

Research Article

# The Impact Of The Current Dynamic Capabilities On Sensing In Information Technology An Exploratory Study Of The Opinions Of A Group Of Employees Of Ur State Company

Ahmed Azeez Saud<sup>\*1</sup>, Reyath Thea Azeez<sup>2</sup>, Ali S Habeeb<sup>3</sup>

<sup>1</sup>University of Sumer, College of Administration and Economics, Iraq

<sup>2</sup>University of Misan, College of Administration and Economic, Iraq

<sup>3</sup>University of Sumer, College of Administration and Economics, Iraq

\*Corresponding Author

AHMED AZEEZ SAUD

**Abstract:** This study aimed 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, and with the aim of achieving this, the study tried to provide a comprehensive intellectual framework for the most important issues addressed by the writers and researchers about the study variables, reinforced by an applied analytical framework For the opinions of (330) employees of Ur General Company. The study dealt with dynamic capabilities as an independent variable through five dimensions (sensing ability, learning ability, integration ability, coordination ability, reconfigurability), and information technology as an intermediate variable in four dimensions (hardware and equipment, software, databases, networks) while dealing with value creation as a dependent variable (and it is a final result without dimensions). The study adopted the questionnaire as a main tool for collecting data related to its variables, and the results showed the existence of a significant correlation and effect between dynamic capabilities in its various dimensions and value creation, dynamic capabilities and information technology, information technology and value creation. The study came out with a set of recommendations, foremost of which was the need to work to create a clear and common understanding among the employees of Ur State Company The subject of the research is about the strategic direction of their company by involving them in the process of formulating its strategies related to the development of its investment and exploratory activities and enabling them to make decisions that support the orientation of their institutions towards creative businesses.

**Keywords:** Current 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 owned by the organization, 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 to create added value for organizations by making the most of their resources. Of 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

Quick Response Code



Journal homepage:

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

Article History

Received: 21.09.2022

Accepted: 20.10.2022

Published: 30.10.2022

Copyright © 2022 IARCON, All rights reserved. No part of this content may be reproduced or transmitted in any form or by any means as per the standard guidelines of fair use. Creative Commons License Open Access by IARCON is licensed under Creative Commons License a Creative Commons Attribution 4.0 International License.

to create business value through which they can 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)

### **Sensitivity**

Sensing is one of the first aspects of dynamic capabilities, which is the organization's ability to identify shifts in the environment that may affect its activity based on the position of its current capabilities. The ability to sense is a starting point from the procedural perspective towards dynamic capabilities. (MacInerney, 2011: 16-17) Therefore, organizations must be constantly aware of the weak signals in the environment, because these signals are considered signals for future developments and opportunities, as it includes the ability of sensing in an inherited way after cognitive dynamic capabilities, especially dynamic management capabilities, because the initiation Initial change depends on the manager's ability to sense and pay attention, and to interpret new opportunities and strategic options.

(Maijanen & Jantunen, 2016: 139) The sensing capabilities of individuals and organizations may become a process that contributes to the selection of new technology, the exploitation of developments in external sciences and technologies, the diagnosis of innovations in suppliers, changing needs and creativity (Amiripour et al., 2017: 38).

### **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:p1) 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.

### 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 large 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 and explore their current resources and capabilities. New to be able to information technology for their business through dynamic and sensor-based capabilities, hence the problem of the study crystallized in the following questions:

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

### Objective

This study aims to achieve the following objectives:

1. Providing a conceptual framework for the concept of dynamic capabilities based on sensors 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 based on sensors, and whether it is able to develop information technology on the corresponding companies from the point of view of the study sample members.
3. Identifying the nature of the relationship between dynamic capabilities based on sensors and information technology.
4. Examine the role that dynamic sensor-based capabilities can play in information technology.
5. Presenting 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>				
standard deviation	average	The ratio	Repetition	LEVEL
0.475	1.34	65.8	152	MALE
		34.2	79	FEMALE
		100.0	231	Total
<b>AGE</b>				
0.817	2.48	11.7	27	25 LESS THAN-35
		37.2	86	35 LESS THAN-45
		42.0	97	45 LESS THAN- 55
		9.1	21	55 AND MORE
		100.0	231	Total
<b>Qualification</b>				
0.543	1.52	50.6	117	diploma
		47.2	109	bachelor
		2.2	5	master
		100.0	231	Total
<b>Number of service years</b>				
1.126	3.46	8.7	20	1 lee than-5
		7.8	18	5 less than -10
		29.0	67	10 less than - 20
		37.7	87	20 less than-30
		16.9	39	30 and more
		100.0	231	Total

## 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	Sensitivity
					1	Sensitivity
					.693***	After the equipment
				1	.817**	software
			1	.801**	.761**	Databases
		1	.825**	.806**	.814**	Networks
	1	.870**	.837**	.922**	.914**	Dynamic capabilities
1	.960	.933	.913	.928	.920	information technology

## Conclusions and Future Works

### Conclusions

This topic includes conclusions that derive the intellectual and philosophical logic of dynamic capabilities and 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. The conclusions that represented the field research side, 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 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) and There is a positive correlation between the dynamic capabilities and their dimensions with information technology.
7. 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.
8. 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.
9. 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.

#### REFERENCE

1. 9.Armstrong, M.,(2006) "book Human Resource Management Practice British Library Cataloguing in Publication Data , 10th ed.
2. Alomiaam, M.,N., Alraja ,N.,R.,(2013)." The Effect of Information Technology in Empowerment Public Sector Employees: A field Study", *Interdisciplinary Journal of Contemporary Research in Business* ,vol.(5)N.(1),pp.805-815.
3. Arndt, F., Pierce, L., & Teece, D. J.,(2017)," The behavioral and evolutionary roots of dynamic capabilities", *Industrial and Corporate Change*. doi:10.1093/icc/dtx050.
4. Farida, Bouali, Hakima, Faudel, (2014) The role of information and communication technology in improving the internal communication of the organization - a case study of Algeria Telecom, the Operational Directorate of Communications - Bouira "Master's thesis at the Faculty of Economics, Commercial and Facilitation Sciences, Akli Mohand Oulhaj University - Bouira - Algeria.
5. Fernandez,V., Sallan,P.,S.,G.,M.,(2009)." Podcasting: A new technological tool to facilitate good practice in higher education", *Computers & Education* 53,pp.385-392.
6. Hatch , M ., J . , cunliffe ,A ., L . , (2013). "Book Organization theory" ,3th ed , British library cataloguing publication pata .
7. Kuuluvainen, Arto, (2011), *Dynamic capabilities in the international growth of small and medium-sized firms*, Publications of Turku School of Economics: Series A-4: 2011.
8. MacInerney-May,Kieran,(2011),*The Value of Dynamic Capabilities For Strategic Management*, unpublished PH.D. Dissertation, obtaining the doctoral degree the Economic and Social Sciences the University of Cologne, Stuttgart.
9. Makasi, A., Govende, K.,(2015)." Evaluating Value Chains in :Tertiary :education setting the development al agenda for Africa" *European Journal of Business and Social Sciences*, Vol.( 4), No. (2),pp.30-43.
10. Markos ,S., Sridevi ,S.,(2010)." Employee Engagement: The Key to Improving Performance", *International Journal of Business and Management* Vol. (5), No. (12),pp.89-96.
11. Mondal ,A ., Mete ,J.,(2015),. "ICT in Higher Education: Opportunities and Challenges, *Bhatler College Journal of Multidisciplinary Studies*, Vol. (2),. Ed. Pabitra Kumar Mishra.p110.
12. Niazi, A., S.,(2011)." Training and Development Strategy and Its Role in Organizational Performance", *Journal of Public Administration and Governance*, Vol.( 1), No. (2),pp.42-57.

13. Olovsson, Clara & Lundström, Elin, (2010), Dynamic Capabilities. A multiple case study on successful entrepreneurs in South Africa, unpublished Bachelor thesis, Umea School of Business, p17.
14. pour ,B. ,S.,(2014)." Analysis of the Impact of Information Technology, and Perceived Organizational Justice on Employee Empowerment (Case Study: Payame Noor University of Kermanshah Province), *Mediterranean Journal of Social Sciences*, Vol.(5), No.( 20),pp.3037-3047
15. Prescott, Michael E.,(2012), Does the Effective Use of Digital Data Genesis Give Firms a Competitive Advantage in the Marketplace?, unpublished PH.D. Dissertation, Grenoble Ecole de Management.
16. Rasheed, Salih Abd al-Ridha and Jalab, Ihsan Dahesh, (2015), *Strategic Management and the Challenges of the Third Millennium*, Dar Al-Mahajid for Publishing and Distribution, Amman, Jordan.
17. Reddy, G., S., Srilvasu, R., Rikkula, S., R. Rao, V., S., (2009). "Management Information System to Help Managers for Providing Decision Making in an organization, *International Journal of Reviews in Computing*,pp.1-6.
18. Shalaka, Tariq Kadhim, (2022), the effect of the behavioral integration of the senior management team on organizational prowess by mediating dynamic abilities: an analytical research at the University of Baghdad, a doctoral thesis submitted to the Board of the College of Administration and Economics, University of Baghdad.
19. Shamsan,R.,M., Otieno,M.,(2015)." Effects of Strategic Public Relations on Organization Performance: A Case Study of Kenya Red Cross Society", *International Journal of Scientific and Research Publications*, Vol. (5), Issue. (9),pp.1-12
20. Soliman,M., Karia ,N.,(2015)." Higher Education Competitive Advantage Enterprise Resource Planning Systems" *International Journal of Research in Management & Technology*, Vol. (5), N. (5),pp. 380-348.
21. Webster, F., (2006)."Book Theories of the Information Society"3th .ed, published British Library.
22. Yusuf, M., O., (2011)." Student-Teachers'Competence and Attitude towards Information and Communication Technology: A Case Study in a Nigerian University", *Contemporary Educational Technology*, Vol. 2,N.(1), pp. 18-36.