



## INNOVATION-DRIVEN E-COMMERCE GROWTH, CONSTRAINTS, AND ADOPTION IN ORGANIZATIONAL PRACTICES IN THE 5G ERA

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**Abstract.** Technology-driven e-commerce innovations have redefined how products and services are purchased and delivered online using the wireless 5G networks. With the transformative shift in e-commerce innovation, the commitment to use advanced 5G communication technologies to address e-commerce barriers has remained a determinant of organizational progress. To transform the landscape of e-commerce operations and improve the accessibility of products and services, this study explored the moderating effect of e-commerce barriers on organizational practices and e-commerce innovations based on the 5G network. To understand the impact of e-commerce barriers, 789 duly attested survey questionnaires were used to randomly collect samples from top management personnel from eighteen (18) actively functioning e-commerce companies across Libya. The statistical results show that e-commerce barriers influenced all the dimensions of organizational practices and the effort of e-commerce companies to adopt innovative practices. The coefficients of e-commerce barriers ( $\beta = -0.223, t = -6.21, p < 0.05$ ) on various dimensions showed that e-commerce barriers are the main deterrents to digital transformation. Frequent updates and training on e-commerce innovations are recommended for organizations to align with the innovative trend in e-commerce developmental practices.

**Key words:** E-commerce big data, innovations and entrepreneurship practices, e-commerce barriers, e-commerce innovations in 5G networks.

**1. Introduction.** Innovations in e-commerce (eCommerce) have been electronically driven to address constraints on sales of products and services in a virtual market. eCommerce has witnessed a remarkable shift, with an ever-increasing transformative innovation that enables customers to access various products online regardless of geographical location. Innovative changes in e-commerce have further enhanced customer transactions with features that support cutting-edge technologies that align organizational practices [41, 38]. For instance, the emergence of voice-driven commerce has created a retail market environment that enables customers to choose products that satisfy their needs [19, 46]. Innovations in e-commerce have evolved unprecedented marketing features that fundamentally support enterprises in shaping the retail market. The transformative innovations with 5G have increased service speeds and enhanced connectivity, which drive streamlined supply chains [47]. The improvement in e-commerce innovations is set to improve customer experiences.

Furthermore, the innovation of social commerce is rapidly transforming social media platforms into a potential virtual marketplace using blockchain to secure transactions of products and services over the Internet [51, 54, 53]. Social e-commerce enhances customer confidence in seamlessly initiating transactions. As e-commerce innovations change how products and services are delivered, different innovative features are frequently added to improve customer experience and increase the market size to accommodate more products and services [42, 52, 44, 35].

Organizational practices have evolved various strategies to improve a firm's operations and management [28, 3]. However, the workflow of practice and activities in organizations is driven by managerial philosophy and norms [34, 24]. Organizational practices represent the main structure that addresses eminent complex operations and long-term strategies [8]. [18] in a study noted that effective organizational methods supported and simplified management practices and ensured consistent development. Coherent organizational practices allow firms to

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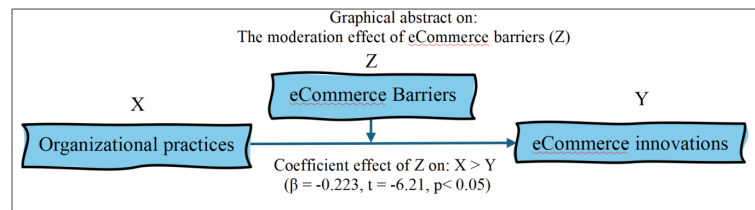


Fig. 1.1: The moderation effect of e-commerce barriers



Fig. 2.1: Dimensions of organizational practices [7]

address barriers that could leverage opportunities to tap ever-transforming technology-driven business features to boost firm performance [5, 15].

Online e-commerce shops have opened new channels for firms and consumers to access various products and services. However, several challenges impede the smooth flow of business transactions and interaction with online customers [24, 49]. These challenges and obstacles are also referred to as barriers to e-commerce that prevent firms and consumers from benefiting. The range of barriers includes technological limits to regulatory complications and consumer trust concerns [33, 56, 43]. In developing countries, particularly Libya, the interaction between organizational practices, e-commerce developments, and e-commerce barriers plays a major role in the future competitiveness of commercial firms.

As e-commerce technology strives to align organizational practices with evolving customer demands, barriers associated with technology are inherent in online transactions. This study addresses the long-standing barriers to e-commerce innovation to establish a full digital economy. A clear understanding of the impact of e-commerce barriers on the complex interaction between organizational practices and e-commerce innovations could improve commercial activities in Libya and the economy.

**2. Organizational Practices.** Organizations systematically adopt a structured approach to manage daily activities and operations to achieve their goals effectively. The management processes that support an organization's overall functioning are called organizational practices [7]. Organizational practices improve over time and are based on collected experience, norms, and management philosophies contributing to achieving a specific goal. Organizational practices cover a range of activities guided by rules and regulations that shape the intended outcome [43, 22]. A study by [7] explained essential organizational practices in five dimensions: management style, decision-making, people's development, process management, and performance management, as shown in Fig. 2.1.

1. *Organizational practices vary across types and regions and are contextually defined by management priorities that align with the core values.*
2. *Management practices are driven by organizational goals.*
3. *Organizational practices were adopted by [7] and have been modified to explain eCommerce innovation based on the 5G network activities.*

4. *Conceptualized dimensions of organizational practices used in this research include management style, decision-making and people development, performance management, and process management.*

Management style refers to the specific approach managers or leaders use to execute their responsibilities and engage different teams to perform their duties within the organizational framework effectively. Decision-making involves picking a course of action or selecting options from numerous alternatives after carefully considering prospective outcomes. People's development is also referred to as employee development, which entails every deliberate action taken to improve the knowledge, skills, and potential of an organization's employees for a specific job. Process management systematically develops, regulates, and optimizes different activities and procedures to achieve organizational goals. Performance management is usually structured and planned and is achieved through careful monitoring, measurement, and improvement of the performance of individual workers or teams. Studies have shown that different activities constituting a firm's practices and operations contribute to human development and strengthen marketing strategies, customer service, and familiarity with technological features for online transactions [57, 16].

The organization's operations and activities are based on management decisions formulated and enforced to achieve specific goals of interest. Studies have shown that decision-making in e-commerce innovation is an important management role that fosters success and determines practices and resource allocation to improve innovation capability. [4] found that multi-criteria decision-making boosted customer investment in e-commerce across India. Decision-making based on an analytical fuzzy hierarchy process and fuzzy tops has been shown to play a key role in improving online shopping among Indians. The decision to invest in e-commerce innovation development has broadened the integration of e-commerce features into mobile and handheld devices with the help of the 5G network. The necessity to strengthen e-commerce innovation through decision-making forms the basis of the second research hypothesis, as follows:

**Hypothesis 1 (H1):** *Decision-making has a positive relationship with eCommerce innovations.*

The relevance of the e-commerce management style has focused on the activity processes that support online customers to initiate and complete a transaction [31, 48]. Studies have shown that e-commerce practices are strongly connected with emerging technology-driven innovations that widen the participation of different stakeholders and the size of products and services online.

**Hypothesis 2 (H2):** *Management style has a positive impact on eCommerce innovations.*

Innovation in e-commerce requires frequent updates, especially on new features that support online transactions. Users' knowledge and experience of new innovative features are important in promoting the sales of products and services. Studies have shown that the influences of people's development on e-commerce innovation affect its adoption, ease of use of innovative features, and the convenience of purchasing or selling products online [38, 21]. Knowledge of e-commerce business practices plays an important role in e-commerce innovation issues. The role of people's development has been demonstrated using a progressive model of cross-border e-commerce innovation and entrepreneurship. It was shown that e-commerce innovation was driven by people's digital development and required transformative reform to align with evolving technological innovations. The necessary knowledge and experience required for e-commerce form the basis of the third hypothesis of this study:

**Hypothesis 3 (H3):** *There is a positive relationship between people's development and eCommerce innovations.*

Process management supports the systematic execution and assessment of e-commerce innovation. This is because organizations' management processes follow specific procedures that support innovations. Studies have shown that the management of e-commerce business processes is required to make organizational practices more efficient and competitive. Another study [27] investigated the effectiveness and efficiency of management processes in e-commerce, considering quality-of-service delivery, employment, and customer retention using a model that focuses on previous literature. The findings show that management processes have a positive relationship with e-commerce innovation. Effective process management sustains innovation features and aligns with organizational practices' overarching strategic vision.

**Hypothesis 4 (H4):** *Process management has a positive impact on e-Commerce innovations.*

Performance management across employees, teams, and broader organizational entities directly impacts e-commerce innovation. Statistical results based on Data Envelope Analysis (DEA) and Stochastic Boundary

Analysis showed that performance management boosted e-commerce practices and promoted technological progress. The impact of performance facilitates easy access of innovation and organizational competitiveness.

**Hypothesis 5 (H5):** *Performance management has a positive impact on e-commerce innovations.*

**3. Ecommerce Innovations.** Technological innovations have transformed the delivery of goods and services via online shops [57, 50]. For instance, integrating mobile devices such as smartphones and tablets into e-commerce platforms has increased the number of mobile shoppers (from 80 million in 2022 to 2.5 billion in 2023). It makes it convenient for potential online shoppers worldwide [37]. eCommerce innovations refer to novel and creative advancements, technologies, strategies, and practices that significantly improve and change how electronic business is conducted [45]. These innovations aim to enhance the online shopping experience, streamline business operations, and revolutionize the digital marketplace [55].

Innovative developments are constantly reshaping online commerce by opening new business opportunities and changing how consumers purchase and connect with brands not available in a local store. The emergence of social media platforms has made it easier to purchase products directly from online stores [53, 28]. In addition, augmented reality (AR) and virtual reality (VR) enable consumers to virtually visualize and interact with products before making a purchase; these features have added value to the e-commerce experience [16]. To further enlarge e-commerce investments, barriers to e-commerce innovations must be addressed to provide seamless online transactions that are more convenient at lower risk [20].

**3.1. Innovations in Organizational Practices.** The adoption of e-commerce has reduced the costs of products purchased online in Libya [40] and globally [30, 36, 39, 6]. eCommerce store presents a simplified product inventory of an organization in a format that can be accessed by online users. Organizations using eCommerce platforms do not need to purchase premises or physical space to store products and, by doing so, reduce initial costs. eCommerce has enlarged the global business platform for organizations in Libya, allowing them to provide products and services globally.

**4. Ecommerce Barriers.** eCommerce practices and innovations are influenced by organizational, technological, financial, and external constraints [21]. E-commerce barriers affect an organization's capacity to achieve a desired outcome. Technological barriers relate to outdated hardware or software that is incompatible with innovation or difficult to integrate with new development or existing systems. Financial barriers refer to limitations arising from inadequate financial resources or that make it difficult for organizations to engage in e-commerce activities. External barriers arise from economic conditions, regulatory changes, market dynamics, technological advancements, cultural differences, and competitive pressure.

E-commerce barriers refer to factors that restrict the sales of products and services in organizations [7]. These barriers potentially influence organizational practices and the adoption of e-commerce innovations [14, 17, 2]. The success of e-commerce depends on the effort to address e-commerce barriers to unlock the possibilities of e-commerce benefits and to facilitate its widespread innovation [17]. Barriers to e-commerce can be observed at any stage in the organizational process, and its influence is more pronounced in online transactions, digital security, customer confidence, cross-border trade, and compliance with online regulatory requirements [12, 10].

**Hypothesis 6 (H6):** *eCommerce barriers harm the dimensions of organizational practices.*

**4.1. Ecommerce Barriers in Organization.** E-Commerce barriers constrain the advancement of commerce practices and reduce opportunities to widen their application. The success of organizational practices has been built around sales and productivity, which can only be effective and efficient in the digital age with e-commerce innovations. Barriers to e-commerce innovation affect organizational practices, development, and competitiveness.

E-commerce barriers negatively affect the seamless functionality and progress of e-commerce innovation [10]. A study on the effect of e-commerce barriers in Bangkok's small and medium-sized enterprises (SMEs) concluded that technology innovation prevented organizations from using e-commerce websites to sell products and services [9]. Other studies have shown that barriers to e-commerce progress significantly drop organizational development. The potential of management practices is drastically reduced by technological innovation, necessitating organizational planning to improve technological tools to enhance e-commerce adoption [13, 25, 58, 1].

The barrier to e-commerce requires urgent attention if enlarging the e-commerce market and enhancing

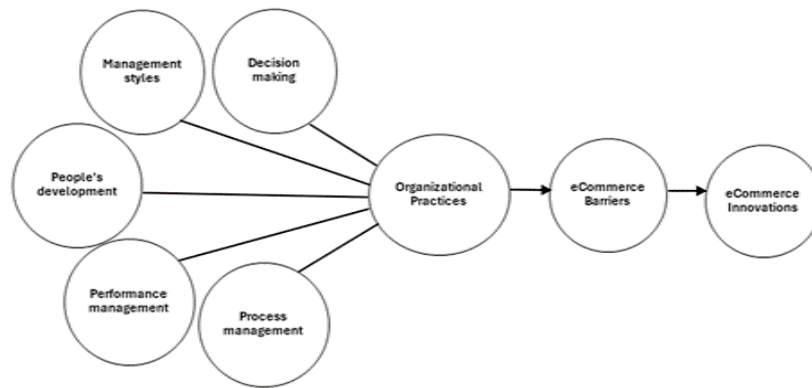


Fig. 4.1: The Research Framework.

organizational practices are interesting. Efforts to address e-commerce barriers can be translated into competitiveness, further improving income sources and organizational functionality.

**Hypothesis 7 (H7):** *E-Commerce barriers have a negative moderating impact on the relationship between organization practices and e-commerce innovations.*

The research framework of this study is shown in Fig. 4.1.

**5. Research Method.**

**5.1. Participants and Procedures.** The sample of this study comprised respondents from Libyan enterprises that were actively engaged in e-commerce practices. The selection process was on temporal engagement and included e-commerce employees with five to over 60 years of practical experience in e-commerce transactions in purchasing and selling products. These criteria for data collection were strategically implemented to secure reliable data and maintain the overall quality of the research findings. A total of 18 commercial companies that used e-commerce platforms across Libya were involved. The research target population focused on top employees with varying years of experience in playing different roles. Random sampling is appropriate for addressing biases from shared preferences and inclinations [45, 26]. valid research sample comprised 789 responses, which constituted 87.67 % of the total samples and was above 60% acceptable threshold for data analysis [11, 29].

**5.2. Measures.** E-Commerce barriers in the relationship between organizational practices and e-commerce innovations require substantial data to analyze the prevailing barriers quantitatively. Quantitative research based on a survey design was used to collect data from respondents. Participation in the survey was voluntary, and the research instrument was aligned to explore barriers to e-commerce innovation in Libyan organizations. Research ethics ensured confidentiality, response anonymity, and non-disclosure of information to third parties. The research instrument contained 54 items structured on a five-point Likert scale ranging from strongly disagree to strongly agree.

**6. Result and Discussion.** The analysis presented in this section contained descriptive coefficients that summarized respondents' information relative to their knowledge of e-commerce practices and innovation across various organizations in Libya. Gender, age, tenure of service in e-commerce organizations, education, and management level were used to explain the respondents' views and perspectives relative to the study context. Statistical analysis shows that the dataset is characterized by experienced managers in various departments such as marketing, sales, services, products, regional managers, businesses, and research and development managers. The demographic distribution of presented in Table 6.1.

The means, standard deviations, and correlation statistics of the research variables are presented in Table 6.2. The central tendencies, denoted by the mean and standard deviation, explain the item variation. The

Table 6.1: Demographic profile of the respondents (N = 789)

Variables	Category	Frequency (N)	Percentage (%)
Gender	Male	531	67.3
	Female	258	32.7
Age structure	< 25	113	14.3
	25-35	270	34.2
	35-45	202	25.6
	45-55	162	20.6
	55-60	30	3.8
	> 60	12	1.5
Tenure of services	Less than < 1 year	99	12.5
	1-5 years	223	28.3
	5-10 years	249	31.5
	10-15 years	135	17.1
	15-20 years	58	7.4
	> 60	25	3.2
Level of education	Less than bachelor's degree	106	13.4
	Bachelor's degree	536	68.0
	Masters	130	16.5
	Doctorate	17	2.1
Management structure	Marketing manager	161	20.4
	Sales manager	168	21.3
	Service manager	128	16.2
	Product manager	110	13.9
	Regional manager	28	3.6
	Business manager	112	14.2
	Research and development manager.	82	10.4

interrelationships between variables were determined using correlation coefficients. A diagnostic measure was used to identify multicollinearity; the outcomes of the descriptive analyses are presented in Table 6.2.

Table 6.2 presents a detailed description of the variables using means and standard deviations. Analysis based on five Likert scale formats of the research items showed that the mean value for the dimensions of organizational practices was over 70 %.

Management style had a mean value of 3.60 (72 %) and was highly dispersed at SD = 0.89. Decision-making was 3.76 (75.2 %) and was highly dispersed from the mean value at SD = 0.73. Performance management had a mean value of 3.71 (74.2 %) and was well dispersed from the mean value at SD = 0.66. People's development had a mean value of 3.69 (73.8 %) and was dispersed from the mean value at SD = 0.67. Process management had a mean value of 3.64 (72.8 %) and was widely dispersed from the mean value of SD = 0.83. eCommerce barriers had a mean value of 3.62 (72.4 %) and were dispersed away from mean value at SD = 0.76. eCommerce innovations with a mean value of 3.41 (68.2 %) and were dispersed from the mean value at SD = 0.84. The results showed a moderate positive correlation between the e-commerce barrier, dimensions of organizational practices and e-commerce innovations ranging from  $r = 0.41$  to  $r = 0.61$ .

**6.1. Measurement Model.** The moderated role of e-commerce barriers on the direct relationship between organizational practice dimensions and e-commerce innovations was evaluated. The statistical results for compound reliability and discriminant and convergent validity based on confirmatory factor analysis (CFA) are presented in Table 6.3. The accuracy of the findings was used to generalize innovative e-commerce practices across organizations.

The validity and reliability analyses provided insight into the overall quality of the measurement outcomes on factor loadings ranging from 0.682 to 0.772. Factor loadings exceeding 0.50 indicated a significant relationship with latent constructs [23, 32]. Average variance (AVE) was used to validate the convergent validity of each

Table 6.2: Mean, standard deviation, and correlation

Factors	Mean	SD	1	2	3	4	5	6	7
MS	3.60	0.89	1						
DM	3.76	0.73	0.41**	1					
PD	3.70	0.67	0.51**	0.48**	1				
PM	3.64	0.83	0.50**	0.55**	0.54**	1			
PfM	3.71	0.66	0.47*	0.52*	0.54**	0.52*	1		
eCB	3.62	0.76	-0.32	-0.41*	-0.42*	-0.40*	-0.26	1	
eCI	3.41	0.85	0.61*	0.60*	0.60**	0.51**	0.58**	0.41**	1

Note: \*  $P < 0.01$ ,  $P < 0.05$ , \*\*

Table 6.3: Validity and reliability of the research instrument

Variables	Factor Loading	AVE	MSV	CR
DM	0.740	0.548	0.405	0.859
MS	0.742	0.553	0.427	0.861
PD	0.741	0.551	0.440	0.880
PM	0.772	0.596	0.450	0.856
PfM	0.682	0.531	0.448	0.850
eCB	0.730	0.535	0.382	0.902
eCI	0.754	0.570	0.473	0.889

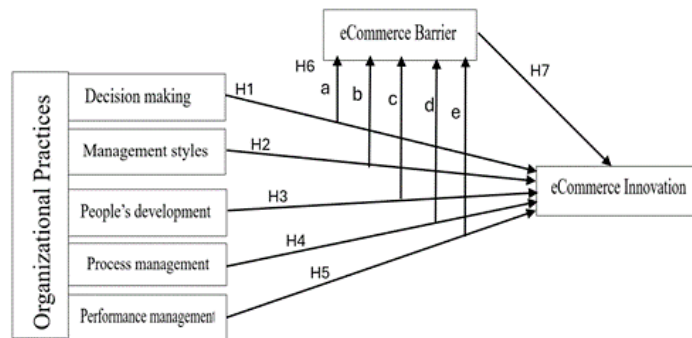


Fig. 6.1: Hypothetical path of the research variables

research factor. The two distinctive evaluation steps were compared between maximum shared variance (MSV) and AVE values and between correlation coefficients and the square root of AVE. The analysis showed that AVE values were superior to MSV. Composite reliability (CR) coefficients for the research variables ranged between 0.850 and 0.902, which exceeded the minimum threshold of 0.70 [32].

**6.2. Hypothetical Path Analysis.** The hypothetical path (H1 – H7) of the research hypothesis reported in this study is shown in Fig. 6.1. Different steps were adopted to provide an extensive evaluation of the relationships between the research variables. The relationship effect of the dimensions of organizational practices with e-commerce innovation (H1 – H5), as well as e-commerce barriers (H6) and the moderating effect of e-commerce barriers on e-commerce innovation (H7) were defined on the hypothetical path shown in Fig. 6.1.

Multilevel hierarchical regression (MHR) statistical analysis addressing the research hypotheses examined the effect of e-commerce barriers on the dimensions of organizational practices and e-commerce innovation. The influence of e-commerce barriers was classified into four steps representing a model of relationship across

Table 6.4: Validity and reliability of the research instrument

var	Step 1		Step 2		Step 3		Step 4	
	$\beta$	$T$	$\beta$	$T$	$\beta$	$T$	$\beta$	$T$
DM	0.49	12.07**	0.51	13.27**	0.52	14.11**	-0.31	-763**
MS	0.39	7.68*	0.4	7.84*	0.42	9.10**	-0.15	-2.79
PD	0.36	6.39*	0.38	6.73*	0.38	8.04**	-0.22	-4.71*
PM	0.45	9.34**	0.45	10.17***	0.47	12.04***	-0.19	-4.52*
PfM	0.4	8.20*	0.41	8.64**	0.43	9.62**	-0.14	-2.56
Moderation role of eCB								
eCB	-0.22	-5.92*	-0.22	-6.21*				
$R^2$	0.627							
Note: * $P < 0.05$ , ** $P < 0.01$ , *** $P < 0.001$								

research factors, as shown in Table 6.4.

Table 6.4 is structured in four steps, with each measure representing a specific analysis that addresses the hypotheses of this study. The regression model results showed that the coefficient of decision-making varied ( $\beta = 0.4880.522, t = 12.0714.11$  at  $p < 0.001$ ), the coefficients of management style ranged ( $\beta = 0.387 - 0.415, t = 7.68 - 9.10$  at  $p < 0.01$ ), people development ( $\beta = 0.362 - 0.380, t = 6.39 - 8.04$  at  $p < 0.01$ ), process management varied ( $\beta = 0.447 - 0.466, t = 9.34 - 12.04$  at  $p < 0.001$ ) and performance management ( $\beta = 0.399 - 0.425, t = 8.20 - 9.62$  at  $p < 0.01$ ). The analysis showed varying degrees of impact of the dimensions of organizational practices, addressing hypotheses H1 - H5. The impact of e-commerce barriers on all dimensions of organizational practices (H6) was negative (presented in step 4). The model coefficient of e-commerce barriers on eCommerce innovation varied ( $\beta = -0.219$  to  $-0.223, t = -5.92$  to  $-6.21$  at  $p < 0.05$ ), which indicated a high adverse impact on eCommerce innovation which addressed the seventh hypothesis (H7). The statistical results show various negative effects of e-commerce barriers on the dimensions of organizational practices and e-commerce innovation. The adverse effects pose a significant limitation to e-commerce innovation based on the 5G network. Different models were classified under different steps to provide insight into varying influences of unresolved barriers. It is essential to acknowledge that incorporating the 5G network has significantly improved e-commerce services, considering high-speed communications and services as well as operational efficiency. However, organizations and businesses must consider the need for regular training employees, the high cost of 5G infrastructure, and regulatory challenges across locations legally supported by the services. This knowledge could enable organizations to plan and execute an effective and efficient business strategy properly. A summary of the findings on the benefits and constraints associated with e-commerce innovations based on the 5G network are presented in Table 6.5.

**7. Conclusion and Recommendation.** The present research successfully explored the impact of e-commerce barriers on organizational practices and e-commerce innovations in the 5G networks across firms in Libya. The performance of e-commerce organizations has demonstrated a commitment to adopting e-commerce innovation. Still, it has not earned a full dividend regarding e-commerce benefits because of the overriding e-commerce barriers. The 5G networks present significant opportunities for enhancing performance, customer experience, and operational efficiency of e-commerce. Therefore, prioritizing the innovativeness of e-commerce while addressing the barriers could open more opportunities to improve organizational competitive advantage. The data analysis reported in this study was well-structured to provide the depth of insight needed to clearly explain the differing barriers constraining e-commerce innovation at the organizational level. This finding can strengthen decisions on e-commerce innovations and practices to improve the customer experience. Preferences for a well-informed decision to improve employees' knowledge and skills on innovation and strategic practices to boost e-commerce practices are prerequisites for a successful e-commerce venture. Opportunities for continuous skill acquisition relative to e-commerce innovations will further empower employees to use diverse, innovative features to leverage competencies. Organizational leaders at the forefront of e-commerce innovation could be better positioned to handle e-commerce if they can assess the range of resources. Organizational practices must



Table 6.5: Research summary on 5G network innovations and e-commerce organization constraints

eCommerce Innovations using 5G Network	Constraints using 5G Network
High internet speed: The 5G network supports faster transactions and improves customer’s shopping experience.	High cost of 5G infrastructures: Investments in 5G infrastructure require a huge amount of capital.
Rich Content: 5G seamless video streaming supports sales of products and services online and enhances advertisement of various contents.	Complexity with using the 5G network: Businesses require an upgrade to use innovative features of 5G such as augmented reality (AR) to enjoy faster services.
Improved customer experience: Online customers enjoy improved features and shopping experience of 5G based innovation.	Compatibility with older devices: Most widely used devices are not supported by 5G; limiting its adoption by most organizations.
Enhanced customer engagement: Fast communication and service using an advanced 5G network enable customers to engage in live chat shopping.	The risk with privacy and data security: Increasing the speed of data transmission tends to increase the vulnerabilities to cyber-attacks.
Real-time data processing: 5G enables e-commerce organizations to adopt real-time inventory tracking, and facilitate faster ordering of products and services.	Overloading of network: Congestion during peak times could slow down customer’s access to service websites.
Efficient services: Faster network services with customers across different business operations support timely and efficient transactions.	Complexity with regulatory challenges: Incorporation of the 5G network strictly follows new regulations and environmental concerns that may complicate business compliance.
Improved decision and management services: Integration of 5G enables real-time tracking and optimization of management inventory and delivery speed of products and services.	Digital divide: The 5G network requires a certain level of sophisticated device that is not available to all consumers and as such, creates inequalities among users.
Enhanced growth of e-commerce innovations: E-commerce organizations can provide faster and more reliable services with a 5G network.	Constraints on service expectation: 5G network infrastructures are not available for customers in the less developed areas leaving service in some areas slower.

adopt a sound management style that supports the use of technology to foster efficient management operations and development endeavors. This decision could promote collaboration and support process management and employee performance. The 5G technology is set to play a significant role in maintaining efficient decision-making processes across various e-commerce organizations. Its capabilities in terms of service speed and access to data with connectivity to an automation system could contribute to making timely decisions and responding fast to online customer’s needs. With the fast and flexible 5G network, management can quickly optimize various practices, adapt to situational changes to improve performance, and collaborate to equip online service teams better. To broaden the e-commerce experience, people’s development will require urgent attention, especially in providing expatriates needed to improve the online sales of products and services.

The barriers relative to online shops affect potential customers’ preference to purchase or order from e-commerce firms’ services. A negative influence on organizational practices affects the advancement of e-commerce innovations. The impeding influence associated with organizational practices should be advocated to ease the integration of novel technologies and methodologies.

Valuable insights from the research findings could foster long-term e-commerce growth and support businesses in successfully adapting to dynamic digital markets by leveraging the sale of products and services across regional boundaries. In conclusion, e-commerce barriers have an unfavorable effect on organizational practices and adopting e-commerce innovation. The effectiveness of organizational practices drops with the emergence of barriers, as does their capability to fully harness the potential of e-commerce innovation.

Appropriate management practices should be formulated based on the findings of this study to address impeding barriers specifically. E-commerce strategies must be aligned with overarching organizational practices to address issues with technological innovations. To seamlessly utilize e-commerce opportunities, there is a need

for collaboration and partnerships with technology providers and logistics companies and to improve payment methods. Training and skill development opportunities should be provided to improve and update e-commerce employees with emerging technological innovations and development trends. This will empower e-commerce workers to contribute immensely to e-commerce innovations and organizational progress. The findings of this study confirm that barriers to e-commerce affect different dimensions of organizational practices and reduce opportunities to sell products and offer services online. Top managers' knowledge of consumers requires close observation to understand how e-commerce barriers influence online business.

Management practices for the diversification of revenues are expected to combine corporate commitment and online selling approaches to ascribe the contribution of innovation to e-commerce progress. This study has successfully outlined the detrimental effect of e-commerce barriers on the development of online businesses. Therefore, the transformation of innovative e-commerce practices starts by addressing barriers that affect the use of innovative tools that support online business and, thus, e-commerce versatility. Managers can also use information and data from different sources to foster management processes and performance management. This will increase transparency and the efficient delivery of products and services based on the actual situation. The risk of merchandise running out of stock can be controlled by thoroughly evaluating e-commerce practices using information and data from different sources.

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