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CAUSAL RELATIONSHIP OF FACTORS INFIUENCING THE EFFECT OF INFORMATION QUALITY AND TECHNOLOGY ON BUSINESS MANAGEMENT IN THAILAND

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Abstract

Effective business management would lead the organization towards success and need researchers and policymakers' special attention. Thus, the current literature examines the role of information quality and information technology (IT) on the business management of manufacturing organizations in Thailand. This study aims also include the investigation of moderating impact of organizational support among the nexus of information quality, IT, and business management of manufacturing organizations in Thailand. The researchers have adopted the primary data collection methods and used the questionnaires for this purpose, while smart-PLS was adopted to test the validity and relationships among constructs. The results exposed that information quality and IT have a positive association with the business management of manufacturing organizations in Thailand. The results also indicated that organizational support significantly moderates among the nexus of information quality, IT, and business management of manufacturing organizations in Thailand.

Key words: Information quality, information technology (IT), business management, manufacturing organizations.

Introduction

Management is an art and this is why rated very high in literature. Successful or failure of any business is strongly depends upon its management. A good management can upraise a dead business while on the other hand a bad management can result in closure of a settled business. A good business management depends upon a number factors like information sharing, information quality, information sharing channel, IT infrastructure etc. The importance of information sharing and technology for business success is discussed in a number of studies (Aydın & Kalemci Tüzün, 2019; Busert & Fay, 2021; Cho & Kang, 2019). The world has become the global village and information technology is the key for any business either producers or service provider in this era. Firm all around the globe pertains their own information internal as well external to communicate within and outside the organization. The firm success strongly depends upon its designed information screening and sharing channel. Other than information the channel through which all the information is routed pertains high level of importance. Many of time it seems that the amount and accuracy of information is high standard but the information floating channel is week. So both walks parallel. Firms need to invest on the IT infrastructure so that the right information travels through right channel within the stipulated timeline and requirement.

Importance of information technology in business management

The importance of information technology and information sharing become more important when it’s about manufacturing firms as the competition among manufacturing firms accelerating at a rapid pace all around the globe (Busert & Fay, 2021; Edmondson,

Matthews, & Ward, 2019), similar is the case with Thailand's manufacturing sector. Manufacturing firms heavily depends upon the information collected from the external sources to understand the market behavior and respond it accordingly. Bugs in the manufacturing firm's information and its sharing channel results in a number of conflicts. Deliverance of right information, at the right time to the right person is the ultimate aim of information flow channel. The process of obtaining, transferring, and presenting the collected information in a way that management can utilize it to their benefit is a crucial step that most businesses overlook. Most businesses gather competition intelligence information on a regular basis to aid in planning and strategizing. This type of information aids businesses in focusing and making decisions about their operations and activities.

Thailand's manufacturing sector

Thailand manufacturing sector contribution in country GDP was 3.96 trillion (Thai baht) in 2016 which increases to 4.18 trillion in 2017. The same increasing trend was reported in 2018 when 4.37 trillion. There was decreasing trend reported in 2019 and over contribution in GDP decreased to 4.33 trillion. The same trend was carry forwarded in 2020 and stands at 3.96 trillion. This decreasing trend urge to investigate this specific sector of Thailand economy. On the other hand there are 2633 new manufacturing firms enter into the competition in Thailand. Although Thailand is not a manufacturing country but such an investors interest in this sector also one of the reason to investigate this sector. Although the information quality as well as information technology is witnessed very important in business management but still it appears that it failed to achieve the ideal level. There can be a number of factors like the corporate information can be shared with grass root level which sometimes results in communication gap and results in discrepancies, deliverance of right information to wrong person and vice versa, delay in information receipt and deliverance, less investment in information technology filed (might because of low funds etc.) also one of the reason for low quality of information flow. Here the ultimate research problem is, what can be the requisite level of information quality and information technology which pertains the organization support in the manufacturing firms of Thailand. The research gap this study will address are, 1) Azemi, Zaidi, and Hussin (2018) examined the relationship between information with decision making whereas the present study will test the information relation with business management, 2) in past moderation relationship with information and business management is not tested especially in Thailand, 3) Thailand manufacturing firms studies with business management are not witnessed especially with moderation effect, 4) Lindh and Nordman (2017) tested the information technology with mediation effect whereas the present study will employ moderation effect.

The research objective of the study are, 1) to examine the impact of information quality on the business management in Thailand's manufacturing firms, 2) to determine the impact of information technology on the business management in Thailand's manufacturing firms, 3) to assess the moderating effect organization support on the relationship between information technology, information quality and business management in Thailand's manufacturing firms.

Literature review

The literature regarding the understudy constructs and their relationships are mentioned below under subsections.

Information quality and business management

The global business environment faces lots of uncertainties that have changes the business landscapes and the business competitions. Consequently, many manufacturing and other organizations consider the elements of the supply chain process to enable the efficiency in business management of Thailand. In order to improve the supply chain process, there must be wealthy information quality that not only develops positive up gradation in business but also eliminates many discrepancies. The positive integration of information quality in the business management of manufacturing organizations enhances performance and competency. Busert and Fay (2021) analyzed the information quality and its impact on the business with its control decisions. For this purpose, various designs have been initiated to ascertain the impact of information management on business management. The study reveals the positive impact of information quality on organizations through the positive information flows. Kullada and Michelle Kurniadjie (2021) examined the digitalization of information quality that asserts the impact on the experience of business clients. The effective sources business management could perform better upon using various statistical approaches and methodologies. The study contributes information and digital attributes of information quality to enhance business management. Vinaja (2018) assessed the effective business intelligence system and resource planning for information quality. Numerous methodologies have been used using different dimensions of information quality. The study shows the positive influence of information systems on business and firms management. Ghasemaghaei and Hassanein (2019) reviewed the concepts of information quality and its impact on the online environment of business management. Certain gaps have been covered using dynamic models and a trail of variables concerned with information quality influencing business management. Mendling, Pentland, and Recker (2020) argued on the process management and digital innovation that differs from the information quality. For this purpose, methodologies are relied on the previous studies using certain linked variables. The study shows effective business management processes and digital innovation by the effective use of information quality.

H1: Information quality significantly and positively impacts business management.

Information technology and business management

The flows of information facilitate the synchronization and coordination of the supply chain that links to the delivery, manufacturing, sourcing, and planning of the goods chain. It also significantly supports the decision-making process and behaviors of manufacturing organizations toward business management. Information technology is the deem requirement in the manufacturing organizations of Thailand that positively improves business management. The positive support of IT in the manufacturing concerns has not only facilitated the supply chain but also effectively designed the manufacturing process. Wadhwa and Palvia (2018) used different internet platforms for the introduction of information technology to increase business management. Productive responses have been asserted by using different statistical techniques and concerning variables of information technology. The study shows positive innovation of information technology serving more benefits to business management. Toskin and McCarthy (2021) investigated the reasons behind improved employee turnover among information technology professionals. Some statistical and surveying techniques helped information technology for a contribution of more social, extrinsic, and leisure rewards. The study shows significant valuable insights of information technology on the business management with the effective rewarding system. Naidoo Indiran and Hoque (2018) examined the strategic assistance of information technology in organizations. The statistical approaches have been used in this study taking a number of employees and firms. The study shows the positive relationship between the innovation of information technology and the performance of business management. Oláh, Karmazin, Pető, and Popp (2018) analyzed the role of the information technology sector for significant earnings and revenues. The statistical approaches using participant samples have been used that depict positive inclusion of information technology in the business management for attaining competitive advantages. Peršič, Markič, and Peršič (2018) investigated the standards of social management and the impacts of other factors on business management. Information technology has been a dominant factor that is asserted by using various methodologies shows quality management and information technology and its positive influence on business management.

H2: Information technology significantly and positively impacts business management.

Organizational support as a moderator

Information quality is considered an important tool for the many manufacturing concerns due to global changes in the technological environment. This positive approach of information quality is only feasible with organizational support. The moderating effect of organizational support is widely supported by vast literature where business management is improved (Jermsittiparsert, Suan, & Kaliappen, 2019; Jermsittiparsert, Chankoson, Malik, & Thaicharoen, 2021). Through the visibility and performance of information quality, the manufacturing organizations of Thailand asserted IT as a major tool for business management. Aydın and Kalemci Tüzün (2019) emphasized the relationship between perceived job performance and organizational social support. For this purpose, numerous hospitals and organizations have been taken using structural equations. The study indicates a positive and dominant role of organizational support among information quality and business management. Naseer, Raja, Syed, and Bouckenooghe (2018) examined the positive impact of the workplace environment and other factors on business management and organizations. The various hypothesis has been organized using numerous factors of organizational support. The study shows the moderating effect of organizational support on the employees and information quality as well as the business management. Cho and Kang (2019) analyzed the dominance of information quality and competition that mitigates the efficiency of firms and management. Using different methods and taking the stock exchange of the Korean economy, the study indicated a positive role of information and accounting quality that could increase the prominence of business management. Ajibade and Mutula (2019) analyzed different factors that contribute significant intelligence toward business management. For this purpose, simplified models have been used that accumulate the prominence of information quality and business management. The positive role of information quality is depicted in this study on the business management for promoting efficient business records. Hong, Jeong, and Downward (2019) investigated the prominence of perceived organizational support that motivates the quality of information as well as business management. Structural equation modeling has been used in this study by taking various referees. The study shows the effective and moderating role of organizational support upon information quality and business management.

H3: Organizational support significantly moderates the relationship between information quality and business management.

The role of information technology is prominent in major parts of the world due to its wide range of capabilities. Information technology is more feasible in providing real-time information to the businesses and manufacturing concerns among the supply chain. This helps positively to communicate with the sellers and buyers at any time and in time that poses a larger impact on the business management. Extensive facilitation of information technology with the support of the organization enhances the different areas of business management. Mathafena and Grobler (2021) analyzed the influences and effects of organizational support on the organizations of South Africa. For this purpose, various approaches have been used and cross-sectional methods have been applied using organization and management behaviors as major perspectives. The study indicates the importance of quality leaders that helps in improving business management and information technology. Kröll, Nüesch, and Foege (2021) examined the flexibility in working practices that are designed according to organizational support. For this purpose, different tests are initiated to analyze the organizational attractiveness in organizations of Germany. Study shows that flexible practices of work by the organizational support pose a significant impact on the technology as well as on the business practices. Willis, Koper, and Lum (2020) investigated the impact of information technology on the changes in organizations and their policies. For this purpose, various structural and theoretical models have been used using information technology factors as major variables. The study

shows a significant relationship between information technology and business management and the traditional division between management and street cops. Nair and Blomquist (2019) assessed the incubation of business practices and the prevention of management failures. For developing the understanding of these incubators, dynamic process models have been applied using a variety of variables. The study reveals that the incubation of business practices through information technology and organizational support helps to enhance business management. Edmondson et al. (2019) examined the emotional exhaustion of organizational support that helps to eliminate the sabotage of business management services. Using different models and theoretical approaches, the non-management scales, and organizational support are partially viewed. The study indicates that organizational support positively moderates the relationship between information technology and business management.

H4: Organizational support significantly moderates the relationship between information technology and business management.

Research methods

The researchers examine the role of information quality and IT on business management and investigate the moderating impact of organizational support among the nexus of information quality, IT, and business management of manufacturing organizations in Thailand. The researchers have adopted the primary data collection methods and used the questionnaires for this purpose. This study has selected the IT department employees as respondents. The researchers have used simple random sampling to select these respondents. A personal visit was used to distribute the questionnaires among respondents. Thus, 545 surveys were sent to them, and after three weeks, only 290 were returned, representing approximately 53.21 percent response rate.

The researchers have executed the smart-PLS to test the validity and relationships among constructs. Smart-PLS has provided significant results even the study has a complex model and large data set (Hair, Hollingsworth, Randolph, & Chong, 2017). The researchers have also taken two predictors such as information quality (IQ) with five items adapted from the study of Omar, Ramayah, Lo, Sang, and Siron (2010) and information technology (IT) with nine items also adopted from the study of Omar et al. (2010). In addition, the researchers also adopted organizational support (OS) as the moderating variable with eight items and business management (BM) as the predictive variable with ten items. Figure 1 shows these constructs in the framework.

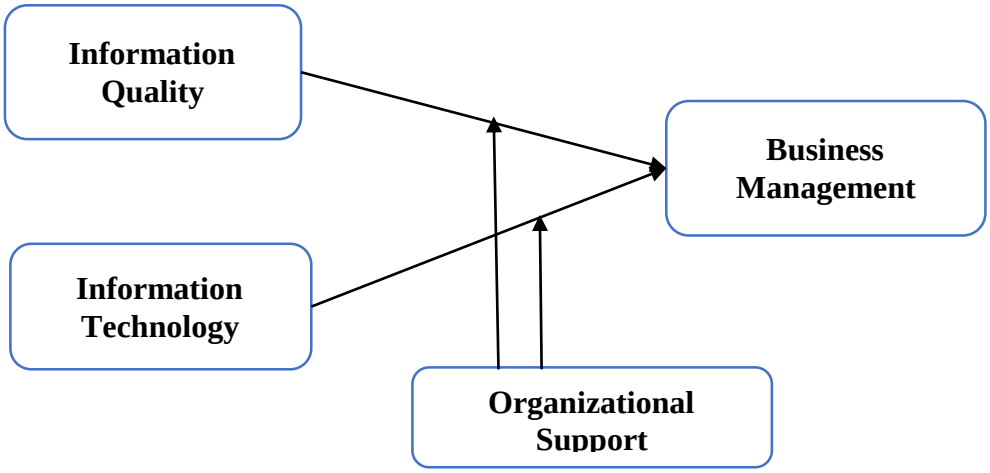

Figure 1. Theoretical framework

Findings

The results section shows the factor loadings that show the validity of the items. The figures showed that the loadings are not less than 0.50 and exposed a high correlation between items. Table 1 is given as under highlighted the figures of factor loadings.

Table 1. Factor-loadings

Variables	Items	BM	IQ	IT	OS
Business Management	BM1	0.789			
	BM10	0.814			
	BM2	0.786			
	BM3	0.634			
	BM5	0.784			
	BM6	0.82			
	BM8	0.809			
	BM9	0.833			
Information Quality	IQ1		0.977		
	IQ2		0.909		
	IQ3		0.966		
	IQ4		0.886		
	IQ5		0.975		
Information Technology	IT1			0.801	
	IT2			0.801	
	IT3			0.801	
	IT4			0.763	
	IT5			0.822	
	IT6			0.805	
	IT7			0.802	
	IT8			0.764	
	IT9			0.82	
Organizational Support	OS1				0.848
	OS2				0.859
	OS3				0.855
	OS4				0.866
	OS5				0.868
	OS6				0.852
	OS8				0.798

The results section also shows the convergent that shows the correlation among items. The figures showed that the AVE is not less than 0.50, Alpha values are more than 0.70 and composite reliability (CR) values are not lower than 0.70. These values exposed a high correlation between items and valid convergent validity. Table 2 is given as under highlighted the figures of convergent validity.

Table 2. Convergent validity

Variables	Alpha	CR	AVE
BM	0.911	0.928	0.617
IQ	0.969	0.976	0.89
IT	0.929	0.94	0.637
OS	0.936	0.948	0.722

The results section also shows the discriminant that shows the correlation among variables. The researchers have used the latest method, such as Heterotrait Monotrait (HTMT) ratio. The results revealed that HTMT ratios are not bigger than 0.90. These values exposed low correlation between variables and valid discriminant validity. Table 3 is given as under highlighted the figures of discriminant validity.

Table 3. Discriminant validity

	BM	IQ	IT	OS
BM				
IQ	0.475			
IT	0.517	0.501		
OS	0.453	0.449	0.472	

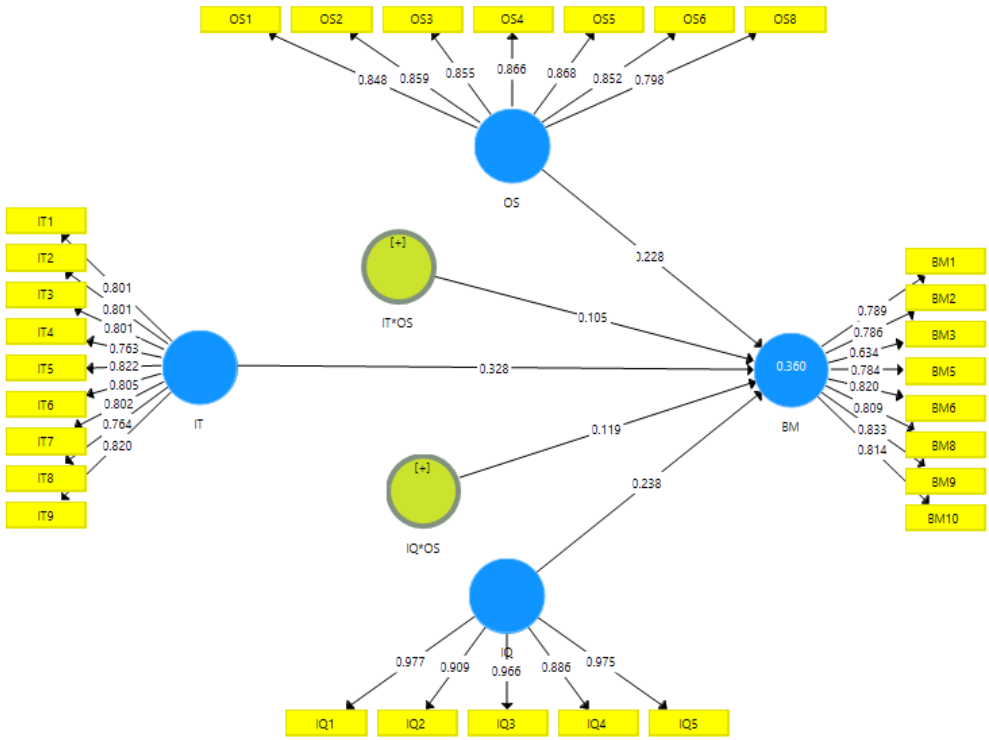

Figure 2. Measurement model assessment

The path analysis has been exposed that information quality and IT have a positive association with business management of manufacturing organizations in Thailand and accepts H1 and H2. The results also indicated that organizational support significantly moderates among the nexus of information quality, IT, and business management of manufacturing organizations in Thailand and accepts H3 and H4. Table 4 is given as under highlighted the figures of path analysis.

Table 4. Path analysis

Relationships	Beta	S.D.	T Statistics	P Values	L.L.	U.L.
IQ -> BM	0.238	0.085	2.780	0.003	0.078	0.368
IQ*OS -> BM	0.119	0.055	2.163	0.016	0.018	0.193
IT -> BM	0.328	0.074	4.430	0.000	0.212	0.452
IT*OS -> BM	0.105	0.058	1.796	0.038	0.012	0.218
OS -> BM	0.228	0.070	3.247	0.001	0.113	0.352

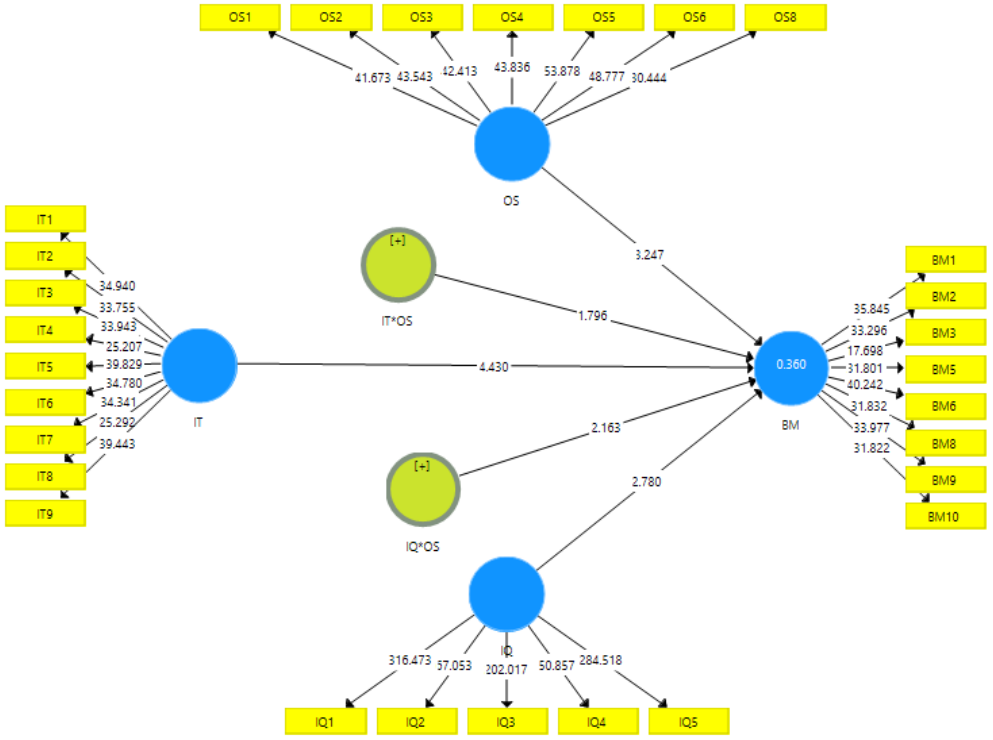

Figure 3. Structural model assessment

Discussions

The study results have indicated that information quality has a positive impact on business management. These results are supported by the previous study of Zadeh, Wang, Cavka, Staub-French, and Pottinger (2017), which shows that when the managers have the relevant and reliable information at the exact moment, they are able to take the right decision at the right time. In this way, they can manage all the organizational departments effectively, which would be fruitful for the business's success. These results are also supported by the previous study of Chen and Chang (2018), which analyzes the importance of high-quality information in a business organization. This study elaborates that the availability of high-quality information about the change in the market trends and the preferences of the consumers proves to be helpful for the managers. Having such information, the managers can take initiatives to bring changes in its policies, strategies, and techniques to respond to these market shifts and customers' preferences to maintain the demand for their products and services.

The study results have also indicated that information technology has a positive association with business management. These results are in line with the previous study of López-Muñoz and Escribá-Esteve (2017), which defines information technology as the sum of techniques, skills, and processes to get information. This study states that if the information technology works well, the business managers can have quality information about the concerned matter and can take contributing steps that help achieve business effectiveness. These results are also supported by the study of Sofyani, Riyadh, and Fahlevi (2020), which states that effective information technology can give relevant information in sufficient quantity about the strategies applied by the rival entities; this information can be used to make alterations by the business managers to bring improvement in their own strategies and thus, they can better administer all the areas of business. Similarly, it has also been indicted by the study findings that organizational support plays a moderating role between information technology and business management. These results are in line with the previous study of Litwin and Tanious (2021), which elaborates that organizational support to employees motivates them to find and share the right information at the right time, and organizational support can enable the managers to get some tasks executed at the right time. The study results have also shown that organizational support is a moderator between information technology and business management. These results are in line with the literary work of Abdulrab et al. (2018), which shows that the provision of both emotive and economic support on the part of the organization to the employees assists in keeping the informational technology effective and business management efficiency, and thus, it improves the influences of information technology on the effectiveness of business management. These results are also approved by the study of Buhari, Yong, and Lee (2020), which shows information technology and business administration are improved by the organizational supports and thus, the role of information technology in business management become more contributing.

Implications

The current study makes remarkable additions to the literature on business administration. This study analyzes the role of two significant factors like information quality and information technology in the business organization. It checks the influences of

information quality and information technology on business management. Normally, the literature is found to have discussed the information factor influences on business management as a whole under a single head, or the studies have been seen to have dealt with the role of information quality and information technology in business administration separately. But, here, the authors deal with information with the specification of quality and technology in a single study which shows its theoretical importance. The study has great significance in emerging economies as it provides a guideline on how to improve the effectiveness of business management. This study shows that business management can be effective if the quality of information and information technology is good.

Conclusion and Limitations

The current study was conducted with an aim to check the influences of information quality and information technology on business management and to test the influences of organizational support on information quality, information technology, and business management and the mutual association of information quality, information technology, and business management. The study analyzed the influences of information quality and information technology on the business management and influences of organizational support on the information quality, information technology, and business management for the economy of Thailand and collected the relevant data, which is helpful in getting the study findings. According to these findings, if the quality of information is good, it can be leading to making decisions and implementing the business policies. Thus, better quality information helps business management to work effectively. The results showed that if the information technology has good quality and has been properly managed, the business management can have better awareness or knowledge about different matters and essentials of business success and thus, perform efficiently. The study also concluded that organizational support to employees helps improve the effectiveness of business management by improving the information quality and information technology.

This study has some limitations, too, despite having theoretical and empirical importance. These limitations can be removed by the authors in the future with some extra effort. First, this study examines the impact of only information factors under two heads, information quality and information technology, on the performance of business management. There are so many other factors that can affect the performance of business management, like funds, human resources, organizational climate, etc., but the study has utterly ignored all these significant factors, which makes the scope of the study limited. The authors in future are recommended to address more number of factors which could affect the performance of business management. The quantitative data for proving the concepts of this study has been acquired from a single source. The application of a single source for acquiring data has confined the validity of data. For more validity, the authors who are willing to check the influences of organizational support on information quality, information technology, and business management must collect data from more than one source.

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