

-RESEARCH ARTICLE-

THE RELATIONSHIP AMONG INFORMATION QUALITY, INFORMATION SYSTEM AND INFORMATION AND COMMUNICATION TECHNOLOGY AND BUSINESS MANAGEMENT OF TEXTILE FIRM'S TEXTILE: MODERATING EFFECT OF ORGANIZATIONAL SUPPORT

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Citation (APA): Ameer, S. A. A., Almoussawi, Z. A., Shaker, R. M., Ali, M. H. Saleh, A. Y., Abed, H. M. (2022). The Relationship Among Information Quality, Information System And Information And Communication Technology and Business Management of Textile Firm's Textile: Moderating Effect of Organizational Support. *International Journal of eBusiness and eGovernment Studies*, 14 (3), 120-138. doi:10.34111/ijepeg.202214185

—Abstract—

This study aimed to examine the impact of information quality, information systems, and information and communication technology on business management in Iraqi textile firms while accounting for the moderating effect of organization support. To achieve this purpose, senior managers of textile enterprises in Iraq were selected for data collection using a method of easy sampling. There were 300 surveys issued to information technology managers, of which 200 were returned. The Partial Least Square (PLS)- Equation Modelling Technique (SEM) was used to evaluate the measurement and structural models; the quantitative and cross-sectional research methods were also employed. The structural model demonstrates that information quality, information systems, and information and communication technologies significantly and positively affect corporate management. Organizational support moderates strongly and positively information quality, information systems, and business management, while it moderates significantly between information and communication technology and business management. This considerable moderating impact demonstrated that this was a pioneering work in the extant literature that might contribute to a body of information that would aid future researchers. The findings could also aid senior managers, business owners, regulatory authorities, and policymakers in understanding the significance of information and communication technologies, information systems, and information quality for business management.

Keywords: information system, information quality, business management, organizational support.

1. INTRODUCTION

Because business management is a crucial aspect that receives a great deal of attention in the contemporary climate, this topic will be discussed in length (North, 1997). The management of an organization is one of the most influential variables in determining a firm's success (Ferreira). Ferreira Gregorio et al. (2018). When an established company has poor management, it can result in the company's collapse. Still, when the management team is competent, the industry can be brought back from the brink of extinction. A successful management strategy for a firm depends on several variables, including an information system (INS), information quality (INQ), and information and communication technology (ICT) that can impact business management in a positive manner (Lekhawichit et al., 2022). Numerous studies, like Buhari et al. (2020) and Liao et al. (2020), have been conducted on the significance of technology-related resources for the success of enterprises, which is crucial to the functioning of any organization in the present day. Companies worldwide rely on their internal and external resources to exchange information within and outside their organizations. How information is screened and disseminated considerably impacts corporate management (Sudrajat et al., 2019). For this reason, businesses must invest in technology resources to ensure that the

required data is delivered through the proper channel within the requisite period and on demand (Saidin et al.).

As previously discussed, INQ, INS, and ICT are significant business management indicators (BUM). As a result, as the global textile industry becomes more competitive (Lekhawichit et al., 2022), the significance of ICT, INQ, and INS in textile firms increases. The textile business relies substantially on data obtained from external sources to comprehend market trends and respond appropriately. Due to faults in the company's fabric information and sharing system, several arguments arise. In 2018, the textile industry in Iraq significantly contributed to GDP. In 2019, the contribution of the surplus to GDP reached a new low of \$4.33 trillion. The same trend continued in 2020, reaching \$3.96 trillion. This deteriorating tendency compels a thorough examination of this sector of the Iraqi economy.

In contrast, the textile sector in Iraq has begun to expand. Enhancing the BUM, INQ, INS, and ICT levels were not considered further. As prior research has demonstrated, these indicators are significant determinants that could help firms raise their BUM (Lekhawichit et al., 2022). Therefore, it was impossible to disregard the significance of these three indicators.

In light of the prior discussion, this study experimentally addresses the following research gaps in addition to addressing practical concerns: In contrast to Azemi et al. (2018)'s examination of the relationship between INQ and policymakers, this study will concentrate on the relationship between INQ and BUM. There is a shortage of studies on the moderate influence of INQ on BUM in Iraqi textile businesses, and this connection has not been tested previously. This study will examine the moderating effect of IT, whereas Peng et al. (2016) examined its mediating effect. In addition, most prior research has focused on the personal impact of INQ, INS, and ICT on BUM (Lekhawichit et al., 2022), whereas the combined effects of INQ, INS, and ICT on BUM have received scant attention. In addition, previous studies have focused primarily on the impact of INQ and ICT on BUM. In contrast, INS, as an exogenous variable, has received comparatively less attention than the other two independent variables, INQ and ICT.

On the other hand, the effect of INS on BUM has received minimal study (Aydiner et al., 2019; Gofwan, 2022). In addition, past research has focused more on the direct influence of INQ, INS, and ICT on BUM and less on the indirect effect with organization support as a moderator. Organizational support could therefore be employed as a moderating variable.

Information quality (INQ), information systems (INS), and information and communication technology (ICT) are related to business management, as demonstrated by the preceding discussion. In addition, the literature suggests that organizational support (ORS) is an important indicator for managing an organization's resources that

could lead to an increase in BUM. Moreover, past studies have primarily concentrated on other industries and have paid little attention to the textile industry, where these resources are effectively utilized. This study aimed to examine the influence of IQN, information systems, and ICT on BM, with the moderating effect of organizational support for Iraqi textile enterprises.

This was a pioneering study in the extant literature that contributed a body of knowledge to aid future researchers. The findings could also help senior managers, business owners, regulatory authorities, and policymakers understand the significance of information and communication technologies, information systems, and information quality for business management. Introduction, literature review, research methodology, data analysis, and discussion of results constituted the five aspects of the research.

2. LITERATURE REVIEW

2.1 Effect of Information Quality on Business Management

The global business climate is unstable, characterized by continually shifting corporate environments and severe competition. In addition, many businesses and other organizations are researching supply chain procedures to improve Iraq's business administration effectiveness. High-quality data that promotes robust business expansion and removes multiple inequities is necessary to optimize the supply chain process. By integrating information quality (INQ) with business management more effectively, the textile industry can attain greater expertise and productivity (BM). [Buhari et al. \(2020\)](#) researched the INQ and its impact on the decisions made by the control committee of a corporation. Multiple studies were conducted to determine the effect of INQ on BM. This study illustrates the significance of positive information exchanges for businesses and the utility of high-quality data in this setting. Effective INQ increases business management, as determined by [Kullada et al. \(2021\)](#)'s study of the influence of digital INQ on business customers. According to [Mendling et al. \(2020\)](#), INQ is significant in BM. Approaches for achieving this objective are based on prior research addressing certain interrelated issues.

2.2 Effect of Information Technology on Business Management

Synchronize and coordinate the information flow that enables the supply chain to connect production, management, procurement, and distribution. In addition, it significantly facilitates industrial organizations' decision-making processes and business management practices. IT is a critical need in Iraq's textile sector, significantly enhancing corporate control. In addition to optimizing the supply chain, exceptional IT support enabled efficient textile production planning. [\(Wadhwa et al., 2018\)](#) utilized multiple web platforms to implement IT to enhance company management. Multiple statistical procedures and parts of information technology have been applied to build effective solutions. The study demonstrates that effective IT innovation improves BM.

Toskin et al. (2021) examined the factors associated with decreased employee turnover rates among many IT workers. IT contributed more to social, extrinsic, and recreational rewards due to positive statistics and survey techniques. The research delivers important and timely findings regarding the impact of IT on BM utilizing an effective compensation mechanism. Naidoo et al. (2018) evaluated the strategic value of IT in firms and discovered that it had a favorable and substantial impact on BUM. According to additional research by Oláh et al. (2018), ICT in businesses is a strong determinant of earnings and revenues. In addition, Lee et al. (2020) discovered that ICT is a significant component of corporate management.

2.3 Effect of Information Systems on Business Management

The penetration of information systems (INS) varies greatly amongst industries (Asemi et al., 2011). According to Oz (2005), organizations may convert INS expenditures in various ways into productive outputs, although this relationship has not yet been established. Consequently, a previous study classified enterprises into two major categories: manufacturing and services. In other words, the industry or setting in which the research was conducted provides a different significant approach. Prior studies on this topic can be divided into the service sector, which includes banks (Goldberg, 2009) and the manufacturing sector (Tuppin et al., 2010). (Klocke et al., 2009; Mehrabi et al., 2000). In the manufacturing sector, results were variable and received little consideration. Some of these studies revealed advantageous correlations, while others showed the opposite. Numerous studies have investigated the effects of INS on organizational environment and performance. This study's findings indicate that context is an important variable, and INS with moderating variables might influence performance more. Others have argued that IS directly strengthens organizational structure and productivity (Akbar et al., 2015). The literature demonstrates that INS has been employed as an independent variable with performance or as a moderating variable. Still, it has received little attention as an independent variable in business management.

2.4 Moderating effect Organizational Support

As a result of global technological advancement, INQ is recognized as a significant instrument for various textile problems. The proactive approach to INQ can only be realized with the assistance of an organization. The moderating effect of organizational support for BUM is usually supported by a considerable body of studies devoted to better corporate management (Fakhari et al., 2021; Lekhawichit et al., 2022). Aydın et al. (2019) emphasize organizational support and demonstrate that organizational support is essential and advantageous for INQ and BUM. Alawaqleh (2021) investigated ORS's favorable and statistically significant effect on BM and concluded that ORS affects INQ and INS to improve BUM. Cho et al. (2019) explored the impact of INQ on diminishing management efficiency and suggested that better organizational support for INQ, which might aid in boosting BUM, be implemented. Ajibade et al. (2020) studied other aspects that significantly contribute to the management intelligence of an organization. To

demonstrate the significance of INQ and BUM, simplified models were employed. This study indicates that INQ positively affects BUM by promoting efficient business records. [Ding et al. \(2019\)](#) examined the influence of ORS on INQ and BUM by employing structural equation models and various referees. The current study indicates that ORS modifies the link between INQ and BM.

Moreover, information and communication technologies (ICT) are significant in many parts of the world due to their extensive possibilities. Thanks to technological developments, real-time data throughout the supply chain is becoming increasingly feasible ([Demestichas et al., 2020](#)). This enables more effective communication with merchants and purchasers, whose influence on BUM is greater at any time and location. The firm's considerable ICT assistance enhances numerous aspects of BUM. [Mathafena and Mathafena et al. \(2021\)](#) investigated the business characteristics contributing to organizational success. The research emphasizes the importance of organizational support for the advancement of ICT, and IQ might lead to an increase in BUM. They also stated that organizational support for the advancement of ICT could contribute to the rise in BUM.

Moreover, businesses that allow for more flexible scheduling improve their use of technology and overall business operations efficiency. [Willis et al. \(2018\)](#) examined the effect of IT on BUM, demonstrating a clear association between IT and BUM despite the traditional barrier between police administration. [Nair et al. \(2019\)](#) examined the technique of incubating business processes to prevent managerial failures. Multiple-variable dynamic process models were built to deepen comprehension of these incubators.

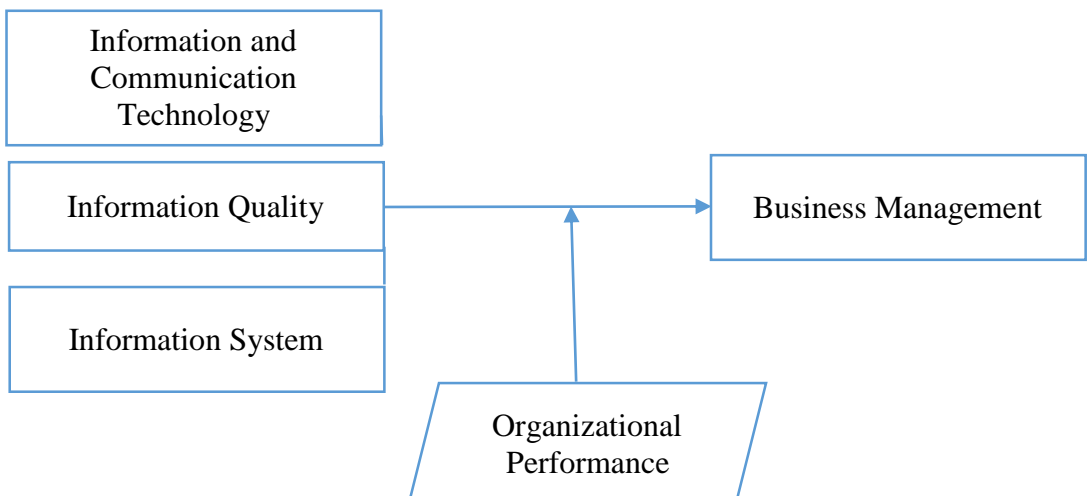


Figure 1. Research Framework

Further, it was stated that BUM could be improved by providing organizational and technological support for a greater focus on ICT. [Edmondson et al. \(2019\)](#) investigated the relationship between the emotional tiredness of organizational support and organizational resources that could aid in boosting the BUM. In other words, [O'brien et al. \(2006\)](#) discovered that BUM through the INS could be reduced by focusing more on organizational support. In a previous study ([Lekhawichit et al., 2022](#)), organization support was employed as a moderating variable in the association between ICT, IQ, and BUM; however, the moderating effect was minor since the exogenous variable INS was not taken into account. Therefore, organization support might be employed as a moderating variable alongside the extended model of INS as an independent variable in the current study. In addition to gaps, the study's research framework is outlined below.

Information quality (INQ), information systems (INS), and information and communication technology (ICT) are related to business management, as demonstrated by the preceding discussion. In addition, the literature suggests that organizational support (ORS) is an important indicator for managing an organization's resources that could lead to an increase in BUM. Consequently, based on these relationships, the following study hypotheses are formulated:

H1: information quality has a positive and significant influence on business management.

H2: information system has a positive and significant influence on business management.

H3: information and communication technology has a positive and significant effect on business management.

H4: information quality has a positive and significant effect on business management with the moderation role of organizational support.

H5: information system has a positive and significant effect on business management with moderation role of organizational support.

H6: information and communication technology has a positive and significant effect on business management with moderation role of organizational support.

2.5 Research Design and Instrument Development

The purpose of this study was to examine the influence of information quality (INQ), information system (INS), and information and communication technology (ICT) on the business management (BUM) of textile firms in Iraq, with the moderating effect of organizational support (ORS). The quantitative research methodology was chosen because its acceptability and validity are greater than qualitative study methods ([Pluye et al., 2009](#)). A cross-sectional research design was employed because the data was gathered through a self-administered questionnaire. In addition, the research was

explanatory because the preceding theory was used to examine the hypotheses (Rodgers et al., 2003). The questionnaire was borrowed from prior studies in which it had been utilized. The INQ consisted of five questions drawn from the investigation (Lekhawichit et al., 2022). The nine components of ICT were derived from the study of (Lekhawichit et al., 2022).

In addition, the INS was generated from five things, whereas the BUM was made of ten items derived from the study (Lekhawichit et al., 2022). In the end, the ORS was measured by eight items borrowed from the study (Lekhawichit et al., 2022). The selected questionnaire was distributed to 300 information technology-related managers, of whom 200 responded, representing a satisfactory response rate (Deutskens et al., 2004). The acquired data were analyzed using a Smart PLS to evaluate the validity and interconnectivity of the components. Despite the investigation's complex model and massive data collection, Smart-PLS generated outstanding results (J. F. Hair Jr et al., 2017).

2.6 Convergent validity and Discriminant Validity

Convergent and discriminant validity can be used to evaluate the measurement model of the construct. The components of convergent validity are Cronbach's alpha, composite reliability, extracted average variance, and factor loading. The minimum criterion for factor loading is 0.5; if the values are greater than 0.5, we cannot delete the items for further analysis; the minimum criterion for composite reliability is greater than 0.7, and the minimum criterion for convergent validity is greater than 0.7 if the values of convergent validity are greater than 0.7. Then we can state that the structure meets the composite reliability criterion. Additionally, the minimal value for Cronbach Alpha exceeds 0.7. If the values of crown Alpha are more than 0.70, then the construct can be considered reliable.

The ideal value for average variance extracted is 0.5; if the values are larger than 0.5, it might be said that they meet the average variance criterion. The investigation derives these values (J. Hair Jr, F, Hult, G. T, M, Ringle, C, Sarstedt, M, 2016). The anticipated values in Table.1 and Table.2 demonstrate that the theory meets all requirements for convergent validity.

The following measurement model criterion is discriminant validity. The discriminant validity must be evaluated using three distinct criteria. Fornell and Larcker demonstrate that all diagonal values should be greater than values from below (Fornell et al., 1981; J. Hair Jr, F, Hult, G. T, M, Ringle, C, Sarstedt, M, 2016). Cross-loading is the next criterion; in cross-loading, all values should be loaded on their respective constructs and correspond to each item's factor loadings (J. F. Hair Jr et al., 2017).

Table 1. Loadings

Variables	Items	BUM	INQ	ICT	ORS	INS
Business Management	BUM1	0.778				
	BUM10	0.714				
	BUM2	0.776				
	BUM3	0.634				
	BUM5	0.774				
	BUM6	0.72				
Information Quality	INQ1		0.877			
	INQ2		0.808			
	INQ3		0.866			
	INQ4		0.776			
	INQ5		0.875			
Information and Communication Technology	ICT1			0.701		
	ICT2			0.702		
	ICT3			0.702		
	ICT4			0.763		
	ICT5			0.722		
	ICT6			0.705		
	ICT7			0.702		
	ICT7			0.764		
Organizational Support	ORS1				0.747	
	ORS2				0.758	
	ORS3				0.755	
	ORS4				0.766	
	ORS5				0.767	
	ORS6				0.752	
	ORS7				0.787	
Information system	INS1					0.783
	INS2					0.934
	INS3					0.762
	INS4					0.673

The third criterion is the correlation between hetrotrait and monotrait (HTMT). This is the extended discriminating validity criterion established by [Henseler et al. \(2015\)](#), and the construct correlation for the HTMT should not exceed 0.85 or 0.90. ([Henseler et al., 2015](#)). All values were less than 0.85, and the Fornell & Lacker values are likewise bigger than those from below, indicating that the construct has discriminant validity. The projected values are listed in [Table 3](#) below.

2.7 Hypothesis Testing

Following the evaluation of the measurement model, the following criterion is the testing of hypotheses. The results of the regression model were affected by the existence of multicollinearity. Multicollinearity restricts the ability to forecast the dependent variable and identify the diverse effects of explanatory variables ([Hair et al., 2017](#)). [J. F. Hair Jr et al. \(2017\)](#) By calculating the Variance of Inflation Factor (VIF), multicollinearity was observed. The VIF collinearity value must be established based on the cutoff value that is less than 5.0. [J. F. Hair Jr et al. \(2017\)](#). None of the VIF values exceeded 5.0. In addition, predictive relevance refers to the capacity to anticipate the data points of indicators in reflective measurement models of endogenous constructs and endogenous single-item constructs.

Disparities between Q2 results determine it. ([J. F. Hair Jr et al., 2017](#)). When PLS-SEM displays predictive significance, the indicator data points are accurately predicted. A Q2 value greater than zero for a certain endogenous latent variable indicates that the PLS path model possesses the predictive ability for this construct ([J. F. Hair Jr et al., 2017](#)). In addition, effect size reveals the importance of the relationship between variables or the contrast between groups.

Table 2. Composite Reliability

Variables	Cronbach Alpha	Composite Reliability	Average Variance Extracted
BUM	0.822	0.827	0.627
INQ	0.868	0.876	0.780
ICT	0.828	0.84	0.627
ORS	0.836	0.847	0.732
INS	0.873	0.893	0.721

A large impact size suggests the practical relevance of a research outcome, whereas a small effect size indicates limited practical applicability ([J. Hair Jr, F. Hult, G. T, M, Ringle, C, Sarstedt, M, 2016](#)). If the effect size is less than 0.02, there is no effect. Standardized route coefficients with absolute values less than 0.1 may indicate little influence, values between 0.3 and 0.5 show a moderate impact, and values greater than

0.5 indicate a higher effect in some cases (Hair et al., 2017). The 500 resampling technique was utilized to assess the study hypothesis via the 500 structural model hypothesis test. The results of the structural models reveal that information quality has a positive and statistically significant effect on business management, supporting the postulated hypothesis.

Table 3. HTMT

	BUM	INQ	ICT	ORS	INS
BUM					
INQ	0.475				
ICT	0.527	0.502			
ORS	0.453	0.448	0.472		
INS	0.342	0.672	0.372	0.456	

Similarly, information quality has a favorable and significant impact on business management, moderated by organizational support, supporting the stated theory. Moreover, the Information system has a substantial and positive effect on BM directly and through the moderating influence of organizational support, which also supports the opposing hypothesis. On the other hand, ICT has a significant and positive effect on business management but a negligible effect through the moderating variable of organizational support, which contradicts the proposed hypothesis. Table 4 below predicts all of the projected findings.

Table 4. Direct and Indirect Effect Results

	Original Sample	T Statistics	P Values	Decision
INQ -> BUM	0.219	5.309	0.000	Supported
INS ->BUM	0.352	6.695	0.000	Supported
ICT-> BUM	0.067	2.012	0.045	Supported
INQ*ORS -> BUM	0.239	5.616	0.000	Supported
INS*ORS ->BUM	0.057	4.074	0.000	Supported
ICT*ORS-> BUM	0.018	0.710	0.478	Not Supported

3. DISCUSSION AND IMPLICATIONS

The outcomes of this study indicate that information quality (INQ) has a positive and statistically significant impact on business management (BUM), indicating that INQ enhances the BUM of the textile sector in Iraq. These findings are supported by a previous study (Zadeh et al., 2017), which argued that managers make good decisions at the right time when they have proper relevant and trustworthy information, which enables them to handle all the issues in an appropriate manner to support the

organization's development, thereby enhancing the firm's growth. The current research findings are further supported by (Lekhawichit et al., 2022), who also recognize the importance of INQ for the organization and argue that when managers have proper INQ access about market changes trends, they can use their knowledge to take proactive action to alter plans and policies to maintain consumer demand for their products (Giao et al., 2020).

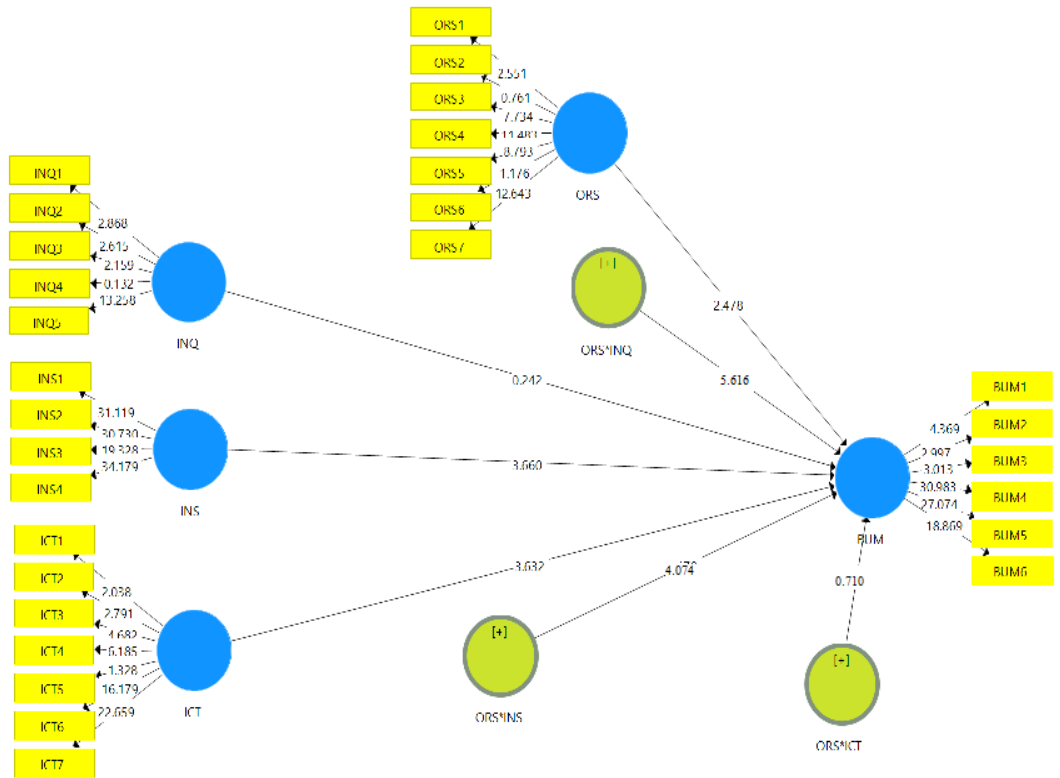


Figure 2. Structural Model

In addition, "information and communication technology" (ICT) has a beneficial and substantial impact on BUM. These findings might be supported by prior research (Giao et al., 2020), and they argued that ICT is a set of tools and procedures for assessing information. Consequently, by employing ICT, corporate managers might acquire accurate information about pertinent issues and take proactive steps to improve performance. The same argument was supported by Sofyani et al. (2020), who asserted that ICT could provide business managers with accurate and sufficient information about competitor plans and entitles, which they could use to improve their strategy and manage all elements for the organization's benefit. In addition, the results suggest that INS has a beneficial and statistically significant influence on BUM. This result is further backed

by (Laudon et al., 2004), which contend that business management may be easily improved when a company has an adequate infrastructure for its information system.

Alternatively, the indirect impact demonstrates that ORS moderates significantly and positively the association between INS, IQ, and BM but has no significant moderating influence between ICT and BUM. These results imply that ORS does not serve as a substantial link between ICT and BUM. The existing research supports these conclusions (Abdulrab et al., 2018). The influence of IT on the productivity of BM is bolstered by the findings of researchers indicating that investing in the psychological and financial well-being of employees helps to maintain the integrity of IT. This finding is supported by Buhari et al. (2020). It demonstrates that organizational support improves IT and BM and that this development ultimately results in a rise in the value of IT to the organization's administration.

The most recent study contributes significantly to the existing corpus of knowledge about BM. The research focuses primarily on the influence of three important organizational elements on BUM: INQ, INS, and ICT. Literature frequently investigates the impact of INQ and ICT on BUM, while the effect of INS on BM has received little attention. In addition, the focus of the prior studies was primarily on direct effects, with little attention paid to Iraq. Consequently, research introduced INS as an exogenous variable and ORS as moderating variable. In addition, the authors address both quality specification and technology within the confines of a specific research project, demonstrating the research's theoretical utility. Since it reveals how to improve the efficacy of BUM, the analysis also contributes significantly to the literature for developing nations. This study demonstrates that positive BM is achievable with high-quality INQ, INS, and ICT. The findings could also aid senior managers, business owners, regulatory authorities, and policymakers in understanding the significance of information and communication technologies, information systems, and information quality for business management.

4. CONCLUSION AND LIMITATIONS

This study aimed to examine the influence of INQ, INS, and ICT on BUM, with ORS Iraq textile firms serving as a moderator. Using the approach of easy sampling, data was collected from the information technology managers of textile enterprises in Iraq to achieve this purpose. There were 300 surveys issued to information technology managers, of which 200 were returned. The measurement and structural models were evaluated using the Partial Least Square (PLS)-Equation Modelling Technique (SEM), a quantitative research approach, and a cross-sectional study design. The effect of INQ and INS was beneficial and considerable, both directly and indirectly. According to this research, if such INQ is sufficient, it can aid in the development of decisions and administration of policies. Thus, superior data enables more efficient corporate management activities. In addition, ICT had beneficial and significant direct effects on

BUM, as well as indirect effects that were minor. This study's findings indicated that when ICT appears to be of high quality and well-managed, BM may have a greater understanding or comprehension of numerous challenges and critical elements of corporate performance and work more efficiently. Moreover, the study demonstrated that ORS for employees enhances the quality of information and information technology, enhancing BUM's efficacy.

In addition to the major practical and theoretical contributions, the study has several valuable limitations that could aid future researchers in enhancing the reliability of the suggested model. First, the study was limited to textile companies in Iraq, which is a single industry in the manufacturing sector, demonstrating the limited generalizability of the current research to other sectors; therefore, a future study could include other manufacturing factors to increase the exploration's generalizability. Second, the analysis was limited to three independent variables: information quality, information system, and Information and Communication Technology. Still, several other independent variables could impact business management, including technology and management innovation. Consequently, a future research framework would be expanded by including these two suggested variables. Thirdly, the research was limited to a cross-sectional design in which data was collected simultaneously. However, numerous other research designs, such as longitudinal research design, might have contributed to the development of superior research findings.

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