

# **Influence of Risk Management Culture, Digital Culture; Learning Culture on Competitive Advantage: Exploring Mediating Effect of Digital Innovation**

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**Abstract:** In the present digital era, it is crucial for organizations to focus on cultural elements that are essential to achieving and sustaining competitive advantage. Hence, this research seeks to explore the effect of Risk Management Culture, Digital Culture, and Learning Culture on Competitive Advantage through the mediation of Digital Innovation. The research adopted a cross-sectional design and a quantitative methodology. Employees working in organizations based in Saudi Arabia served as the target population. A questionnaire was developed to collect responses from employees using purposive sampling, yielding a usable response rate of 54.17%. Current research has employed PLS-SEM as the analytical technique and Smart PLS 4 as the tool for data analysis. The findings revealed that Risk Management Culture, Digital Culture, and Learning Culture have a significant effect on Digital Innovation. Similarly, Digital Innovation showed a positive association with Competitive Advantage. The outcomes also confirmed the mediating effect of Digital Innovation. The present study influences the current knowledge by emphasizing the mediating role of Digital Innovation in the proposed framework. These results provide effective understandings for policymakers and scholars in guiding future research.

**Keywords:** Risk Management Culture, Digital Culture; Learning Culture; Digital Innovation And Competitive Advantage

## **1. INTRODUCTION**

The world has witnessed digital evolution in every field of life over the last decade. This digitalization has impacted the overall organizational culture in every sector (Munaf, 2023). The basic implication of digitalization lies in the need to integrate risk culture and control culture in the context of organizations (Huy et al., 2021). Risk culture within an organization is based on how to address the risks, communicated, and perceived at all levels, impacting the organization's capacity to respond to,

mitigate, and identify uncertainties. In the current business environment, organizations often face numerous challenges and risks, creating the need to develop strategies for effective risk management. Risk management might be discussed via integrated or traditional concepts, that hinge on an organization's ability to reduce and avoid risks that can later be transformed into integral opportunities. Employees' perceptions of risk culture influence the overall positivity of the culture within the firm (Sakka et al., 2025). Therefore, policymakers and organizations must develop laws for proper risk management within organizations. Attitudes, beliefs, and common values are built around it, creating the necessity to ensure an understanding of risk management among all organizational employees. In other words, risk management forms the basis of organizational resilience, employee behavior, organizational decision-making, and effective risk handling (Nuhic-Meskovic & Meskovic, 2023). There is a need for the development of digital culture within organizations, as achieving a digital culture is complex and challenging. Digital culture is based on a shared understanding and common assumptions regarding organizational practices in the context of the digital world (Trushkina et al., 2020). Digital culture, therefore, is considered a key part of modern business, leaving its imprints on digital innovation and organizational readiness. To align with emerging technologies, it is important for organizations to focus on developing a culture that can effectively respond to the needs of modern technology. Many organizations have failed to implement modern technology in their operations because they are unable to develop a culture of change among employees. Therefore, it is not possible to transform organizational culture merely by explaining the benefits of digitalization to employees; rather, organizations should create a linkage between the existing culture and the purpose of supporting digitalization while fostering pro-digital behavior (Malewska et al., 2024). The work environment of organizations is changing rapidly, shifting from traditional team structures to the use of digital tools to achieve goals. Currently, pressure on employees is increasing to remain competitive, decision-making is accelerating, and employee roles are evolving due to digitalization. Culture, significantly influence the success of organizations, as it influences all stakeholders. In the present uncertain environment, organizations with a learning culture have a greater ability to thrive and survive. Therefore, a learning culture represents an environment that supports and values employee knowledge at all levels (Sreeja & Hemalatha, 2024). Organizations with a strong learning culture encourage employees to share knowledge, reflect on experiences within the organizational setup, and engage in

experimentation, idea generation, and knowledge sharing throughout the organization. It is important for organizations to develop a learning culture that stabilizes the learning process and highlights the initiatives and activities of each employee (Meher et al., 2025). The knowledge utilization capability of an organization is enhanced when learning initiatives at all levels are integrated into organizational activities, which later affect overall performance. Workers are inclined to remain in the organization because a learning culture positively influences their overall professional careers (Meher et al., 2024). The global market has been revolutionized by the rapid growth of e-commerce. This growth has created numerous business opportunities for organizations to improve their market share (Hund et al., 2021). The adoption of digital technology is necessary for corporations to remain competitive in the marketplace. Therefore, digital innovation has become an important factor for every type of organization. With the help of digital technology, organizations can attract and retain skilled and talented employees who provide access to global markets. Digital technology also enables organizations to compete with much larger counterparts, as it enhances their competitiveness and productivity (Hussain et al., 2025). In the presently evolving and complex business scenario, organizations globally are struggling to achieve and enhance competitive advantage. If an organization is operating in a challenging environment, the vitality of achieving competitive advantage increases many times. The perish and growth of the organization depend on the absence or presence of competitive advantage (Dixit et al., 2021). Organizations can develop skills among employees that are non-replaceable, immutable, scarce, and valued in order to achieve competitive advantage as compared to their competitors. It is vital for organizations to focus on the factors that can develop and improve competitive advantage. Digital technology is one of the important sources to achieve competitive advantage (Xue et al., 2024). Organizations can attain competitive advantage by acquiring resources that are not available to competitors, impacting the overall performance of the organization. Furthermore, organizations are compelled to enhance their performance levels in the current competitive market by providing superior value products and services. Several factors contribute to organizational incapacity, including a lack of innovation, creativity, inability to anticipate market opportunities, and inability to foresee environmental challenges. In this scenario, digitalization importantly creates a competitive advantage and improve organizational performance through a focus on innovation. Therefore, the main objective of the study was to examine the effect of Risk Management

Culture, Digital Culture, Learning culture on digital innovation and competitive advantage.

## 2. LITERATURE REVIEW

### 2.1 Digital Innovation and Competitive Advantage

In literature, competitive advantage is discussed as comparison between organizational achievements and its competitors in same market category (Alghamdi & Agag, 2024). Organizations can achieve competitive advantage by developing harmony between organizational competencies that they possessed and market opportunities that are available. Organizations can demonstrate competitive advantage by their ability to take a type of services or products offered to market having more capability as compared to other organizations (Leão & da Silva, 2021). Corporations can also attain competitive advantage by employing certain special resources that are not available to other competitors. The main aim for the development of competitive advantage to utilize target market at maximum potential. Therefore, organizations must act proactively to gain competitive advantage and implement strategies on the basis of identified advantages (Darmawan & Grenier, 2021). Scholars mentioned that innovation is one of key source to gain competitive advantage. In case of successful innovation, it becomes difficult for the firms to sustain in market and maintain their performance. In studies, digital innovation is referred as business strategies, new processes and products that are enhanced as result of digital technology. Digital innovation that includes advanced digital analytics tools and proprietary software play the role of strategic resource in order to improve organizational ability to outperform competitors (Motamedimoghadam et al., 2025). Organizations need to focus on digital innovation and impact of such innovation on their performance (Shah et al., 2024). Impact of digital innovation is assessed in five different areas including improvisation, skills, scanning of digital evolution, value proposition, and user experience. The development of novel business models, services and products are catalysed by digital innovation. It also helps in fostering new business avenues and revolutionizing organizational processes. Therefore, digital innovation has become one of the important factor for organizations to gain competitive advantage (Kreiterling, 2023). There are three pillars that play the role of foundation of digital transformation. These pillars include transformation of business model, transformation of operation process and transformation of customer's

digital experience. Thus, in present competitive environment, the focus of organizations should be in digital transformation of these mentioned pillars. Digital innovation develops competitive advantage enabling organizations to develop new services and products that create point of differentiation from their competitors. Moreover, such corporations must be capable to fulfil the market requirements and improve their efficiency (Karp et al., 2024). Organizations integrate digital technologies to create superior customer experience, adapt according to market changes and improve innovation cycle, leading to improve financial performance. In other words, innovation develop differentiation, helps in development of competitive advantage that motivates to stay ahead of competitor through continuous innovation (Knudsen et al., 2021). Studies mentioned that digital innovation has significant impact on organizational performance and technical innovation. Innovation improves the quality of product and improves operational performance and creates business linkage. Organizations must digitally transform themselves to remain competitive in present market (Xue et al., 2024). This transformation is the result of utilizing innovative technology to transform industries and achieve significant upgradation. The study of Hidayat et al. (Hidayat et al., 2022) mentioned that digital technology significantly affects competitive advantage.

Drawing from the existing research, we advance the assumption that

H1: There is a significant association between Digital Innovation and Competitive Advantage.

## 2.2 Risk Management Culture and Digital Innovation

Risk management culture is based on collective behaviors, beliefs, attitudes and mindset that prevails within an organisation. It influences the organisational approach to mitigate, evaluate and identify the risk. It is based on the practices, norms and values that effect the way risks within the organisation are addressed, communicated and perceived at all organisational levels (Kunz & Heitz, 2021). The importance of risk management culture is acknowledged through extensive empirical and theoretical research. In order to minimize uncertainties, achieve organizational goals and make informed decisions, strong risk management culture is very important for the organization. All these factors play very important role in minimizing the chances of adverse outcomes. It is important for the top management of the organization to show commitment to manage the risk, advocate for the culture of accountability and foster open communication (Kiefer et al., 2021). Similarly,

organizational norms and values also play very important role to shape risk management culture. Organizations having stronger culture to manage risk often prioritize accountability, transparency and ethical behavior (Settembre-Blundo et al., 2021). Effective risk management empower organizations to drive innovation and seize opportunities. By assessing and identifying risks at the early stage, organizations avoid delays, and costly incidents (Adebayo, 2024). This situation led clients to satisfaction and improved project performance. By systematically responding and evaluating to risks, organizations can easily identify areas where they need improvement, adapt market changes and explore new technologies (Hirzallah & Alshurideh, 2023). Organizations establish environment where employees are encouraged to openly discuss near misses, mistakes and risks, fostering a learning-oriented culture. In the presence of such culture creativity and innovation is promoted. Problem solving skills of the environment enable organizations to seize opportunities and navigate changes effectively. As a result, culture of innovation is developed that enables organizations to maintain competitive advantage and stay ahead of competition (Jin, 2025). A risk management culture creates opportunities for digital innovation provides framework for mitigating risks, assessing risks and identifying risks. They also empower teams to take calculated risks and experiment without fear of failure. On the contrary, organizations having risk averse culture reject new ideas, slow decision-making process and limit experimentation with bureaucratic process. The empirical study by Khadidiatou and Luo (Khadidiatou & Luo, 2024) revealed that strong risk management culture have strong effect on digital transformation.

Considering the preceding literature, we hypothesize that

H2: There exists a significant association between Risk Management Culture and Digital Innovation.

### 2.3 Digital Organisational Culture and Digital Innovation

In present age of digital workforce, it is important for organizational culture to include digital practices in basic practices. In past studies, digital culture is defined as collection of shared understanding and expectations regarding functioning of organization in digital context (Miller, 2020). In other words, digital culture is based on mission, adaptability, consistency, and involvement (Cetinkaya & Surucu, 2025). Digital culture of the organization is perceived to be difficult to change but it can evolve with the passage of time by adapting new digital approaches to reinforce culture in informal and formal ways. It provides the foundation that is required by the employees of organization to implement and recognize change in digital

context. The base of digital culture in the organization is combination of artifacts (Leso et al., 2023). Adaptation of digital culture within an organization involves different methods of external and internal collaboration, artifacts are more evident from the changing structure of digital organizations (Trushkina et al., 2020). Culture of the organization become to add digital tools to the organization to improve overall performance. The basic assumption of the organizations in present age is to integrate IT related practices in their organizational practices with purpose to be more competitive by adopting digital strategy. Organizations can easily create culture that facilitate and encourage the implementation and generation of digital ideas by understanding importance of digital culture. Organizations should develop alignment among digital transformation and organizational culture by gaining understanding of certain cultural behaviors and traits that plays important role in success of digital innovation (Albahri et al., 2023). The leaders of the organization must also influence in developing innovation by digital culture. Organizational leadership convey message to the employees that they must participate in innovation and digital participation for the success of the organization. Employees working in the organization develop a perception that innovation is important to improve communication at all levels of the organization. The generation of valuable and new ideas or work execution in appropriate and novel ways is encouraged that stimulate (Wang et al., 2022). Digital culture that is based on growth mindset, collaboration and experimentation has positive effect on digital innovation. The empirical study by Velyako and Musa (Velyako & Musa, 2024) revealed that digital culture of organization has positive influence on digital innovation.

Consequently, we can suggest that:

H3: There exists a significant association between Digital Organisational Culture and Digital Innovation.

#### 2.4 Organisational Learning Culture and Digital Innovation

Studies have explained organizational culture as transferring, retaining and creating knowledge within the firm (Naqshbandi et al., 2023). Organization improves its operations with the passage of time as it gains experience on the basis of knowledge. The knowledge gained by the organization is diverse covering a number of aspects that are beneficial for the organization. Additionally, (Tripathi & Sankaran, 2021) described organizational culture as sum of organizational conventions, perspectives, principles and protocols that develop constant development and learning. Scholars mentioned that organizational learning culture is correlated to the

performance. The business of the organization transform learning process into a collaborative, expansive and constructive one in which organizational teams learn from task based and structured format that addresses and identifies certain organizational needs (Awad & Martín-Rojas, 2024). High learning and process work system are linked to the advancement of innovation at workplace (Mehralian et al., 2022). Culture within the companies plays very important part in leading and stimulating its workforce towards learning culture. Learning at the organizational level make it easier for employees to promote best practice and share knowledge. Therefore, team members are encouraged to attain digital innovation (Tripathi & Sankaran, 2021). Organizations should focus on establishing groups that can train employees. In such training sessions, employees can work together, ask questions and exchange knowledge by using different tools. It is important that organization must ensure the transfer of knowledge among all members of the organization in order to respond of market changes (Aboobaker & KA, 2021). Organizations can arrange seminars and training sessions to transfer skills and knowledge within the employees. Consequently, a learning culture is developed within the organization. This learning culture helps the organizations in nurturing of new skills and ideas. Learning culture of the organization is helpful for the individual benefit of employees and also for the performance of the organization. It helps the employees to participate in digital practices of the organization. The research by (Zhang et al., 2023) revealed that organizational learning culture has positive influence on digital innovation.

Based on above literature, we present the hypothesis as

H4: There exists a significant association between Organisational Learning Culture and Digital Innovation.

## 2.5 Mediation of Digital Innovation

Literature has discussed direct effect of digital innovation on a competitive advantage (Agustian et al., 2023). Whereas, it has the ability to act the mediator among risk management culture and competitive advantage. Employees working in the organization embrace controlled experimentation, adopt flexible strategies and anticipate uncertainties because of strong risk management culture (Nuhic-Meskovic & Meskovic, 2023). As a result of this cultural mindset innovation is fostered by motivating organizations to use digital solutions in order to improve organizational efficiency and minimize risks. Organizations later can convert risk awareness into opportunities through digital innovation. The proactive opportunities include improved customer experience, improved



data driven decision making and digital processes. Therefore, digital innovation mediates between risk awareness culture and competitive advantage. Furthermore, (Mollah et al., 2024) revealed the mediating role of digital innovation in their study.

Therefore, we can hypothesize that

H5: Digital Innovation is a significant mediator between Risk Management Culture and Competitive Advantage.

Furthermore, digital innovation has the potential to serve as mediator between digital culture and competitive advantage as culture do not have direct effect competitive advantage. With the help of digital oriented culture, employees are encouraged to adopt IT based technologies, continuous learning and openness to change (Hasan et al., 2025). Whereas the cultural values of the organization must be integrated with digital innovation to get some tangible benefits. With the help of digital innovation, cultural traits are transformed into new processes, services and products that improved market responsiveness, stakeholders' satisfaction and efficiency. Practical advantage is developed by cultural readiness by fostering technological adoption and creativity (Rahman et al., 2025). So, digital innovation plays the role of key mechanism by which digital culture develops competitive advantage. The empirical study of (Tsou & Chen, 2023) and (Khin & Ho, 2019) have empirically determined Digital innovation as mediator.

Thus, we can propose that

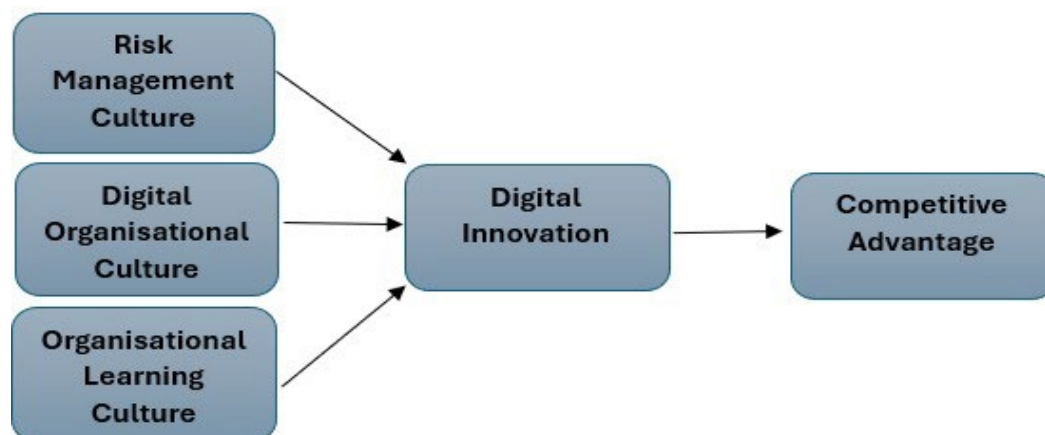
H6: Digital Innovation is a significant mediator between Digital Organisational Culture and Competitive Advantage.

Studies has discussed the mediating role of digital innovation between organizational learning culture (Al-Ayed et al., 2023) and competitive advantage (Mollah et al., 2024). In other words, digital innovation has the ability to be a mediator between learning culture and competitive advantage. The organizations having learning culture often promotes continuous improvement, experimentation, and knowledge sharing among employees. Whereas actionable outcomes must be achieved from these factors. With the help of digital innovation, organizations transform knowledge into customer centred solutions, improved processes and advanced technologies (Awad & Martín-Rojas, 2024). Therefore, the gap between learning culture and competitive advantage is bridged through digital innovation. For this reason, we can hypothesize that

H7: Digital Innovation is a significant mediator between Organisational Learning Culture and Competitive Advantage.

The evidence from the literature leads us to the following theoretical

framework as given in Figure 1 stating four antecedents of competitive advantage. In other words, Three IVs and one mediator create competitive advantage.



**Figure 1:** Framework

### 3. RESEARCH METHODOLOGY

Keeping focus on the organizations based in KSA, this study employed quantitative research methodology. The population of this study was employees based in KSA. The questionnaire was developed to get response from the respondents. Seven Likert scale has been utilized to collect the response from the employees. For this reason, purposive sampling technique was used. The questionnaire items were tailored from the previous studies. the items of risk management culture were adapted from Khadidiatou and Luo (Khadidiatou & Luo, 2024), scale of digital innovation was adapted from Paladino (Paladino, 2007), measurement of competitive advantage was adopted from Khadidiatou and Luo (Khadidiatou & Luo, 2024), scale of learning culture was adapted from Yang et al. (Yang et al., 2004), and the scale of digital organization culture was adapted from Zhen et al. (Zhen et al., 2021). The developed questionnaire was distributed among 350 employees working in organizations based in KSA. Usable response rate was 54.17%. The collected data was analysed using Smart PLS 4 as tool and PLS-SEM as technique. This methodology is one of most suitable one to examine the relationship among proposed variables. Moreover, Ramayah et al. (Ramayah et al., 2018) proposed the usage of smart PLS as tool in case of complex framework. Framework of this study is comprised of one DV, one mediator and Three independent variables. Therefore, using Smart PLS is more appropriate on this model. Additionally, it is one of the

powerful tools to explore the relationship among independent variables, mediating variables, moderating variables and dependent variables.

#### 4. RESULTS

The demographic analysis of the respondent was conducted in the beginning of the analysis. This section examined, age, educational background and gender of the respondent. According to the data, 21.90% of respondents were between the ages of 18 to 30 years, 37.21% were between the ages of 31 to 40 years, and remaining had the age more than 41 years. Moreover, majority of the respondents were male, comprising of 81.01% and remaining 18.99% of respondents were females. In the end, 38.07% of the employees had experience between 0 to 10 years, 42.93% had the experience of more than 11 and less than 20 years and remaining had the experience of more than 20 years. After demographic analysis, measurement model was employed as part of analysis through smart PLS to determine validity and reliability of the data. Later, structural model was employed to determine the relationship between among proposed variables. At the stage of measurement model, reliability and validity was examined by using discriminant validity, convergent validity, composite validity, Cronbach Alpha and factor loading (Suteja et al., 2023).

Table 1(a): Factor Loading

	<b>CA</b>	<b>DI</b>	<b>DOC</b>	<b>OLC</b>	<b>RMC</b>
CA1	0.894				
CA2	0.874				
CA3	0.905				
CA4	0.866				
DI1		0.913			
DI2		0.811			
DI3		0.893			
DI4		0.904			
DI5		0.846			
DOC1			0.592		
DOC2			0.845		
DOC3			0.800		
DOC4			0.766		
OLC 3				0.855	
OLC 4				0.840	
OLC 5				0.820	
OLC1				0.891	
OLC2				0.847	
RMC1					0.916

Table 1(b): Factor Loading

	<b>CA</b>	<b>DI</b>	<b>DOC</b>	<b>OLC</b>	<b>RMC</b>
RMC2					0.901
RMC3					0.912
RMC4					0.901
RMC5					0.870

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

Table 1 of the present research evaluated factor loading. According to Hair et al. (Hair et al., 2007) and Henseler et al. (Henseler et al., 2015), acceptable range of loading for items is more than 0.50. According to Factor loading table, all values of items that were carried forward further analysis had the loading of more than 0.50. Additionally, based on the recommendations Haji-Othman and Yusuff (Haji-Othman & Yusuff, 2022) this study evaluated composite reliability and Cronbach Alpha. These tests are conducted to ensure internal consistency of the data. The threshold recommended for both these tests is 0.70. The values given in Table 2 shows that threshold figure is achieved, Showing acceptable reliability and validity. At the present stage, we examined AVE value as well to ensure convergent validity. Table 2 also shows the statistics of AVE, meeting the threshold criteria explained by Fornell and Larcker (Fornell & Larcker, 1981).

Table 2: Validity

	<b><math>\alpha</math></b>	<b>CR</b>	<b>AVE</b>
CA	0.908	0.935	0.783
DI	0.923	0.942	0.765
DOC	0.752	0.841	0.573
OLC	0.904	0.929	0.724
RMC	0.942	0.955	0.811

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

This research examined discriminant validity by using advanced statistical methods under Smart PLS. Two techniques Fornell and Larcker Criterion and HTMT ratio analysis was used to evaluate discriminant validity. From the perspective of Fornell and Larcker criteria, all figures at the diagonal should be greater than the remaining values of the matrix to confirm the discriminant validity (Fornell & Larcker, 1981). Table 3 shows that this criteria is fulfilled as all values at diagonal (Bold cases) are higher than remaining values.

Table 3: Fornell and Larcker

	<b>CA</b>	<b>DI</b>	<b>DOC</b>	<b>OLC</b>	<b>RMC</b>
CA	0.885				
DI	0.571	0.874			
DOC	0.480	0.391	0.757		
OLC	0.575	0.636	0.318	0.851	
RMC	0.422	0.575	0.264	0.361	0.900

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

Additionally, HTMT criteria was also used for the evaluation of discriminant validity. According to Henseler et al. (Henseler et al., 2015), the values of HTMT matrix should be less than 0.85. Table 4 shows that all values of HTMT matrix are less than 0.85, meeting the criteria. At this stage, measurement model evaluation was successfully achieved.

Table 4: HTMT

	<b>CA</b>	<b>DI</b>	<b>DOC</b>	<b>OLC</b>	<b>RMC</b>
CA					
DI	0.618				
DOC	0.575	0.453			
OLC	0.634	0.695	0.367		
RMC	0.454	0.612	0.305	0.391	

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

Furthermore, authors of this research examined R square value through structural model analysis. The range of R square value is between 0 and 1. Higher the R square value, better will be the relationship among IVs and DVs. R square values are 30.8% and 45.7% respectively Table 5.

Table 5: R Square

	<b>R-Square</b>
CA	0.326
DI	0.561

This research employed path analysis to estimate equations related to all variables. At the later stage of Structural model analysis, proposed hypothesis was evaluated by using bootstrapping technique. Significant of the relationship was assessed based on P and t values. Whereas Beta value determined the nature of relationship among variables. The results of the study given in Table 6, reflects that DI has significant effect on CA (B= 0.571, t=8.764). Similarly, DOC has positive effect on DI with t=2.664, B= 0.149. Also, OLC has positive effect on DI as B=0.455, t=6.016. Likewise, RMC has positive significant effect on DI.

Table 6: Direct Results

	Beta	SD	T Value	P Values
DI -> CA	0.571	0.065	8.764	0.000
DOC -> DI	0.149	0.056	2.664	0.004
OLC -> DI	0.455	0.075	6.106	0.000
RMC -> DI	0.372	0.076	4.908	0.000

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

Indirect Results given in Table 7 shows that DI mediates significantly between DOC, OLC, RMC and CA as T values is more than 1.96. in other word, mediating effect of DI is supported in this research (Figure 2).

Table 7: Indirect Results

	Original Sample (O)	$\Sigma$	T Stats	P Values
DOC -> DI -> CA	0.085	0.034	2.505	0.006
OLC -> DI -> CA	0.260	0.056	4.602	0.000
RMC -> DI -> CA	0.212	0.045	4.674	0.000

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

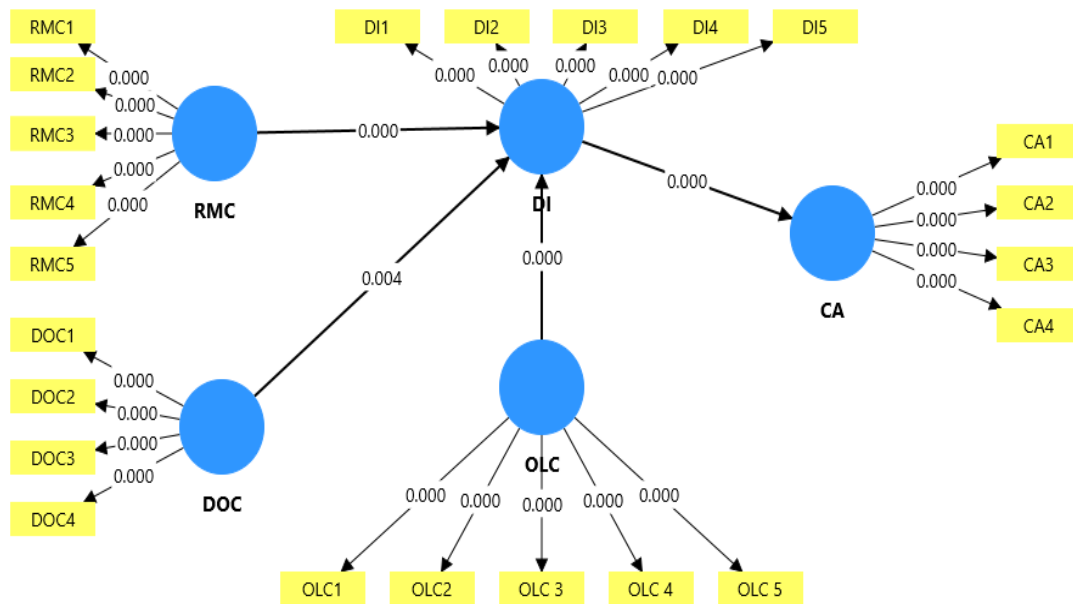


Figure 2: Structural Model

Note: OLC= Organizational Learning Culture; DOC= Digital Culture; RMC= Risk Management Culture; DI= Digital Innovation; CA= Competitive Analysis

## 5. DISCUSSION

Organizations are facing intense competition in the present age of digitalization. They need to assess the organizational factors, including

different cultural elements, that can help in the development of competitive advantage. Therefore, this research examined the effect of different cultural factors, including risk management culture, digital organizational culture, and learning culture, on digital innovation and competitive advantage. The results of the study showed that risk management culture has a positive effect on the digital innovation of organizations. From the managerial point of view, the findings emphasize that risk management culture has deep roots in the practices, norms, and values of the organization. Therefore, these practices become an important element of the digital process. Employees who participated in the research reported that they are encouraged to take calculated risks as a result of the risk management culture. In such a culture, they are encouraged to engage in creative techniques to solve problems and explore new technologies without fear of failure. As a result of such a culture, risk is transformed into a key factor of digital innovation. Participants of the study further shared that collaboration, communication, proactiveness, and transparency between team members are promoted as a result of the risk management culture. When they operate in a strong risk management culture, they feel confident in sharing their experiences regarding digital processes. Therefore, they feel motivated toward continuous improvement in technology. Furthermore, respondents highlighted that organizational learning is nurtured as a result of risk management culture. It is done through reflection on previous projects into strategies for upcoming projects. Alignment between sustainability and organizational objectives is ensured through a consistent risk management culture. In other words, organizations having a strong risk management culture are in a better position to manage change within organizations. Similar findings were reported in the study by Khadidiatou and Luo (Khadidiatou & Luo, 2024) in past. The research suggests that digital culture of organization has positive effect on digital innovation as mentioned by Velyako and Musa (Velyako & Musa, 2024) in past. Respondents mentioned that the digital culture of the organization supports continuous learning throughout the department. Results indicated that employees are willing to support new technology when the organizational culture encourages the use of digital tools. They also mentioned that a technology-friendly environment is created under digital culture, which helps improve the creativity and efficiency of employees. Some of the participants emphasized that employee empowerment and knowledge sharing are promoted in a digital culture. The confidence of employees increases regarding digital projects. They also mentioned that resistance to change is reduced as a result of digital culture, which later

normalizes the integration of digital practices into daily operations. Therefore, innovation becomes the collective responsibility of all employees working in the organization. Moreover, respondents revealed that adaptability and agility are supported in a strong digital culture. Both these factors are important for survival in a rapidly evolving environment. As a result, organizations grow more quickly and meet the demands of market changes. The findings of the study also support hypothesis that learning culture has positive effect on digital innovation. The research by (Zhang et al., 2023) in past pointed similar findings in their study. The reasons behind these findings might be that respondents perceive organizations that cultivate a strong learning culture as those that encourage employees to apply innovative ideas, upgrade technological skills, and acquire new knowledge on a continuous basis in their processes. Respondents further emphasized that employee learning is a fundamental part of their organizational culture, where employees demonstrate adaptability to technological advancements. They also become involved in experimentation by using digital solutions. Participants may also assume that a psychologically safe environment is created as a result of a learning culture, where top management treats mistakes as opportunities for growth rather than failures. From this perspective, employees are motivated to use various digital tools and take different initiatives to solve organizational problems. Some respondents were of the view that a robust learning culture within the organization promotes best practices, allows knowledge sharing, and encourages cross-functional collaboration that accelerates digital transformation. Employees who participated in the study mentioned that leadership support, mentorship programs, and continuous training strengthen the learning culture. This ensures that employees are confident and competent when adopting new technologies. As a result of this culture-driven learning mindset, organizations are able to keep pace with the latest trends in digitalization and play a key role in developing creative solutions in the modern era. The outcomes of the present study statistically support that digital innovation has positive significant effect on competitive advantage. In past, the results of Hidayat et al. (Hidayat et al., 2022) mentioned similar findings in their research as well. The managers mentioned that digital innovation enables their organizations to operate effectively and efficiently. The latest technology allows them to respond quickly to market changes. By using this technology, organizations gain the ability to provide unique value propositions to customers. Organizations can obtain deeper insights into market trends by adopting digital tools, leveraging data analytics, and automating processes. Competitive



positioning is improved as a result of technology adoption. Respondents of the study also indicated that decision-making accuracy and speed within the organization are enhanced because of digital innovation. It allows managers to anticipate customer needs and adapt strategies proactively. Some participants were of the view that they are able to introduce new services and products to the market through digital innovation. This innovation process is much faster than that of their competitors, helping them achieve market leadership. They also noted that the adoption of digital technology in their operations strengthens internal communication, contributing significantly to competitive advantage. In other words, the results show that digital innovation is a vital enabler of competitive advantage. The findings also supported the mediation of digital innovation between risk management culture, digital culture, organizational learning culture, and competitive advantage. According to these findings, digital innovation acts as a bridge between strong risk management culture and competitive advantage. This is because employees feel more confident when they are encouraged to manage risks proactively. In other words, digital innovation translates proactive risk-handling practices into outcomes that are innovative. At this stage, they experiment with new technologies, thereby strengthening the organization's competitive advantage. Organizations having strong risk management culture mitigate potential threats in an effective manner which develops an environment of confidence and security for creativity. Adoption of new technology is encouraged as a result of this structured approach. Resultantly, organizations are encouraged to operate efficiently and provide value to customers. Thus, strong risk management culture develops indirect link with competitive advantage through digital innovation. Results also support the mediating role of digital innovation between digital culture and competitive advantage. It is because digital innovation converts the technology-oriented mindset of the employees towards realistic business outcomes. Integration of digital tools and openness to change are promoted through digital organizational culture. In such a culture, employees are encouraged to adopt, optimize operations, and develop new products leading to the development of competitive advantage. Likewise, digital culture also develops an environment where employees can freely engage in technological collaboration and change. Digital innovation becomes the mechanism through which this culture transforms digital culture into competitive advantage. Additionally, digital innovation plays the mediating role between organizational learning culture and competitive advantage. Basically, digital innovation converts continuous learning and

acquired knowledge into innovative digital solutions. In an organization having strong learning culture, employees learn from the experiences of others and share knowledge. This fosters creativity and adaptability. Because of this mindset to learn, implementation and adoption of digital technologies are facilitated, leading to the development of innovative services and products. The efficiency of the organization is improved through digital innovation, improving market performance. Experimentation and adaptability are also encouraged as a result of continuous learning, and when combined with digital tools, competitive advantage is further enhanced. So, organizational learning culture achieves competitive advantage through digital innovation. This mediating role of digital innovation is also confirmed in studies by (Awad & Martín-Rojas, 2024).

## 6. LIMITATIONS & FUTURE DIRECTIONS

Current study has identified some limitations that might be addressed in further studies. First, this research focused on three cultural factors, namely learning culture, digital culture, and risk management culture. There are other cultural factors that could also be included in this framework. Therefore, it would be interesting to incorporate some of Hofstede's cultural dimensions into future studies. Secondly, this study examined the role of different cultural factors on the competitive advantage of organizations. Future studies should also include variables related to organizational performance. Thirdly, this study examined mediating role of digital innovation using Preacher et al. (Preacher et al., 2007) approach. Future studies are recommended to use Baron and Kenny (Baron & Kenny, 1986) approach of mediation. Fourthly, data of the present study was collected from the decision makers and managers working in the organizations of KSA. Future studies may collect data from the other employees of the organization as well. In the end, organizations chosen for this study were based in KSA. Future studies may select organizations from other part of globe as well.

## 7. MANAGERIAL & THEORETICAL CONTRIBUTION

The present study contributes to the literature from both managerial and theoretical perspectives. From a theoretical point of view, this research adds to the literature by discussing the mediating role of digital innovation.

Most previous studies have examined digital innovation as an independent variable. Moreover, the research contributes to current knowledge by examining three cultural factors like learning culture, digital culture, and risk management culture as independent variables. Furthermore, competitive advantage is discussed as the outcome variable, which has been rarely addressed in past management studies. From a managerial perspective, this research highlights the importance of digital culture and learning culture in fostering digital innovation among employees. In addition, risk management culture should be incorporated into organizational strategy to achieve competitive advantage over competitors. These findings are valuable for researchers conducting future studies.

### Funding

This work was supported by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [Grant Number 252714]'.

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