

## FACTORS ASSOCIATED AFFECTING ORGANIZATION AGILITY ON PRODUCT DEVELOPMENT

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### ABSTRACT

Business facing a series of changes and developments that affect various areas of life, and for that we need new managerial decisions and problem solutions, The present work describes the essential and useful of mechanisms for the development of the product and the Agility, Which can be one of the most important suggested solutions for the development and the Competitive value of the product.

**Keywords:** *Agility, Product development, Organization Agility.*

### 1. INTRODUCTION

Globalization and rapid technological developments have contributed to <sup>uncertainty</sup> and unpredictability in all sectors which have emphasized the importance of the ability of an organization to adapt to unexpected changes, something that is considered to be critical to achieving and maintaining a competitive advantage. This idea of adapting to unforeseen changes has led to the evolution of one of the latest concepts in business strategies and is referred to as the concept of agility.

New ideas continue to emerge with accelerated speed pushing old business culture to extinction. In the past, we used physical office structure as one of the necessary factors that determines success but today's organizations have brought virtual organization into existence. Today, expansion and retention of workforce is the idea that is acceptable to business while downsizing is a forgone idea. Great leaders are more interested in how to effectively anticipate and adapt the entire organization to change.

Organizations with adaptability as one of their main characteristics can survive and prosper in today's environment. Research on how organizations cope with uncertainty and change using the term "adaptability", investigated how the organization's form, structure, and degree of formalization influenced the ability to adapt (Burns and Stalker, 1961; Hage and Aiken, 1969; Hage and Dewar, 1973).

In the 1980s, research paid more attention to the concern of organizational flexibility. A number of economists such as Reed and Blunsdon (1998) highlighted and suggested that organizational flexibility is an organization's capacity to adjust its internal processes in response to changes in the environment. The review of research on flexibility by Volberda (1996) and De Toni and Tonchia (1998) shows that most of the definitions of the flexible organization emphasize the ability to adapt and respond to change. Early in the 1990s, the new solution for managing a dynamic and changing environment emerged—agility. According to Gunasekaran (1999), agile manufacturing (AM) is the ability of surviving and prospering in a competitive environment of continuous and unpredictable change by reacting quickly and effectively to changing markets, driven by customer-defined products and services. Kidd (1994) defined agility as a rapid and proactive adaptation of enterprise elements to unexpected and unpredicted changes. The creators of "agility" concept at the Iacocca Institute, of Lehigh University (USA) defined it as: "A manufacturing system with capabilities (hard and soft technologies, human resources, educated management, information) to meet the rapidly changing needs of the marketplace (speed, flexibility, customers, competitors, suppliers, infrastructure, responsiveness)" (Yusuf et al., 1999). Yusuf et al. (1999) proposed that agility is the successful application of competitive bases such as speed, flexibility, innovation, and quality by the means of the integration of reconfigurable resources and best practices of knowledge-rich environment to provide customer-driven products and services in a fast changing environment. Despite the differences, all definitions of "agility" emphasize the speed and flexibility as the primary attributes of an agile organization (Gunasekaran, 1999; Sharifi and Zhang, 1999; Yusuf et al., 1999). An equally important attribute of agility is the effective response to change and uncertainty (Goldman et al., 1995; Kidd, 1994; Sharifi and Zhang, 2001). Some authors (Sharifi and Zhang, 1999) state that responding to change in proper ways and exploiting and taking advantages of changes are the main factors of agility.

### 2. PROBELM DEFINITION

The nature of nowadays business is facing a series of changes and developments that affect various areas of life, and that we need new managerial decisions and problem solutions, based on comprehensive knowledge of the conditions surrounding us and that does not stop at a certain point our global business environment.

The concept of Agility was developed as a strategic and competitive tool which can help to improve product development which became very difficult in all of these materialistic and humanitarian changes. Thus, scholars of governance all over the globe decided to integrate sustainability in their work, agility, the ability to adapt to new values and cultures, and the ability to re-design in order to cope with the required change that represent the most important means of successful organizations in both private and public institutions, regardless of their objectives or the type of activity. This forced institutions to re-shape themselves or re-engineering work in order to keep pace with the organization model based on the ability to be familiar with changes and conflicts.

At this point Tsourveloudis (2002) states that the problems that strike institutions today are not due to lack of efficiency of workers, but due to the administrative methods used which lack agile thinking, rapid changes and improvements. Sharifi, and Zhang, (2001) add that the attention of most organizations is focused on their concrete material resources and leave the concept of changing Agility, despite its importance without the observance of the factors affecting them.

Therefore, Sanchez & Nagi, (2001) indicate the need to know the factors affecting the application of the agility concept in organizations in order to develop productivity and says that the problem our age lies in the abundance of information, knowledge and science so it become so difficult to manage the term Agility emerged to overcome these problems, so the solution is adoption and application of the concept at organization and at the same time taking into account factors affecting it (Boehm, 2002). Noted in his study of which "It is astonishing to find organizations in their various field of work are concerned with the creation and application of the agility concept and factors influencing it, which has a vital role in making change and the ability to adapt, in addition to its role in the development of the product and that will lead to sustainability within the Organization.

Agility concept is considered one of the most important and comprehensive concepts, that is able to deal with uncertainty and changes we face in business environment in our days. The researcher finds that it's very important to put essential and useful mechanisms for the development of the product and the Agility can be one of the most important suggested solutions for the development and the Competitive value of the product.

### **3. RESEARCH OBJECTIVES: THE AIM OF THIS STUDY IS:**

1. To identify the extent to which organizational agility is practiced at company to develop products.
2. To identify the extent to which (organic structure, IT, customer oriented culture, employees empowerment, and learning organizations) exist at company sectors.
3. To investigate the nature of relationships between (organic structure, customer oriented culture, employees empowerment, IT, and learning organizations) and organizational agility in order to develop products at company sectors.
4. Additionally, the purpose of this study is to find suggestions and solutions that develop the concept of agility and its effect on product development and to find the other factors that could help or support this concept.

### **4. THE IMPORTANCE OF THE STUDY**

The importance of the current study comes from the need to design an agile organization that employed in the development of ideas and methods, innovation, change, and access to unique knowledge, also to increase the ability of organizations to adapt to change, accept it and benefit from it. Agility is characterized and centered for that fact that it has the ability go in line with the problems faced by the organizations, the ability to solve them, organizational learning, as well as the management innovation that is based on continuous learning within the organization.

The importance of the study also is inspired from the importance of the factors that affect the concept of Agility in activating the potential of the Organization in these respects, relationships, work frames, skills, cooperation, participation and ability to develop sound managerial decision-making within the organization. The study expresses itself in the practical field due to lack of research and studies that addressed the issue of Agility. It also could be useful for the Arabic library in general and specially for the Saudi library, as it may add a value to the field of organization agility.

## 5. LITERATURE REVIEW

One of the most important and essential factors of successful functioning of any business is the quality of the product that is being made. The higher the quality of a product the more the company can be blamed for that product. If the company makes a low quality product that is not very good people will not buy it, also if people can find a similar product at a lower price and higher quality they will buy it, but if a product fulfills the customer's prospects, the customer will be satisfied and consider that the product is of acceptable or even high quality.

The maintenance of quality of products depends upon a number of factors such as the type of material, management policy and practices, information, equipment, and people's opinion. (Boehm, 2002).

A review of prior research on agility reveals two kinds of issues: definitional issues and dimensionality issues. Here, we summarize relevant literature on agility definitions, and then advance a relatively comprehensive and general definition of agility that unifies prior characterizations of the concept and product development. Drawing on entrepreneurship and strategic management research, we proceed to develop a conceptual model of agility – identifying its key dimensions.

## 6. REVIEW OF AGILITY: DEFINITIONAL ISSUES

Agility, as a business concept, was coined in a manufacturing context – particularly in relation to flexible manufacturing systems (Christopher and Towill 2002). Later, the idea of manufacturing flexibility was extended into a wider business context (Nagel and Dove 1991), and the concept of agility and its effect on product development as an organizational trait was born.

The 1991 Iacocca Report recommends adoption of an agile manufacturing paradigm involving competitive foundations, characteristics, elements, and enabling subsystems of agility. Some scholars argue that the Report's conception of agility is ill-defined, and urge clarification and refinement of the concept (Burgess 1994). They assert that the concept of agility needs to be well grounded in management theory (Yusuf et al. 1999).

Nevertheless the Report seems to have stimulated numerous publications about agility in manufacturing contexts (Goldman et al. 1995; Kidd 1994; O'Connor 1994; Pandiarajan and Patun 1994; Tracy et al. 1994; Kumar and Motwani 1995; Kusiak and He 1997). Together, academic and practitioner publications such as these have stimulated development of an agile manufacturing (AM) paradigm. Transcending the manufacturing context, researchers are carrying the paradigm forward, emphasizing varying facets and sketching out divergent views of agility.

### 6.1 General, Unifying Definition Of Agility

By synthesizing facets of prior definitions, and filling in some gaps, we synthesize the following general-purpose definition of agility: Agility is the result of integrating alertness to changes (recognizing opportunities/challenges) – both internal and environmental – with a capability to use resources in responding. (proactive/reactive) to such changes, all in a timely, flexible, affordable, relevant manner. (Xun Li and Clyde W. Holsapple) Individually, neither alertness nor response-ability gives agility. Both competencies are necessary to realize agility. Both alertness and response-ability need to be timely, flexible, affordable, and relevant. Greater competitiveness can come from the effective integration of these two competencies. By including basic points that run through prior definitions, the result is a relatively comprehensive and unified conception of agility. Pushing forward from this base, we draw on ideas from entrepreneurship and strategic management disciplines to further develop this conception of agility. There are several reasons for doing so.

First, opportunity discovery is at the core of entrepreneurship studies, while means for developing distinctive capabilities to respond to change is a major focus in strategic management research. Second, some scholars have shown that understanding the complementarity between entrepreneurship and strategic management provides promising avenues for researchers examining how organizations sustain competitive advantages in turbulent environments (Barney and Arikan 2001; Ireland et al. 2003; Meyer and Heppard 2000). Third, as effective supply chain management has come to be regarded as major source of competitive advantage for many firms, supply chain researchers have increasingly applied theories and conceptual contributions from strategy to their research (Chang and Grimm 2006; Wisner 2003).

In the early days of agile, the applications where agile development was applied were smaller in scope and relatively straightforward. Today, the picture has changed significantly and organizations want to apply agile development to a broader set of projects. Agile hence needs to adapt to deal with the many business, organization, and technical complexities today's organizations are facing. These agile scaling factors which we've found to be important are:

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One of the scaling factors called out in the Agile Scaling Model (ASM) is "geographic distribution". As with the other scaling factors the level of geographic distribution is a range, with co-located teams at one extreme and far-located at the other. When your team is co-located the developers and the primary stakeholders are all situated in the same work room. Narasimhan and Das (Narasimhan & Das ,1999) link supply chain management practices within purchasing to achieving manufacturing agility .If you have some team members in cubicles or in separate offices then you're slightly distributed, if you're working on different floors in the same building you're a bit more distributed, if you're working in different buildings within the same geographic area (perhaps your team is spread across different office buildings in the same city or some people work from home some days) then your team is more distributed, if people are working in different cities in the same country you're more distributed, and finally if people are working in different cities around the globe you're even more distributed. Change in social and legal factors, business network, competitive environment, customer needs, technology, and finally the drivers of internal performance have been determined as the agility drivers by Heligerzburgh (Heligerzburgh et al., 2005).

Sharifi & Zhang (Sharifi & Zhang, 1999) believe that the main driver of agility is change. In another study, they define three factors of organization's need to become agile, strategic intent to become agile, agility strategy under the cover of the main driver of agility that is changed and have mentioned them as the agility drivers. Another factor that plays a significant role is the complexity of adopting and scaling agile strategies within your organization. To make matters worse different subgroups within your organization may have different visions as to how they should work. Individually the strategies can be quite effective, but as a whole they simply don't work together effectively.

Most organizations want to leverage common infrastructure platforms to lower cost, reduce time to market, and to improve consistency. To accomplish this they need effective enterprise architecture, enterprise business modeling, strategic reuse, and portfolio management disciplines. These disciplines must work in concert with, and better yet enhance, your disciplined agile delivery processes.

By giving the business side of an organization the tools to map their processes conceptually and by providing IT departments with the tools to map existing services, data, and applications to those requirements, BPM and SOA make business integration possible. Stratman and Roth (Stratman & Roth, 1999) define IT competence based on Roth and Jackson's definition, "competencies refer to localized production expertise, such as the bundle of people skills, system integration, or specific production technologies that can be linked to a specific point in the value chain or to specific strategic design choices that create competitive capabilities".

Although an organization may have IT, it may not recognize the benefits of the technology due to the human factors such as CEO commitment or the level of open communications within the organization (Powell and Dent-Micallef, 1997).

## **6.2 Theoretical Framework:**

In this study, the dependent variable is product development and the independent variables are factors believed to enable organizational agility in the development of the products (organic structure, customer oriented culture, IT, employees empowerment, and learning organizations).

**(Effect Factors enabling organization agility on Product development)**



**H30:** there is no statistically significant impact of IT (Information Technology) on organizational agility and product development.

• **Hypothesis 4:**

**H40:** there is no statistically significant impact of Organic Structure on organizational agility and product development.

• **Hypothesis 5:**

**H50:** there is no statistically significant impact of Learning Organization on organizational agility and effect of agility on product development.

## 9. METHODOLOGY

### 9.1 INTRODUCTION

This part of the study discusses the research design, measurement procedure and sampling design which are used as the methodology for this research. The research design employed in this study which is composed the qualitative of research. And descriptive in nature and it is used to identify factors enabling organization agility on Product development at companies. The measurement procedure for this research study involves the use of survey,. The questionnaire was given to a sample of different managerial levels at companies sectors: In the following we're going to explain how to divide the sample of the study:

1. Top level (Top Managers): Which contains 50 managers in this level.
2. Middle level/ Exclusory (Divisional Managers): which contains 150 divisional managers.
3. Low Level (Heads of Department – Supervisors): which contains 150 heads of departments- supervisors.

To develop a representative sample from this population, stratified sampling method was used to collect the data from the employees.

### 9.2 INSTRUMENT

#### Survey Study

The use of the survey method in this research study is needed in order to collect quantitative data in a real world setting. A non-controlled environment is also referred to as a real world setting, wherein phenomena occur outside laboratories, so that experiments are not feasible or ethically defensible. The survey method is used in order to give the necessary scientific context and provide confidence in the study being undertaken (Bohman, 2007). One of the advantages of using the survey method is that, for the researcher, it facilitates the collection of data, especially if there is a large sample population. In relation to this, conducting the data collection by means of the survey method is more convenient, as compared with other measurement procedures, because it does not require intensive human intervention.

Researchers, who have conducted extensive surveys of the quality of educational literature, have noted that there has been a decline in the quality of quantitative research. In a way, we must attribute this decline with a corresponding decrease in the emphasis of quantitative training. In “Methodology in Our Education Research Culture: Toward a Stronger Collective Quantitative Proficiency,” Henson, Hull, and Williams state this dilemma, For example, researchers “did not employ internal replication methods, such as cross-validation, the jackknife, or the bootstrap” (Zientek, Capraro, and Capraro 2008).

Similarly, organization and analysis of data is more efficient through the survey method because the researcher is able to use a statistical software program in which the data will be encoded or may even use manual computation as necessary. In addition, quantifying the categories within a survey also allows the researcher to properly assess the relationship between or among variables (Goodman, et al, 2002).

Survey questionnaires are usually used in the survey method. The questionnaire is made up of several sets of questions, which contain different aspects of the subject matter that is being studied. The survey method using questionnaires allows the researcher to direct different questions to the participants in the study with less effort and more efficient use of time. It should also be noted that the participants in the study are more likely to give honest and more in-depth answers through survey questionnaires because they are more at ease with this kind of method as compared with interviews or focus groups. The privacy of the respondents is protected because their confidentiality is recognized as important in survey questionnaires (Roberts & Stodden, 2005).

For the purpose of this study, semi-structured questionnaire gave of different managerial levels at companies sectors. As a result, the experiences, opinions, and perspectives of the respondents were able to be collected systematically to use as data for the study. The survey questionnaires are semi-structured, as it is composed of both closed and open-ended questions. The different sections of the questionnaire are tailored to the objectives and research problems of the study, namely making an in-depth study of factors enabling organizational agility (Employees

Empowerment, Customer Oriented Culture, Information Technology, Organic Structure, and learning organization) on the organizational agility at companies sectors. The questionnaire was designed through reference to previous studies and scientific researches addressing the subject. In addition to consideration of some measures addressing the theme in general, the researchers identified the dimensions of the current study and formulate phrases fitting each dimension of the questions related to the study theme. The researcher will design two sets of questions as referred to above, so that they fit the environment of the study sample. The researcher also used the summated rating or Likert scales, which have the advantage of being easy to design. The subject was free to choose one answer among a different number of answers reflecting their views. The answers were ranged from negative to positive as follows: Agree, strongly agree, neutral, disagree, and strongly disagree. The questionnaire was composed of two parts: demographic data and the domains part. The second part addressed the issue Effect Factors enabling organization agility on Product development companies sectors divided into four domains: Employees Empowerment, Customer Oriented Culture, Information Technology, Organic Structure, and learning organization the domains of the questionnaire answered the study questions concerning the third, fifth and sixth questions.

### 9.3 DATA COLLECTION

This research depend on both primary and secondary sources, the secondary data was collected using books and journals. The primary data was collected by using questionnaires which was distributed to the research sample.

### 9.4 DATA ANALYSIS AND HYOYHESES TESTING

In this research descriptive statistics (Means and Standard Deviation) was used to describe the characteristic of sample, the first and second research objectives (page.4) as well as the inferential statistics was used to test the hypotheses of this research through employing multiple regression analysis (MR) and simple regression analysis (SR).

### 9.5 STUDY RELIABILITY AND VALIDITY

**Reliability.** Reliability is obtaining stable results over time. In this study, the researcher will use Chronbach's alpha to validate the data.

**Validity.** The researcher sought feedback on the questionnaire from a number of professors at the University of KSA. The items will be refined and improved accordingly

## DATA ANALYSIS

**Table 1: Demographic variables frequency distributions**

Demographic variables	Category	Frequency	Percentage
Job position.	Top Management	107	30.6
	Director of department	118	33.7
	Head of department	106	30.3
	Other job position	19	5.4
Educational background.	High School	3	0.9
	Diploma	8	2.3
	Bachelor	120	34.3
	Master	164	46.9
	Doctorate	55	15.7
Work experience	1_less than 5 years	14	4.0
	5_less than 10 years	33	9.4
	10_less than 15 years	81	23.1
	15_less than 20 years	54	15.4
	20 years and above	168	48.0

**Table 2: Mean average score and Std. deviation of study variables**

Type of variable	Variables	Mean	Std. Deviation
<b>Independent variables</b>	<b>Employees empowerment</b>	<b>3.97</b>	<b>1.00</b>
	<b>Customer Oriented Culture</b>	<b>4.27</b>	<b>0.47</b>
	<b>Organic Structure</b>	<b>4.23</b>	<b>0.40</b>
	<b>Information Technology</b>	<b>4.31</b>	<b>0.45</b>
	<b>Learning organization</b>	<b>4.25</b>	<b>0.35</b>
<b>Dependent variable</b>	<b>Organizational agility</b>	<b>3.72</b>	<b>0.33</b>

The table shows that all areas of the independent variables came with high degrees, the mathematics averages for the fields ranged between (4.31-3.97). The field of information technology systems for possible information came on the first rank in arithmetic average of (4.31) and standard deviation of (0.45). While in the field of empowering employees came with an arithmetic average of (3.97) and standard deviation of (1.00), and the field of dependent variable of organizational agility came with a high degree with an arithmetic average (3.72) and standard deviation of (0.33).

**Table 3: Means and Std. deviation for Employees Empowerment variable**

number	Employees Empowerment	rank	Mean	Std. Deviation
1	The employees in the organization have the authority and power to make decisions at work.	1	4.02	1.13
2	The employees in the organization influence decisions taken in their departments.	2	4.00	1.08
3	The employees in the organization influence the way work is done in their departments.	3	3.94	1.09
4	The employees are entrusted with important job responsibilities which aren't originally assigned to them.	4	3.91	1.09

The table shows that all items of that field came in high degrees, where the mathematics averages ranged between (3.91\_4.02), and in the first rank came item number 4 which is "employees in the organization are delegated with important job responsibilities which aren't originally assigned to them" with a mathematical average of (4.02) and standard deviation (1.13). While item number 1 which is "The employees in the organization have the authority and power to make decisions at work." came in the last rank with a mathematical average of (3.91) and standard deviation (1.09).

**Table 4: Means and Std. deviation for Customer Oriented Culture**

number	Customer Oriented Culture	Rank	Mean	Std. Deviation
5	The organization has an accurate understanding of what its customers expect.	1	4.33	0.67
6	The organization takes customers' requirements into consideration when setting performance targets.	2	4.27	0.66
7	The organization's strategies are developed on the basis of what is important to its customers.	3	4.25	0.67
8	The organization gathers feedback from its customers.	4	4.24	0.68
9	The organization has an official responsible for transferring opinions and suggestions of costumers into concrete results.	5	4.24	0.67

The table shows that all items of that field came in high degrees, where the mathematics averages ranged between (4.24\_4.33), and in the first rank came item number 8 which is "The organization gathers feedback from its customers." with a mathematical average of (4.33) and standard deviation (0.67). While item number 9 which is

“The organization has an official responsible for transferring opinions and suggestions of costumers into concrete results.” came in the last rank with a mathematical average of (4.24) and standard deviation (0.67).

**Table 5: Means and Std. deviation for Organic Structure**

number	Organic Structure	Rank	Mean	Std. Deviation
11	Various departments in the organization coordinate their tasks and share their experiences.	1	4.33	0.66
17	Managers at the organization look for innovative and modern solutions for daily issues.	2	4.29	0.67
16	The organization do constant improvements related to different administrative activities.	3	4.28	0.67
10	The organization is adapting teams as method of working.	4	4.26	0.66
19	The organization is known for having introduced new ways of work during the past few years.	5	4.25	0.66
14	The organization applied distinctive management methods compared with companies in the same sector.	6	4.22	0.67
15	The organization has a mechanism to receive suggestions on improving the management techniques used.	7	4.22	0.71
18	Development of new rewards systems at the organization to motivate staff performance	8	4.22	0.64
13	The organizational structure of the organization has witnessed significant changes over the past years.	9	4.20	0.67
12	In the organization, information and advices are provided rather than instructions and decisions.	10	3.97	0.95

The table shows that all items of that field came in high degrees, where themathematics averages ranged between (3.97\_4.33), and in the first rank came item number 11 which is “Various departments in the organization coordinate their tasks and share their experiences..” with a mathematical average of (4.33) and standard deviation (0.66). While item number 12 which is “In the organization, information and advices are provided rather than instructions and decisions.” came in the last rank with a mathematical average of (3.97) and standard deviation (0.95).

**Table 6: Means and Std. deviation for Information Technology**

number	Information Technology	rank	Mean	Std. Deviation
22	The organization’s IS and IT help to take into consideration all possible scenarios in the future besides ways to react.	1	4.35	0.65
23	The IT enables a quick response to significant changes in competitors' pricing structures.	1	4.35	0.67
21	The organization’s Information Systems enable it to respond quickly to competitors’ actions.	3	4.34	0.65
20	The Information Systems used by the organization enable its individuals to respond quickly to their job requirements.		4.26	0.71
24	Organization’s Information Systems facilitate the sharing of information across organizational divisions and branches.	4	4.24	0.70

The table shows that all items of that field came in high degrees, where the mathematics averages ranged between (4.24\_4.35), and in the first rank came items number 22 and 23 which are “The organization’s IS and IT help to take into consideration all possible scenarios in the future besides ways to react.” And “The IT enables a quick response to significant changes in competitors' pricing structures.” with a mathematical average of (4.35) and standard deviation (0.67). While item number 24 which is “organization’s Information Systems facilitate the sharing of information across organizational divisions and branches.” came in the last rank with a mathematical average of (4.24) and standard deviation (0.70).

**Table 7: Means and Std. deviation for learning organization**

num	learning organization	rank	Mean	Std. Deviation
34	The organization has internal mechanisms to allow its members to analyze, interpret and understand the information obtained from external sources.	1	4.36	2.22
26	In the organization top managers encourage other employees to learn	2	4.30	0.67
36	The organization is distinguished by its skill in the integration of knowledge and new experiences with the existing ones.	2	4.30	1.19
42	The organization is skilled in the translation of experience and knowledge gained to their products, services, and new strategies and / or better than the previous ones.	2	4.30	0.66
30	The organization has a follow-up specialized team concerned about the task of identifying the types and important sources of external knowledge which is closely related to the work of the Organization, in order to earn it.	6	4.29	0.65
27	In the organization, the staff in various units and sections communicates with each other and discuss whenever summoned by the need to understand and absorb certain information and knowledge obtained from outside the organization.	7	4.28	0.64
28	The organization encourages the exchange of information between its members.	7	4.28	0.66
33	The organization collects and gains new ideas and information from various external sources including customers, suppliers, competitors and partners / allies.	7	4.28	0.65
37	The organization focus on the integration of knowledge and diverse functional backgrounds which located in different units and sections through the formation of joint task forces to link the individual employees.	9	4.26	0.69
32	Essential team members are selected of those who have multiple links and relations with external parties related to the organization, so that they can access to diverse sources of information.	10	4.25	0.69
39	The organization finds it easy to place the capacity and skills of its personnel and build new ones.	10	4.25	0.70
31	The organization is keen greatly to facilitate the exchange of knowledge between them and the most important external parties with which their common interests (customers, workers in the same sector, government and independent agencies and organizations).	12	4.22	0.66
40	The organization is keen to exploit the newly developed ideas to improve the management techniques used in it.	13	4.21	0.68
38	The organization is keen to significantly remove the barriers between different departments and sections that prevent cooperation, in order to support the sharing and dissemination of knowledge within the organization.	14	4.20	0.67
41	The organization is effective in exploiting the knowledge gained and used to improve performance.	14	4.20	0.71
29	Employees in the organization are given enough support to learn on the job.	16	4.18	0.64
35	The organization is Characterized by its efficiency in access and benefit from the specialized knowledge held by its members, through facilitating interaction and cooperation among them.	17	4.17	0.74
25	The organization is keen to make use of their personnel with unique experiences to enrich the learning processes of information and experiences with the organization.	18	4.15	0.71

The table shows that all items of that field came in high degrees, where the mathematics averages ranged between (4.15\_4.36), and in the first rank came item number 34 which is “The organization has internal mechanisms to allow its members to analyze, interpret and understand the information obtained from external sources.” with a mathematical average of (4.36) and standard deviation (2.22). While item number 25 which is “The organization is keen to make use of their personnel with unique experiences to enrich the learning processes of information and experiences with the organization.” came in the last rank with a mathematical average of (4.15) and standard deviation (0.71).

**Table 8: Means and Std. deviation for organizational agility**

num	organizational agility	rank	Mean	Std. Deviation
57	The organization keeps its options open by developing a range of strategies, markets, products / alternative services.	1	4.22	0.68
54	The organization has the ability to increase production capacity (such as adding machines, labor, and materials) in response to market fluctuations.	2	4.19	0.67
56	The organization method focuses on the process of making strategic decisions on the development of a wide range of alternative strategies that can be followed depending on the environmental conditions for the future.	2	4.19	0.68
59	The organization is committed to diversifying its investments in a number of markets and products / different services.	4	4.18	0.68
52	The organization has the ability to change the way of its competition in the labor market.	5	4.17	0.63
58	The organization has significant investments primarily focused in the market and / or sector and / or a particular field of work.	5	4.17	0.71
60	The organization is committed to acquiring and building a set of resources that can be used in different ways (such as multi-skilled human resources, a variety of investments, mixed-use technology)	7	4.16	0.71
53	The organization has the ability to change the size of its production in accordance with the increase or decrease in demand.	8	4.15	0.68
65	Those individuals concerned about the process of making strategic decisions in the organization are characterized by being mindful of the changes in the market and by their ability to read and analyze these changes in time.	8	4.15	0.66
55	The organization has the ability to schedule work according to the needs of the market.	10	4.14	0.73
70	The organization is able to identify those products / services, strategies and stalled markets in need of revision.	10	4.14	0.74
43	The organization has a capability to respond to the different needs of investors (clients, suppliers, shareholders).	12	4.11	0.67
44	The organization focus on the importance of the presence of flexibility to adapt to the external circumstances.	13	4.09	0.80
66	The organization is active in the analysis and interpretation of the implications and consequences of changes in the business environment surrounding it in order to reflect that in the process of strategic decision-making.	14	4.08	0.71
67	Analysis and evaluation of changes in the external environment to determine whether signals can be considered an alert that requires a response by the organization.	14	4.08	0.72
61	Enable resources and the potentials of the organization (such as material and financial human resources) and manage them in order to deal with a wide range of changing environmental conditions.	16	4.07	0.76
68	The organization can be aware in the right time to stop or cancel the investment of its resources in a certain field of work.	16	4.07	0.71
47	The organization develops its products according to the tastes of its customers.	18	4.05	0.71
64	The managers in the organization are able to respond to the changing circumstances through the rapid distribution and organization of the resources of the organization.	18	4.05	0.70
51	The organization has the ability to see and seize opportunities in the labor market.	20	4.04	0.66
48	The organization focus on the importance of developing its products.	21	3.95	0.93
63	The organization has flexible capabilities that enable it to develop, deliver and to market different products / services.	22	3.88	0.80
46	The organization adapts its products according to customer needs.	23	3.83	0.80
50	The organization keeps to be in touch with what is happening in its markets.	24	3.74	0.71
62	A set of currently available resources for the organization could be used in limited fields.	25	1.83	1.40
49	The organization hesitates to introduce new products.	26	1.67	1.30
69	The organization is committed to its primary strategies because of the lack of ability to recognize the warning signs coming from its external environment.	27	1.66	1.27
45	The organization takes a long time to keep up with changing customer requirements.	28	1.16	0.69

The table shows that all items of that field came between high and weak degrees, where the mathematics averages ranged between (1.16\_4.22), and in the first rank came item number 57 which is “The organization keeps its options open by developing a range of strategies, markets, products / alternative services.” with a mathematical average of (4.22) and standard deviation (0.86). While item number 45 which is “The organization takes a long time to keep up

with changing customer requirements.” came in the last rank with a mathematical average of (1.16) and standard deviation (0.69).

**HYPOTHESIS:**

• **Main hypothesis**

**H1:** There is no statistically significant effect of factors enabling organizational agility (Employees Empowerment, Customer Oriented Culture, Information Technology, Organic Structure, and learning organization) on product development at the organization.

The results of testing of the main hypothesis are demonstrated in the following two tables where the abbreviations of each of the study's variables are as follow

- M1: Employees Empowerment
- M2 : Customer Oriented Culture
- M3 : Organic Structure
- M4 : Information Technology
- M5: learning organization
- M6 : organizational agility

**Table 9: Study model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.379(a)	.144	.132	.30479

Predictors: (Constant), m5, m1, m2, m4, m3

**Table 10: Analysis of variance for the study model**

Model	Sum of Squares	df	Mean Square	F	Sig.	Result
Regression	5.374	5	1.075	11.571	.000(a)	Reject the null hypothesis
Residual	31.956	344	.093			
Total	37.330	349				

**a) Predictors: (Constant), m5, m1, m2, m4, m3**

**b) Dependent Variable: m6**

The results of Pearson's correlation indicate that the strength of the relationship (R) is equal to (0.379), and this refers to the existence of a relationship between the possible factors of organization’s agility which are: (enable staff, the culture of oriented to the customer, flexible organic structure, possible information technology for information systems, learning organizations), and organizational and its effect on product development. We can see of the value of (R2) that the possible factors for the organization agility which are (enable staff, the culture of oriented to the customer, flexible organic structure, possible information technology for information systems, learning organizations) explain what has been valued (14.4%) of the difference in product development at the organization.

And to test the hypothesis of nihilism statistically using the analysis of variance (ANOVA) main hypothesis was rejected based on the value (F) as it was (11.571), and the level of significance (.000) is less than the significance level ( $\alpha \leq 0.05$ ). We conclude that there is a statistically significant effect of the possible factors of the product development, therefore, the hypothesis of nihilism has been rejected and the alternative hypothesis has been accepted.

**Table 11: Coefficient of predictors**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Result of hypothesis testing	Collinearity Statistics	
	B	Std. Error	Beta	Tolerance			VIF	Tolerance
(Constant)	2.176	.226		9.609	.000			
m1	-.033	.017	-.102	-2.003	.046	Reject the null hypothesis	1.037	<b>.964</b>
m2	.081	.040	.117	2.028	.043	Reject the null hypothesis	1.337	<b>.748</b>
m3	.108	.051	.133	2.135	.033	Reject the null hypothesis	1.570	<b>.637</b>
m4	.014	.043	.019	.330	.742	Accept the null hypothesis	1.361	<b>.735</b>
m5	.192	.063	.205	3.036	.003	Reject the null hypothesis	1.824	<b>.548</b>

The equation of multiple regressions takes this form:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon_i$$

The first part of the table is an estimate  $\beta$  for each of the independent variables. And  $\beta$  refers to the contribution of each variable of the contributed variables, where it appears in the results that the variable of the learning has the biggest impact, because the corresponding value of  $\beta$  is the biggest as it reached (.205), followed by variable Flexible organic structure as the value of  $\beta$  is (0.133), then comes the variable of the culture of oriented to the client as the value of  $\beta$  is (0.117), then followed by the variable enable staff as the value of  $\beta$  is (0.102), while doesn't show a statistically significant effect on the variable possible information technology for information systems as the value of  $\beta$  is (0.019).

**Sub-hypotheses acceptance test:**

• **Sub-Hypotheses**

• **HYPOTHESIS 1**

**H10:** There is no statistically significant effect of Employees Empowerment on organizational agility.

The decision rule is to reject the null hypothesis if the significance level is less than 0.05. Thus, the null hypothesis will be rejected and the alternative hypothesis is substantiated, which means that there is a statistically significant effect for Employees Empowerment on organizational agility.

• **HYPOTHESIS 2**

**H20:** there is no statistically significant effect of Customer Oriented Culture on product development.

The decision rule is to reject the null hypothesis if the significance level is less than 0.05. Thus, the null hypothesis will be rejected and the alternative hypothesis is substantiated, which means that there is a statistically significant effect for Customer Oriented Culture on product development.

• **HYPOTHESIS 3**

**H30:** there is no statistically significant effect of IT (Information Technology) on product development.

• **HYPOTHESIS 4**

**H40:** there is no statistically significant effect of Organic Structure on organizational agility IT (Information Technology) on product development.

The decision rule is to reject the null hypothesis will be accepted and the alternative hypothesis rejected because the significance level is more than 0.05. This indicates that there is no statistically significant effect of IT (Information Technology) on product development.

• **HYPOTHESIS 5**

**H50:** there is no statistically significant effect of Learning Organization on organizational agility and product development.

The decision rule is to reject the null hypothesis if the significance level is less than 0.05. Thus, the null hypothesis will be rejected and the alternative hypothesis is substantiated, which means that there is a statistically significant effect for Learning Organization on organizational agility and product development.

**DISCUSSION**

The results of the current study shows that there is a strong relation between organizational agility with its variables which are (Employees Empowerment, Customer Oriented Culture, Information Technology, Organic Structure, and learning organization) with product development at the organization. The results also indicate that there is no statistically significant effect of factors enabling organizational agility (Employees Empowerment, Customer Oriented Culture, Information Technology, Organic Structure, and learning organization) on product development at the organization. And it's also showed that there is no statistically significant effect of employee's empowerment on organizational agility and product development, and there is no statistically significant effect of Customer Oriented Culture, IT (Information Technology), and Learning Organization on organizational agility and product development.

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