

The Relationship Between Knowledge Management, Organizational Culture, and Organizational Performance

Tariq Al zoubi¹, Faculty of Technology management and Business, Universiti Tun Hussein onn Malaysia.
Rosmaini Tasmin², Faculty of Technology management and Business, Universiti Tun Hussein onn Malaysia
Mohammed A. Abu rumman³, Faculty of Business, al-Balqa Applied University

Article Info

Volume 83

Page Number: 2957 - 2972

Publication Issue:

May - June 2020

Abstract:

The present study puts forward a model that examines of knowledge management, organizational culture, and organizational performance in the transportation sector, especially (Ministry of Transportation, and Al Hejaz Railway) in Jordan. The researcher distributed (196) questionnaires all top managers By this model, it intends to explore the effects of knowledge management on organizational culture and the effects of knowledge management on organizational performance and the mediating effect of organizational culture on the relationship between knowledge management and organizational performance. this study is competent to scientifically persuade the Jordanian business managers, especially Al Hejaz railway managers, that introducing (KM) is essential but not sufficient step to gain the desired level of performance unless supported by the (OC) focus, The research applies Smart PLS for data analysis, with 179 respondents. The results display several facts. First, knowledge management has a positive effect on organizational culture. Second, while knowledge management has a positive effect on organizational performance. third, the mediating of organizational culture does not significantly affect on the relationship between knowledge management and organizational performance.

Article History

Article Received: 11 August 2019

Revised: 18 November 2019

Accepted: 23 January 2020

Publication: 10 May 2020

Keywords: knowledge management, organizational culture, organizational performance.

I. INTRODUCTION

Principally, railway undertaking is a generic business system that is designed, organized and run to achieve a profitable output (qualitative transport services that satisfy customers demand). In case of not achieving the designed output due to system failures (e.g. incidents), a railway undertaking is facing some losses – system failures require time and resources for their recovery. In other words, system

failures (and losses connected with them) lead to transport service gaps and performance losses. There are many different causes for system failures but what unifies them is the fact that they are principally avoidable. The avoidance of system failures is possible only when there is enough knowledge about causal factors to prevent them from occurring in the future. All this means that knowledge management (KM) is a very important tool for balancing transport

service (business) and safety purposes. Also, Organizational culture (OC) plays an important role in shaping the values and behavior of organizational members. According to Deal and Kennedy (1982), performance improvement in an organization is associated with deliberate efforts by management towards developing (OC). In a related piece, Bennett et al. (1994) argue that organizational success depends on achieving a good fit between strategy, structure, and culture. Giberson et al. (2009) consider culture as an integrating mechanism that guides organizational behavior. Once established, culture tends to become self-reinforcing.

(KM) has been recognized as an important tool in achieving organizational performance (OP) to the extent that many organizations are now making its implementation mandatory although only a few studies have been done to assess the rate at which (KM) improves (OP), (Zack et al., 2009). (KM) is relatively a new discipline, derived from other various disciplines, including management, information system, business theory, organizational behavior and social psychology (Liao & Wu, 2009). Like other disciplines, several important theorists and academics are influencing the direction and development of (KM).

(OC) is one of the most critical organizational variables that have received increasing attention in organizational behavior literature (Schein, 1992). This attention is because of the high impact of (OC) on (OP). Additionally, (OC) is deemed by the theorists to shape organizational procedures (Jarnagin & Slocum, 2007), provide solutions for many problems that face the organization (Schein, 1984), coordinate and direct various organizational capabilities and activities into a cohesive whole (Day, 1994). On the other hand, (OC) hinders or facilitates the achievement of the overall organizational goals and objectives (Denison, 1990). Since the (OC) driven capabilities are usually

inimitable due to their social complexity, it is considered a valuable source of sustainable competitive advantage (Hall, 1993).

(OP) is considered one of the most important constructs in the field of strategic management and organizational studies (Haque, and Anwar, 2012). Therefore, over the last few decades, both academics and practitioners conducted a considerable amount of research work on (OP) seeking to understand the antecedents, processes, and other factors that can enhance the organizational outcomes (Raja Suzana, 2010). The main objective of organizations in the service sector is to provide customers with products and services that meet their needs and satisfy their desires (Rasula, Vuksic, Stemberger, 2012). Therefore, many researchers have extended their works to explore the determinants of effective performance in the service sector.

According to Tseng, (2010), high demand for accountability on the part of governing bodies, the media, including the public and the commitment on the part of managers and government agencies to focus on achievements and work more deliberately to improve performance are identified as the two forces that are forcing organizations to institutionalize the concept of (OP).

II. Significance of Study

This study is also important to the general practitioner as it emphasizes the role of (KM) towards higher (OP). By exploring the significant role of (OC), this study is competent to scientifically persuade the Jordanian business managers, especially Al Hejaz railway managers, that introducing (KM) is essential but not sufficient step to gain the desired level of performance unless supported by the (OC) focus.

In an attempt to better explain and understand the relationship between (KM), and (OP), the literature suggested some of the potential moderating or mediating variables (Prajogo & McDermott, 2005; Sila & Ebrahimpour, 2002, 2005; Zahra, 1999). One of the most important organizational variables with potential moderating or mediating power among organizational strategies and (OP) is (OC). (Prajogo & McDermott, 2005; Sila & Ebrahimpour, 2002, 2005). As has been discussed earlier, the major purpose of this study is to examine the role of (OC) on the relationship between (KM) and (OP). It can be argued, based on the literature, that (OC) could be one of the major factors that allow or inhibit effective strategy implementation (Rad, 2006). The importance of (OC) is due to the good fit that can be established with the intended strategies and the cultural practices within the organization.

3. Problem statement

The ever-growing demand for a smarter and more competitive railway system is also urging the current rail networks to introduce more effective strategies to improve their performance (Nash, Nilsson & Link, 2013). At the same time, many of the existing mainline railways are becoming more and more congested, with little room left for service improvement (Goverde, 2007). Because of the complexity of railway operations, a lot of capacity and resources are not used efficiently (Kontaxi and Riccia, 2012). Passengers, governments, infrastructure managers and train operators all require that the current operations are improved to produce better performance. The last ten years in Al Hejaz Railways were followed by a general declining state of infrastructure, massive retrenchments, and an increase in the frequency of locomotive failures and reduced frequencies of passenger services. Al Hejaz Railways case is not a unique scenario. Available literature and existing facts tend to suggest that the

pre-assumed performance benefits of strategy have failed to materialize in many parastatals. In the local scene, different people have tried to address the issue of strategy and (OP). Poister (2008) ascertains that although performance contracting is hindered by factors such as lack of transformative leadership, (OC), and structure, it can be used to enhance the success of any business strategy (such as privatization strategy). Lundberg et al. (2009) ascertain that (OP) is subject to the ability of a firm to formulate and deploy its competitive strategies effectively and efficiently. Hachmannet.al.(2014) maintain that managerial skills such as analytical, operational, social and communication competence are key to ensuring the success of any business strategy. As among the most popular strategies, (KM), (Durst & Edvardsson, 2012), and (OC), (Cooper, 2000), have been confirmed by researchers to be very important strategies that help organizations to create and sustain their competitive advantage

4. THEORETICAL REVIEW

4.1 organizational performance (OP).

In the literature of organizational studies, a great deal of attention has been paid to examine (OP), (Lu et al., 2013). That is because of the importance of the subject is reflecting the path of development for any organization, and because of the implications of these studies on organizational effectiveness and competitiveness. In the global context, the competition has been significantly increasing in quantity and quality. There is a need to look at what performance it is. According to Harbour (2009), performance refers to instigate and execute a set of actions. These actions represent an actual result, outcomes, or achievements. Based on this description, several definitions have been given for (OP) but the researcher is willing to agree with the position of Kirby (2005) where the author argued that a consistent definition of (OP) is important to remove

any form of ambiguity and to have a clear operational definition of the concept without any confusion. Also, in today's changing and competitive business environment, it has been widely emphasized that measuring (OP) is very important to evaluate the success of an organizational strategy direction (Kennerley & Neely, 2002). Moreover, it is impossible to improve a business entity without measuring its current situation. However, although there has been an extensive research work conducted in the literature regarding (OP), there is no universal agreement among scholars on how (OP) should be defined (Popova, and Sharpanskykh, 2010). Antony and Bhattacharyya (2010) defined (OP) as the measure that is used to evaluate and assess the success of an organization to create and deliver the value to its external as well as internal customers. However, the new generation of the customer has become very critical about the quality of products and services (Parmenter, 2015). This new environment in which the customers and their changing demands have become the center of attention forced the organizations to adopt innovative strategies and maintain a high level of quality standards to ensure their presence in the global market place (Rasula, Vuksic & Stemberger, 2012). (OP) is considered one of the most important constructs in the field of strategic management and organizational studies (Haque, and Anwar, 2012). The main objective of organizations in the service sector is to provide customers with products and services that meet their needs and satisfy their desires (Rasula, Vuksic, Stemberger, 2012). Therefore, many researchers have extended their works to explore the determinants of effective performance in the service sector. With rapid economic growth and social development, there has been a high demand for more train paths and services (Najjar, Hardan & Balbissi, 2018).

4.2 Knowledge management (KM).

(KM) has been recognized as an important tool in achieving (OP) to the extent that many organizations are now making its implementation mandatory although only a few studies have been done to assess the rate at which (KM) improves (OP), (Zack et al., 2009). KM is relatively a new discipline, derived from other various disciplines, including management, information system, business theory, organizational behavior and social psychology (Liao & Wu, 2009). Like other disciplines, many important theorists and academics are influencing the direction and development of (KM).

Drucker (1993) and Argyris (1993) as management theorists have made significant contributions to the way of viewing management in this knowledge age. Senge (1990) disclosed the importance of the emerging learning organizations, and such benefits are attributed to the success of any knowledge-driven organization, while Drucker (1999) also revealed how information and knowledge have become the most essential organizational resource.

Leonder (1995) demonstrated how innovation is influential in the assurance that the core knowledge abilities do not turn into core rigidities. Nonaka and Takeuchi (1995) made a significant contribution to theories of the nature of knowledge, emphasizing the imperative of tacit knowledge to competitive advantage. Similarly, Davenport (1993) argued that (KM) should be considered not just an information process management, but should be a central component of the organization. Thus, based on the aforementioned views, it is clear that the philosophies and teachings of those thinkers have been notably contributed to our knowledge and understanding of (KM) today is of the utmost importance for the value of the business (Battistella, De Toni, & Pillon, 2015). (KM) encourages the transfer of information to enhance the capabilities of employees and strengthen

the organizational culture (Davenport, Thomas, & Cantrell, 2012). This corporate strategy is an effective way to encourage innovation and to increase competitiveness and profitability in companies of different sizes (Palacios-Marqués, Soriano, & Huarng, 2015). Since its inception, (KM) has been adopted mainly by large corporations (Cohen & Olsen, 2015). Despite being an effective tool that generates a competitive advantage in business, it is a business practice that remains in development (Bagnoli & Vedovato, 2014). Companies on their way to learning have experienced different phases and models to improve their (KM) process (Nonaka, Kodama, Hirose, & Kohlbacher, 2014).

Railway undertaking is a generic business system that is designed, organized and run to achieve a profitable output (qualitative transport services that satisfy customers' demand). In case of not achieving the designed output due to system failures (e.g. incidents), All this means that knowledge management is a very important tool for balancing transport service business and safety purposes. The relationship between the two main parts of a railway undertaking performance – system of transport process management and system of risk (safety) management, and also the role of knowledge management as a unifier of business and safety purposes.

(KM) is the study of strategy, process, and technology to acquire, select, organize, share and leverage business-critical information (Zhao et al., 2014). (KM) needs to be regarded differently from simple information gathering to take advantage of its competitive potential (Zhao et al., 2014). These authors, explain, that (KM) consists of management activities that help to develop and utilize an organization's knowledge resources efficiently and therefore improve a firm's creative ability. (KM) has helped organizations identify, select, organize,

disseminate, reuse and transfer important information and expertise. These are necessary for problem-solving, dynamic learning, strategic planning, and decision making (Ölçer, 2007). Sharing the knowledge that has been gained in various forms of transportation is vital to the optimization of its economic benefits to the Jordan nation. Transportation information and knowledge are spread across numerous transportation-related organizations and libraries. Capturing knowledge, sharing knowledge, and the ability to quickly find knowledge would greatly benefit the transportation industry, especially because at present there is decentralization in the knowledge network between the different modes of transport within the transport sector.

This demonstrates that (KM) has been around for a long period, it is not new. However, for long time research about this topic was not developing so rapidly. For the railway industry to become better, a (KM) is essential in all the areas of the industry to help it to grow, to make decisions, to produce new ideas, to modernize its infrastructure and increase the efficiency of the whole transport system.

4.3 Organizational culture (OC).

The cultural uniqueness of an organization constitutes an inimitable organizational capability to create its competitive advantage over its rivals (Hall, 1993). Therefore, in the current turbulent and constantly changing global business environment, the preeminent leaders know how to shape the organizational culture (OC) of their organizations to achieve short as well as long-term objectives (Kuratko & Welsch, 2004). Moreover, ineffective cultures, leaders understand that the competitive advantage does not last forever. They, therefore, have to constantly encourage changes and establish an innovative business environment (Kuratko & Welsch, 2004). It has been widely known from the literature of organizational behaviors that there have been many

definitions of the (OC) construct. That is, there have been various definitions of (OC) proposed by many researchers indicating the non-existence of universal agreed-upon definition of the construct (Lewis, 2002). For example, Uttal (1983) defined it as the system of shared values and beliefs that interact with the people, structures, and control system of an organization producing norms of the behaviors. Similarly, Kilmann et al. (1985) defined the corporate culture as the philosophies, assumptions, beliefs, attitudes, and norms that bind the organization together. Although there is no universally accepted definition of (OC), (Behery and Paton, 2008), the concept of (OC) has become one of the most important topics in organizational science. Cameron and Quinn (2006) define (OC) as the taken for granted values, underlying assumptions, expectations, collective memories, and definitions present in an organization. Jeffries et al. (1996) defined (OC) as all the interactions, which take place between people, their relationships, and the feeling engendered by their behavior. Oakland (2003) defined the culture of an organization as the beliefs and attitudes that pass through the organization as to how business should be conducted, and how employees should be treated and therefore should behave. Looking at its outcomes, Deal and Kennedy (1999) defined (OC) as the human-created philosophy that enhances the solidarity among individuals and inspires them to enhance their productivity through high commitment. Moreover, Deshpande and Webster (1989) and Schein (1992) defined (OC) as the pattern of shared values and beliefs that helps individuals to understand the functions of an organization through providing a set of norms to determine the behaviors. Put simply, (OC) is manifested as the basic assumptions, values, attitudes, and behaviors among all the members of an organization (Yilmaz & Ergun, 2008). The sustained success of organizations not only depends upon

market forces, competitive positioning, and resource advantage but also on company values, beliefs, and vision which are responsible for shaping the culture of the organization. Successful and effective organizations almost always have a distinctive culture that is identifiable by its employees (Cameron and Quinn, 1999). A strong, unique culture, therefore, can make an organization more effective by reducing collective uncertainties and facilitating a common interpretation system for members, creating a social order by making clear to organizational members what is expected of them, creating a collective identity and commitment by binding members together and elucidating a vision of the future by energizing a movement forward (Trice and Beyer, 1993). Most organizational scholars and observers now recognize that (OC) has a powerful effect on the performance as well as the long term effectiveness of organizations. Many empirical types of research have produced findings that revealed the importance of (OC) in the enhancement of the effectiveness of organizations (Cameron and Ettington, 1988; Trice and Beyer, 1993). Denison et al. (1999) showed in his study using survey-based measures that cultural traits such as involvement, consistency, adaptability, and mission do have a significant impact on (OP).

5. Hypotheses development

5.1. Relationship (KM) and (OP).

It was argued that when the implementation of (KM) is done effectively, it will add more value to an organization overall performance (Toften & Olsen, 2003). There were some studies conducted in the past investigated (KM) and (OP) relationship and based on their findings it was shown that (KM) and (OP) have positive relationships (Marques & Simon, 2006; Wang & Belardo, 2009; Zack et al., 2009) and (Grah, Sudiro, Armanu, Ratnawati, 2019). According to resource-based view theory (Penrose, 1959), an organization's resources are based on their internal

resources, people, skills, experiences, financial and knowledge. Thus, the organizations have to accept that they must manage their resources effectively for them to remain competitive and innovative which will improve their bottom line.(Gold et al, 2001). When critical knowledge is been managed, transformed, disseminated and applied, it helps the organization to achieve its competitive advantage (Probst et al., 2000).

Rasula et al. (2012) hypothesized that (KM) has a positive impact on (OP). In their study, they had hypothesized that organizational elements (culture, climate, and collaboration) and IT influenced the management of knowledge which give an impact on (OP). Their findings revealed that there is a positive effect of (KM) on OP. They argued that their finding is a useful kick-start to further investigate other (KM) elements and its influence on (OP).

H1: There is a significant relationship between (KM) and (OP).

5.2. Relationship (KM) and (OC).

Tseng (2010) supports the relationship between (KM) and (OC). According to their research result, (OC) can significantly promote or hinder the success of knowledge management initiatives.

H2: There is a significant relationship between (KM) and (OC).

5.3. (OC) mediating in the relationship between (KM) and (OP).

Based on their comprehensive review of the (KM) literature, found that the conducted empirical studies exploring the (KM) and (OP) relationship revealed that the findings are inconsistent, should be deeply investigated and examined in the future research work. However, it has been widely reported in the literature that (OC) is among the variables that can influence and better explain the relationship between organizational strategies and long-term (OP).

H3: There is a significant mediating effect of (OC) between the relationship of (KM) and (OP).

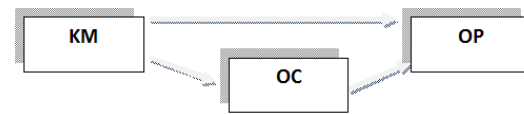


Figure1. Research conceptual model

6. RESEARCH METHODS

6.1 Target population

In the present study, the population refers to all top managers from the transportation sector, especially (Ministry of Transportation, and Al Hejaz Railway) in Jordan.

6.2 Sample and procedures

Questionnaires distributed among (196) managers of the ministry of transportation and al Hejaz railway in Jordan by personal delivery and collection of questionnaires from DECEMBER 2019 to JANUARY 2020. The valid and final number of questionnaires that were good for analysis consisted of (179) participants, the sample individuals were selected the likelihood sampling (probability) technique will be used because of its equal coincidental of choosing the components in the population as the sample topic (Sekaran&Bougie, 2010; Zikmund et al., 2010). In addition, this method provides a more illustrative sample proficient of supporting broader “generalizability” of the investigation discoveries (Sekaran&Bougie, 2010). From the (196) questionnaires (9) participants refused to participate (7) questionnaires were empty (not filled at all) and two questionnaires filled only with the demographic data but not other variables

questions. So the (179) represents a percentage of (91.0 %). Sekaran, (2003) stated that a response rate below (50%) represents a minority and reflecting an incorrect generalization of the population. Since the response rate is above (50%), it is considered that the

current sample is good and adequate. Missing data were handled using the mean imputation technique to replace the missing values for data analysis (George & Mallery, 2006), Descriptive statistics of the data are present in Table 1.

Table: 1.items' descriptive statistics

Item code	n	min	max	mean	Stddev	Skewness		Kurtosis	
		statistics	statistics	statistics	statistics	statistics	Std err	statistics	Std err
KM1	179	1	5	4.1508	0.9329	-0.894	0.182	0.069	0.361
KM2	179	1	5	4.2011	0.9384	-1.073	0.182	0.629	0.361
KM3	179	1	5	4.0670	0.9634	-1.012	0.182	0.836	0.361
KM4	179	1	5	4.1341	0.8373	-0.722	0.182	0.194	0.361
KM5	179	1	5	4.0112	1.0652	-1.066	0.182	0.667	0.361
KM6	179	1	5	4.2067	0.9037	-0.976	0.182	0.331	0.361
KM7	179	1	5	4.1564	0.9045	-1.052	0.182	1.101	0.361
KM8	179	2	5	4.1620	0.8751	-0.780	0.182	-0.207	0.361
KM9	179	1	5	4.1508	0.9085	-1.167	0.182	1.416	0.361
KM10	179	2	5	4.3631	0.7982	-1.219	0.182	1.053	0.361
KM11	179	2	5	4.3464	0.7589	-0.909	0.182	0.111	0.361
KM12	179	2	5	4.1117	0.8924	-0.750	0.182	-0.237	0.361
KM13	179	2	5	4.3575	0.8384	-1.218	0.182	0.781	0.361
KM14	179	2	5	4.3520	0.7891	-0.992	0.182	0.197	0.361
OC1	179	2	5	4.2849	0.8756	-1.048	0.182	0.235	0.361
OC2	179	2	5	4.3184	0.8102	-1.030	0.182	0.412	0.361
OC3	179	1	5	4.3911	0.8697	-1.629	0.182	2.611	0.361
OC4	179	1	5	4.4358	0.8347	-1.670	0.182	2.937	0.361
OC5	179	1	5	4.2905	0.9856	-1.395	0.182	1.163	0.361
OP1	179	1	5	4.5084	0.7061	-1.870	0.182	5.483	0.361
OP2	179	1	5	4.3911	0.9076	-1.541	0.182	1.919	0.361
OP3	179	1	5	4.3296	0.8854	-1.485	0.182	2.102	0.361
OP4	179	2	5	3.9888	0.8804	-0.328	0.182	-0.922	0.361
OP5	179	2	5	4.3855	0.7585	-1.089	0.182	0.649	0.361
Valid N (listwise)	179								

Table2. shows the descriptive statistics of the constructs. All 'mean' values are above 3, which shows the ministry of transportation and Al Hejaz

railway are (KM), (OC) and, (OC), While standard deviation and variance are also presented.

Table: 2. Descriptive statistics (constructs)

Constructs	n	min	max	mean	Stddev	variance	skewness		kurtosis	
		statistics	statistics	statistics	statistics		Statistics	Std err	statistics	Std err
Km	179	2	5	4.2244	.67000	.449	-.677	.182	-.260	.361
OC	179	2	5	4.3441	.75073	.564	-1.322	.182	1.456	.361
Op	179	3	5	4.3207	.60834	.370	-.804	.182	.036	.361

6.3 Validity and reliability

Discriminate validity is the extent to which an instrument contains a construct that was truly distinct from all others. Discriminant validity is the degree to which similar constructs have distinct values. In this type of validity, the responses are measured without cross-loading in terms of latent constructs. Discriminant validity is violated when the correlation among exogenous constructs is more than 0.85 (D. R. Cooper et al., 2006; Rasli, 2006). In discriminant validity, the value of the square root of average

variance extraction should exceed the value of inter-construct correlations. In this study, all three criteria were used to test the discriminant validity of the constructs. Fornell-Larcker criterion refers to the square root of average variance extraction of each latent construct which is greater than the latent inter construct correlation with another latent variable in the model (J. F. Hair et al., 2014). Table 3 indicates the results of the discriminant validity checks.

Table: 3. the Fornell – Larcker discriminant validity results

	Knowledge Management	Organization Performance	Organizational Culture
Knowledge Management	0.777		
Organization Performance	0.733	0.736	
Organizational Culture	0.734	0.705	0.857

A second aspect of the discriminant validity is to explore the cross-loading of a construct among the other different constructs being involved. It was assumed that the construct loadings (correlations) should be greater than the correlations with the other constructs. Table(4), indicate cross-loadings.

Inspecting these cross-loadings it can be seen that the loadings within a construct are greater than loadings on the other constructs. Consequently, concluding that the discriminant validity had been satisfied according to these criteria.

Table: (4) the discriminant validity expressed by the cross-loadings among the different constructs

	Knowledge Management	Organization Performance	Organizational Culture
KM1	0.728	0.438	0.464
KM10	0.789	0.585	0.627
KM11	0.867	0.669	0.684
KM12	0.710	0.640	0.570
KM13	0.706	0.694	0.668
KM14	0.878	0.669	0.657
KM2	0.741	0.639	0.613
KM4	0.808	0.426	0.499
KM6	0.806	0.518	0.527
KM7	0.789	0.463	0.493
KM8	0.705	0.476	0.412
KM9	0.767	0.417	0.458
OC1	0.687	0.678	0.853
OC2	0.583	0.561	0.785
OC3	0.620	0.715	0.887
OC4	0.601	0.637	0.865
OC5	0.649	0.628	0.889
OP1	0.562	0.771	0.563
OP2	0.639	0.798	0.600
OP3	0.441	0.648	0.420
OP4	0.492	0.702	0.468
OP5	0.543	0.749	0.687

The third aspect for the exploring and estimating discriminant validity is the Heterotrait-Monotrait Ratio (HTMT. HTMT) which defined as the average of the heterotrait-heteromethod correlations divided

by the average of the monotrait-heteromethod correlations. Table (5) reflects the results of the HTMT.

Table (5). Heterotrait-Monotrait ratio (HTMT)

Constructs	Knowledge Management	Organization Performance	Organizational Culture
Knowledge Management	-		
Organization Performance	0.823	-	
Organizational Culture	0.774	0.818	-

6.4 path coefficients and Hypothesis testing

6.4.1. Direct relationships

The direct relationships in SEM are the relations that go directly from one exogenous latent variable to

an endogenous latent variable. Below, Table (6) shows the status of two hypotheses in the final structural model.

Table (6) Results of standardized path coefficients (direct effects)

hypotheses	impact direction			β	Std.dev	T value	p-value	Result
H1	KM	---	OP	0.250	0.072	3.471	0.001	Supported
H2	KM	---	OC	0.315	0.078	4.025	0.000	Supported

Tabulated t value at (0.05) level = 1.98

Table(7) Results of standardized total effects

hypotheses	impact direction			β	Std.dev	T value	P-value	Result
H1	KM	---	OP	0.343	0.088	3.879	0.000	Supported
H2	KM	---	OC	0.315	0.078	4.025	0.000	Supported

Tabulated t value at (0.05) level = 1.98

The hypothesis,(H1). There is a positive relationship between (KM) and (OP). The research finding, Table (7) shows the results of the structural

model of the influence of (KM) on (OP). β was (0.343) and T-value was (3.879) and the p-value was

(0.000), which is less than 0.05. Thus, (H1) of the study has been accepted.

The hypothesis, (H2). There is a positive relationship between (KM) and (OC). The research findings Table (7) shows the results of the structural model of the influence of (KM) on (OC). β was (0.315) and T-value was (4.025) and the p-value was (0.000), which is less than 0.05. Thus, (H2) of the study has been accepted.

6.4.2 Indirect relationships (mediating relationships)

An indirect relationship or mediating relationship is formed when a third variable mediates between two exogenous latent variables. The mediating effect was tested among (KM) and (OP) mediated by (OC).

Table (8) Results of standardized (OC) indirect effects

hypot heses	impact direction			β	Std.de v	T valu e	P Valu es	result	Med iatio n %	Mediati on descrip tion
H3	K M	---	OP	0.0 93	0.049	1.88 4	0.06 0	Not Support ed	27.1	partial

Tabulated t value at (0.05) level = 1.98

Hypothesis (H3), (OC) mediates the relationship between (KM) and (OP). Table (8) shows the Results indicated that the β of the indirect path (KM) and (OC) and (OP) reported was (0.093). T value for the indirect path (KM) and (OC) and (OP) .was (1.884), this value is less than 1.98 and P-value was (0.060) indicating the significance of the mediation effect, thus hypothesis (H3) was not supported.

Conclusions

The above results provide a base for us to draw some inferences. For one, knowledge management has a positive effect on organizational performance. It means that increased organizational performance requires reliable management on Knowledge management application at all levels in terms of knowledge identification, acquisition, storage, sharing and application in the Hejaz railway. Another is that knowledge management has a positive effect on organizational culture. It means that knowledge

management would increase organizational culture. Knowledge management has an impact on organizational culture so that the application of knowledge management works on an impact on organizational culture in terms of involvement, consistency, and mission in the Hejaz railway. Put all together, it brings us to the result that organizational culture mediates the effect of knowledge management on organizational performance. The organizational culture does not have a significant effect on the relationship between of knowledge management and organizational performance in the Hejaz railway.

REFERENCES

1. Antony, J. P., & Bhattacharyya, S. (2010). Measuring organizational performance and organizational excellence of SMEs-Part 1: a conceptual framework. *Measuring Business Excellence*, 14(2), 3-11.

2. Argyris, C. (1993). On organizational learning. Cambridge, MA: Blackwell
3. Bagnoli, C., & Vedovato, M. (2014). The impact of knowledge management and strategy configuration coherence on SME performance. *Journal of Management & Governance*, 18, 615-647.
4. Battistella, C., De Toni, A. F., & Pillon, R. (2015). Inter-organisational technology/knowledge transfer: A framework from critical literature review. *The Journal of Technology Transfer*, 1-40
5. Behery, M. H. and Paton, R. A. (2008) 'Performance appraisal-cultural fit: organizational outcomes within the UAE', *Education, Business and Society: Contemporary Middle Eastern Issues*, 1(1), pp. 34-49.
6. Bennett, R. H., Fadil, P. A., & Greenwood, R. T. (1994). Cultural alignment in response to strategic organizational change: new considerations for a change framework. *Journal of Managerial Issues*, 6(4), 474-490
7. Cameron, K. S. and Quinn, R. E. (2006) Diagnosing and changing organizational culture: Based on the competing values framework. 2 edn. San Francisco: Jossey-Bass.
8. Cohen, J. F., & Olsen, K. (2015). Knowledge management capabilities and firm performance: A test of universalistic, contingency and complementarity perspectives. *Expert Systems with Applications*, 42, 1178-1188. doi:10.1016/j.eswa.2014.09.002.
9. Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (Vol. 9): McGraw-hill New York.
10. Cooper, M.D., 2000. Towards a model of culture. *Safety Science* 36, 111-136.
11. Davenport, T. H., Thomas, R. J., & Cantrell, S. (2012). The mysterious art and science of knowledge-worker performance. *MIT Sloan Management Review*, 44.
12. Day, G. S. (1994). The Capabilities of Market-Driven Organizations. *The Journal of Marketing*, 58(4), 37-52.
13. Deal, T. E. and Kennedy, A. A. (1999) *The new corporate cultures: Revitalizing the workplace after downsizing, mergers, and reengineering*. Reading: Basic Books.
14. Deal, T. E., & Kennedy, A. A. (1982). *Corporate cultures: The rites and rituals of organizational life*. Reading/T. Deal, A. Kennedy.-Mass: Addison-Wesley, 2, 98-103.
15. Denison, D. R. (1990). *Corporate culture and organizational effectiveness*. New York: John Wiley & Sons.
16. Deshpande, R. ,& Webster, F.E. Jr.(1989). Organizational Culture (OC) and marketing: defining the research agenda. *Journal of Marketing*, 53,3-14.
17. Drucker, P. (1993). *Post-capitalist society*. New York: Harper Business.
18. Drucker, P. F. (1993). The rise of the knowledge society. *Wilson Quarterly*, 17(2), 52-71.
19. Durst, S., & Edvardsson, I. R. (2012). Knowledge management in SMEs: A literature review. *Journal of Knowledge Management*, 16, 879-903. doi:10.1108/13673271211276173.
20. Enas Al-Najjar, Ahmad Hardan, Adli Balbissi, (2018). Railways in Jordan: Possible Implementation in Public Transportation. *International Journal of Progressive Sciences and Technologies (IJPSAT)* Vol. 10 No. 2 September 2018, pp. 303-323.
21. George, D., & Mallery, P. (2006). *SPSS for Windows step by step: a simple guide and reference* 6th ed: Allyn and Bacon.
22. Giberson, R. T., Resick, J. C., Dickson, W. M., Mitchelson, K. J., Randall, R. K., & Clark, A. M. (2009). Leadership and organizational culture: linking CEO characteristics to cultural values. *Journal of Business Psychology*, 24, 123-137. <http://dx.doi.org/10.1007/s10869-009-9109-1>.
23. Gold, A. H., & Arvind Malhotra, A. H. S. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management*

- Information Systems, 18(1), 185-214.
24. Goverde, R. M. (2007). Railway timetable stability analysis using max-plus system theory. *Transportation Research Part B: Methodological*, 41(2), 179-201.
 25. Graha, Sudiro, Armanu, Ratnawati, 2019 The role of knowledge management in organizational performance: case study of University of Malang, Indonesia Problems and Perspectives in Management.
 26. Hachmann, J., Olivares-Amaya, R., Jinich, A., Appleton, A. L., Blood-Forsythe, M. A., Seress, L. R., ...& Shrestha, S. (2014). Lead candidates for high -performance organic photovoltaics from high-throughput quantum chemistry –the Harvard Clean Energy Project . *Energy & Environmental Science*, 7(2), 698-704.
 27. Hair Jr, J. F., & Lukas, B. (2014). *Marketing research (Vol. 2): McGraw-Hill Education Australia*
 28. Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14(8), 607-618.
 29. Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14(8), 607-618.
 30. Haque, A., & Anwar, S. (2012). Linking top management support and IT infrastructure with organizational performance: mediating role of knowledge application . *Canadian Social Science* , 8(1), 121-129.
 31. Harbour, J. (2009). *The performance paradox: Understanding the real drivers that critically affect outcomes*. New York: Taylor & Francis Group, LLC.
 32. Jarnagin, C., & Slocum, J. W. (2007). Creating corporate cultures through mythopoetic leadership. *Organizational Dynamics*, 36, 288-302.
 33. Jeffries, D., Evans, B. and Reynolds, P. (1996) *Training for total quality management*. Kogan Page Ltd.
 34. Kennerley, M., & Neely, A. (2002). A framework of the factors affecting the evolution of performance measurement systems . *International journal of operations & production management* , 22(11), 1222-1245.
 35. Kilmann, R. H., Saxton, M. J., & Serpa, R. (1985). *Introduction: Five key issues in understanding and changing culture..* In R. H. Kilmann, M. J. Saxton, R. Serpa and associates (Eds). *Gaining control of the corporate culture*, Jossey-Bass, San Francisco, CA.
 36. Kirby, J. (2005). Toward a theory of high performance. *Harvard Business Review*, 83, 30-39.
 37. Kontaxi, E., & Riccia, S. (2012). *Railway capacity handbook: a systematic approach to methodologies* . *Procedia-Social and Behavioral Sciences*, 48, 2689-2696.
 38. Kuratko, D. F., & Welsch, H. P. (2004). *Strategic Entrepreneurial growth (2nd ed.)*. Ohio: Thomson, South-Western.
 39. Leonder, D. (1995). *Wellsprings of knowledge: Developing and sustaining the source of innovation*. Boston, Massachusetts: Harvard Business School Press.
 40. Lewis D. (2002). Five years on - the Organizational Culture (OC) saga revisited. *Leadership & Organization Development Journal*, 23(5), 280-287.
 41. Liao, S.-h., & Wu, C.-c. (2009). The relationship among knowledge management, organizational learning, and organizational performance. *International Journal of Business and Management*, 4(4), 64-76
 42. Liao, S.-h., & Wu, C.-c. (2009). The relationship among knowledge management, organizational learning, and organizational performance. *International Journal of Business and Management*, 4(4), 64-76.
 43. LU, M., NICHOLSON, G., SCHMID, F., DAI, L.,

- CHEN, L. & ROBERTS, C. (2013). A framework for the evaluation of the performance of railway networks. *International Journal of Railway Technology* 2, 79-96.
44. Lundberg, K., Balfors, B., & Folkeson, L. (2009). Framework for environmental performance measurement in a Swedish public sector organization. *Journal of Cleaner Production* , 17(11), 1017-1024.
 45. Nash, C., Nilsson, J. E., & Link, H. (2013). Comparing three models for introduction of competition into railways. *Journal of Transport Economics and Policy (JTEP)*, 47(2), 191-206.
 46. Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company*. New York: Oxford University Press.
 47. Nonaka, I., Kodama, M., Hirose, A., & Kohlbacher, F. (2014). Dynamic fractal organizations for promoting knowledge-based transformation—A new paradigm for organizational theory. *European Management Journal*, 32, 137-146.
 48. Oakland, J. (2003) *TQM: Text with cases*. 3 edn.: Oxford: Butterworth Heinemann.
 49. Ölçer, F. (2007). 'Practices of Knowledge Management in Companies: A Turkey Survey', *Proceedings of I-KNOW '07*, Graz, Austria, September 5-7.
 50. Palacios Marqués, D., & José Garrigós Simón, F. (2006). The effect of knowledge management practices on firm performance . *Journal of knowledge management* , 10(3), 143-156.
 51. Palacios-Marqués, D., Soriano, D. R., & Huarng, K. H. (2015). New information and communication technologies for knowledge management in organizations. In *5th Global Innovation and Knowledge Academy Conference, GIKA 2015*, (pp. Valencia, Spain.
 52. Parmenter, D. (2015). *Key performance indicators: developing, implementing, and using winning KPIs*, John Wiley & Sons.
 53. Penrose, E. (1959), *The Theory of the Growth of the Firm*, Oxford University Press, Oxford.
 54. Poister, T. H. (2008). *Measuring performance in public and nonprofit organizations* . John Wiley & Sons.
 55. Popova, V., and Sharpankykh, A. (2010). Modeling organizational performance indicators. *Information systems*, 35(4), 505-527.
 56. Prajogo, D. I. (2005) 'The comparative analysis of TQM practices and quality performance between manufacturing and service firms', *International Journal of Service Industry Management*, 16(3), pp. 217-228.
 57. Probst, G., Raub, S. and Rombhardt, K. (2000), *Managing Knowledge*, John Wiley & Sons, Chichester.
 58. Rad, A. M. M. (2006), The impact of organizational culture on the successful implementation of total quality management. *The TQM Magazine*, 18(6), 600-625.
 59. Rasula, J., Vuksic, B.V., & Stemberger, M.I. . (2012). The Impact of Knowledge Management on Organizational Performance. *Economic and Business Review*, 14(2), pp. 147 – 168.
 60. Rasula, J., Vuksic, B.V., & Stemberger, M.I. . (2012). The Impact of Knowledge Management on Organizational Performance. *Economic and Business Review*, 14(2), pp. 147 – 168.
 61. Rasula, J., Vuksic, B.V., & Stemberger, M.I. . (2012). The Impact of Knowledge Management on Organizational Performance. *Economic and Business Review*, 14(2), pp. 147 – 168.
 62. Schein, E. H. (1984). Coming to a new awareness of Organizational Culture (OC). *Sloan Management Review*, 25(2), 3-16.
 63. Schein, E. H. (1992). Organizational Culture (OC). *American Psychologist*, 45, 109-119.
 64. Schein, E. H. (1992). Organizational Culture (OC). *American Psychologist*, 45, 109-119.
 65. Sekaran. (2003). *Research methodology for business*: New York: John Wiley & Sons, Inc.
 66. Senge, P. (1990). *The fifth discipline: The art and*

- practice of the learning organization. London: Century Business
67. Sila, I., &Ebrahimpour, M. (2002). An investigation of the total quality management survey based research published between 1989 and 2000: A literature review. *International journal of Quality and Reliability Management*, 19(7), 902-970.p15.
 68. Suzana, R., &Kasim, R. (2010). The Relationship of Knowledge Management Practices , Competencies and the Organizational Performance of Government Departments in .
 69. Toften, K., &Ottar Olsen, S. (2003). Export market information use , organizational knowledge , and firm performance : a conceptual framework. *International Marketing Review* , 20(1), 95-110.
 70. Trice, Harrison, and Beyer, Janice (1993). „The Cultures of Work Organizations“. Upper Saddle River, N.J.: Prentice Hall.
 71. Tseng, S. M. (2010). The correlation between organizational culture and knowledge conversion on corporate performance. *Journal of Knowledge Management*, 14(2), 269-284. <https://doi.org/10.1108/13673271011032409>
 72. Tseng, S.M. (2010). The Correlation Between Organizational Culture and Knowledge Conversion on Corporate Performance. *Journal of Knowledge Management*, 14(2), pp. 269-284.
 73. Uttal, B.(1983). The corporate culture culture. *Fortune*, 108(8),66.
 74. Wang, W. T., &Belardo, S. (2009). The role of knowledge management in achieving effective crisis management : a case study . *Journal of Information Science* , 35(6), 635-659.
 75. Yilmaz, C. & Ergun, E. (2008). Organizational culture and firm effectiveness: An examination of relative effects of culture traits and the balanced culture hypothesis in an emerging economy. *Journal of World Business*, 43, 290–306.
 76. Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance: An exploratory analysis. *Journal of Knowledge Management*, 13(6), 392-409.
 77. Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance: An exploratory analysis. *Journal of Knowledge Management*, 13(6), 392-409.
 78. Zack, M., McKeen, J., & Singh, S. (2009). Knowledge management and organizational performance: An exploratory analysis. *Journal of Knowledge Management*, 13(6), 392-409.
 79. Zhao, J., Feng, Z., Chu, F., & Ma, N. (2013). Advanced theory of constraint and motion analysis for robot mechanisms. Academic Press.<http://www.sciencedirect.com/science/article/pii/B9780124201620000035> [30 April 2014].