



The Impact of Innovation Capabilities on Customer Knowledge Management: the Moderating Role of Organisational Culture

Sanaa J. Kadhim^a, Latif Abdulridha Atiyah^b, ^{a,b}Al-Qadissiyah University-
Collage of Administration & Economics- Department of Business
Administration, Email: ^asana.kadhim@qu.edu.iq, ^bLatiflatif987@yahoo.com

The purpose of the current article is to investigate the influence of innovative strategies such as creative strategies, innovation and organisational learning on customer knowledge management (CKM), with the help of the moderating role of organisational culture. The students of selected private universities are the respondents of the study, and a questionnaire method was adopted to collect the data, while PLS-SEM was used to test the hypotheses. The findings revealed that innovative capabilities, including: creative strategies, innovation and organisational learning have positive links with CKM. The results also found that organisational culture plays a moderating role among the links of innovation capabilities and CKM. These findings provide guidelines to policy makers, suggesting that they should improve their focus towards innovation capabilities, along with organisational cultures that enhance the knowledge management regarding the customer and enhance organisational performance as a result.

Key words: *Innovation capabilities, Creative strategies, Organisational learning, Organisational culture, Customer knowledge management.*

Introduction

For the past few decades, the importance of customer knowledge management (CKM) has not only been highlighted by the practitioners but also in academics (Khosravi, 2020). Globalisation has made it very easy for today's customers or clients to communicate with and approach both other customers and firms. This communication results in knowledge sharing and that makes it possible to have a better knowledge about any product or service (Taghizadeh, Rahman, & Hossain, 2018). But on the other hand, it is also reported that

customer knowledge has no specific advantage itself; it is in need of proper management (Hollebeek & Andreassen, 2018). In such a competitive world, organisations fail to achieve a competitive edge when crushed by other competitors. Firms may put down to dusk efforts into achieving a competitive edge, which is basically the differentiation between you and your competitor. The key element for any competitive edge is the research and development which results in new innovation. Research and development help to create an innovation and this entire innovation process enhances a firm's innovation capabilities. To be familiar with the current market and existing competitor information is the key to the achievement of a competitive edge. There are multiple ways of collection of market, competitor, customer and environmental knowledge. In the recent literature, it is proposed that, in the current era, the suitable approach for the collection of customer, competitor and market knowledge is the application of a customer knowledge management (CKM) system.

The importance of the customer in the marketplace can't be ignored. With the passage of time, such an increase in customer value is new approaches to some specific answerable questions, like how to innovate for the achievement of competitive edge, how the values are created for better performance. In the innovative literature, customer information, customer knowledge and customer competence in the process of innovation are topics in a number of studies by the researchers (Kaoud, 2017). Valmohammadi (2017) proposed the dependence between absorptive and innovative capabilities. In continuation from this, Cohen and Levinthal (1990), investigated the linkage between absorptive and innovative capabilities and proposed that the absorption of firm's external knowledge and its management within the firm is allowed by the absorption capability. The practice helps in the identification of new opportunities existing outside the organisation and also provides new innovative knowledge. Cepeda-Carrion, Martelo-Landroguez, Leal-Rodríguez, and Leal-Millán (2017), proposed a new point of view by proposing co-creation between competitive edges with customers. Further studies rejected the firm view and closed innovation models, preferring the customer knowledge management (CKM) usage as one of the prime sources for new outcomes (Moghli, Davoudi, Zarei, & Rostami, 2018). Studies have proposed how different relationships can affect corporate work and their capabilities to innovate, and the ability to work with corporate partners to merge and link processes to increase effectiveness, as well as initiate radical and gradual innovation (Masa'Deh, Obeidat, Maqableh, & Shah, 2018). Further areas of investigation have examined, how objective and dynamic capabilities relate to each other, as well as how this relationship is managed with organisational knowledge and skills, as well as identifying the main differences in the dynamic capabilities of new projects and established companies (Teece, 2018).

Keeping in view the importance of knowledge management in a firm's entire process, the firms have decided on customer knowledge management (CKM) implementation for customer engagement in entire firm processes with the view of using customer information

to achieve competitive edge (Ngo & O'Cass, 2012). Customer knowledge management (CKM) is a firm's new approach to capturing, sharing and using the information, related and required knowledge, and customer-related experience and ideas. The firms implement the customer knowledge management (CKM) with the view that engagement of customer knowledge will link the firm's internal and external environment and the entire process also results in the transfer of information, not only inside the firm but also in between the firm's customer and other competitive firms (Wang, Yeung, & Zhang, 2011). The application of customer knowledge management (CKM) changes the customer role from an ultimate final user of the product to a partner, which helps with the enhancement of product value (Taghizadeh et al., 2018).

Customer knowledge management (CKM) has emerged as one of the prime sources standing behind the organisation innovation capabilities and better performance for achievement of a competitive edge. The usage of information from customers, about customers and for customers can increase the absorptive capabilities within the customer knowledge management (CKM). Albaladejo, M. and Romijn, H., 2000 Romijn and Albaladejo (2002) conducted an investigation on innovation capabilities in small towns and proposed how objective and dynamic capabilities relate to each other, as well as how this relationship is managed with organisational knowledge and skills, and identifying the main differences in the dynamic capabilities of new projects and established companies.

A number of studies highlighted that the existence of proper knowledge is essential for innovation. Thus increase in absorptive capabilities will bring more knowledge available for the process of innovation and will make the organisation able to have more innovation capabilities to achieve a competitive edge (Kemp, Folkerling, De Jong, & Wubben, 2003). Innovation literature also witnessed that firm competitive edge and better performance are dependent on the available knowledge. The application of customer knowledge management (CKM) brings more knowledge for customers, which is used to build and enhance the innovation capabilities (Salim & Sulaiman, 2011).

Organisational culture literature witnessed that the culture of any organisation impacts the entire organisational process from top to bottom. A strong culture is built a strong foundation, and, on the other hand, a weak culture badly affects the organisational strategies etc. A number of studies reported a nexus between innovation capabilities and organisational cultures (Sabri, Ilyas, & Amjad, 2011). The culture of any organisation is basically the beliefs, values, attitudes and behaviours of the organisation's employees. If the organisational leadership prefers the innovative culture, this will result in the enhancement of innovation capabilities. This will provide a culture which ultimately will help the employees to change their approach from ordinary to innovative and creative. An innovative culture brings flexibility. In an innovative culture, space is given to the employees and management to bring



more and more ideas by ignoring the fear of failure. An organisation where a non-innovative culture is preferred works on given rules and regulations by ignoring error and omission. There is no space for new ideas or change activities. On the other hand, the innovative culture is full of flexibility. Everyone is welcomed and appreciated who brings new ideas with the view of innovative change. The literature proposed that organisational culture acts as a moderators a number of times with customer knowledge management (CKM) and also innovative capabilities (Liu, Ke, Wei, Gu, & Chen, 2010).

Literature Review

Innovation can arise from any of the complementary capabilities. If technological innovation is the most attractive and charming type of innovation, we assume that this advantage, when it is not related to technology development, is rather related to management, operations or transaction capabilities (Chen, Lin, Lin, & McDonough, 2012). Innovation researchers are increasingly interested in service industries. This results in a great deal of literature on the factors for success in developing new services. Many institutions have focused on the need to identify capabilities and resources for innovation or strengths, regarding external opportunities and threats according to their internal vision. Recent research shows that innovation is one of the most vital capabilities leading to the strongest competitive advantage in organisations (Legenvre & Gualandris, 2018). Innovation is often described in terms of changes in what the company offers to the world (product /service innovation), and the ways in which it creates and makes these offerings. A systematic review focuses first on how to define its subject. The articles reviewed here reveal a lack of consensus on how innovation is generally defined, and authors describe innovation explicitly or implicitly (Sadeghi & Rad, 2018).

Iddris (2016), proposed a scale should be adopted in this investigation, because the dimensions selected and mentioned in this study reflect the common participations of the capabilities of innovation among different types of organisations. That is in comparison to some classifications characterised by limits, type, and the nature of the organisation, generality, comprehensiveness and the possibility of harmonisation in the study population. Highlights of the selected dimensions are: knowledge relates closely to individual values, beliefs, knowledge and understanding. The knowledge which each individual possesses is the product of one's experiences and is represented by the criteria through which new inputs obtained from one's surroundings can be evaluated (Nguyen & Harrison, 2019). Organisations that do not pay attention to changing needs and the needs of their clients for what is present in similar markets through innovation and creativity will find themselves unable to compete and are therefore threatened with failure and collapse. It is ideal to focus on placing knowledge in a broader context, rather than thinking about systems, to better identify and understand the factors influencing its success or failure (Shujahat et al., 2019).

Therefore, it is important that knowledge is recognised, before studying knowledge management. Knowledge can be described as a state of mind, in which knowledge and understanding are gained through experience or learning. Consequently, knowledge is effective information that supports organisational work and focuses on results. Knowledge is a foundation of an organisation that can affect its intelligence and also directly influence decision-making, forecasting, design, planning, diagnosis, analysis, and evaluation of a prior judgment (Abubakar, Elrehail, Alatailat, & Elçi, 2019). Knowledge is a primary source of the organisation, because of its ability to provide uniqueness; sustainable protection from imitation or easy copying by others, thus enabling the organisation to establish strategic equations or restrict replication. It is a set of processes for obtaining, creating, sharing and using information in an organisation's context; often facilitated by modern technology (Rinne kangas, 2017).

Organisational learning and becoming an educational organisation has become critical to adaptation and survival (Odor, 2018). Learning theory should be placed more centrally within planned organisational change theory, as well as revitalising research by defining a wide range of learning techniques and perspectives (Hendry, 1996). There is no widely accepted theory or model of organisational learning. That change does not necessarily mean learning. There are different levels of learning, each with a different impact on the company's strategic management (Gallego-Burin, Stevenson, Llorens-Montes, & Perez-Arostegui, 2018).

The organisation decides the strategies to achieve its goals. It is the leadership of the organisation which finalises the strategies; whether it will be creative or non-creative. If the leadership is non-creative, it will avoid creative strategies and prefer clear and open strategies. On the other hand, if the leadership prefers creativity and innovation, this will definitely allow creative strategies for the organisation. Any organisation with an innovative view can't afford non-creative strategies. Creative strategies walk parallel with innovative culture. In both the creative strategies and innovative culture there is space for every individual of the organisation to participate in his/her approach to having an idea, which is the basis of any innovation. Creativity is the creation of new and useful ideas by individuals or teams; it appears in many forms and addresses many functions within companies of all kinds (Hughes, Lee, Tian, Newman, & Legood, 2018). The values, standards, and beliefs that play a role in creativity and innovation can support or prevent creativity and innovation, depending on how it affects the individual and group. Creativity and innovation are concerned with the process of creating and applying new knowledge. Zhavoronkova, Zavalko, and Zhavoronkov (2018), investigated knowledge, creativity and innovation and explore how creativity is "hindered" in many ways, including by beliefs from around the world.



In any innovative environment, the basis is the generation of ideas. In an innovative culture, the organisation provides such a culture to its employees in the workplace that their preference is idea generation. Once a workable idea is received from anyone, that is the start of innovation. The innovative culture strongly promotes the idea generation concept so that it becomes an essential part of the organisation employees' beliefs, norms, acts etc. Ideas are an essential component of organisational life. Scholars believe that the systemic inter-relationship between generating ideas and problem-solving reflects the prevailing approach of managers, and a model for managing ideas based on behaviour patterns (McAlpine, 2018). Modern organisations at all levels promote competitive action for the purpose of maintaining market share, enhancing the product collections, improving efficiency and reducing costs. Emphasis has been placed on the management of idea development towards organisational innovations (Gama, Frishammar, & Parida, 2019).

The strategies and overall psyche of an organisation's leadership are reflected in its culture. Culture in any organisation provides the backbone role in the implementation of organisational strategies for the achievement of organisational goals. The culture of the organisation is decided by the leadership. If the leadership is rigid, that will produce a rigid and tough culture. In contrast, the management may prefer an innovative environment that will spread an innovative culture. In an innovative culture, the leadership provides an open forum to the organisational stakeholders. Everyone is free to open his/her ideas with the view of contribution. Naqshbandi and Tabche (2018), conducted an investigation on variables such as transformational leadership, technology innovation with the moderation effect of an innovative culture and incentive compensation in Taiwan on 102 strategic business units and found that innovative culture accepts the transformational leadership effect. Existence of the strong innovative culture is reported as the substitute for transformational leadership. Cho and Khoe (2018), also investigated the relationship between open innovation, strategy base alliance and performance of the export with the moderation effect of the culture of the organisation in Small Medium Enterprises in China, by applying a PLS Model on a sample of 201 and proposed that organisational culture positively moderates the relationship in SMEs. It also supports the theoretical framework of the study that organisational culture acts as a moderator.

The literature has witnessed that organisational culture has its impact on both customer knowledge management (CKM) and also the innovative capabilities. Organisational innovative culture moderates the relationship between customer knowledge management (CKM) and innovative capabilities (Taylor, Santiago, & Hynes, 2019). Success can be achieved for the organisation through many policies, especially with regard to the implementation of ERP. It is closely and positively related to organisational culture, in addition to the definition of strategic and tactical actions taken to influence that culture. Organisations should also try to foster a culture conducive to implementing ERP. The

strength of organisational culture correlates greatly to job satisfaction, in a manner that achieves institutional positives (Al-Shammari & Al-Am, 2018). Organisational culture refers to beliefs and values deep-rooted in the organisation over a long time, and workers' beliefs and the expected value of their work that will influence their attitudes and behaviour. The leadership behaviour used to accomplish the mission of the organisation is often modified, and this may affect employee satisfaction (Meng & Berger, 2019).

It is very important to have a better knowledge about the relationship between the marketplace and customers. It is the marketplace and customer relationship information which is analysed by the research and development section in order to develop the product or service according to the requirement of the marketplace and customers. Marketplace and customer relationship management are not able to obtain the client knowledge that comes from social interactions with company employees. A three-step model for obtaining knowledge has been proposed (North & Kumta, 2018). Information retrieval, concepts of socialisation, and cultural changes are required for its success. Customer relationship management focuses on managing the relationship between the company and its existing and potential customer base, as a foundation for the organisation's success. Scholars have also proposed data mining and knowledge management techniques to manage marketing knowledge and support marketing decisions. This methodology can serve as a basis for strengthening the customer relationship (Buttle & Maklan, 2019).

Melhem (2016), proposed the process of obtaining important and good information about customers and adding improvements to them through different methods and methods. It is the process of facilitating access to knowledge for the purpose of benefiting from it and achieving the desired goal for the organisation and for all parties (Mahdi, Nassar, & Almsafir, 2019). Melhem's (2016) investigation scale regarding customer knowledge management (CKM) is proposed in this investigation. The dimensions in this study reflect the general participation of the management in customer knowledge, among different types of organisations. This is juxtaposed against some classifications limited by organisational type and nature, and characterised by generality, comprehensiveness and the possibility of harmonisation in the study population. Customer knowledge is collected to understand customer motivation, and this is done during the support process and customer relationship management service, to be subsequently analysed through customer management (Zhan, Tan, & Huo, 2019). Customer knowledge development enhances the success of the new product. Zhan et al., (2019), pointed out a set of key points for developing this procedure; (A) developing procedures that enable the organisation to implement progress in customer knowledge, (B) the characteristics of new product developments that mitigate these procedures, and (C) the results generated by the process.

Management of customer-oriented knowledge is a modern approach to competitiveness, in both satisfaction and service excellence (Del Vecchio, Secundo, & Passiante, 2018). Such knowledge relates directly to products and suppliers and markets. To obtain this specific knowledge, the organisation's communication system must be capable of reaching clients effectively, to develop customer services in a way that achieves excellence for the organisation (Melhem, 2016). Customer knowledge includes everything that the company can provide to assist them, meet all their needs of knowledge, and enhance the knowledge provided to them. The nature of this knowledge impacts customer perceptions of service quality. From the above-discussed debate, the following hypotheses are proposed:

H1: There is a positive association between organisational learning and customer knowledge management (CKM).

H2: There is a positive association between innovation and customer knowledge management (CKM).

H3: There is a positive association between creative strategy and customer knowledge management (CKM).

H4a: The organisational culture moderates the relationship between organisational learning and customer knowledge management (CKM).

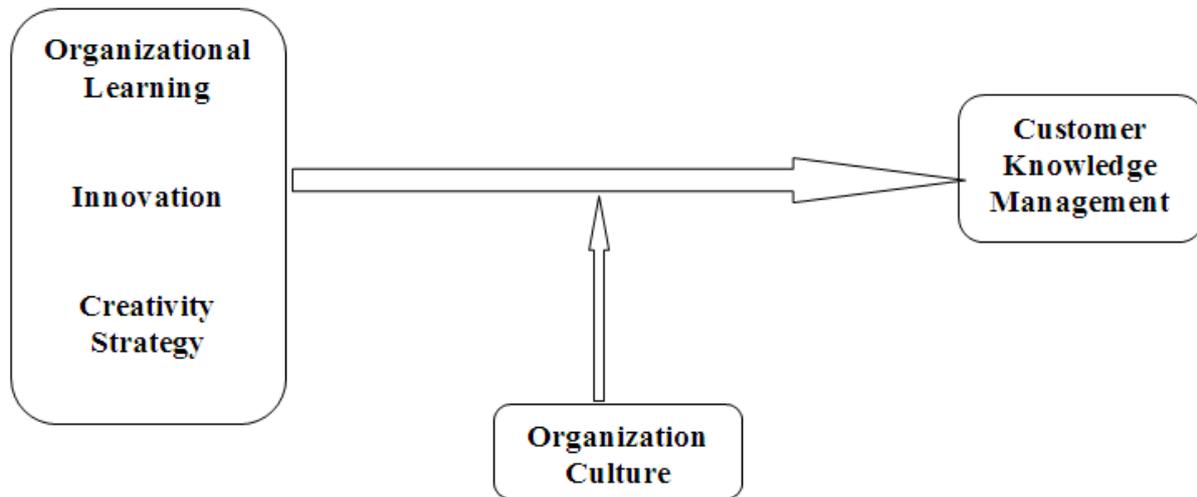
H4b: The organisational culture moderates the relationship between innovation and customer knowledge management (CKM).

H4c: The organisational culture moderates the relationship between creative strategies and customer knowledge management (CKM).

Research Methods

This study has investigated the influence of innovative strategies such as creative strategies, innovation and organisational learning on the CKM with the help of the moderating role of organisational culture. The students of the selected private universities are the respondents of the study and a questionnaire method was adopted to collect the data, while PLS-SEM was used to test the hypotheses. For the purpose of data collection, around 450 questionnaires were distributed through personal visits to the universities, and after twenty days, only 290 responses were returned that were used for the analysis and represented a 64.44 percent response rate. The variables that are used in the article include three predictors such as organisational learning (OL) that has ten items, innovation (IN) that has seven items and creative strategies (CS) that has fifteen items. In addition, a mediator variable such as organisational culture (OC) has twenty items and a dependent variable such as customer knowledge management (CKM) has ten items. The proposed theoretical framework of the study is as follows:

Figure 1. Theoretical Framework



Results

The findings related to this article include the discriminant validity, along with the convergent validity and path analysis related to the hypotheses testing. Firstly, the findings show the convergent validity about the correlation among the items and the statistics show that convergent validity has been proved and items are highly correlated because all the criteria are fulfilled, such as loadings and AVE are larger than 0.50 and CR and Alpha values are more than 0.70. All these statistics are shown in Table 1.

Table 1: Convergent Validity

Items	Loadings	Alpha	CR	AVE
CKM1	0.579	0.920	0.934	0.588
CKM10	0.788			
CKM2	0.767			
CKM3	0.843			
CKM4	0.649			
CKM5	0.813			
CKM6	0.796			
CKM7	0.780			
CKM8	0.813			
CKM9	0.800			
CS1	0.816	0.925	0.935	0.514
CS10	0.548			
CS11	0.573			
CS12	0.566			
CS14	0.797			
CS15	0.806			



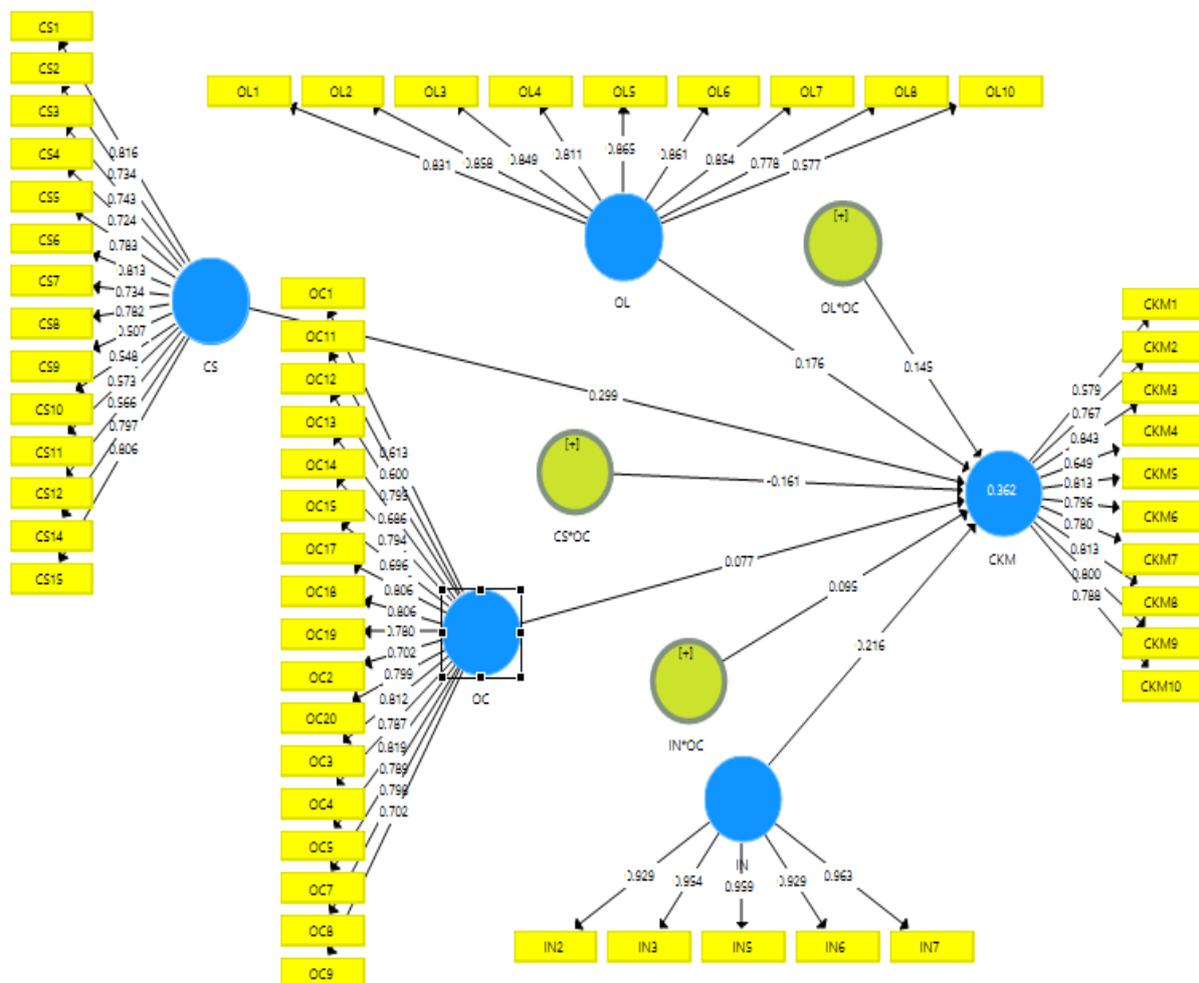
CS2	0.734			
CS3	0.743			
CS4	0.724			
CS5	0.783			
CS6	0.813			
CS7	0.734			
CS8	0.782			
CS9	0.507			
IN2	0.929	0.971	0.977	0.897
IN3	0.954			
IN5	0.959			
IN6	0.929			
IN7	0.963			
OC1	0.613	0.958	0.957	0.570
OC11	0.600			
OC12	0.795			
OC13	0.686			
OC14	0.794			
OC15	0.696			
OC17	0.806			
OC18	0.806			
OC19	0.780			
OC2	0.702			
OC20	0.799			
OC3	0.812			
OC4	0.787			
OC5	0.819			
OC7	0.789			
OC8	0.798			
OC9	0.702			
OL1	0.831	0.935	0.946	0.663
OL10	0.577			
OL2	0.858			
OL3	0.849			
OL4	0.811			
OL5	0.865			
OL6	0.861			
OL7	0.854			
OL8	0.778			

Secondly, the findings also show the discriminant validity about the correlation among the variables and the statistics show that discriminant validity has been proved and constructs are not highly correlated, because all the criteria are fulfilled such as the ratios of Heterotrait Monotrait are not larger than 0.90. All these statistics are shown in Table 2.

Table 2: Heterotrait Monotrait Ratio

	CKM	CS	IN	OC	OL
CKM					
CS	0.553				
IN	0.484	0.538			
OC	0.260	0.260	0.473		
OL	0.450	0.690	0.426	0.245	

Figure 2. Measurement Model Assessment



The path analysis related to the hypotheses testing shows that the links among the organisational learning and CKM are positive, along with significant because beta associated with positive sign and t-statistics are larger than 1.64, while p-values are smaller than 0.05 and accept H1. In addition, the links among the innovation and CKM are positive along with significant, because beta associated with positive sign and t-statistics are larger than 1.64 while p-values are smaller than 0.05 and accept H2. Moreover, the links among the creative strategies and CKM are positive along with significant, because beta associated with positive sign and t-statistics are larger than 1.64 while p-values are smaller than 0.05 and accept H3. However, organisational culture positively moderates among organisational learning and CKM, because beta associated with positive sign and t-statistics are larger than 1.64 while p-values are smaller than 0.05 and accept H4a. While organisational culture negatively moderates among creative strategies and CKM, because beta associated with positive sign and t-statistics are larger than 1.64 while p-values are smaller than 0.05 and accept H4c. Conversely, organisational culture is not moderated among the links of innovation and CKM and reject H4b. These links are shown in Table 3.

Table 3: Path Analysis

Relationships	Beta	S.D.	t-statistics	p-values	L.L.	U.L.
CS -> CKM	0.299	0.079	3.782	0.000	0.152	0.427
CS*OC -> CKM	-0.161	0.082	1.973	0.026	-0.277	-0.029
IN -> CKM	0.216	0.084	2.572	0.006	0.060	0.332
IN*OC -> CKM	0.095	0.086	1.099	0.137	-0.039	0.245
OL -> CKM	0.176	0.062	2.827	0.003	0.079	0.263
OL*OC -> CKM	0.145	0.067	2.173	0.016	0.001	0.230

Figure 3. Structural Model Assessment

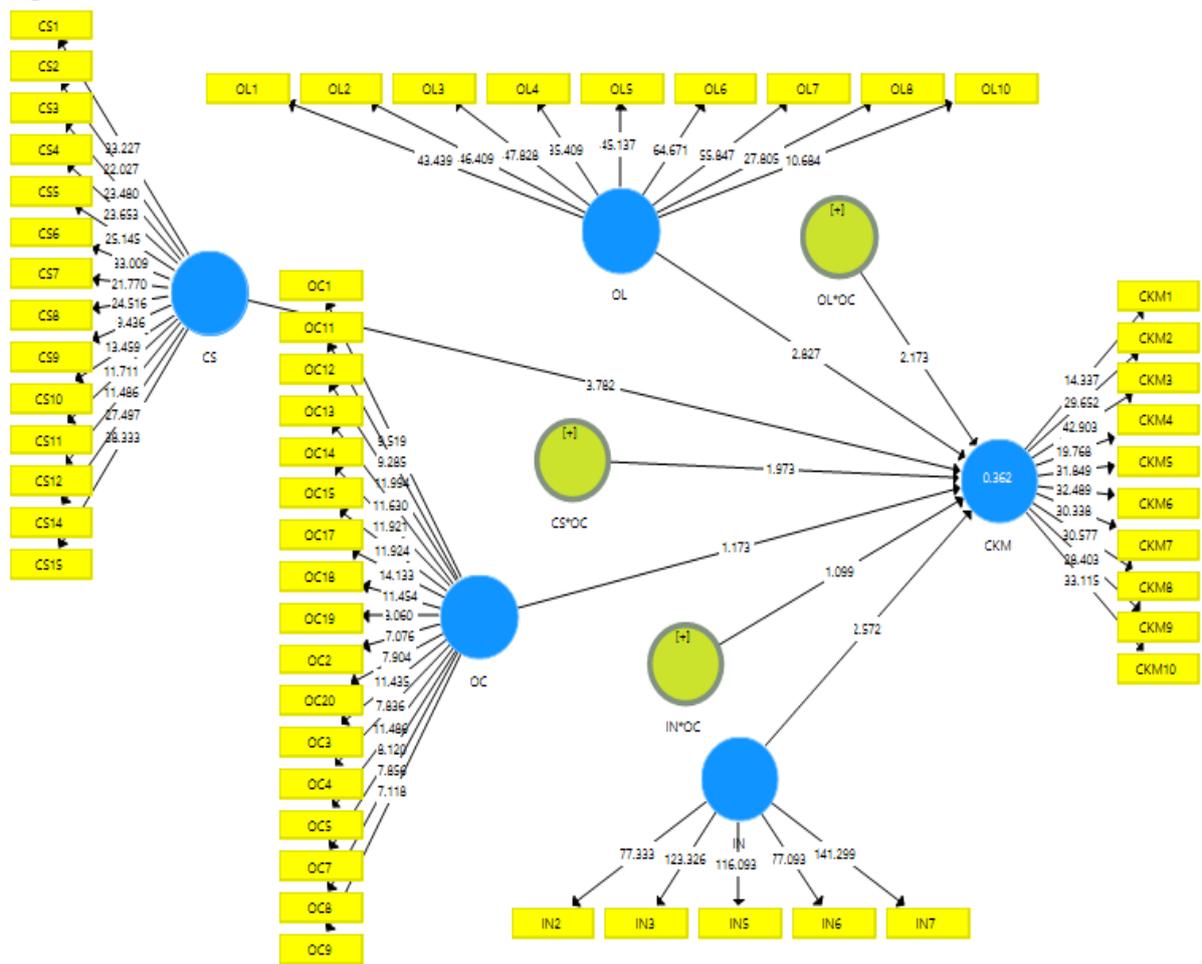


Figure 4. CS*OC

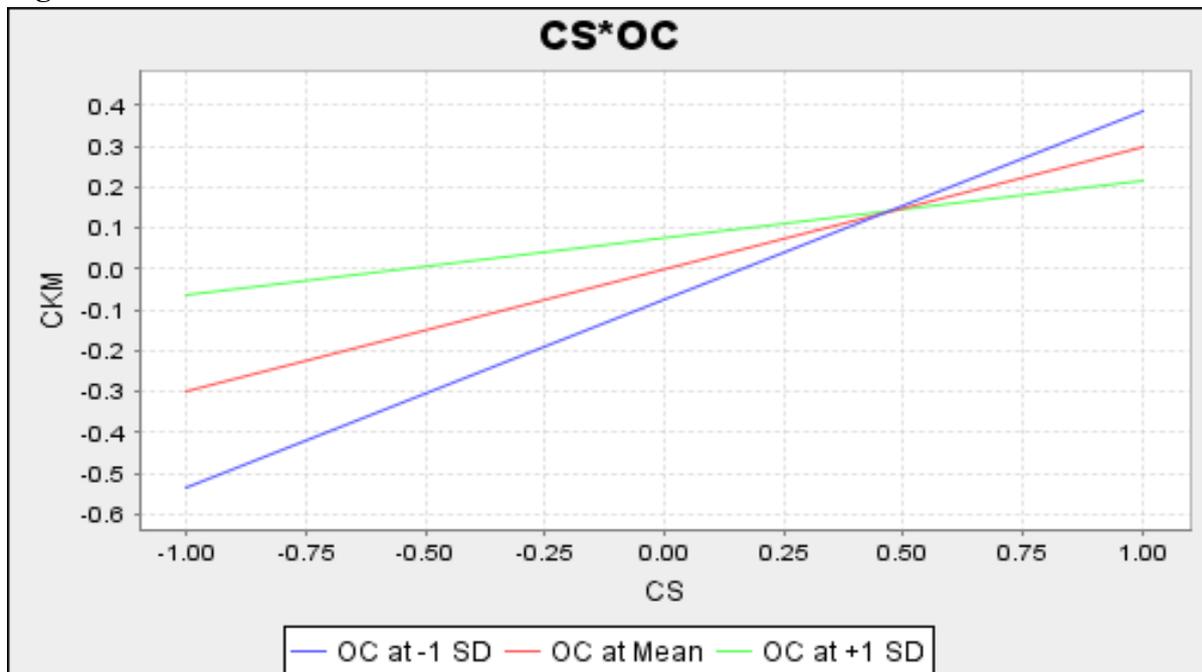


Figure 5. IN*OC

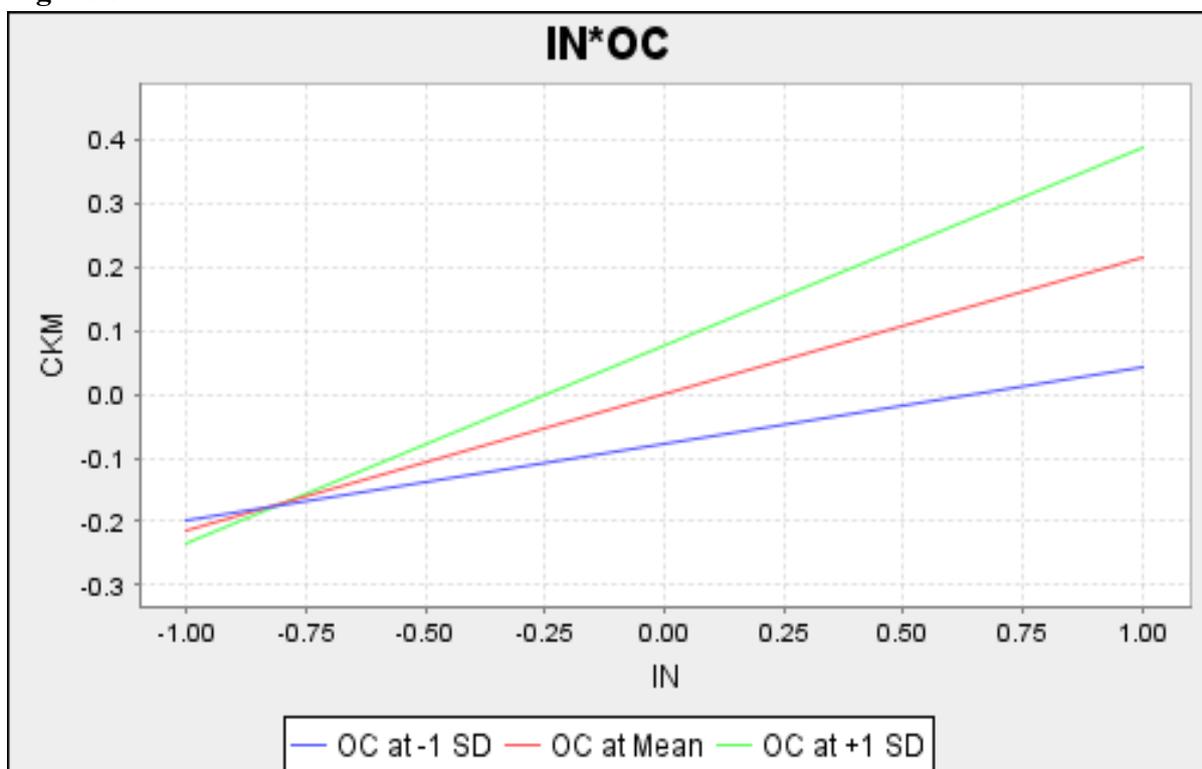
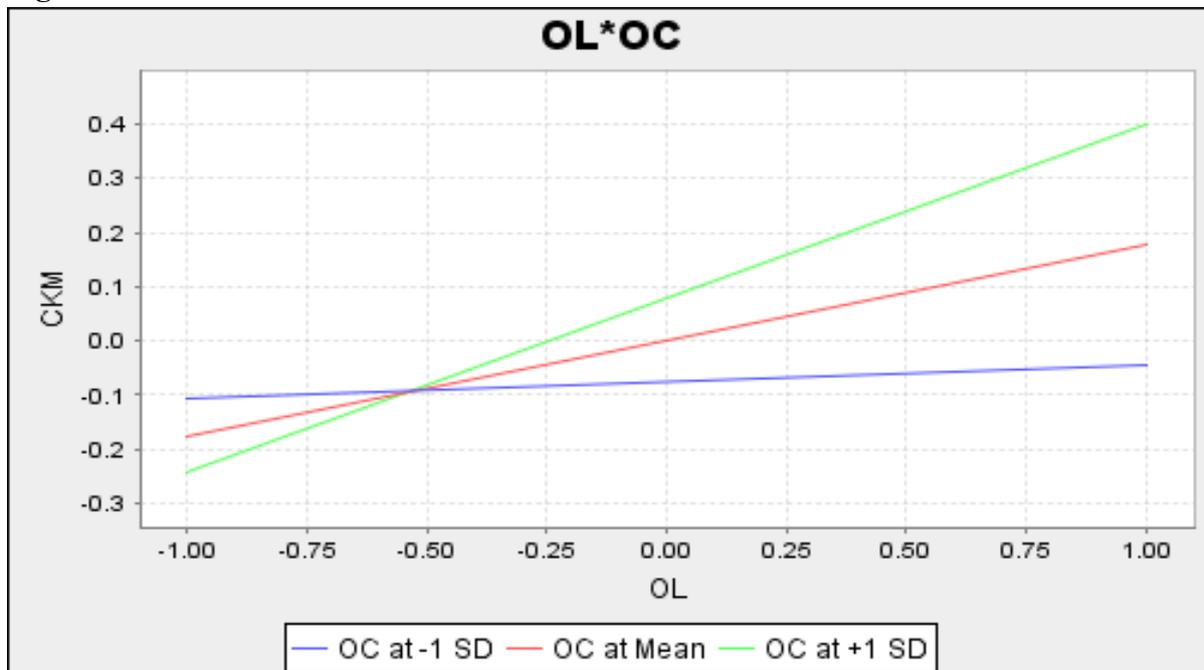


Figure 6. OL*OC



Discussions

This study is about the investigation of the nexus among the innovative capabilities, including: creative strategies, innovation and organisational learning with the CKM, along with the moderating role of organisational culture. The findings revealed that innovative capabilities, including: creative strategies, innovation and organisational learning have positive links with the CKM. The findings of this study are similar to the findings of Taherparvar, Esmailpour, and Dostar (2014), who also found that innovation capabilities have a positive association with the CKM that also enhance the firm's performance. In addition, the outputs of the existing study are also matched with the output of Zaidi (2017), who also examined the positive role of innovation capabilities on the CKM of the organisation. Moreover, the results of the present study also found that organisational culture plays a moderating role among the links of innovation capabilities and CKM. The results of the existing study are also the same as the findings of Panni and Hoque (2017), who found that a supportive organisational culture is necessary for innovation capabilities to enhance the CKM in the organisation. In addition, these findings are also linked with the output of Adeinat and Abdulfatah (2019), who also found the association between organisational culture, innovation capabilities and CKM. These findings are suitable for the relevant policy makers, suggesting that they should improve their focus towards innovation capabilities along with the organisational culture that enhances the knowledge management of the customer and, as a result, enhances the firm's performance.



Conclusion

Finally, the current study has concluded that the private universities have effective innovation capabilities among their students, that enhance the knowledge management of the organisation, while the support and culture of the private universities are very much effective in supporting the capabilities to enhance knowledge management. In addition, it is a recommendation for other institutions; if they implement effective innovation capabilities in their organisations, the knowledge management of the organisation will also be improved, along with the performance.

Limitations and Future Directions

The study has future directions that are the limitations of the study, such as this study takes only three innovative capabilities and ignores other capabilities. It is suggested that further studies should include more capabilities in their analysis. In addition, this study takes only the moderator in its model and it is suggested that upcoming studies should add a mediator in their evaluation. Moreover, this study takes only private universities under investigation and it is recommended that future studies should add other sectors in their analysis.

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