings support importance of organizational context of agility and capabilities of learning within intelligent banks at Jordan.

Author would like to recommend and encourage future researchers and practitioners to more sort out, further expand, and more deeply examine this study model in order to detect and find out the shortages, imperfections, and any possible complementary of this set of relationships between OA, OLC, and CI. Author hopes that this research could present a holistic and broad view of OA and the agile organizations, and could widen the horizons for a more challenged research agenda interested in reformulating the importance and strategic value of OA at commercial banks working within the current intensive competitive and rapidly growing economy.

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Appendix: Research Questionnaire

Please indicate to what extent you agree with the following statements related to organizational agility on a scale from 1 to 5.

No	Item	Answer choices				
		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
		(5)	(4)	(3)	(2)	(1)
1	The firm develops a culture of change among employees					
2	The firm Seizes new opportunities for development					
3	The firm Builds possible development scenarios to prepare for change					
4	The firm creates and innovates continuously to keep ahead of competitors					
5	The firm scans and examines the environment to anticipate change and prevent risks					
6	The firm handles market information in real time.					
7	The firm's processes enable it to make decisions quickly when circumstances change.					
8	The firm's teams adapt very quickly to major market developments.					
9	The firm's teams are able to identify and seize rapidly the best opportunities which come up in its environment.					
10	At the team level, firm's decisions are taken and implemented very quickly.					
11	Firm's resources (material, financial, human) are easily deployed to respond to opportunities and threats encountered.					
12	Firm's strategy is clearly distributed to all hierarchical levels.					
13	Information about the firm and its action plans is communicated to all levels in terms easily understood by all.					
14	Firm informs employees about upcoming changes and their implementation.					
15	The objectives set for individuals and teams are coherent with firm strategy.					
16	Firm's values are clear and widely communicated					
17	The firm has a systematic follow-up of individual results					
18	The firm sets clear individual objectives for each employee					
19	With the firm's evaluation system, each employee can easily see the link between his/her own activity and the firm's overall activity.					
20	The firm precisely evaluates the individual contributions to organizational success.					
21	The rewards take account of each individual's contribution to the firm's performance					
22	On big questions about the firm's development, the firm consults employees through surveys, expression groups or meetings.					
23	The firm rapidly transmits any new knowledge crucial for the firm to employees.					
24	The firm organizes the management and sharing of knowledge and know-how among employees					
25	The firm develops employees' skills with a view to the firm's future development.					
26	The firm calls employees upon to act with a view to continuous improvement of products, processes and /or working methods.					
27	The firm delegates responsibilities to lower hierarchical levels.					
28	Employees have a lot of autonomy in their work					
29	The firm implements solutions to facilitate internal cooperation					
30	The firm encourages cooperation between employees with different skills and profiles.					
31	Each department functions on the basis of exchanges with external partners.					
32	To develop the firm's activity, the firm intends to reinforce its partnerships					
33	The firm sets up short-term partnerships to exploit short-term opportunities					
34	The firm works with the employees of its external partners.					
35	The firm carries out personalized customer follow-up.					
36	The firm brings a customized response.					
37	The firm Knows and takes into account precise customer needs.					
38	The firm arranges things to keep closer to customers.					
39	The firm takes account of results of customer satisfaction surveys.					
40	The firm cooperates with its customers over the long term.					
41	The firm anticipates market expectations by offering innovative products					
42	The firm continuously adds value to its products and/or services.					
43	The firm organizes its activities to encourage the creation of value for customers					
44	The firm modifies its activities to follow the developments in consumer demand					
45	The firm predicts future customer demand.					
46	The firm Participates in the development of new offerings for customers.					

Please indicate to what extent you agree with the following statements related to organizational learning capability on a scale from 1 to 5

No	Item	Answer choices				
		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
		(5)	(4)	(3)	(2)	(1)
47	The firm provides employees support and encouragement when presenting new ideas.					
48	The firm usually provides initiative a favorable response, so employees feel encouraged to generate new ideas.					
49	Employees can often bring new ideas and share them in the organization					
50	Part of the firm's culture is that employees can express their opinions and make suggestions regarding the procedures and methods in place for carrying out tasks.					
51	The firm encourages employees to take risks to learn from their failures and mistakes.					
52	Employees in the firm often venture into unknown territory.					
53	Employees take risky decisions to perform better in their jobs.					
54	The firm makes it part of the work of all staff to collect, bring back, and report information about what is going on outside the firm.					
55	The firm has systems and procedures for receiving, collating and sharing information from outside the firm.					
56	The firm encourages employees to interact with the environment: competitors, customers, technological institutes, universities, suppliers etc.					
57	The firm encourages employees to communicate.					
58	The firm has a free and open communication within workgroup.					
59	The firm's Managers facilitate communication.					
60	The firm has cross-functional teamwork as a common practice and plans workgroup activities.					
61	The firm follows up what other firms in the sector are doing, adopts those practices and techniques it believes to be useful and interesting.					
62	The firm's employees develop a common way of thinking through working together interactively.					
63	All parts that make up the firm are interconnected, working together in a coordinated fashion.					
64	The firm's managers frequently involve employees in important decisions.					
65	The firm's policies are significantly influenced by the view of employees.					
66	The firm's employees feel involved in main decisions of the firm.					
67	The firm encourages employees who are new in the firm to question the way things are done.					
68	The firm's management often rewards innovative ideas that work.					
69	The firm has opportunities for self-assessment with respect to goal attainment.					

Please indicate to what extent you agree with the following statements related to competitive intelligence on a scale from 1 to 5.

No	Item	Answer choices				
		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
		(5)	(4)	(3)	(2)	(1)
70	The firm has a variety of methods for collecting information (e.g., trade shows, web sites, industry reports, etc.)					
71	The firm's intelligence findings are widely distributed within the firm.					
72	The firm has a variety of ways to present intelligence findings (e.g. briefings, newsletters, competitor profiles, industry reports, etc.)					
73	The firm is concerned with the plans and intentions of its key competitors, alliances, suppliers, distributors and other stakeholders.					
74	The firm produces intelligence reports and assessments on emerging technologies that it believes are most important.					
75	The firm produces assessments that address several possible outcomes of its competitors' actions that might be threats or opportunities for the firm.					
76	The firm's employees report information about its competitors on foreign markets to the right manager for decision-making					
77	The firm analyses its competitors' plans and strategies to predict and anticipate their actions.					
78	The firm uses basic competitor analytical models (e.g. SWOT and gap analysis)					
79	The firm meets with executives daily to identify their intelligence needs.					
80	The firm develops profiles on emerging technologies to better understand their characteristics, potential applications and market advantages.					
81	The firm uses information management tools (e.g., data mining, data warehousing, OLAP or "business intelligence" software) to understand its customers.					
82	The firm surveys/ interviews key decision-makers to verify that the intelligence products produced for them satisfy their needs					
83	The firm checks all information for accuracy and validity by at least one other source.					
84	The firm trains/prepares its employees before they go on trade shows, exhibitions, conventions etc. about what information they should look for.					
85	The firm uses results from exit interviews/job interviews in its intelligence system.					
86	The firm's employees attend intelligence seminars/training programs.					
87	The firm evaluates the reliability of its sources of information (e.g. persons, publications, internet, etc.)					

88	The firm conducts an internal knowledge audit (e.g. identify and catalogue what people know, what reports they have, publications, etc.)					
89	The firm recognizes Competitive intelligence as a necessary activity for business					
90	The firm's management understands what competitive intelligence is.					
91	Most employees in the firm understand what competitive intelligence is.					
92	The firm's senior management supports intelligence activities.					
93	The firm believes that competitive intelligence can be used to create a competitive advantage.					
94	The firm has incentives to encourage employees to report their competitive observations and information.					
95	The firm has convenient ways for its employees to report observations and information.					
96	The firm maintains a comprehensive map or inventory of internal information and knowledge.					
97	The firm has a central coordination point for receiving competitive intelligence information.					
98	The firm makes competitive intelligence training (e.g. collection and analysis techniques) available to all its employees.					
99	The firm has a formal knowledge management system.					
100	The firm's corporate culture encourages information sharing.					
101	The firm maintains a central record of reliable sources of information.					
102	The firm has a long-term competitive intelligence plan.					
103	The firm reports intelligence findings to the CEO or senior manager.					
104	The firm considers competitive intelligence as a formal activity in the firm.					
105	The firm communicates its intelligence needs to employees.					
106	The firm's senior management use competitive intelligence results in their strategic planning and decision-making.					
107	The firm evaluates its competitive intelligence findings.					

Please indicate to what extent you agree with the following statements related to PCMM on a scale from 1 to 5.

No	Item	Answer choices				
		Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly disagree (1)
108	The firm provides adequate resources for performing staffing activities					
109	The firm communicates the workforce related policies and practices to the workforce.					
110	The firm identifies and corrects environmental factors that degrade or endanger the health or safety of the workforce.					
111	The firm makes relevant development opportunities available to support individuals in accomplishing their individual development objectives.					
112	The firm takes action to correct inequities in compensation or other deviations from the firm's policy, strategy, and plan					
113	The firm establishes a documented policy and provides adequate resources for performing cooperation activities.					
114	The firm develops the knowledge, skills, and process abilities needed to develop effective cooperative relationships within and across workgroups.					
115	The firm handles interpersonal problems or conflicts that degrade the quality or effectiveness of cooperative working relationships appropriately.					
116	The firm evaluates employees' opinions on their working conditions on a periodic and event-driven basis.					
117	The firm identifies opportunities for using the experience of the workforce to improve performance or achieve other organizational objectives.					
118	The firm evaluates innovative or improved workforce practices or technologies in trials to evaluate their benefits and most effective methods for implementation.					
119	The firm establishes and maintains a documented policy for conducting its risk taking activities.					
120	The firm assigns organizational role the responsibility for assisting and advising units on risk taking activities and procedures					
121	The firm provides the needed preparation for employees performing risk taking activities to perform their responsibilities.					
122	The firm makes and uses measurements to determine the status and performance of risk taking activities.					
123	The firm develops the knowledge, skills, and process abilities of employees performing the activities of interaction with the external environment, to perform their responsibilities.					
124	The firm provides adequate resources for performing activities of interaction with the external environment.					
125	Within each unit, the firm assigns an individual the responsibility and authority for ensuring that workforce practices and activities are designed to motivate individuals and workgroups to interact with external environment.					
126	The firm assigns an organizational role the responsibility for assisting and advising units on communication and coordination activities and procedures.					
127	Within each unit, the firm assigns an individual a responsibility and authority for ensuring that					

	communication and coordination activities are performed.					
128	The firm's executive management periodically reviews the communication and coordination activities, status, and results, and resolves issues.					
129	The firm has a responsible individual who tracks and manages workgroup performance.					
130	The firm's decisions made by those empowered to make them are supported by others in the firm.					
131	The firm involves individuals and workgroups in making decisions that affect their work and participating in decisions concerning their work environment.					
132	The firm's individuals and workgroups use defined decision-making processes.					
133	The firm's stated values encourage participation in decision making by individuals and workgroups, when appropriate					
134	The firm's empowered workgroups participate in managing their performance.					
135	The firm communicates information about organizational values, events, and conditions to the employees on a periodic and event-driven basis.					
136	The firm shares information across affected units in a timely manner.					
137	The firm measures and reviews aggregate trends in CI activities and decisions on a recurring basis.					
138	The firm collects and maintains unit measures of CI activities.					
139	Within each unit, the firm assigns an individual the responsibility and authority for ensuring that CI activities are performed.					
140	The firm provides individuals and workgroups with an access to information needed to perform their committed work.					