

Research Article

# The Effect of Dynamic Capabilities in Information Technology: An Exploratory Study of the Opinions of a Group of Employees of Ur State Company

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**Abstract:** His study aims to crystallize a clear vision about the impact of dynamic capabilities in creating business value, and again through information technology that works to strengthen the relationship. My application for the opinions of (330) employees of Ur State Company. The study dealt with dynamic capabilities as an independent variable through five dimensions (the ability to sense, the ability to learn, the ability to integrate, the ability to coordinate, and reconfigure), and information technology as a dependent variable in four dimensions (hardware, equipment, software, databases, and networks). The study relied on the questionnaire as a main tool for collecting data related to its variables, and the results showed a significant correlation and effect between the dynamic capabilities in their various dimensions with information technology. The study came out with a set of recommendations, foremost of which is the need to work on creating a clear and common understanding among the employees of the Ur State Company. The topic of the research is related to the strategic direction of their company by involving them in the process of formulating its strategies related to the development of its investments and exploratory activities and enabling it to make decisions that support the orientation of its institutions towards creative businesses.

**Keywords:** Dynamic Capabilities, Information Technology.

## INTRODUCTION

Interest in the concept of dynamic capabilities has increased increasingly by a large number of researchers in the field of administrative sciences, especially in the field of strategic management, based on its focus on competitive advantage and building it based on the resource structure that the organization owns, and not only this, but also its dependence on the time that affects the resources. In terms of its change, efficiency and quality due to the overlap of other factors related to the environment and its certainty, complexity and speed of change, where the role of the organization comes in the role of initiative and providing everything that is new and unique to maintain competitive advantage and its sustainability, taking into account the requirements of the market and its dynamism. The concept of dynamic capabilities has emerged as one of the most important conceptual frameworks in the management literature, as it represents the means for developing

information technology for organizations by making the most of their resources, as organizations are keen to achieve dynamic alignment between their capabilities and the opportunities provided by the external environment and the imposed by it. challenges, and that this requires them to work on adapting, building and reshaping their capabilities and resource base to achieve the maximum possible compatibility with the environment (Shalaka, 2022: p 71).

## MATERIALS AND METHODS

### Materials

#### The Concept of Dynamic Capabilities

Most researchers and specialists in the field of strategic management agree that the success, survival and continuity of organizations depends on their ability to create business value through which they can

Quick Response Code



Journal homepage:

<https://isrpgroup.org/srjmd/>

Article History

Received: 26.09.2022

Accepted: 20.10.2022

Published: 30.10.2022

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outperform competing organizations and maintain that advantage. However, the main problem facing most organizations is that the competitive advantage may weaken. As he says (Prescott, 2012:p12-13) If the organization fails to move quickly to meet the rapid changes that characterize the contemporary business environment, hence the fundamental question that always poses revolves around the way that enables the organization to create and retain business value in a highly dynamic environment complexity.

The concept of dynamic capabilities today is considered one of the effective concepts due to its prominent and influential appearance as one of the important terms in the field of management (Schilke et al,2018:p390), This has shed a lot of light on the concept of dynamic capabilities, which gave it a diverse intellectual enrichment that helped in the multiplicity of perceptions and future visions about dynamic capabilities, as following the dynamic approach can help in creating a strategic theory that can provide management with an idea about how to develop competitive capabilities and success in the long run. Tawil (Tikkanen, 2014), and when environmental conditions change, basic capabilities can become obsolete and ineffective, or they can create inertia and prevent the formation of other capabilities (Fischer et al. 2010). In general, it can be said that there are two main points of view to answer this question.

The first industry-based view sees the organization's ability to create business value and outperform other companies can only be improved when the organization chooses a position in the industry that maximizes profits, and learns how to use its available resources to implement the strategy that fits the characteristics of the industry in which it operates.

The first point of view is based on a set of assumptions (Rasheed and Gallab, 2015: p81):-

1. The organization's external environment is the main determinant of its strategy.
2. Most organizations operating in an industry control a similar set of resources and follow similar strategies in allocating those resources.
3. The disparity in the organizations' resources is limited to the short term only.
4. The decisions taken by the organization are characterized by rationality and rationality to achieve the maximum possible returns.

Penrose was one of the first researchers who shed light on the entrance to the resources of the organization, as she described the organization as an administrative organization and a package of productive resources, whether material or human (Olovsson & Lundstrom, 2010:p 17), and she emphasized that value creation does not come from mere possession of resources but of their employment as well, and that the amount of value obtained depends on how the integration of these

resources is carried out at the level of the organization (Kuuluvainen, 2011:p 36)

### **Information Technology Concept**

The world has brought the world closer to each other through the use of means of communication and helped organizations to communicate and interact with their large and growing audience faster than ever before (Shamsan & Otieno 2015:pl) and has played a major role in the field of growth and production of services at a cost and less time (Armstrong, 2006:p25), and adopted Its idea of survival, stability and continuity to achieve more quality to serve the beneficiaries through the innovative application of opportunities based on information technology services (Makasi &Govender, 2015:p31) It appeared in the mid-seventies of the twentieth century through the first marketing (Webster, 2006:p9) (IT), then the beginning of the use of the Internet (Technology) in two parts, one of them ((Techno, which means application, and the second (Logy).

i.e. science (Asim and Ibrahim, 2013:p232), and when two parts are combined together, the concept of technology is applied science, and information technology has spread as a competitive tool that offers software and communications(Sallan & Fernandez, 2009:p368) ,To facilitate the process of innovation, improvement, professional development and value creation (Soliman&Karia 2015:p380) in companies.

We now turn to a group of definitions of some researchers of information technology to clarify its concept, as information technology is defined as “the devices, software, networks, communications and data that use computer-based information systems” (Pour,2014:p303), and with another definition “it is all devices, equipment, phones, networks, The telecommunications and the Internet that today's organizations acquire despite their high costs” (Reddy et al, 2009:p1), or the technical method to achieve a practical purpose, or it is a set of interconnected and interacting resources that work together” (Fredy and Hakeem, 2014:p3).

As defined by researchers (Hatch & Cunliffe, 2013:p128) as “a tool that has the ability to be presented in the nineties of the same century, and information technology consists of huge quantities with mixing, storage and use of it whenever it wants and wherever it is located.” Several studies and reports have highlighted the potential opportunities and benefits of information technology in order to improve the quality of production in the company (John, 2015:p232), and it is a key tool for building knowledge societies, which can be a means of rethinking and designing organizational systems, which provides unified obedience to all(Sangra&Sanmamed 2010:p307), Both researchers (Mondal & Mete 2015:p10) say "there must be directives by senior management in organizations about

the use to have an approved work culture" such as tools include workshop preparations, demonstration grounds, and CCTV conferences between the remote enterprise branch (Hotek&Alarm,2010:p33) (Yusuf, 2010:p197), In addition to its expansion in use after the development of proprietary and wireless means of communication and the expansion of its range, at the present time educational institutions are adopting and benefiting from advanced technologies,The university tasks are analyzed according to the training programs commensurate with them and achieving their goal (Niazi, 2011:p45) and the evaluation of these training, development and settlement programs is concerned.

The second: the material trend that is mixed with the concept of price, which represents the ratio between a thing or its equivalent or equivalent in cash (Saad Al-Enezi and Mustafa Ismail, 2013:p22).

### **Methods**

Based on the study's variables and objectives, and the nature of the data that the study requires to obtain, in line with the study's objectives and the nature of the questions that this study is trying to answer. The analytical descriptive approach was chosen, as this approach is based on data collection and then analysis in order to reveal the nature of the relationships between its dimensions in order to interpret its results and then provide conclusions and recommendations in order to improve the value of the business.

### **Methodology**

#### **Research Problem and the Objective of the Paper**

#### **Research Problem**

The business environment has witnessed major and rapid changes that have cast a shadow on the success, survival and continuity of organizations. If we examine the environment of Iraqi organizations, including industrial companies (Ur State Company), we find that they are not isolated from these changes, which imposed on them a set of challenges that require them to optimally invest their current resources and capabilities and explore new ones to be able to Information technology for their business through dynamic capabilities , and from here the problem of the study crystallized in the following questions:

1. Does Ur public company have the dynamic capabilities that qualify it to develop information technology from the point of view of the study sample?
2. Was Ur public company, the subject of the study, able to achieve information technology using dynamic capabilities?
3. Is there a relationship between Orr General Company's possession of dynamic capabilities and information technology, and what is the nature of that relationship?
4. To what extent do dynamic capabilities contribute to the company's information technology, and which of these capabilities has the greatest contribution to the field?

### **Objective**

This study aims to achieve the following objectives:

1. Providing a conceptual framework for the concept of dynamic capabilities and its dimensions and the concept of information technology, according to the scientific resources available to the researcher.
2. Identifying the extent to which the study sample company possesses dynamic capabilities, and whether it is capable of information technology over the corresponding companies from the point of view of the study sample members.
3. Identify the nature of the relationship between dynamic capabilities and information technology.
4. Examine the role that dynamic capabilities can play in information technology.
5. Providing some recommendations that the management of the company under study and other companies can benefit from in the light of the results of the analysis

### **Exploratory Study**

330 questionnaires were distributed where the researcher was able to retrieve all of them, and the number of valid questionnaires for analysis is 330 with a response rate of 100%

The demographic characteristics of the study sample

The questionnaire included 4 basic elements represented by gender, educational attainment, age, years of service as shown in Table No. 1

**Table No. 1: The Demographic Characteristics of the Study Sample**

<b>SEX</b>				
<b>LEVEL</b>	<b>Repetition</b>	<b>The ratio</b>	<b>average</b>	<b>standard deviation</b>
MALE	152	65.8		
FEMALE	79	34.2	1.34	0.475
Total	231	100.0		
<b>AGE</b>				
25 LESS THAN-35	27	11.7		
35 LESS THAN-45	86	37.2		
45 LESS THAN- 55	97	42.0	2.48	0.817
55 AND MORE	21	9.1		
Total	231	100.0		
<b>Qualification</b>				
diploma	117	50.6		
bachelor	109	47.2	1.52	0.543
master	5	2.2		
Total	231	100.0		
<b>Number of service years</b>				
1 less than-5	20	8.7		
5 less than -10	18	7.8		
10 less than - 20	67	29.0		
20 less than-30	87	37.7	3.46	1.126
30 and more	39	16.9		
Total	231	100.0		

## RESULTS

### The Correlation between the Variables

Since the data was following a normal distribution and the measures used are quantitative measures, we use the Pearson correlation coefficient to test the correlation between the main variables so that its results serve as primary results for the direction of the relations between the variables, as the Pearson correlation coefficient can be determined by the direction of the relationship, either positive or negative, as it shows A positive relationship refers to an increase in one variable that leads to an increase in something else, and vice versa, it is called (a positive relationship). As for the negative relationship, it refers to an increase in one variable that leads to a

decrease in the other variable, and vice versa (an inverse relationship). The other direction is the strength of the relationship, so the relationship is complete (+) when the correlation coefficient is equal (1) and when the relationship is very strong (+), if the correlation coefficient is between (0.80-0.99) And strong (+) when it is between 0.60 -0.70, medium (+) if the correlation coefficient is between (0.35 - 0.59) and weak (+) when the correlation coefficient is less than (0.34), while the zero value indicates that there is no correlation Between the two variables and the table (16-3) shows the correlation coefficient between the main variables of the study

Information technology	Dynamic capabilities	Networks	Databases	software	After the equipment	learnability	Formatability	reconfigure	Integralability	Sensitivity
										1
									1	.808*
								1	.836**	.707**
						1	.798**	.709**	.692**	.610**
					1	.756**	.857**	.974**	.804**	.693**
				1	.817**	.830**	.984**	.800**	.758**	.745**
		1	.801**	.761**	.970**	.786**	.715**	.675**	.613**	.613**
	1	.825**	.806**	.814**	.830**	.792**	.803**	.791**	.681**	.681**
1	.870**	.837**	.922**	.914**	.848**	.928**	.914**	.917**	.865**	.865**
1	.960*	.933*	.913*	.928**	.920*	.913	.927*	.893	.822**	.741*

\*\*Correlation is significant at the 0.01 level (2-tailed). Source: Table prepared by the researcher using SPSS V 26

## Conclusions and Future Works

### Conclusions

This topic includes conclusions that extrapolate the intellectual and philosophical logic to the dynamic capabilities, value creation and the mediating variable information technology, based on the mechanism of compatibility and harmony, and the correlation and influence between them, which were the focus of the research hypotheses, and the conclusions that represented the field research side and which the researcher reached can be summarized as follows:

1. There is an interest on the part of Ur public company employees in the dynamic capabilities through the keenness to transfer and exchange important information and work in the spirit of one cooperative team to make mature decisions that enable the company's management to meet the requirements of the current work and face emerging challenges.
2. Ur public company employees are responsible for exchanging information and are keen to discuss opinions and ideas that contribute to identifying and defining problems in finding new solutions to them in an innovative way, enhancing the ability to excel in achievement, speeding up solving problems and transferring good practices, and assisting the administration in employing information to accomplish various activities. that will enhance the value of the company's business.
3. There is cooperation and harmony between the employees of Ur State Company, but it was not at the required level in light of the crises and challenges experienced by the industrial establishments. There is a need for high levels of synergy and cooperation among the company's employees to overcome the complex tasks and new requirements imposed by the environmental conditions that the company is not accustomed to. Previously, this cooperation reflected on the implementation of administrative and technical tasks.
4. Decision-making in the Ur public company is carried out in accordance with the participatory method, as the sample answers showed a clear interest in the opinions and proposals provided by the employees of the Ur public company, which reflect their expertise and specialized skills to reach decisions characterized by a large degree of accuracy and objectivity, especially with regard to decisions related to emergency crises.
5. The senior management of Ur General Company adopts the dynamic capabilities and dimensions, and pays attention to its role in preparing this company to face changes and its harmony with its environment, which is characterized by rapid and sudden changes.
6. The senior management of Ur General Company has shown a clear interest in sensing and constantly examining its work environment with the aim of identifying new job opportunities and employing appropriate information and data to meet the wishes of the beneficiaries and working on developing the existing ones to ensure with the environment in which it operates.
7. The results of the study showed the existence of positive and significant correlations between the variables of the study, as shown in Table No. (3-16) There is a positive correlation between the dynamic capabilities and their dimensions with information technology.
8. The study reflected the existence of a statistically significant and significant effect relationship between the study variables, agencies There is a statistically and morally significant impact relationship for the dynamic capabilities and their dimensions in information technology.
9. The reality of the company in question indicates the existence of acceptable applications related to the ability to learn. This was evident through its efforts to effectively transfer the available knowledge into new effective resources, and implement it with modern administrative methods and methods, and its keenness to hold scientific seminars and conferences and seek to cooperate with the corresponding companies, which is an effective way to generate And the acquisition of new knowledge in addition to the efforts to employ the knowledge owned by the employees of the Ur public company working in it to obtain new scientific outputs such as scientific research and consultations that are held for the benefit of different segments of society.
10. The company in question was keen to distribute the various tasks and responsibilities to the employees in proportion to what they possess of knowledge and skills to ensure the required level of coordination between the company's departments and its people.
11. The interest of the senior management of Ur General Company to reshape its available resources to obtain new capabilities, as the company showed its keenness to identify the gap between its current capabilities and what it needs of resources and capabilities in the future, according to the changes that occur in the environment.

### Future Works

1. The need to apply the study in a sector other than the industry sector to ensure the possibility of generalizing the results that have been reached.
2. Studying the relationship between dynamic capabilities and information technology and its reflection on organizational performance.



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