


Impact of Knowledge Capabilities on Organisational Performance in the Private Sector in Oman: An SEM Approach Using Path Analysis

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ABSTRACT

The authors examine various aspects of the organizational knowledge capabilities and assess their impact on the organizational performance of private firms in Oman. Ten hypotheses are developed, linking the dimensions of organizational knowledge capabilities (OKC) (technological, cultural, managerial, and collaborative) with the aspects of performance. The path analysis technique is used to test the hypotheses; only four hypotheses depicted the effect of OKC on performance. They find that managerial capabilities play a significant role but have an indirect positive effect on enhancing performance. They have a higher impact only when they are inter-linked with collaborative capabilities, which have a direct and significant effect on performance. This paper deciphers the various knowledge capabilities and establishes inter-linkages among them in the firm context. The results enable the development of a productive knowledge management ecosystem in the business environment and spotlight on the wise investment of IT in achieving business goals.

KEYWORDS

Collaborative Capabilities, Cultural Capabilities, Knowledge Management, Managerial Capabilities, Oman, Organizational Capabilities, Path Analysis, Performance, SEM, Technological Capabilities

1. INTRODUCTION

The evolving discourse on resources and capabilities has highlighted the importance of knowledge management (KM) for the firms. Porter (1980) explained the concept of competitive advantage and focused on the resources and capabilities of a firm, and was later examined by other researchers (Barney, 1991; Barney, 1995) and further through the Resource-Based View (RBV) of the firm (Halawi

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et al. .2005). RBV is applied to determine how organizational resources can affect organizational performance and help in attaining sustainable competitive advantage (Barney, 1996; Massukado-Nakatani and Teixeira, 2009; Jennex and Olfman, 2005).

The implication of KM is not confined to a few industries alone. Even traditional industries like Cement can benefit from KM practices (Zack, 2003). So it is evident that irrespective of whether it is a technology-based firm or not, it can even benefit from KM (Teng and Song, 2011). Moreover, Gharakhani and Mousakhani (2012) have examined the relationship between KM capabilities and organizational performance of small and medium enterprises (SMEs) in Iran and found that KM capabilities have a positive effect on performance. Therefore, the assessment of KM performance is now becoming crucial for firms to ascertain their strategic positioning since it is capable of improving the firm's competitiveness in the domestic and global markets, (Mahdi et al., 2019; Jennex and Olfman, 2005).

Thus, given the importance of establishing inter-linkages between organizational knowledge and firm capabilities (Teixeira et al., 2019), it is imperative that it be aligned to organizational performance. Also, Watkins (2017) examines the theories of organizational learning and learning organization and assesses their impact on knowledge performance. Several studies exist in the area of KM; they have focused on the businesses and industry in the Sultanate of Oman. Al-Busaidi and Olfman (2005) investigated the effects of knowledge-culture, organizational infrastructure, vision clarity, and host of other factors on the success of the Knowledge Management System in Omani firms. Later, Al-Busaidi et al. (2010) outlined the factors that determine the individual knowledge sharing behavior to a repository knowledge management system. Their study focused on Oman and made suggestions to prepare the country's organizational human resources to enhance their participation in a knowledge-based economy as in Crhová & Matošková (2019). Our present study, however, is distinct and contributes to the body of literature in the following ways:

1. It establishes inter-linkages between OKC and organizational performance and classifies OKC into technological, cultural, managerial, and collaborative capabilities. Also, it ranks organizational performance into five distinct parameters, which include contemporary offerings, customized services, customer loyalty, continuous improvement, and image and reputation. These classifications are based on the knowledge management practices exhibited by the firms in general, and the Omani firms based on the primary data.
2. It suggests a four-component model of organizational capabilities tested using the Structural Equation Modelling (SEM). The model can well be replicated to decipher the inter-linkages between OKC and organizational performance in other countries of the Gulf Cooperation Council (GCC) as well.

This rest of the paper is organized as follows. The second section discusses the literature of topic relevance, thus identifying various capabilities of OKC and their enablers with a focus on performance. The research design and modeling have been explained in the third section of this paper. The result and its discussion have been presented in the fourth section, and finally, the fifth section concludes the paper.

2. LITERATURE REVIEW

There is a vast body of literature on KM. Whereas the purpose of this section is to review the existing literature, it also aims to decipher studies related to enablers of knowledge capabilities and organizational performance and put them together to develop pragmatic constructs. Prahalad and Hamel (1990) examined how firms with fewer resources but bigger aspirations than their competitors can compete successfully. The diverse dimensions of KM like organizational learning, knowledge

processing, and dissemination. Moreover, various researchers have outlined their strategic importance for firms (Sinkula, 1994; Nonaka, 1994; Hurley and Hult, 1998; Eisenhardt and Brown, 1998; Schultze and Leidner, 2002; Riege, 2007; Pawlowski and Bick, 2012). Grant (1996) led the discourse toward understanding a Knowledge-based View (KBV) or theory of the firm.

KM has been conceptualized with distinct orientations in the existing literature. Hedlund (1994) argued that KM addresses the generation, representation, storage, transfer, transformation, application, embedding, and protection of organizational knowledge. Also, De Jarnet (1996) defined KM as a process of creation, interpretation, dissemination, retention, and refinement of knowledge. Brooking (1997) suggests that KM is the activity which is concerned with strategy and tactics to manage human-centered assets. KM has been defined as the identification, optimization, and active management of intellectual assets, either in the form of explicit or tacit knowledge (Snowden, 1998). Laudon and Laudon (1999) suggest that KM is the process of systematically and actively managing and leveraging organizational knowledge.

The inter-linkages between KM and organizational performance is the utmost relevance in contemporary analysis. From the outlook of the KBV, a positive association between knowledge and performance is stressed. The further sub-sections review topical literature on thematic issues pertinent to this study.

2.1. Organizational Knowledge Capabilities

Barney (1991) emphasized capabilities being valuable, rare, costly to imitate, and non-substitutable for core competence. The relation between knowledge and performance and their distinct orientations have been highlighted by several researchers though there are contrasting views in the literature (Leonard, 1992; Mc Evilly and Chakravarthy, 2002; Vera and Crossan, 2003). Further analysis of RBV suggests that competencies significantly contribute to organizational performance (Lui et al., 2019), through their ability to assemble, integrate, and deploy valued resources (Halawi et al., 2005), Amit and Shoemaker, 1993; Teece et al., 1997; Bhardwaj, 2000; Tippins and Sohi, 2003).

This paper thus examines organizational knowledge as a capability, which needs to be leveraged to get the desired strategic benefits (Cong and Pandya, 2003). We, therefore, define Organizational Knowledge Capability (OKC) as an organizational capability aimed at managing organizational performance with efficacy to fulfill the organizational strategic intent. OKC can be decomposed into several levels of abilities, which are firm-specific (Crhová and Matošková, 2019).

2.2. Technological Capabilities

Technological capability helps in value co-creation and in developing enhanced learning capabilities through skills to obtain, organize, influence, and support value-creating business activities (Henderson, 1990; Ross et al., 1996; Weil and Broadbent, 1998; Bhardwaj, 2000; Sambamurthy et al., 2003). This capability is deemed to have a positive impact on the processes of organizational learning, dynamic capabilities and firm performance (Bhardwaj, 2000; Tippins and Sohi, 2003; Santhanam and Hartono, 2003; Tanrivedi, 2005). TC includes various activities through which knowledge can be shared and disseminated, namely sharing, feedback, processing, and dissemination:

- **IT Sharing Capability (SHR):** Technology plays a critical role in sharing knowledge individuals or social systems, through its more extensive networks to support frequent interactions and knowledge applications (Alavi and Tiwana, 2003) to support knowledge sharing. It is responsible for inculcating shared understandings and consequently helps in the development of a knowledge hub and networks within the organization (Hogel et al., 2003). For an organization, knowledge sharing thus entails unifying and reprocessing of organizational knowledge and making it available to its stakeholders for fulfilling its organizational strategic intent.
- **IT Feedback (FDB):** The process of feedback and its mechanism is well-coordinated through the use of technology. It provides a holistic integration of information and communication

technologies (ICT) to support the process of sharing and dissemination. Tools such as decision support systems help improve the application of knowledge and their sharing. ICT helps in new knowledge creation that happens through mutual exposure of thought processes and provide feedback for improved understanding (Bhat et al., 2005; Alavi and Tiwana, 2003).

- **IT Processing (PRO):** Processing of knowledge (Hurley and Hult, 1998) is a vital function that supports OKC, and technology plays a pivotal role in it. The processing, encoding, and decoding of the knowledge and its following application help in better decision making in the organizations.

2.3. Cultural Capabilities

Organizational cultural capabilities play a pivotal role in the formulation and implementation of the strategy. Hill and Jones (2001) observe that organizational culture is the specific collection of values and norms that are shared by people and groups in an organization and that control the way they interact with each other and with stakeholders outside the organization.

The human capital needs to be integrated with the organization through their knowledge sharing skills, absorptive capabilities, communities of co-creation, and emotional intelligence (Goleman, 1995; Mayer and Salovey, 1997; Sawhney and Prandelli, 2000). Through social and collective processes as well as individual's cognitive processes like reflection, knowledge is created, shared, and justified in organizational settings (Nonaka, 1994):

- **Shared Belief (SHB):** Culture is about shared belief, and it plays a pivotal role in the organizational setting (Sawhney and Prandelli, 2000). Sharing culture is a significant factor that shapes the informal human networks in the workplace. Therefore, an organization's culture should encourage and incentivize the process of shared belief by creating a conducive environment for mutual knowledge exchange. The formal and informal dialogue between individuals or groups needs to be encouraged to inculcate a culture that focuses on new idea creation Crhová & Matošková (2019).
- **Self-Development (SFD):** Self-development regarding learning is an essential organizational necessity for the employees. Walsh and Ungson (1991) suggested that since knowledge is collectively retained, it is vital that individuals proactively interact to seek and offer knowledge. It would help in self-growth and contribute to the development of shared and co-created knowledge within the organization as well as culture and behavior because it provides uniformity in cognitive maps among individuals.
- **Adaptation (ADT):** It is deemed that a higher level of interaction among employees will help them adapt to the work environment better. Therefore, employee interaction should be encouraged, both formally and informally (O'Dell and Grayson, 1998). The adaptation would help in converting tacit knowledge into explicit knowledge and transforming it to the organizational level (Nonaka 1990, Nonaka 1994, Nonaka 1998, Nonaka and Takeuchi 1995).
- **Intent to Share (ITS):** The readiness to share knowledge refers to the state of willingness to gain knowledge and to exchange it, along with the preparation of changes for knowledge transfer, which is the first step according to the concept of Szulanski (2000). Readiness is an essential factor for knowledge sharing in the organization and has been well reflected in various researches (Goh, 2002, Norman 2004, Lehner and Haas 2010, Hassan and Al-hakim 2011, Mathuramaytha 2012).

2.4. Managerial Capabilities

Knowledge capabilities of an organization are less tangible and less visible process-oriented resources and are related to how organizations deploy them for generating value (Gorman and Thomas 1997; Dutta et al. 2004). Knowledge needs to be integrated into an organization by using knowledge resources. The managerial capabilities will have a positive impact on the competitive advantage as

well. It includes factors like incentivizing, leadership support, empowering, planning, innovativeness, and envisioning knowledge:

- **Incentivising (INC):** One of the most critical issues pertinent to KM is to create the right incentives for employees to share and apply knowledge (Hansen 1999, Cabrera and Cabrera 2005, Milne 2007, Olatokun and Nwafor 2012). Managers need to create a sound incentive system to motivate the employees to perform, and therefore personal reward systems would also be beneficial in the process of sharing knowledge (Mayo, 1998). Employees should be rewarded for their contribution to achieving the organizational goals and objectives, and the reward system should be employee-friendly and motivational.
- **Leadership support (LSS):** De Tienne et al. (2004) stressed that administrative work is a critical success factor in the context of knowledge management as leaders are seen as setting examples of knowledge practices. Therefore, there is a need for leadership support and awareness programs in organizations that benefit the employees and creates a knowledge-based culture.
- **Empowering (EPW):** Employees in the organization should be empowered to express their views and opinions for achieving strategic intent. It is, therefore, imperative that a culture of cooperation and empowerment be evolved at all levels in the organization. The empowering capability will help in garnering better output by developing independent decision-making abilities (e.g., Akram et al. 2019).
- **Planning (PLN):** Planning is a management process whereby a course of action is developed to attain the desired goal. It includes gathering information, developing organizational strategic intent, and carving a future course of action (e.g., Drucker, 2006).
- **Envisioning Knowledge (ENK):** Knowledge is about experiences, value systems, cultural contexts, and has to be viewed by organizations as a capability. It should, therefore, not only be documented but should also be reflected in organizational routines, processes, practices, and norms (Zheng, 2005; Ke and Wei, 2007). Managers should consider knowledge as a strategic resource, and all employees should also envision it in this way.

2.5. Collaborative Capabilities (CC)

Sustainable competitive advantage can be achieved through innovation. Innovations happen in social interaction in which various actors share their complementary knowledge. So, the collaborative capability is considered a prerequisite for actors if they wish to leverage knowledge (Blomqvist & Levy 2006).

Peter Drucker (1995) proposed that the most considerable change in the way business is being conducted is in accelerating the growth of relationship-based not on ownership but a partnership. Organizations have realized that self – sufficiency is becoming increasingly difficult in a competitive business environment that demands strategic focus, flexibility, and innovation. Therefore, Collaborative capabilities provide firms with a unique opportunity to flex their strength with the help of a partner's skills and abilities:

- **Collaboration and Experience Sharing (CES):** Collaboration and experience sharing creates a better teamwork culture in an organization for employees and improves the efficiency of the entire business process. Also, Collaborative Capabilities are helpful in collective decision-making (Teixeira, Oliveira, and Curado, 2019; Crhová and Matošková, 2019).

However, it is also considered as a cluster activity where participants use their shared understanding to collaboratively build knowledge in the form of artifacts that are of prominence and used in other activities (Singh et al., 2007). (Diaz 2007) showcases in his research article that it is a

groupware application that shows how conflicts and divergent opinions are an indispensable source to aliment it, and their resolution generate new collaborative knowledge.

- **Learning From Customer (LCR):** Customers are considered as an essential asset for strategy formulation that drives the firm to achieve its value proposition. It is also imperative today for most companies to interact with customers to manage their business well, as today's interaction will help corporations to sense emerging business opportunities and benefit from the first-mover advantage. Organizations have started recognizing customer knowledge as one of the significant contributors to the increase in their value. Therefore they review their customer relationship management (CRM) initiatives to use in-depth and integrated customer Knowledge for creating cooperative relationships with their customers (Croteau and Li, 2003; Parvatiyar and Sheth, 2001).

Customer-driven companies need to bind their capabilities to manage the knowledge of those who buy their products (Baker, 2000; Davenport and Klahr, 1998). Therefore, organizations need to integrate customer knowledge into their processes to ensure enhanced customer value. Customer engagement in knowledge management is considered an essential tool for assessing market requirements.

- **Facilitate Knowledge Use (FKU):** The globalization process affected many companies to realize that the only way to remain competitive is to use knowledge as a productive factor in some ways. Recently, Knowledge acquisition has become a critical resource for creating and sustaining competitive advantage as the competitive environment continues to intensify (Hitt, Ireland, and Lee, 2000). Furthermore, it causes several ideas and knowledge of the members' pool together and comes up with an even stronger idea to solve problems and arrive at a solution (Pfeffer, 1994; Foley, 2000). Knowledge integration, for instance, is a mixing of talented resources of employees to gain returns by making use of the knowledge strategically. Hence, facilitation of knowledge in an organization helps in faster decision making faster and derives benefits in the long run (Jennex, 2015).
- **Co-Interactions (COI):** The critical challenge today is to work towards employee happiness and well-being in the work environment. The objective can be achieved through Positive Knowledge Management related activities to change people's attitudes and behavior towards organizations. (Lesser and Stock, 2001) discussed that the social capital resident in commodities of practice leads to behavioral changes, which in turn positively influence business performance. Unlike formal work groups or project teams, the members themselves form communities of practice for the sole purpose of developing members' capabilities to build and exchange knowledge (Carlin and Womack, 1999).

2.6. Organizational Performance

The reputational and service capabilities depend upon the competitive actions which are externally directed to enhance the organization's competitive positioning. It has been highlighted in several types of research (Smith, et al. 1992; Young, et al. 1996; Ferrier, 1999; Ferrier, 2001; Sambamurthy, 2003). The service's capabilities incorporate the value proposition given by the company to its customers, and it should be aligned with the customer requirements and preferences. Reputational and service capabilities include factors like contemporary offerings, customized services, customer loyalty, continuous improvement, and image and reputation (Joshi and Chawla, 2019).

- **Contemporary Offerings (COO):** The organization should always encourage new learning in the internal and external environment, which will offer new services beneficial to customers. The contemporary offerings can only happen through knowledge sharing, knowledge creation, and transferring within the firm. New offerings or services can bring growth and improve the

performance of the company for its survival in the competitive environment. It desires to keep pace with the changing times and focus on innovation for new product development processes.

- **Customized Services (CMS):** Capabilities refer to an organization's ability to assemble, integrate, and deploy valued resources (Amit and Shoemaker, 1993). Grant (1995) describes a hierarchy of organizational capabilities, where specialized capabilities are integrated into broader functional capabilities such as marketing and supply chain management.
- **Customer Loyalty (CRL):** The customers will be loyal to products or services which give a value proposition to its offerings. Moreover, the policy of the company should be customer focussed so that a certain amount of loyalty is build up in due course. Loyalty and dedication create a kind of attachment to the services offered by the firm. The affection for a brand is also produced by the service policy and offerings of the company.
- **Continuous Improvement (CSI):** A constant improvement in knowledge refers to the accumulation, combination, storage, and ideas creation gained from systematic knowledge exchanges. Investing in research and development and focus on innovation is a crucial strategy for continuous improvement. The constant improvement would help to achieve organizational performance in a competitive environment. Organizational structure and culture play a vital role in continual development in knowledge management practices. The concept of value co-creation (Prahalad and Ramaswamy, 2004) well justifies the strategic necessity of co-creation as a source of advantage for the firms and that it characterizes innovation at all levels.
- **Image and Reputation (IAR):** The image and reputation of the organization depend on the culture, structure, and performance of the company. The organization is concerned with recruiting new employees whose personality traits and belief systems are compatible with the organizational culture. Employees can create an organizational learning culture in the organization (Norman, 2004). The image and reputation of the organization depend upon learning capability and innovation to remain competitive in the business environment.

Depending on the literature, the authors could build the following proposed theoretical model to be analyzed statistically according to the primarily collected data (see figure 1).

3. HYPOTHESES AND METHODOLOGY

We have developed a no-experimental model that needs to be tested according to data collected from a questionnaire tool. The literature supports the following dimensions according to their factors, as in Table 1.

Previous literature reveals a positive association between technological, cultural, managerial, and collaborative capability, and organizational performance. Some researchers focused on the impact of technical capabilities (Hammami & Alkhaldi, 2012). The current research would explore this valuable impact on organizational performance as an essential variable in addition to other organizational capabilities to boosting it.

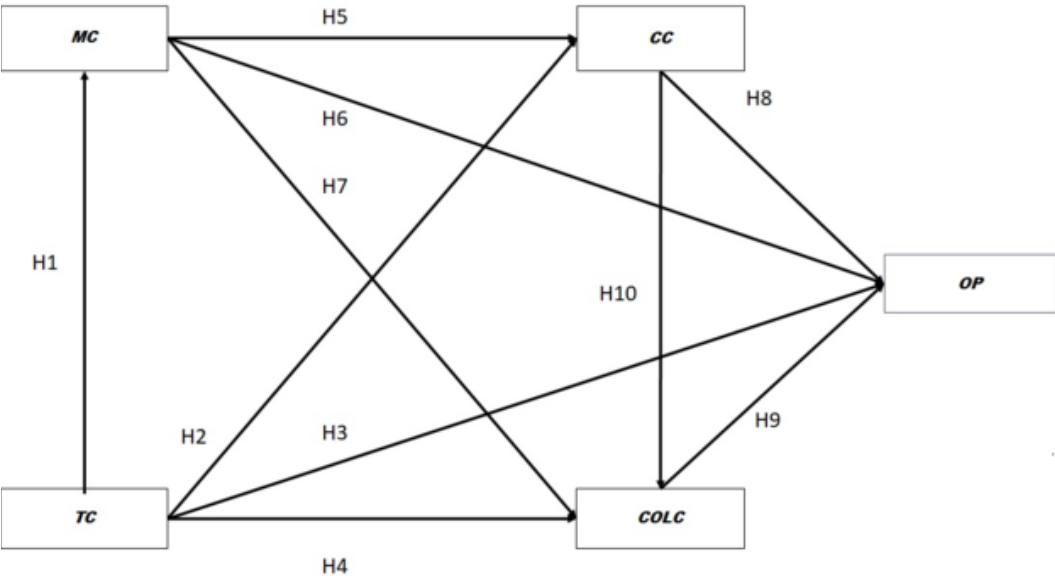
The literature reveals varied results, thus, creating a need to explore the relationship further. The current study is an effort to discourse the issue by finding the influence of the four-component model of organizational capabilities.

This research is conducted in the Omani context because the existing literature missed out on studies in the context of middle-east which gives further importance to explore the relationship between organizational capabilities and its performance in the Omani business environment.

Based on the review mentioned above, the following hypotheses are proposed:

H1: Technological capabilities (TC) would have a significant and positive effect on managerial capabilities (MC) of the organization.

Figure 1. Proposed model



- H2:** Technological capabilities (TC) would have a significant and positive effect on cultural capabilities (CC) of the organization.
- H3:** Technological capabilities (TC) would have a significant and positive effect on organizational performance (OP) of the organization.
- H4:** Technological capabilities (TC) would have a significant and positive effect on collaborative capability (COLC) of the organization.
- H5:** Managerial capabilities (MC) would have a significant and positive effect on cultural capabilities (CC) of the organization.
- H6:** Managerial capabilities (MC) would have a significant and positive effect on organizational performance (OP) of the organization.
- H7:** Managerial capabilities (MC) would have a significant and positive effect on collaborative capability (COLC) of the organization.

Table 1. Study dimensions and their factors

Dimension	Factors
<i>Organizational Knowledge Capabilities</i>	Technological capabilities
	Cultural capabilities
	Managerial capabilities
	Collaborative capabilities
<i>Performance Capabilities</i>	Contemporary offerings (COO)
	Customized Services (CMS)
	Customer Loyalty (CRL)
	Continuous Improvement (CSI)
	Image and Reputation (IAR)

- H8:** Cultural capabilities (CC) would have a significant and positive effect on organizational performance (OP) of the organization.
- H9:** Collaborative capability (COLC) would have a significant and positive effect on organizational performance (OP) of the organization.
- H10:** Cultural capabilities (CC) would have a significant and positive effect on collaborative organizational capability (COLC).

3.1. Sample and Data Collection Instrument

This study was conducted among different companies in Oman; the responses came from different managerial levels representing eight business sectors located in Oman. The researchers distributed 200 valid questionnaires for statistical analysis. Five respondents were not engaged, as evidenced by giving the same response for every single item in the questionnaire ($n = 195$). Consequently, the ratio of valid questionnaires was 0.975.

The current research examines the path starting from technological capabilities and resulting in enhancing organizational performance. The study aims to explore the relationship and sequence of occurrence of the research variables.

The sample shows that the respondents are distributed among eight business sectors. Engineering Companies 19.5%, health care services 5.6%, telecommunication services 11.8%, food industry 26.2%, bank and insurance services 11.3%, investment companies 13.8%, logistics services 9.2%, and media companies 2.6%, Table 2 describes the sample in detail.

3.2. Instruments

Technological Capabilities (TC) was measured through the Multidimensional Work of 3 items (IT Sharing Capability (SHR), IT Feedback (FDB), and IT Processing (PRO)).

Cultural Capability (TC) was measured through the Multidimensional Work of 5 items (Shared Belief (SHB), Self-development (SFD), Experience (EXP), Adaptation (ADT), and Intent to share (ITS)).

Managerial Capability (MC) was measured through the Multidimensional Work of 5 items (Incentivising (INC), Leadership support (LSS), Planning (PLN), Empowering (EPW), and Envisioning Knowledge (ENK)).

Collaborative Capability (CC) was measured through the Multidimensional Work of 4 items (Collaboration and Experience Sharing (CES), Learning from Customer (LCR), Facilitate Knowledge Use (FKU), and Co-interactions (POI)).

Organizational performance (OP) was measured through the Multidimensional Work of 5 items (Contemporary offerings (COO), Customized Services (CMS), Customer Loyalty (CRL), Continuous Improvement (CSI), and Image and Reputation (IAR)).

All the items were scored on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

3.3. Design and Procedure

The questionnaire statements were distributed in both English and Arabic. Each scale was analyzed to evaluate dimensionality. Reliability analysis was done to establish the contribution of each item to scale reliability. Items not loading with the majority of other scale items were omitted. Table 3 shows the reliability analysis of the adapted scales. It is evident that all the reliability values were above 0.60, so all the scales were considered reliable to be used in the Omani context. Hypotheses were tested using structural equation modeling (SEM) approach to analyzing the path from technological capabilities to organizational performance.

Table 2. Sample characteristics

Variable	Options	Frequency	Percentage
Gender	Male	129	66.2%
	Female	66	33.8%
	Total	195	100%
Age	21-25	26	13.3%
	26-30	85	43.6%
	31-35	43	22.1%
	36-40	41	21.0%
	Total	195	100%
Experience	< One year	27	13.8%
	1 - 5 years	58	29.7%
	6 - 10 years	68	34.9%
	>10	42	21.5%
	Total	195	100%
Educational Level	High School	105	53.8%
	Bachelor's	74	37.9%
	Post grade	16	8.2%
	Total	195	100%
	Sector		
1	Engineering Companies	38	19.5%
2	Health Care Services	11	5.6%
3	Telecommunication Services	23	11.8%
4	Food industry	51	26.2%
5	Bank and Insurance Services	22	11.3%
6	Investment Companies	27	13.8%
7	Logistics Services	18	9.2%
8	Media companies	5	2.6%
	Total	195	100.0%

Table 3. Reliability analysis of the adapted scales

Pillars	Abbreviation	No. of Items	α
Technological Capabilities	(TC)	3	0.74
Cultural Capabilities	(CC)	4	0.64
Managerial Capabilities	(MC)	5	0.99
Collaborative Capability	(COLC)	4	0.72
Organizational Performance	(OP)	5	0.77

Table 4. Descriptive statistics and correlation matrix of the variables

	Mean	SD	TC	CC	MC	COLC	OP
(TC)	3.63	.48548	-				
(CC)	3.83	.31088	.067	-			
(MC)	3.63	.49243	.207**	.700**	-		
(COLC)	4.39	.35721	.172*	.455**	.396**	-	
(OP)	4.24	.34872	-.019	.322**	.173*	.788**	-

Note: n=195.

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

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

4. RESULTS AND DISCUSSION

Table 4 shows the mean, standard deviation (SD), and correlation matrix of the study variables. The mean value ranges between 3.63 to 4.39 for technological capabilities (same value to managerial capabilities) and collaborative capability, respectively. The correlation matrix shows that MC is positively and significantly related to TC ($r=.207$, $p<0.01$) and CC ($r=.700$, $p<0.01$). Also it shows that COLC is positively and significantly related to TC ($r=.172$, $p<0.01$), CC ($r=.455$, $p<0.01$) and MC ($r=.396$, $p<0.01$). Similarly, it illustrates that OP is positively and significantly related to CC ($r=.322$, $p<0.01$), MC ($r=.173$, $p<0.05$), and COLC ($r=.788$, $p<0.01$).

The hypothesized path model in (Figure 1) from technological capabilities (TC) to organizational performance (OP) was tested using SEM using AMOS v.21.

Looking at Tables 5 and 6, the hypothesized model shows a good fit to the observed data. This is indicated with χ^2 (Chi-Square) = 3.088, $df=1$, P (Probability level) = .079. Also, RMR=.001, GFI=.994, AGFI=.906, NFI=.994, RFI=.939, IFI=.996, TLI=.958, CFI=.996, and RMSEA=.000.

Table 7 reveals the current paths (H3, H5, H9, and H10). All other paths (H1, H2, H4, H6, H7, and H8) were insignificant in the present research (see Figure 2 for the Path Analysis results).

According to tables 5, 6 and 7; it is concluded that Hypotheses (H3, H5, H9, and H10) were accepted by applying SEM method, we conclude that only four (H3, H5, H9, H10) out of ten hypotheses depicting the effect of organizational capabilities on organizational performance (OP). We found that managerial capabilities (MC) play a significant role in enhancing organizational performance via an indirect positive effect through collaborative capabilities (COLC). Also, the collaboration capabilities (COLC) affects positively, intensely, and significantly the organizational performance (OP). Also, it is found that cultural capabilities (CC) affect positively and significantly the collaboration capabilities (COLC) in companies working in the Omani business environment.

Whereas, the technological capabilities (TC) was found to have a significant negative effect on organizational performance, which also gives the impression that the Omani companies need wiser investment in IT to reach the planned goals (Hammami et al., 2015).

Table 5. Summary of χ^2 , df, and P

Fit Indices	χ^2 Chi-Square	df Degrees of Freedom	p Probability Level
Value	3.088	1	.079
Acceptable Threshold	-	-	> .05

Table 6. Summary of the SEM Fit indices with their acceptable thresholds

Fit Indices		Value	Acceptable Threshold		
RMR	root mean square residual	0.001	≈ 0	An RMR of zero indicates a perfect fit	
GFI	the goodness of fit index	0.994	> 0.9	GFI must be less than or equal to 1, which indicates a perfect fit.	
AGFI	the adjusted goodness of fit index	0.906	> 0.9	AGFI values close to 1 indicate a perfect fit	
NFI	Delta1 normed fit index	0.994	> 0.9	NFI values close to 1 indicate a perfect fit	
RFI	rho1 relative fit index	0.939	> 0.9	RFI values close to 1 indicate a perfect fit	
IFI	Delta2 incremental fit index	0.996	> 0.9	IFI values close to 1 indicate a perfect fit	
TLI	rho2 The Tucker-Lewis coefficient	0.958	> 0.9	TLI values close to 1 indicate a perfect fit.	
CFI	comparative fit index	0.996	> 0.9	CFI values close to 1 indicate a perfect fit.	
RMSEA	Root Mean Square Error of Approximation	0	$< .05$	RMSEA value of .05 or less indicate a close fit of the model about the degrees of freedom	

5. CONCLUSION

The paper draws attention to various aspects of organizational capabilities and their effect on organizational performance. We have developed and tested ten hypotheses to link the identified dimensions of organizational capabilities (i.e., Technological, Cultural, Managerial, and Collaborative Capabilities) with the various aspects of organizational performance by using the SEM technique.

Enhancing the performance and functionality of the organization is the ultimate goal that should be achieved through the most valuable assets like it is valued assets like technological, managerial, culture, and collaborative capabilities. Firms should focus on having a functional technology to sustain overtime in the Omani business environment.

Omani organizations should focus on efficiently employing their capabilities to gain a competitive advantage and sustain it in trying circumstances like the one faced during the recent pandemic. The current research is aimed at finding the capabilities that can contribute to maintaining the performance of organizations working in the business environment in Oman.

Figure 2. Path Analysis Results Using AMOS v.21

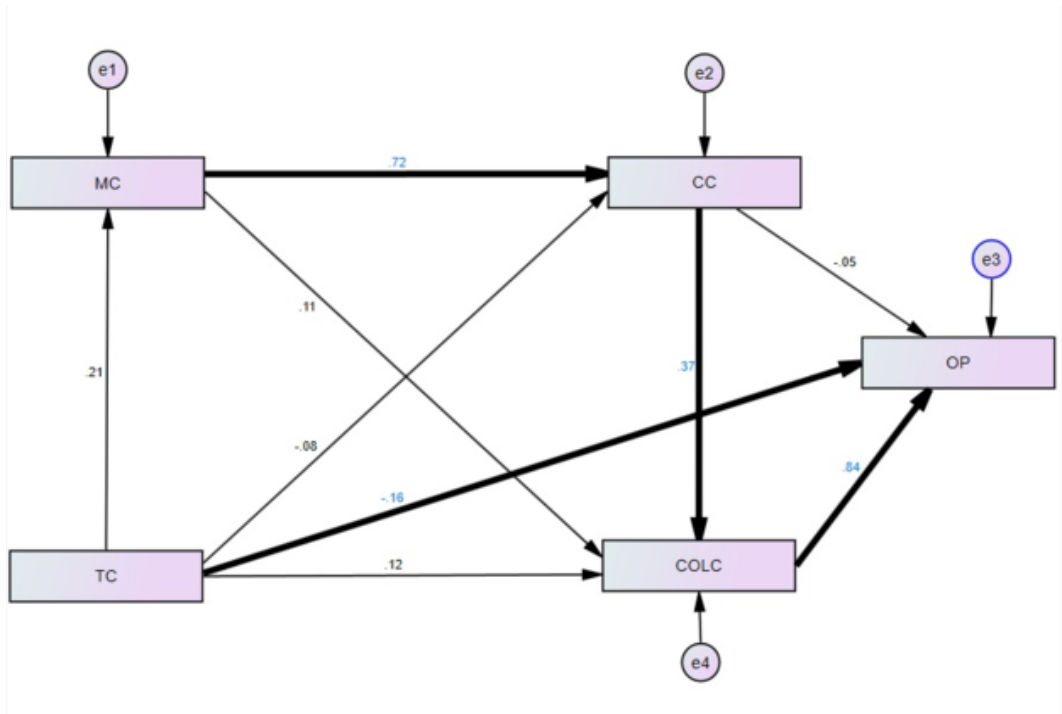


Table 7. Hypotheses Testing

Hypothesis	Path	Estimate	SE	CR	p
H3	TC → OP	-.115	.031	-3.685	***
H5	MC → CC	.452	.033	13.744	***
H9	COLC → OP	.817	.047	17.235	***
H10	CC → COLC	.423	.102	4.158	***

Notes: n=195, ***p<0.001

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