



The Impact of IT Capability on Company Performance: The Mediating Role of Business Process Management Capability and Supply Chain Integration Capability

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Article	Abstract
<p>Article history: Received: 1th July 2021 Received in revised form: 12th July 2021 Accepted: 12th July 2021</p> <p>Keywords: IT capability, Business Process Management Capability, Supply Chain Integration Capability, Company Performance; Amol</p>	<p>Nowadays, companies are looking to gain a competitive advantage in order to adapt to changing market conditions and compete with competitors so that they can survive in a turbulent environment, and perform better. Rapid changes in information technology have profoundly affected the activities of businesses. In fact, the economic prosperity of countries, industries and companies depend on the proper use of information technology. IT capability can be considered as a competitive advantage for the company and provide a basis for coping with rapid environmental changes. The research method is descriptive and survey and the data were collected through a questionnaire. In order to test the research hypotheses, 120 companies were examined. Data analysis was performed by modeling structural equations based on partial least squares. All research hypotheses were confirmed and the results showed that information technology capability has a positive effect on firm performance through two mediating variables: business process management capability and supply chain integration capability.</p>

Introduction

In today's complex, dynamic and highly variable environment, companies need to design and implement strategies that can help them improve their performance, because in such a competitive environment, companies are able to survive without being out of competition and themselves. Keep up with the changing and dynamic conditions of the competitive market. In other words, corporate executives view their decisions in the form of strategies, in the mirror of their performance metrics. Managing the best performance of the instrument becomes the main concern of the managers of the production companies and they try to achieve superior performance by using different techniques [1].

Information technology has dramatically changed the way businesses do business. Many IT professionals believe that only part of the organization's information is used in decision-making processes, and many of them remain unused due to the lack of technical experts. Therefore, any IT tool that can help the organization to avoid wasting its most valuable resources and at the same time help the organization to move from traditional functionalism to process orientation, can improve methods and increase the resource productivity of the organization is effective [2].

In general, capabilities show the organization's ability to combine resources, which leads to better performance. Capabilities also lead to the ability to combine a company's unique capabilities with resources to differentiate that company from its partners. Information technology capabilities directly contribute to the improvement of organizational processes such as coordination, investment in exchanges, absorption capacity, and monitoring and control. These, in turn, improve the strategic and operational performance implications of the organization [3].

Companies need to focus on their key capabilities and resources in order to gain a competitive advantage and improve their market position. In fact, the competitiveness of manufacturing companies depends on the development of their competencies. Meanwhile, supply chain management is considered as a powerful tool to promote the growth of companies and create a competitive advantage. Supply chain management operations play a vital role in management decisions to the extent that they can have significant effects on the profitability and operational success of companies [4].

In many cases, managers only pay attention to the supply chain when they are trying to reduce costs or solve a problem. Perhaps it can be said that the biggest problem of production and service organizations, after managing customer relations, is proper supply chain management. The belief that supply chain management can make companies more accountable to customers and therefore more profitable, has led managers to place more emphasis on improving the supply chain process [5-8].

The combination of an understanding of integrity and the ability to implement integrity allows companies to identify opportunities and seize them in the short and medium term. Upgrading and continuity are essential to deal with long-term change that requires strategic action. Supply chain managers must adapt their integration style to changes in the market, which can be adapted by exploiting the company's dynamic capabilities. Business process management with multiple models required by organizations, provides an integrated and systematic way to design, implement and manage business processes of organizations. Individuals and systems are involved in each process [9].

Therefore, in this article, while introducing the variable of information technology capability and its impact on company performance and variables of business process management capability and supply chain integration capability, which are each of the vital concepts in today's business environment, the gap of past studies to some extent Fill in and finally answer the question of whether IT capability directly or indirectly affects the company's performance through the mediation of business process management variables and supply chain integration capability [10].

Theoretical foundations of research

Company performance

In today's world, the emergence of competitive markets and the need for growth and development in the economic and social field has led to special attention of societies, especially companies to performance, and companies in various ways seek to improve their performance. In other words, in the current business environment, one of the most important concerns of managers is to provide the best organizational performance and they try to constantly measure their performance and compare it with their competitors so that they can take the necessary measures to achieve the level of performance that Keep them in the market, do [11].

Performance can be considered as a measurable result of the organization's decisions and actions, which indicates the success rate of the organization and the set of achievements achieved. Performance refers to three areas including market performance, financial performance and shareholder performance. Market performance includes issues of market share, sales, etc., and financial performance includes profitability, rate of return on assets and rate of return on capital, and the performance of shareholders includes value added, rate of return on shareholders, and so on. Organizational output metrics are performance that is influenced by organizational conditions and the myriad market possibilities [12].

Performance is a broad concept that encompasses what the company produces as well as the areas in which the company interacts. In other words, organizational performance refers to how organizational missions, tasks and activities and the results of their performance are performed. In another definition, organizational performance is achieving or going beyond organizational and social goals and fulfilling the responsibilities of the organization. Performance is a term that combines the concept of activity to do work and the result of that activity. In fact, performance is the result of action. Thus, performance is a general structure that refers to how operations are performed [13].

It can be said that the function of turning learning into behavior is obvious. That is, it is the result of learning, not learning itself. Therefore, it is called actual and observable behaviors and performance measurement. Performance can be defined as the sum of behaviors that people display in relation to a job. Performance is the accomplishment of the tasks assigned to the workforce by the organization. In a comprehensive definition of performance, in addition to efficiency and effectiveness in the assigned tasks, it also refers to some personal data such as accident, delay in attendance, absenteeism and slowness of work, which can be appropriate criteria for measuring performance. Market performance indicates the level of performance that is related to the success of the organization in relation to the market and factors such as the rate of attracting new customers and retaining existing customers, customer satisfaction and loyalty. Financial performance refers to the degree to which the organization achieves the financial goals of shareholders in order to increase their wealth, which is measured through financial and accounting indicators. Market performance also indicates the level of performance that is related to the success of the organization in relation to the market and factors such as new customer acquisition rate and retention of existing customers, customer satisfaction and loyalty. Innovative performance is often determined by the number of obvious achievements, reports submitted, and new projects that the organization undertakes in its work routine. Also, comparing the quality and performance of new products and new processes with competitors shows that the organization is innovative. In this study, performance is measured by three dimensions: market performance, financial performance and innovative performance [14].

Information technology capability

IT capabilities to a company's ability to mobilize and deploy IT-based resources in combination or collaboration with other resources or capabilities. The capability of information technology in this research has four dimensions:

1. Flexible IT infrastructure;
2. Information technology integration;
3. Information technology management;

IT business alignment.

IT infrastructure flexibility refers to the extent to which a company's IT infrastructure is scalable, modular, and system-compatible. Flexible IT infrastructure can equip a company with the ability to innovate by facilitating information sharing across different areas and implementing extensive changes in business processes. Flexible IT infrastructures enable companies to integrate different systems and adopt, implement and upgrade new systems effectively in response to evolving business needs. IT infrastructure refers to the foundation of organizational programs and services and is composed of data. IT management refers to the organization's ability to effectively implement activities such as IT project management, IT system development, and IT control. IT management considers the success of new product development efforts. IT management is the exploitation of related activities in IT performance management such as planning and design, delivery of project management applications and planning for standards and controls. Companies need strong IT management skills to control security and privacy; At a time when companies are implementing web-based applications and mass computing technology in the company process and also in introducing their potential reduction risk to some IT resources. The alignment of the IT business refers to the extent to which IT and operational business share consistent goals and are consistent in maintaining the relationship. The alignment of the IT business focuses on maintaining the IT strategy that is consistent with the business strategies and to support the development and realization of the company's innovation goals. IT capabilities include flexible IT infrastructures, IT integration, IT business alignment and IT management to increase the collection and sharing of information and customer preferences, communication and collaboration within and across company borders and operations Business intelligence must be developed for organizational agility [15].

Supply chain integration capability

Today, working together between different companies in the supply chain is critical to the success of that chain. The close relationship between customers and the manufacturer provides opportunities to reduce product design time, production planning time, and inventory obsolescence to increase the accuracy of demand information, thus allowing more customer needs to be met. The supply chain includes all activities related to the flow and exchange of goods and services, from the raw material stage to the final product stage that can be consumed by the customer. In addition to material flows, these transfers also include information and financial flows. Integrated supply is different from traditional supply chain. The traditional supply chain is not integrated because it emphasizes the flow of discrete or discrete information. A traditional (non-integrated) supply chain has at least two forms. First, as a result of hierarchical backlogs in the supply chain, forecasting accuracy will decrease due to increased demand uncertainty as a result of disconnected information flows. Incorrect forecasting usually leads to additional inventory for suppliers and manufacturers. Second, a traditional supply chain responds slowly to changes in demand, usually because business processes are not seamlessly linked across parts of the supply chain. As a result of such an approach, it often faces higher levels of environmental uncertainty; thus, the supply chain literature supports the need for greater integration to deal with environmental uncertainty. Supply chain integration can be defined as the extent to which a manufacturer strategically cooperates with its supply chain partners and jointly manages intra-organizational and inter-organizational processes. Supply chain integration can be defined as a process of interaction and cooperation. Showed that companies in a supply chain work together in collaborative ways to achieve mutually acceptable consequences. Supplier Integration refers to the process of interaction and collaboration between an organization and its suppliers to ensure the effective flow of

supply. This dimension is also referred to as backward integration. Customer integration refers to the process of interaction and collaboration between an organization and its customers to ensure the effective flow of products [16].

Typically, integration with supplier and customer is the creation and coordination of integrated production processes across the supply chain in a way that most competitors cannot easily match. Integration with suppliers and customers to develop new products and processes is now considered a key competitive success. Supplier integration capability and customer integration capability are described as three sub-capabilities and complementary to understanding integration, implementing integration, and promoting and sustaining integration. In this research, supply chain integration capability is measured with two dimensions: integration capability with suppliers and integration capability with customers.

Business process management capability

In today's competitive environment, an organization can survive if it has the necessary mechanisms to deal with these changes. The business process management system provides a platform by which to carry out organizational procedures, or in other words, the organization's workflow based on processes in a fully mechanized and automated manner. Using this system, managers and planners of the organization can define the executive processes of the organization according to their opinion and change at any time.

Process executives receive complete and up-to-date information on how to execute the processes under their responsibility and can influence the execution of each process at any time. The concept of business process management is rooted in TQM and is a combination of merits. Business Capability (BPR) Business processes are the provision of specific settings to examine the organization's use of resources. Business processes can be a set of activities that a company develops to gain a competitive advantage. Business process reengineering refers to the revolutionary and fundamental change of the organization. This change is usually due to information technology innovation [17].

The concept of total quality management is neither an incremental nor an evolutionary approach, but aims to continuously improve business processes. Business process management helps you make faster decisions and improves the performance of all its processes. Many industrial products are produced in a multi-stage process and most of them are not single-stage. In this group of products, parts and components of the product go through several separate processes and then the final assembly is done. In this case, one or more different quality characteristics according to the process specifications may be selected for control. In these processes, one variable in each of the process parameters may affect the next steps. Customer relationship consists of all the methods that are used to achieve the goal of controlling and managing customer complaints, establishing long-term relationships with the consumer and promoting consumer satisfaction. Close customer relationships enable organizations to differentiate their products from competitors, maintain customer loyalty, and maintain this value to a large extent for consumers. Business process management enables faster and more flexible access to customer questions and needs, facilitates customer service quality, and improves customer service quality. This study focuses on the three dimensions of organizational control, process quality control and customer satisfaction. Performs effective actions. Such capabilities reflect the complexity of companies' use of information technology to support information sharing within companies, the processing of input information, and the use of knowledge to generate valuable outputs to improve performance. The use of information technology has a significant impact not only on the structure of the

company but also on the activities and consequently on the performance of the company. The use of information technology and its development potential allows supply chain partners to function as a single entity [18]. The use of information technology in the supply chain will improve the efficiency of the chain by reducing the uncertainty caused by the unavailability, incompleteness and distortion of information. Therefore, according to the above, it can be assumed that:

H1: IT capability affects the company's performance.

Information technology capability and supply chain integration capability

Continuous advances in communications and information systems and information technology have led to an evolution of the supply chain and the development of its techniques. Implementable and efficient supply chain, based on accurate information and its transmission and distribution is formed correctly and with high quality. The usual role of information technology in supply chain integration is to reduce sensitivity and friction in interoperability. Supply chain partners through cost-effective information flow, and information technology supports supply chain collaboration and coordination through information sharing. Therefore, it can be assumed that:

H2: IT capability affects supply chain integration capability

Ability to integrate supply chain and company performance

To date, researchers have examined the impact of different variables on firm performance. Understanding the relationship between supply chain integrity and firm performance is critical to the survival and success of any firm. Suppliers positively affect the operational performance of the acquiring companies. In addition, supplier development has a positive effect on the business performance of purchasing companies. The results of some research show that the level of supply chain integration affects the level of company performance. Of course, the intensity and degree of integration is very important in this regard. The highest degree of supply chain integration leads to the highest level of performance. In other words, the higher the level of supply chain integration, the higher the level of performance of the company. It is useless to try to optimize organizational processes without considering suppliers and customers, and organizations that work together to achieve common goals perform better. Along with the development of supply chain integration stages, by establishing an interaction between supply chain operational capability and company competitiveness, the company's performance improves in terms of customer satisfaction, then the level of market-based performance increases and finally financial performance is strengthened. Therefore, it can be assumed that:

H3: Supply chain integration capability affects company performance.

H4: Supply chain integration capability mediates the impact of IT capability on firm performance.

Information technology capability and business management process capability

Business process management is a paradigm composed of management concepts and information technology, and technology so far adapts to the real conditions of organizational processes. For a long time, there has been a need for a variety of systems to implement business process management. The architecture of modern information systems is based on the management and improvement of business processes to streamline the process of tasks, information and work in the organization and improve organizational productivity. Due to the constantly changing turbulent environment of today's

businesses, many scientific resources with strategic management and business expansion emphasize the achievement of sustainable competitive advantage. Adaptation to changes in technology and market rules and regulations is essential for survival, and companies are able to sustain and develop the ability to choose a more appropriate business model than competitors based on ongoing assessment of market needs and technological needs. The advent of communication technology has facilitated communication, merged companies, created value networks and increasingly blurred industry boundaries, and the concept of business model as an alternative analysis unit of industry. Therefore, it can be assumed that:

H5: IT capability affects business process management capability.

Ability to manage business process on company performance

Business processes are the key to any organization's success. Therefore, having a strong business process management approach in organizations is important. Organizations have learned from experience that business process management is a strong investment in the rapid response to environmental change. Business process management with multiple models required by organizations, provides an integrated and systematic way to design, implement and manage business processes of organizations. Therefore, it can be assumed that:

H6: The ability to manage the business process affects the performance of the company.

H7: Business process management capability mediates the impact of information technology capability on company performance.

Research background:

Table 1 Research background

Name of Paper	Results	References
The mediating effect of supply chain management and business process capabilities on the impact of information technology on firm performance: Evidence from China	Information technology can create business value only through the integrated integration of information technology capabilities with a company's capabilities in optimizing business processes and improving supply chain management. Supply chain integration and information technology capabilities are one of the positive and significant factors for improving the company's performance	[19]
Developing supplier integration capabilities for sustainable competitive advantage: A dynamic capabilities approach	Supplier integration capabilities (capture, measurement, conversion) affect operational performance (cost efficiency and process flexibility) and the final performance of the company. Also, the effect of supply chain integration on competitive advantage is greater when environmental dynamics are higher and less when the number of suppliers is small.	[20]
Investigating the direct and indirect effects of supply chain integration on firm performance	In Japanese companies, supply chain integration leads to competitive capabilities, which in relation to the operational capabilities of supply chain management, affect the company's performance. However, in Korean companies, which are smaller than Japanese companies, the company's competitive capabilities in relation to supply chain management operational capabilities lead to supply chain integration and thus affect the company's performance.	[21]

Conceptual model of research

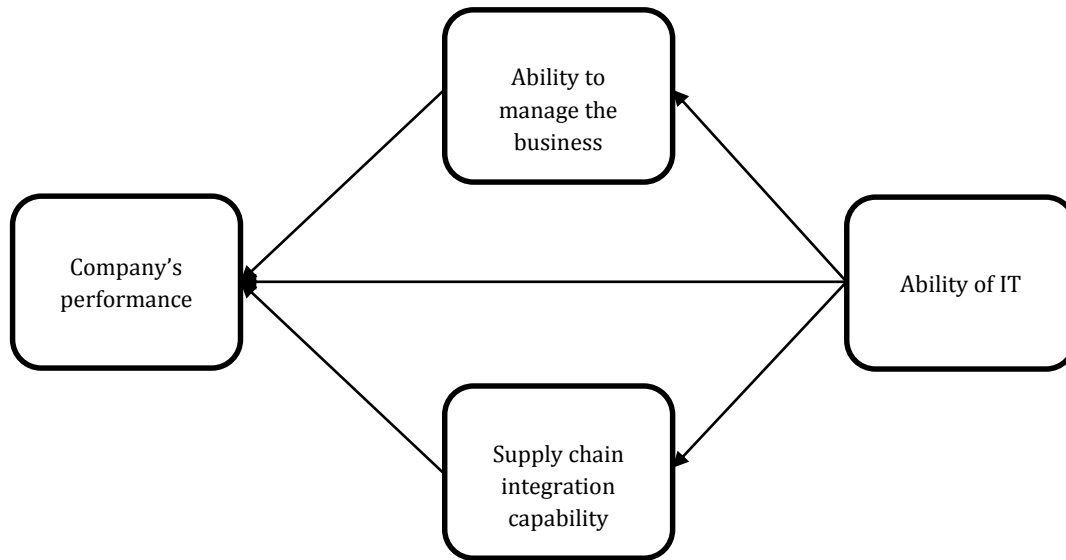


Figure 1 Conceptual model of research

Research questions

1. Does IT capability affect company performance?
2. Does IT capability affect supply chain integration capability?
3. Does supply chain integration affect company performance?
4. Does supply chain integration mediate the impact of information technology capability on firm performance?
5. Does IT capability affect the ability to manage business processes?

Research methodology

The statistical population of the study includes managers and senior experts of active manufacturing companies located in the industrial city of Amol. The number of required samples is ten times the number of parameters that the model estimates; Therefore, the minimum sample size required to evaluate, model fit and test research hypotheses is 120 companies. In order to collect data, field method and questionnaire tool with available sampling method were used and in order to analyze the data, Structural Smart PLS equation modeling method with partial least squares approach and SPSS software were used. Table 2 describes the topics assigned to the research variables.

Table 2 Title of variables

Title in the model	Variable	Title in the model	Variable
IA	Information Technology Coordination	PF	company's performance
BPMC	Ability to manage the process of information business	MP	Market performance

OC	Organizational control	FP	Financial performance
PQC	Process quality control	IP	Innovative performance
CS	Customer satisfaction	ITC	Information Technology Ability
SCMC	The ability to integrate supply chain	IF	Flexible Infrastructure Information Technology
SIS	Integration feature with supplier	IN	Integration of information technology
SIC	Integrated with customer	IM	Information Technology Management

Descriptive indicators

In this section, descriptive statistics provide information about the number of data, mean and standard deviation of data collected from the statistical sample, respectively. The results related to the collected data for each of the research variables can be seen in Table 3.

Table 3 Descriptive Indicators of Research Variables

Variables	Number of data	Average	Standard deviation
PF	120	3.46	0.6
MP	120	3.48	0.7
FP	120	3.51	0.73
IP	120	3.42	0.88
ITC	120	3.61	0.63
IF	120	3.51	0.73
IN	120	3.51	0.74
IA	120	3.71	0.74
IM	120	3.52	0.7
BPMC	120	3.51	0.74
OC	120	3.48	0.97
PQC	120	3.51	0.79
CS	120	3.53	0.79
SCMC	120	3.51	0.69
SIS	120	3.47	0.78
SIC	120	3.55	0.73

Evaluation of the measurement model

Index reliability, convergent validity and divergent validity were used to measure the fit of the measurement model. Index reliability for measuring internal reliability includes three Cronbach's alpha criteria, composite reliability and factor load coefficients.

Cronbach's alpha, hybrid reliability and convergent validity

Cronbach's alpha is an indicator that provides an estimate for reliability based on the internal correlation of the reagents. In order to calculate the reliability, there is another criterion that has advantages over the traditional method by Cronbach's alpha, which is called combined reliability. The

advantage of hybrid reliability over hybrid alpha is that the reliability of structures is not calculated absolutely, but according to the correlation of their structures with each other. Also, for calculating it, indicators with higher factor load are more important. As a result, both of these criteria are used to better measure reliability. For composite reliability, a value above 0.7 is indicated.

Convergent validity is another criterion used to fit measurement models in structural equation modeling.

According to Cronbach's alpha values and composite reliability reported in Table 4, as can be seen, all hidden variables have a Cronbach's alpha value and a combined reliability above 0.7, indicating that the model has good reliability. Also, the value for the hidden AVE variables with the extracted variance is higher than 0.5; Therefore, the convergent validity of measurement models is also desirable.

Table 4 Report Criteria: Cronbach's Alpha, Combined Reliability

Variables	Cronbach's Alpha Coefficient 0,7	Combined reliability coefficient 0,7
PF	0.85	0.88
MP	0.76	0.86
FP	0.74	0.84
IP	0.97	0.98
ITC	0.9	0.92
IF	0.74	0.85
IN	0.75	0.86
IA	0.73	0.85
IM	0.76	0.86
BPMC	0.88	0.91
OC	1	1
PQC	0.74	0.85
CS	0.79	0.89
SCMC	0.91	0.92
SIS	0.88	0.91
SIC	0.87	0.9

Measurement of factor loads Measures and divergent validity of factor loads are calculated by calculating the correlation of the indices of a structure with that structure, the appropriate value of which is 0.4. Fornell and Larker (1981) state that the validity for any divergent AVE is acceptable when the amount of structure is greater than the common variance between that structure and other structures. Table 5 shows the matrix of the research model. Based on the results obtained from the correlations and the square root, the AVE is placed on the diameter of Table 5.

Table 5 Correlation between the variables and values AVE

	CS	FP	IA	IF	IM	IN	IP	MP	PQC	SIC	SIS	OC
CS	0,84											
FP	0.39	0.75										
IA	0.26	0.54	0.81									
IF	0.26	0.54	0.69	0.81								

IM	0.43	0.61	0.47	0.47	0.82							
IN	0.43	0.61	0.46	0.46	0.69	0.82						
IP	0.53	0.34	0.19	0.18	0.27	0.26	0.98					
MP	0.45	0.66	0.49	0.5	0.58	0.66	0.27	0.82				
PQC	0.72	0.45	0.28	0.28	0.38	0.58	0.41	0.49	0.81			
SIC	0.66	0.38	0.21	0.21	0.31	0.31	0.53	0.47	0.63	0.78		
SIS	0.55	0.37	0.26	0.26	0.36	0.38	0.53	0.44	0.56	0.66	0.79	
OC	0.47	0.48	0.37	0.37	0.38	0.39	0.45	0.46	0.72	0.46	0.43	1

Structural model evaluation

After measuring the validity and reliability of the measurement model, the structural model was evaluated (T-values) through the relationships between latent variables. In the present article, a significant coefficient has been used.

Significance coefficients

The first criterion for fitting a structural model is significant coefficients. These coefficients are implemented for the model and based on this, all significant coefficients are greater than 1.96, which shows the significance of the relationships between the variables at the 95% confidence level.

Coefficient of determination and coefficient of predictive power

The results obtained from the analysis of the structural model in Table 6 show R² as the criterion for all endogenous variables of the research model. The results of this criterion show that the fit of the structural model of most variables was strong and good. In order to evaluate the predictive power of the model, a criterion called (Q²) has been used. Considering the results of this criterion in Table 6, it can be concluded that the model has a strong predictive power.

Table 6 Amount of Q² R²

variables	R ²	Q ²	variables	R ²	Q ²
PF	0.65	0.27	IA	0.71	0.39
MP	0.76	0.49	SCMC	0.82	0.17
FP	0.75	0.55	SIC	0.83	0.48
IP	0.44	0.41	BPMC	0.51	0.11
IM	0.74	0.48	PQC	0.73	0.58
IF	0.71	0.44	OC	0.41	1
IN	0.74	0.47	CS	0.75	0.55
SIS	0.78	0.47			

After fitting the measurement and structural part of the present research model, in order to control the overall fit of the model, a criterion called GoF has been used. Given that the criterion is 0.6, a very good fit of the overall model is confirmed.

Testing hypotheses:

After examining the fit of measurement models and structural models and having a suitable fit of the models, the research hypotheses have been examined and tested. Therefore, the results of significant coefficients for each hypothesis, standardized coefficients of paths related to each hypothesis and the results of hypothesis testing are presented in Table 7 and Figure 2. The results of testing hypotheses and significant coefficients show that all research hypotheses have been confirmed. The results of testing the hypotheses and significance coefficients according to Table 7 and Figure 2 show that all seven hypotheses of the research have been confirmed.

Table 7 Testing hypotheses:

H	Route	T-value	Route coefficient	Test result
H1	Investigating the Impact of Information Technology Ability on Business Process Management	5.99	0.45	Accepted
H2	Investigating the Impact of Information Technology on Integration with Supply Chain	4.32	0.38	Accepted
H3	Investigating the impact of supply chain integration on company performance	4.15	0.34	Accepted
H4	Investigating the effect of managing business process on company performance	2.23	0.46	Accepted
H5	Investigating the impact of information technology on company performance	7.29	0.34	Accepted
H6	The ability to manage the business process mediates the impact of information technology capabilities on the company's performance	-	0.08	Accepted
H7	The integration of the supply chain integrates the impact of information technology capabilities on the company's performance	-	0.129	Accepted

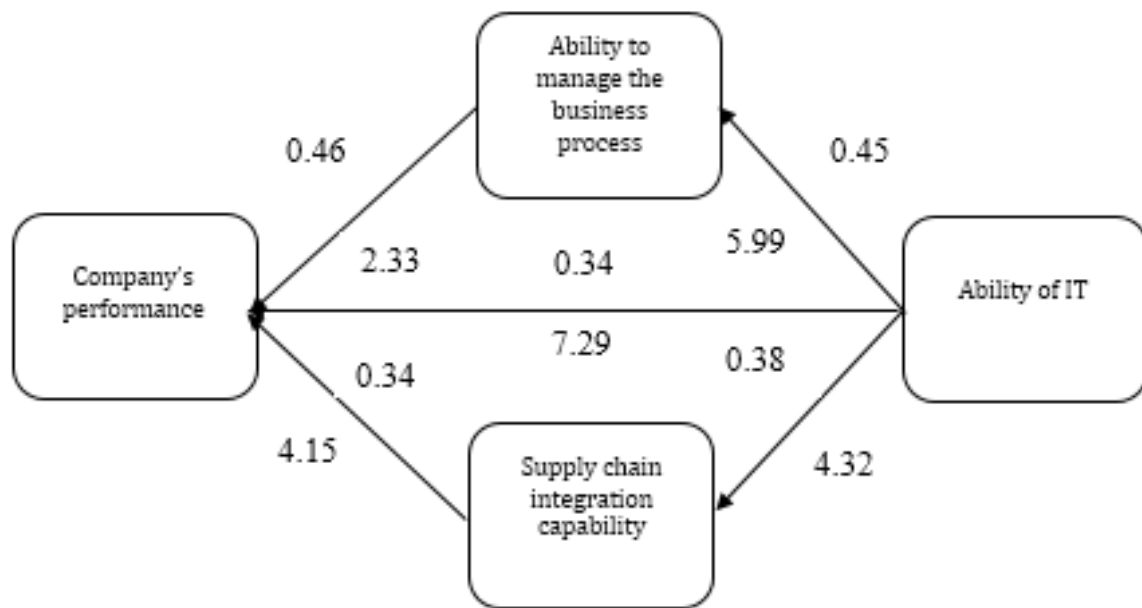


Figure 2 Final research model

Discussions and suggestions

Today, organizations compete with each other in dynamic, complex, and unpredictable environments due to intense global competition, rapid technological changes, and the expansion of product diversity, and seek to improve their organization's performance. In such a situation, many leading companies are trying to make a profit and be ahead of the competition through information technology. Considering the importance of company performance in this study, the impact of information technology capability with four dimensions of information technology integration capability, flexible information technology infrastructure, information technology management and business process information process alignment on company performance was discussed. In this research, business process management capability and supply chain management capability are also considered as mediating variables.

In line with previous studies discussed in the research background section, the first research hypothesis based on the positive and significant impact of information technology capability on company performance was confirmed. This result shows that the IT capability of companies enables them to make more correct and wise decisions and take more effective actions and helps to improve organizational processes. Hence, the capability of information technology affects the performance of the company and improves the performance of the company.

The second hypothesis of the research confirms the positive and significant effect of information technology capability on supply chain integration capability. The findings of this hypothesis are consistent with some previous research claiming that the capability of information technology through changing and improving all activities related to the flow and exchange of goods and services, from the raw material stage to the final product stage on the supply chain It influences and promotes strong coordination and partnership throughout the supply chain, facilitating collaboration between supply chain partners and meeting their changing needs, as well as helping manufacturers develop their production plans and produce goods on time.

The results of the third hypothesis of the research in line with previous research, indicate a positive and significant effect of supply chain integration capability on the company's performance. In fact, it can be said that an integrated supply chain helps supply chain partners to reduce inventory costs and total costs, and makes companies more responsive to customers and therefore more profitable, and increase the speed of companies in product design and delivery. Gives and therefore improves and enhances performance.

The fourth hypothesis of this research examines the mediating role of supply chain integration capability in relation to information technology capability on firm performance. These results are in line with the findings of Peng studies and show that when the supply chain is integrated, the company's performance is improved through information technology capability.

Findings related to the fifth hypothesis show a positive and significant effect of information technology capability on business process management capability. These results are in line with the findings of some past researchers, such as Peng. The use of information technology in the organization improves the ability of the organization to better manage the change process and leads to the creation of new businesses and adaptation of existing processes to changing environmental conditions.

The results of the analysis of the sixth research hypothesis confirm the positive and significant effect of business process management capability on the company's performance. The findings of this hypothesis are consistent with some previous studies and indicate that the ability to manage the business process leads to self-employment and increases the efficiency and productivity of all processes and thus improves the performance of the organization.

The seventh hypothesis of this research examines the mediating role of business process management capability in relation to information technology capability on firm performance. These results are consistent with the findings of the Peng study and show that when business process management is implemented in organizations, firm performance improves through the capability of information technology.

According to the results of the test of research hypotheses, it is recommended to company managers that:

According to the confirmation of the first hypothesis, it is suggested to managers that in order to deal with rapid environmental changes in the environment and improve the performance of the organization, they should pay attention to the capabilities of information technology. In this regard, by creating innovation by facilitating information sharing, integration of different systems, better communication and cooperation between different functional parts of the organization and cooperation with partners, and as a result of research and development, production and other functional parts, improve organizational performance.

According to the confirmation of the second hypothesis, managers can use the capabilities of information technology to acquire the necessary capabilities to coordinate business process management, redesign business processes and integration of business processes, and also make the flow smoother. Work, tasks, information and work in the organization and meet the new needs of evolving business that is the basis of organizational programs.

Due to the positive and significant impact of supply chain integration capability on the company's performance, it is suggested to managers to increase and improve the performance of their organization through measures such as reorganizing suppliers and customers, using reliable and diverse suppliers, customer ranking and supply Increase market share and profit and take an effective step in speeding up and improving the quality of manufactured products to enable customers and fast customer ordering system to identify opportunities in the environment and deal with changes and uncertainties.

Considering the confirmation of the fourth and seventh hypotheses that the ability to manage the business process mediates the impact of information technology capability on the company's performance, it can be said that the ability to manage business by companies, causes them to enter the field with their new plans and ideas. New business markets and thus the possibility of maintaining and improving the position of their company in domestic and global markets, and also business process management offers the best ways to use resources that companies can ultimately reduce costs. And achieve superior performance.

According to the confirmation of the fifth hypothesis, managers can use the capabilities of information technology to acquire the necessary capabilities to coordinate business process management, redesign business processes and integration of business processes, as well as to make the flow smoother. Work, and duties, information and work in the organization and meet the new needs of evolving business that is the basis of organizational programs.

Due to the positive and significant impact of business process management capabilities on the company's performance, it is suggested to managers that in order to increase and improve the performance of their organization through measures such as reorganization of business processes, integration of business processes to identify Increase opportunities in the environment and deal with changes and uncertainties, increase market share and profits, as well as by integrating different systems, adopting and implementing and upgrading new systems in response to the needs of the business being Transformation can improve management and organizational processes in the organization.

References

1. Levenson, A., *Using workforce analytics to improve strategy execution*. Human Resource Management, 2018. **57**(3): p. 685-700.
2. Perey, R., et al., *The place of waste: Changing business value for the circular economy*. Business Strategy and the Environment, 2018. **27**(5): p. 631-642.
3. Croom, S., et al., *Impact of social sustainability orientation and supply chain practices on operational performance*. International Journal of Operations & Production Management, 2018.
4. Jermisittiparsert, K. and P. Wajeetongratana, *The role of organizational culture and it competency in determining the supply chain agility in the small and medium-size enterprises*. International Journal of Innovation, Creativity and Change, 2019. **5**(2): p. 416-431.
5. Bathaei, A., S.R. Awang, and T. Ahmad, *Important Factors for Agile Supply Chain in Iranian Automobile Industries*. 2021.
6. Bathaei, A., et al., *Application of Fuzzy Analytical Network Process (ANP) and VIKOR for the Assessment of Green Agility Critical Success Factors in Dairy Companies*. Symmetry, 2019. **11**(2): p. 250.
7. Valipour Khatir, M., A. Bathaei, and B. Bahrani Mianrood. *Comparative study of factors affecting organizational agility in iran*. in *3RD INTERNATIONAL CONGRESS ON TECHNOLOGY - ENGINEERING & SCIENCE, 09 -10 FEBRUARY, KUALA LUMPUR - MALAYSIA*. 2016.
8. Bathaei, A., S.R. Awang, and T. Ahmad, *Important Factors for Agile Supply Chain in Iranian Automobile Industries*.
9. Janiesch, C., et al., *The Internet of Things meets business process management: a manifesto*. IEEE Systems, Man, and Cybernetics Magazine, 2020. **6**(4): p. 34-44.
10. Asamoah, D., et al., *Inter-organizational systems use and supply chain performance: Mediating role of supply chain management capabilities*. International journal of information management, 2021. **58**: p. 102195.
11. Liu, W. and K. Atuahene-Gima, *Enhancing product innovation performance in a dysfunctional competitive environment: The roles of competitive strategies and market-based assets*. Industrial Marketing Management, 2018. **73**: p. 7-20.

12. Tallon, P.P., et al., *Information technology and the search for organizational agility: A systematic review with future research possibilities*. The Journal of Strategic Information Systems, 2019. **28**(2): p. 218-237.
13. Naciti, V., *Corporate governance and board of directors: The effect of a board composition on firm sustainability performance*. Journal of Cleaner Production, 2019. **237**: p. 117727.
14. Mardani, A., et al., *The relationship between knowledge management and innovation performance*. The Journal of High Technology Management Research, 2018. **29**(1): p. 12-26.
15. Park, Y., O.A. El Sawy, and P. Fiss, *The role of business intelligence and communication technologies in organizational agility: a configurational approach*. Journal of the association for information systems, 2017. **18**(9): p. 1.
16. Khanuja, A. and R.K. Jain, *Supply chain integration: a review of enablers, dimensions and performance*. Benchmarking: An International Journal, 2019.
17. Lee, M., et al., *How to respond to the fourth industrial revolution, or the second information technology revolution? Dynamic new combinations between technology, market, and society through open innovation*. Journal of Open Innovation: Technology, Market, and Complexity, 2018. **4**(3): p. 21.
18. Longo, F., et al., *Blockchain-enabled supply chain: An experimental study*. Computers & Industrial Engineering, 2019. **136**: p. 57-69.
19. Peng, J., et al., *Mediation effect of business process and supply chain management capabilities on the impact of IT on firm performance: Evidence from Chinese firms*. International journal of information management, 2016. **36**(1): p. 89-96.
20. Vanpoucke, E., A. Vereecke, and M. Wetzels, *Developing supplier integration capabilities for sustainable competitive advantage: A dynamic capabilities approach*. Journal of operations management, 2014. **32**(7-8): p. 446-461.
21. Kim, S.W., *An investigation on the direct and indirect effect of supply chain integration on firm performance*. International journal of production economics, 2009. **119**(2): p. 328-346.