

THE MEDIATION ROLE OF ORGANIZATIONAL MEMORY BETWEEN KNOWLEDGE SHARING SYSTEMS AND THE COMPETITIVE INTELLIGENCE

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ABSTRACT

Purpose- This study aims to explore the importance of knowledge sharing systems and organizational memory as a prerequisite to competitive intelligence. Besides that, to examine the impact of knowledge sharing systems and organizational memory on competitive intelligence and the mediating role of organizational memory between knowledge sharing systems and competitive intelligence in the Jordanian banks sector in Amman.

Methodology/Approach/ Design- This study uses both SPSS v26 and PLS 3.2.7 to analyze data that was collected from (580) responses that were valid for testing out of (670) questionnaires developed for this purpose

Findings- knowledge sharing systems have a significant impact on organizational memory and competitive intelligence. In addition, there is significant mediation effect of organizational memory in the relationship between knowledge sharing systems and competitive intelligence.

Value/ Originality- The study contribution focuses on the importance of the mediation of organizational memory between knowledge sharing systems and competitive intelligence in the banking sector in Jordan. Thus, companies have to take into account the importance role of knowledge sharing systems and organizational memory to maximize their competitive intelligence efforts.

Keywords: *Knowledge Sharing Systems, Organizational Memory, Competitive intelligence. Jordan-Amman*

1. INTRODUCTION

Knowledge sharing systems, including technologies and mechanisms, as solutions to promote knowledge sharing processes among business units as well as with external stakeholders to gain a competitive position in the market. The revolution in information technology and web tools has created a turbulent environment for companies that intend to utilize new practices and solutions to promote knowledge sharing as an activity of disseminating knowledge among individuals, groups, and organizations [1]. In general, the study problem stems from the stiff competition among business firms in Jordan and the importance of using knowledge sharing systems and organizational memory tools to improve their competitive intelligence. In addition, knowledge sharing systems are considered a new topic in developing countries and in Arab countries in particular in order to share valuable knowledge among business units and capture it in the organizational memory to gain a competitive advantage in the knowledge based economy [2]. Application knowledge sharing systems such as social networks, intranets, video conferencing, and

others can support the distribution and sharing of knowledge among the business partners and enable the employees to interact with each other's to develop new knowledge as a key asset for sustainable competitive advantage and business success through discussions and debates in real time [3]. Therefore, knowledge sharing systems are considered essential tools to promote knowledge management, which enables companies to achieve valuable organizational memory as a source of experiences and knowledge accumulated over the past years. Organizational memory has accumulated knowledge about consumers' preferences and trends in order to provide superior customer service. Organizational memory supports employees to reuse, capture, disseminate, and organize knowledge within an organization and doesn't forget what it has done in the past years and why it does it. At the same time, organizational memory enables knowledge sharing and organizational learning [4]. Accordingly, the importance of this study is to cover the lack of studies that investigate the relationship between these variables as a contribution to identifying the mediating role of organizational memory between knowledge sharing systems and

competitive intelligence in the Jordanian banking sector in Amman and the poor exploitation of information technology to support knowledge sharing and organizational memory in order to maximize the information technology investments. Therefore, the aim of this study is to provide empirical evidence about the impact of knowledge sharing systems on achieving competitive intelligence through the mediation role of organizational memory. The concept of competitive intelligence is the basic requirement of business firms to face their competitors in the market. Hence, competitive intelligence helps business firms improve the effectiveness of knowledge, information, and data sharing that lead to support at all managerial levels to increase their capabilities in the decision making process [5]. Therefore, the study contribution focuses on the importance of the mediation role of organizational memory between knowledge sharing systems and competitive intelligence in the banking sector in Jordan. In this context, the study tries to answer the following questions: What is the level of knowledge sharing systems, organizational memory, and competitive intelligence in the researched sector. Accordingly, this study consisted of seven sections, as follows:

2.0 THEORETICAL REVIEW AND HYPOTHESES BUILDING

2.1 Knowledge Sharing Systems

The notion of knowledge sharing systems appeared to enable companies, groups and individuals to exchange explicit and tacit knowledge among themselves to maximize the knowledge pool within companies that look forward to increasing their competitiveness in the market [6]. In this field, there are several solutions for developing knowledge management in general and knowledge sharing in particular through using huge investments in the information technology infrastructure and systems to support knowledge management processes and their sub-processes. Information technology can be utilized to share knowledge among participants using communications mediums and networks including the internet to enable better interactions and sharing the knowledge when it needed. Therefore, in the past years, it is impossible to share knowledge and collaborate effectively with

participants around the world. [1]. Hence, knowledge sharing systems are a combination of mechanisms and technologies to promote explicit and tacit knowledge within an organization [7] the emerging technology enabled to increase in the huge amounts of data about internal and external environments at the same time developed to facilitate access to information through information and telecommunication technology and manipulate it in real time. [8]. Nowadays, companies face a rapidly turbulent environment they need to tackle in real time and use the right model to respond to challenges by maximizing the advantages of using knowledge sharing systems which lead to the flow of knowledge among the participants internally and with partners in the external environment [9]. However, information and telecommunications technologies have an important role to promote knowledge sharing to gain a competitive advantage [9]. According to [10]. According to the previous studies, competitive intelligence is about collecting useful knowledge about the business environment in order to enhance the decision making process and gain sustainable competitive advantage. Knowledge management, including knowledge sharing systems, concentrate on knowledge sharing and supports the building of organizational memory as a result of learning within an organization using knowledge transfer and sharing systems. In addition, the previous study by [11] stated that knowledge sharing has a positive effect on competitive intelligence. In addition, [7] clarifies the positive relationship between organizational learning and knowledge management processes, including knowledge sharing and knowledge capture process. Based on this, knowledge sharing systems are considered a key tool for enabling the knowledge sharing process in order to enhance organizational memory. Accordingly, the first and second hypotheses were formulated as follows:

H1: Knowledge sharing systems have a significantly positive impact on competitive intelligence.

H2: Knowledge sharing systems have a significantly positive impact on organizational memory.

Table 1. Knowledge Sharing Systems Item

Knowledge Sharing Systems (KSSs)	Item No	Item	Reference
	Q1	My company uses available technology and mechanisms to share knowledge among workers.	[12]
	Q2	My company supports knowledge sharing systems investments to increase workers knowledge.	[13]
	Q3	My company uses social knowledge networks to enhance its competitiveness.	[9]
	Q4	My company depends on technology based knowledge sharing in decision making.	
	Q5	My company has information technology infrastructure to support the knowledge sharing process on the job.	
	Q6	The company uses IT for share new knowledge from several sources.	

2.2 Organizational Memory

Business firms need use the current and historical data, information, and knowledge in order to enhance the decision making process and predict the future, thus, companies try to capture a huge amount of knowledge in its knowledge base or store data in their databases. Information technology has a key role in forming the organizational memory as a pool of knowledge to serve all managerial levels in their decisions [14]. Organizational memory provides data, information, and knowledge when needed to respond to changes in the external environment [15]. Therefore, organizational memory includes integrating, disseminating, creating and utilizing all forms of knowledge for better decisions [16]. [17] Stated that organizational memory stores information from the historical events with in an organization to guide its organizational decisions. Since, the fundamental processes of organizational memory include retrieval, acquisition, retention and maintenance that lead to organizational learning [18]. [19] mentioned that companies use organizational computer systems that capture accumulated knowledge, both explicit and tacit

knowledge and make it accessible for use to enable decision makers to enhance work processes effectiveness and competitive intelligence. The development of telecommunication and information systems and the advances in knowledge management systems and organizational memory systems enable employees' ability to coordinate business activities and enhance collaborative processes within an organization. [20]. It is argued that every business firm has to understand the competitive environment and determine the information needed to generate competitive intelligence and what is information required, hence, the organizational memory has historical and current data and information to generate intelligence. Thus, sharing and capturing organizational knowledge is considered a capability for organizational memory and competitive intelligence [21]. Based on the third and fourth hypotheses formulated as follows:

H3: Organizational memory has a significantly positive impact on competitive intelligence.

H4: Organizational memory mediates the relationship between knowledge sharing systems and competitive intelligence.

Table2. Organizational Memory Items

Organizational Memory(OM)	Item No	Item	Reference
	Q1	The bank converts the knowledge embedded in employees' minds into documented knowledge.	[22]
	Q2	In my job, I can use the data that s in databases.	
	Q3	The bank captures its knowledge from external and internal sources.	[23]
	Q4	My company support gathering data, information, and knowledge in its repository.	[24]
	Q5	My company depends on accumulated knowledge about its customers.	
	Q6	My company has technology based memory about current and historical data.	

2.3 Competitive Intelligence

In general, competitive intelligence refers to the process of reducing environmental uncertainty to enhance the decision making process to gain better market share in the industry [25],[26]. The concept of competitive intelligence is considered a process for collecting, analyzing, and managing data or information that will have an effect on decision making to avoid the challenges facing companies in the turbulent environment created by advances in technology and globalization [25]. Therefore,

competitive intelligence activities can be a source of sustainable competitive advantage by supporting companies to develop new strategies that create business value [27]. Based on the study of [28] competitive intelligence is considered a new way for companies to use it in building knowledge bases about the turbulent business environment and the advantages that arise from the lessons learned during business life. The previous studies stated that competitive intelligence includes three types, as follows:

Table 3. Competitive Intelligence Items

Competitive Intelligence (CI)	Item No	Item	Reference
	Q1	The banks analyze historical data about thier customers in the market.	[29]
	Q2	The bank collects data about the market's needs.	
	Q3	The bank has a clear vision for the future and the surrounding environment.	[30]
	Q4	My company continually gathers data about competitors.	[31]
	Q5	The bank evaluates its competitive strategies continually.	
	Q6	The company deploys new software tools to analyze competitors' data.	
	Q7	My company uses advanced technology to collect and analyze data related to business.	
		Q8	The bank invests heavily in technology to enhance its competitive advantage.

2.3.1 Market Intelligence

Marketing intelligence refers to knowledge about what is happening in the same industry and around the business environment, thus, marketing intelligence is considered a set of procedures developed to gather data, information, and knowledge about the uncertainty and challenges in the marketplace, including the market space to gain a larger market share compared with others.[32], [33],[26] .In this context, most companies are using several techniques or strategies to enable decision makers to analyze and improve their overall strategy to collect data, information, and knowledge about their competitors in the industry environment. [34], [35]. To succeed, marketing strategies require both internal and external environment information have to be taken into account through processing the huge amount of current and historical data and knowing how customer think to provide the best services based on customer expectations. [36][37]. Marketing intelligence required information about customers and analyzing it to expect the future needs of their customers and provide it from customer viewpoints. In addition, marketing intelligence required

information about competitors and the market environment to be the first mover and the leader in the market [37].

2.3.2 Strategic Intelligence

Strategic intelligence refers to the evaluation and assessment of company competitive strategies, which it means the continuous efforts of exploring the turbulent environment using information systems capabilities to analyze the current and future to support decision making processes in the long term and to respond to challenges and unpredictable changes. Nowadays, companies pay attention of the importance of business intelligence in providing them with new knowledge about the surrounding environment to develop new strategies in order to meet future needs [30]. According to [38] business intelligence plays a key role in constituting the personality of leaders by enhancing their abilities and skills and enabling them to lead organizations. Thus, strategic intelligence is very important to take strategic decisions to be a leader in the marketplace.

2.3.3 Technological Intelligence

In global competition, companies have the opportunity to gain advantages from technological intelligence, which means gathering, analyzing, and applying information in the business. Therefore, technological intelligence is a critical tool for management that enables decision makers to make the right decisions to enhance their sustainable competitive advantage.[39]. In this context, based on the literature, there is a positive relationship between technological intelligence and the business performance. Finally, technological intelligence is considered a part of the concept of competitive intelligence, which involves several activities such as technology investments, strategic planning and the acquisition of modern technologies and equipment. To improve the overall performance [31].

3.0 Theoretical Framework

This framework shows the study variable that developed based on the previous studies in the table(1), (2) and (3) to formulate new relationships among essential concepts through examining the importance of knowledge sharing systems (KSSs) and its impact on organizational memory (OM) and competitive intelligence (CI), in addition the impact of organizational memory (OM) on competitive intelligence (CI) as direct impact and the mediating impact of organizational memory (OM) between knowledge sharing systems (KSSs) and organizational memory (OM). Accordingly, Figure 1. Shows the relationships among constructs to test how each of the independent variables effect on dependent variable and the role of mediating variable as a follow:

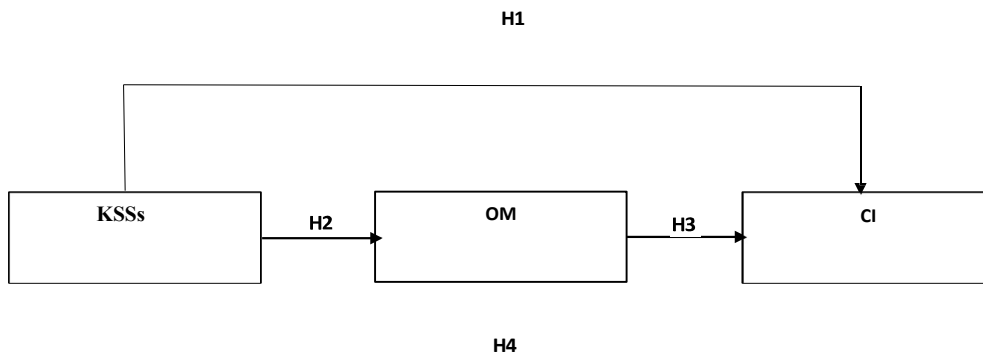


Figure. 1 Theoretical Framework

4.0 METHODOLOGY

The study adopted a descriptive analytical approach to test research hypotheses and to answer the study questions using SPSS v26 to conduct the descriptive analysis and the Partial Least Squares-Structural Equation Modelling via Smart-PLS 3.2.7 to examine the study hypotheses. The target population of the study consisted of the Jordanian banks sector in Amman. And was listed in Amman Exchange, a simple random sample was used to collect data from all employees at the different managerial levels (senior, middle and low) using a questionnaire was developed for this purpose. A total of (580) questionnaires were valid for testing out of (670) distributed, which represent (0.86) of returned responses through (11) banks in Amman-Jordan. In this context, the study used descriptive analysis to test study questions and reliability and validity tests to confirm internal consistency, in addition to

analyzing the structural model to obtain statistical results as shown in the next sections.

5.0 Data Analysis and Results

5.1 Descriptive Analysis for research questions

This study used Statistical Package for the Social Sciences (SPSS) version 26 to analyze the collected data. Descriptive analysis was used for all constructs as shown in the table (4), the mean values were knowledge sharing systems (KSSs) = 3.58, organizational memory (OM) = 4.01, competitive intelligence (CI) = 3.81. Thus the mean value for all constructs was good, which means the application of KSSs, OM, and CI in the researched companies has a good level.

5.2 Reliability and Validity

To confirm the internal consistency, the reliability and validity test was used as shown in Table (4) where Cronbach's Alpha (α) values are greater than (0.77). To prove the instrument's validity, exploratory and confirmatory factors were used. Composite

Reliability was used to examine the convergent validity that ranged as a follows KSSs= 0.91, OM = 0.86 and CI=0.89, hence reflective constructs indicate that all values were reflective model the average commonality for each variable as following KSSs= 0.845, OM= 0.738 and CI= 0.688. Based on these values that were greeter than (0.50) all indicators were confirmed.

Table 4. The Measurement Model of Latent Constructs

Variable	Question No	Question Mean	Mean	Outer Loading	Cronbach's alpha	Composite Reliability	AVE
(KSSs)	KSSs1	2.98	3.58	0.881	0.82	0.91	0.845
	KSSs2	4.21		0.889			
	KSSs3	4.35		0.821			
	KSSs4	3.38		0.792			
	KSSs5	4.18		0.784			
	KSSs6	2.4		0.844			
(OM)	OM1	3.54	4.01	0.801	0.77	0.86	0.738
	OM2	3.85		0.754			
	OM3	4.11		0.793			
	OM4	3.97		0.837			
	OM5	4		0.769			
	OM6	4.38		0.827			
(CI)	CI1	4.14	3.81	0.788	0.87	0.89	0.688
	CI2	3.86		0.792			
	CI3	4.31		0.833			
	CI4	3.97		0.793			
	CI5	3.68		0.840			
	CI6	3.44		0.831			
	CI7	3.65		0.798			
	CI8	3.49		0.758			

5.3 Hypotheses Testing

Bootstrapping through the Smart-PLS 3.2.7 tool was used to test and verify the study hypotheses

and analyze the structural model in order to obtain statistical results, as shown in Table (5).

Table 5. (Direct Effects)

path	β	Confidence interval		t-value	p-value <0.5	Result
		2.5%	97.5%			
KSSs →CI	0.487	0.32	0.67	8.14	Yes	Accepted
KSSs →OM	0.514	0.29	0.54	5.25	Yes	Accepted
OM→CI	0.511	0.38	0.61	4.78	Yes	Accepted

The findings indicated that there is a significantly positive impact of knowledge sharing systems on competitive intelligence based on ($\beta = 0.487$, t- value = 8.14). The second hypothesis ($\beta = 0.514$, t- value = 5.25) was also supported, and there is a significantly positive impact of knowledge sharing

systems on organizational memory. Based on the findings, the third hypothesis was ($\beta = 0.511$, t-value = 4.78). Hence, there is a significantly positive impact of organizational memory on competitive intelligence. Therefore, H1, H2 and H3 were accepted with a p-value <0.5.

Table 6. (Indirect Effects)

path	β	Confidence interval		t-value	p-value <0.5	Result
KSSs →OM →CI	0.223	0.21	0.37	6.787	Yes	Accepted

The results of the indirect effect in Table (6) stated that there is a significant mediation effect of organizational memory in the relationship between knowledge sharing systems and competitive

intelligence depend on ($\beta = 0.223$, t-value = 6.787), hence the fourth hypothesis was accepted.

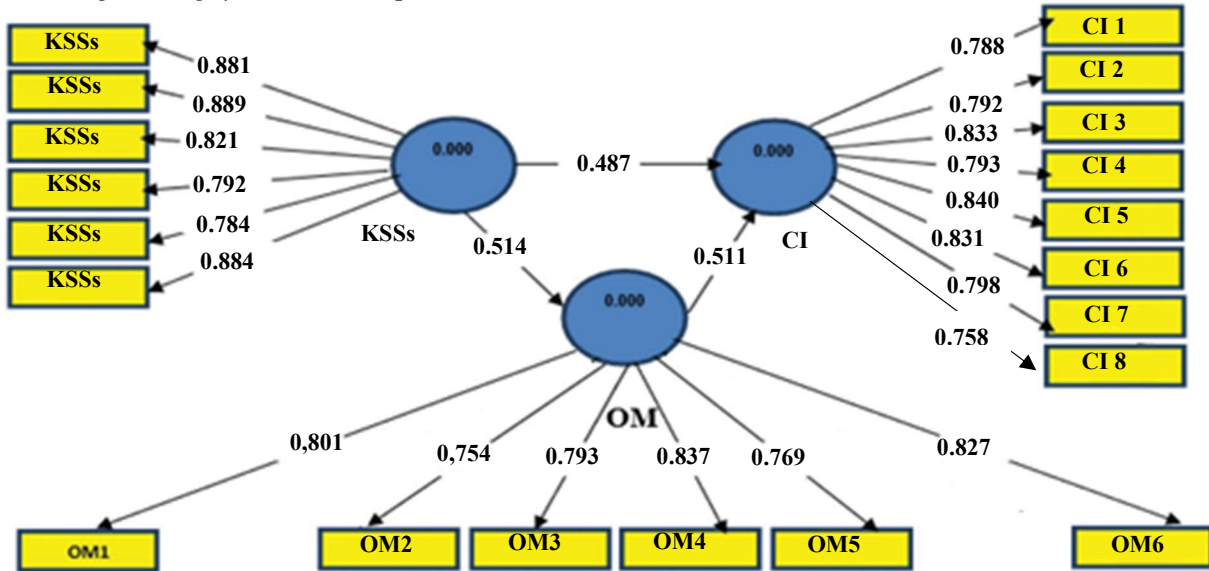


Figure .2 Path Analysis

6.0 DISCUSSION AND CONCLUSIONS

6.1 Discussion

This study provides justified beliefs about the importance of using knowledge sharing systems within an organization to enhance competitive advantage and organizational memory, by exploiting the available technologies and mechanisms to share either explicit knowledge or tacit knowledge, to make it available in organizational memory when it needed to enable competitive intelligence activities using accumulated knowledge about the business environment. In this context, the study findings showed that there is a positive impact of knowledge sharing systems on organizational memory and competitive intelligence. Hence, the study results were confirmed by many previous studies such as [11] and [19]. Accordingly, there is evidence about the importance of technology based sharing systems to build knowledge repositories to maximize competitive intelligence efforts. In addition, to improve competitive intelligence efforts the business

firms need data, information, and knowledge related to the speed of change in the turbulent environment, therefore, when business firms capture their knowledge in their organizational memory may lead to enhance their competitive intelligence efforts. Based on the findings of this study which confirmed the positive impact of organizational memory on competitive intelligence and corresponded with previous studies by [25] and [21]. Accordingly, this study concentrated on new variables to enable business firms to achieve competitive intelligence. Finally, this study confirmed that organizational memory plays an important role in the relationship between knowledge sharing systems and competitive advantages, based on the study results that confirmed organizational memory has a positive mediating impact between knowledge sharing systems and competitive intelligence. In this context, the results of this study confirmed the importance of the mediating role of organizational memory between knowledge sharing systems and competitive intelligence and provided a border view of the variables that impact on competitive

intelligence compared with previous studies,

6.2 Conclusions

Based on the study discussions above, mean value for all constructs was good, which means the application of KSSs, OM and CI in the researched companies has a good level.

Business banks in Amman- Jordan have to concentrate on the importance of investing and using available technology to improve knowledge sharing processes and build accumulated knowledge within its memory to achieve competitive intelligence. In this context, business has to focus on the knowledge sharing process either explicit or tacit sharing by using several mechanisms and technologies to exchange the explicit knowledge and socialize the tacit knowledge that is embedded in the individual's mind which enhances the accumulated knowledge in the business memory, Hence, organizational memory has a positive impact on business intelligence and its role in mediating the relationship between knowledge sharing systems and competitive intelligence, therefore, the Jordanian banks sector in Amman has to take these recommendations as a guide to maximize its competitiveness in the knowledge based economy.

7. Managerial Implications, limitation and Future Works

The findings of this study stated the importance of study variables in order to gain competitive intelligence in the turbulent environment. Based on, all managerial levels in banks that work in Amman-Jordan have to support the knowledge sharing process among business units and with external resources to formulate and build strong organizational memory. Therefore, capturing knowledge in its memory enables decision makers to understand the market, strategic and technological need to be leaders in the market. In this context, business firms are facing strong competition, especially those that work in the knowledge based economy. Hence, these variables consider essential technology and mechanisms to make better predictions about the business future. The main limitation of the study population cannot be generalized to other sectors, and future research will have to include several sectors in Jordan to generalize the findings.

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