Business Process Re-engineering and its Impact on Competitive Advantage: Analytical Research for a Sample of Private Hospitals in Iraq-Baghdad

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Abstract

The study aimed to examine the relationship between the dimensions of business process re-engineering through the sustainable competitive advantage variable in a sample of private hospitals in Baghdad, numbering (5) hospitals. The questionnaire was the main tool for research. The study sample consisted of (84) employees in the surveyed hospitals and from the upper and middle levels represented (general manager, assistant general manager, department manager, and division official). The Pearson correlation coefficient was used to test the strength of the relationship between the study variables. The most prominent results were the existence of a significant correlation to the variables of business process re-engineering and competitive advantage by keeping pace with development, technology, and a common vision and enabling workers to contribute to the realization and understanding of problems and knowledge of all basic business processes that would help creativity and help respond to new challenges. Moreover, take advantage of the creative skills of workers to raise the level of services provided in general. However, there is no effect on the dimension of the organizational structure in making changes in quality and cost to achieve the competitive advantage, which is the flexibility to contribute to the implementation of change programs and the organization of effective communication mechanisms between departments in line with work requirements. The study recommended the need to pay attention to adopting an approach that helps reduce the costs of health services provided and to follow modern systems in determining and analyzing costs. Taking care of the workers by developing their expertise and knowledge in the hospital to bring about changes and innovations, confront changes in the surrounding environment, provide new products and services, and strive to polarize and attract workers who can cover skill and expertise gaps in a way that ensures the achievement of creativity, development, and improvement in its work.

Introduction

Change has become one of the hallmarks of modern times, and there is no longer anything constant. This applies to all organizations, whether public or private. This reflects the extent of the researchers' interest in how to find solutions for organizations to face these changes without threatening their organizational entity. Therefore, one of the solutions to meet these challenges is to adopt the concept of business process re-engineering, which has gained the attention of many researchers in the management literature in recent years. It gives the organization an added value by finding radical solutions to all the obstacles that

hinder work progress. And that through the study and analysis of various processes. It is possible to see the overall picture of the work style of the different organizations. This allows sustainability for long-term success to reach the competitive advantage, which does not come easily but requires the concerted efforts of all individuals in the organization, from the leadership to the top and down to the staff. The research was represented in (the role of business process re-engineering in enhancing sustainable competitive advantage) in a sample of private hospitals in Baghdad, which amount to (5) hospitals, believing in the importance of this sector and seeking managers who face a changing environment to keep pace with this change to provide competitive health care based on strategies Competitiveness to improve the health performance of hospitals. This is one of the most important reasons that prompted the researcher to adopt the current research topic to apply it to a vital sector, which is the health sector, which is one of the important sectors in the country as it provides services of important social value to citizens.

Literature review:

As a result of the ongoing changes in organizations of all kinds and the shift from traditional to contemporary, the intensity of organizations' competition in this field and the focus on intangible resources posed threats to business organizations in how to survive and continue in the field of competition through achieving innovation and continuous renewal. Re-engineering business processes and their impact on the competitive advantage at the level of the surveyed hospitals is one of the relatively recent concepts to apply to this sector in particular. Accordingly, business process re-engineering changed the strategic direction from paying attention to the external environment to also paying attention to the internal environment, and this is what came from the study (Al-Husni: 2016). Furthermore, for the effective role of process re-engineering to achieve a sustainable competitive advantage, based on his saying (Teece: 1997) by asking him, "What distinguishes the performance of organizations from other organizations?" In addition, the study (Habib: 2013, 1) showed that the modern trend is the shift from focusing on the product approach to the customer approach. Therefore, one of the priorities that organizations must achieve is to satisfy customers by making adjustments and changes in their operations by defining the tasks that must be modified and forming a road map to achieve the goals. Thus, it requires changing the behavior of human resources working in the organization and developing their expertise and skills. The study (Hui Chang & Tsai: 2017) showed that managers who face a changing environment must keep pace with this change to provide competitive health care by relying on competitive strategies to improve health performance in hospitals.

Although many studies deal with business process re-engineering and competitive advantage, they did not address it as a field of application for the health sector. (Julius & Nosa: 2015) explained that most of the studies on business process re-engineering indicate

its application in developed countries, with a few of them in developing countries, and that most of them focused on the financial sector, such as the study (Seher: 2014) and (Mathur: 2016), as well as the study of (Seher: 2014) and (Mathur: 2016), as well as Study (Makudza & others: 2019). The study (Ahmed: 2011) was applied to the General Tax Authority, which dealt with the possibility of providing the components of restoring business operations in the areas of developing tax work in Iraq. The study (Al-Hassani: 2016) focused on re-engineering the administrative processes of the Ministry of Oil. The study (IMMACULATE - 2017) showed the impact of business process re-engineering on the performance of the Kenya Pharmacy Toxicology Council, determining how employee training affects management and determining the continuous improvement of health performance. The study (Al-Kahlout-2017) worked to determine the nature of the relationship between process re-engineering and competitive advantage in Palestinian universities operating in Gaza. Furthermore, revealing the differences in the respondents' viewpoints about process re-engineering and competitive advantage. Furthermore, his role in developing society and building a healthy life free of injuries and diseases, as well as presenting the current research with some solutions to the problems faced by the researched sector by analyzing and interpreting the data by various statistical means, which enhances its position and competitive advantage in light of intense competition. The study (Riyanto & others -2018) examined the impact of competitive advantage variables, business process re-engineering, and organizational change management that they have a coherent relationship to the formation of competitiveness in light of globalization and rapid environmental changes. Moreover, the study (Michael & others -2018) focused its results that the changes that the organization enters would lead to improving its performance and the performance of its employees and motivate them to raise and improve performance and distinguish the services provided to ensure the success of operations and sustainable advantage. Reviewing previous studies found that they dealt with business process re-engineering and sustainable competitive advantage by applying them to the oil sector, banking, and taxes. However, what distinguishes the current study is that the research dealt with business process re-engineering to serve the health sector, distinguishing it from previous research on re-engineering. The default model was chosen to research the health sector environment, specifically for a sample of private hospitals. This is because it is one of the large and important sectors in the country, which plays a prominent role in providing health services to citizens and working to develop it to build a healthy life at the required level. Therefore, we use it in the current study (Business Process Re-engineering towards achieving sustainable competitive advantage). Re-engineering is one of the important strategic directions that help the organization to change and develop its processes and procedures, which positively affect the performance of working individuals and create value for the organization that gives it a competitive advantage.

Several studies have shown that business process re-engineering will contribute to developing and significantly upgrading organizations' performance. The preceding emerged the importance of business process re-engineering towards achieving sustainable competitive advantage. The study (Al-Awadi: 2014) examined process re-engineering and its role in achieving competitive advantage in the State Company for the Vegetable Oil Industry. The study (Al-Kahlout: 2017) indicated a statistically significant effect of the characteristics of process re-engineering and competitive advantage in the Palestinian universities operating in Gaza. This indicates that the higher the level of application of process re-engineering, the higher the degrees of competitive advantage in Palestinian universities. Moreover, the study (Magutu - 2010) of the possibility of achieving competitive advantage through the application of business process re-engineering and that the required improvement may not be sufficient by applying to re-engineer alone, but there is also a need to use other techniques such as quality, continuous improvement, and others. A study (Michael & others -2018) addressed that the management's commitment to the changes introduced in companies would lead to improving their performance and the performance of their employees and motivate them to produce ideas of innovation and distinction to ensure the success of operations and sustainable advantage - for several Nigerian companies, which emphasized the positive role of process re-engineering. In enhancing competitive advantage. The literature and research found evidence that re-engineering business processes towards competitive advantage directly and positively impacts the organization's performance. As is the case with the study (Michael & others: 2018, Al-Kahlout: 2017, Magutu- 2010), conducting an applied study to understand the relationship between business process re-engineering towards achieving competitive advantage in the health sector is to identify a sample of private hospitals in Baghdad. In order to achieve creativity and organizational excellence by providing new services, it is a challenge for the hospital to continue and survive, especially in the highly competitive Iraqi environment. This is due to the many environments, risks, and health challenges the citizen is exposed to. The inability to face these challenges and problems could lead to the general collapse of the health situation. Accordingly, the research problem can be formulated with the following main question (What is the level of the health sector's ownership of business re-engineering success factors in strengthening the health sector's ability to consolidate and improve competitiveness?).

The relationship between business process re-engineering and sustainable competitive advantage:

Adaptability and change have become crucial if the organization wants survival, success, and growth by returning some of its operations to keep pace with the surrounding changes. It was shown (Hiksas & et al.: 2018, 29) that the pursuit of confrontation, improvement, and design of some works to achieve performance excellence at the lowest cost, high

quality, and speed of implementation according to a new strategic and competitive vision. (Bratton & Gold: 2003, 136) explained that the organizations that adopted the re-engineering of their business have enjoyed many characteristics, including orientation towards global markets and competition based on quality, speed, and optimal use of information. Moreover, the customer is the main concern of those organizations. Leadership also depends on the principle of participation and communication at all levels. (Harlan, 2020) believes that business process re-engineering helps organizations overcome competitors by regularly planning the organization's resources effectively, efficiently, and timely. This ensures that it achieves a sustainable competitive advantage. Since to achieve a competitive advantage, every organization seeking to achieve this must make some radical changes in administrative work, such as innovation and leadership support for organizational change through its implementation of business process re-engineering and information and technology development (Riyanto & et al.: 2018 -468). As (Grote 2002: 24), (Daft, 2013: 25), and (Vondermbse & White, 1991: 31), distinguished organizations adopt the approach of process re-engineering and operations strategy to transform from a traditional organization into a distinct organization, by By redesigning all your activities. Starting from those related to the inputs and even those related to the outputs, to change the current methods of performance to others that are more distinguished, and this is among the characteristics enjoyed by organizations wishing to achieve competitive advantage.

The study's hypothesis indicates an intelligent guess and a possible explanation by which the causes are linked to their causes as a temporary explanation for the problem he wants to reach (Abdul, 8: 2019). Through the above theoretical, intellectual, and applied propositions, the study's hypothesis can be formulated: temporary solutions tested in different ways and means to verify or deny them. Since the researcher has a perception of the reality of health organizations in Iraq - Baghdad, hypotheses will be formulated to test the hypothetical model of the study, embodying the relationship of correlation and influence between the variables of the study in a way that is consistent with its objectives and provides an accurate answer to its questions. These hypotheses crystallize as follows:

The first main hypothesis: (there is a significant correlation between the dimensions of business process re-engineering and sustainable competitive advantage) and the following sub-hypotheses emerged from it:

a. There is a significant correlation between the dimensions of business process re-engineering and quality.
b. There is a significant correlation between the dimensions of business process re-engineering and cost.
c. There is a significant correlation between the dimensions of business process re-engineering and innovation.

d. There is a significant correlation between the dimensions of business process re-engineering and flexibility.

The second main hypothesis: (there is a significant effect of business process re-engineering on sustainable competitive advantage) and the following sub-hypotheses emerged from it:

a. There is a significant effect between the dimensions of business process re-engineering and quality.
b. There is a significant effect between the dimensions of business process re-engineering and cost.
c. There is a significant effect between the dimensions of business process re-engineering and innovation.
d. There is a significant effect between the dimensions of business process re-engineering and flexibility.

Study model:

The study model aims to show the impact of the four sub-dimensions (organizational structure, information technology, employee empowerment, process design) to re-engineer business processes as dependent variables on competitive advantage as an independent variable, either directly or indirectly through its variables (quality, cost, creativity, flexibility). . Which was applied to a sample of private hospitals in Baghdad, and the study sample consisted of (84) employees working in the surveyed hospitals, and the main tool for measurement was the questionnaire.

Model Rating: The final model, after being modified to have an excellent fit, is as follows:

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These dimensions have been relied on based on the opinions of the most common and agreed upon by researchers regarding relative importance and frequency. Hence, the researcher developed a scheme that identifies the main and sub-variables with the correlational relationships and the degrees of influence between them, as shown in the above figure, the hypothetical scheme of the research. Accordingly, we can analyze the data obtained from the researched hospitals on the coefficients of the tracks, as shown in the following table (1-11):

The hypothesis of the correlation between the business process re-engineering variable and the sustainable competitive advantage variable in hospitals can be tested, which was (0.48), which is a positive below-average correlation, and its probability value (0.00), which is less than the significance level (10%), meaning that the correlation is significant and statistically significant.

Thus, we accept the hypothesis that there is a significant correlation between business process re-engineering and sustainable competitive advantage at the significance level (10%). The second main hypothesis can now be tested as follows:

The sub-hypothesis of the second main hypothesis is as follows:

1- (There is a significant correlation between the dimensions of business process re-engineering and quality).

The above correlation hypothesis can be tested for both types of private hospitals from the table below, where we note the following:

Table (1-11) Correlation between business process re-engineering dimensions variables and competitive advantage dimensions

Dimensions of competitive advantage								Business process re-engineering
flexibility		creativity		cost		quality		
probability value	link	probability value	link	probability value	link	probability value	link	
0.57	0.065-	0.57	0.07	0.63	0.06	0.11	0.18	Organizational Chart
0.00	0.47	0.02	0.28	0.00	0.54	0.00	0.56	Information Technology
0.38	0.10	0.26	0.131-	0.71	0.04	0.88	0.02	Empowering workers
0.00	0.55	0.01	0.30	0.17	0.16	0.01	0.29	Process Design

The mean correlation and the probability value (0.01). The value of the correlation between the organizational structure dimension and the quality dimension of private hospitals was (0.18), which is a weak correlation, and the probabilistic value of it (0.11) which is greater than the significance level (10%). In other words, the link is insignificant. The correlation between the information technology dimension and the quality dimension was (0.56), which is a medium correlation, and its probabilistic value is (0.00), which is smaller than the significance level (10%), meaning that the correlation is significant. As for the correlation between the employee empowerment dimension and the quality dimension, it was (0.02), which is a very weak correlation, and its probability value is (0.88), which is greater than the significance level (10%), meaning that the correlation is not significant.

Thus, we conclude that the correlation between business process re-engineering and quality dimension variables was insignificant in the organizational structure and employee empowerment dimensions. As for the process design dimension and the information technology dimension, it was significant. This indicates that there is a discrepancy between the respondents' answers to the two dimensions of process design and information technology in achieving total quality that contributes to gaining strength for the hospital when it adopts this philosophy to improve and sustain performance and achieve competition in services.

2- (There is a significant correlation between the dimensions of business process re-engineering and cost).

The value of the correlation between the business process re-engineering dimensions variables and the cost dimension variable was the correlation between the organizational structure dimension and the cost dimension was (0.06). It is a weak correlation whose probabilistic value is (0.63), which is greater than the significance level (10%), meaning that the correlation is insignificant. As for the correlation between the information technology dimension and the cost dimension for private hospitals, it was (0.54), which is a medium correlation, and its probability value is (0.00), which is smaller than the significance level (10%), meaning that the correlation is significant.

The correlation was between the employees' empowerment dimension and the cost dimension (0.04), which is a very weak correlation, and its probabilistic value (0.71), which is greater than the significance level (10%). As for the correlation between the process design dimension and the cost dimension, it was (0.16), which is a below-average correlation, and its probability value is (0.17), which is greater than the significance level (10%), meaning that the correlation is not significant. In other words, the link is insignificant.

Thus, we conclude that the correlation relationship between the variables of the dimensions of business process re-engineering and the variable dimension of cost is different as they were not moral in the dimensions of the organizational structure and empowering workers. Moreover, attention to the dimension of information technology is due to its active role in providing the necessary devices and equipment to complete the required change processes and conduct business.

3- (There is a significant correlation between the dimensions of business process re-engineering and innovation).

The correlation between the organizational structure dimension and the creativity dimension was (0.07), which is a weak correlation, and the probability value for it is (0.57), which is greater than the significance level (10%). In other words, the link is insignificant.

The correlation between the information technology dimension and the creativity dimension for private hospitals was (0.28), which is below average, and its probabilistic value is (0.02), which is smaller than the significance level (10%). In other words, the link is moral. As for the correlation between the employees' empowerment dimension and the creativity dimension, it was (-0.131), which is a very weak correlation, and its probabilistic value is (0.26), which is greater than the significance level (10%). In other words, the link is insignificant. As for the correlation between the process design dimension and the creativity dimension for private hospitals, it was (0.30), which is below average, and its probability value is (0.01), which is less than the significance level (10%). In other words, the link is significant.

This indicates an active and clear role for the two dimensions of information technology and process design in private hospitals to create creativity. Business operations management as a holistic management method seeks creativity, flexibility, and operations improvement. Therefore, according to the respondents' opinions, it is considered one of the priorities for adopting this dimension.

4- (There is a significant correlation between the dimensions of business process re-engineering and flexibility).

The correlation between the organizational structure dimension and the flexibility dimension for private hospitals was (-0.065), which is a weak correlation, and its probabilistic value is (0.57), which is greater than the significance level (10%). In other words, the link is insignificant. As for the correlation between the information technology dimension and the flexibility dimension, it was (0.47), which is a positive average correlation, and its probability value is (0.00), which is smaller than the significance level (10%). In other words, the link is moral. As for the correlation between the employees' empowerment dimension and the flexibility dimension, it was (0.10), which is a very weak correlation, and its probabilistic value is (0.38), which is greater than the significance level ((10%). In other words, the correlation is not significant. As for the correlation between the process design dimension and the flexibility dimension for private hospitals, it was (0.55), which is a positive average correlation, and its probabilistic value is (0.00), which is less than the significance level (10%), meaning that the correlation is significant.

This indicates that flexibility has an active and clear role in the business re-engineering process within hospitals. As the hospital seeks to be proactive in providing high-quality services, it is also working to make continuous improvements in its internal systems by providing the necessary capabilities and resources for that.

Fifth - The second main hypothesis (there is a significant effect of the dimensions of business process re-engineering and sustainable competitive advantage). To test this hypothesis, a simple regression analysis will be used. The independent variable is

(Business Process Reengineering), and the dependent variable is (Sustainable Competitive Advantage).

Table (2-11) The sum of squares, the square of the coefficient of determination, and the F-test to test the effect relationship

sig probability value	value F	Selection parameter square	mean squares	Variables degree	sum of squares	Sources of variance for a variable for sustainable competitive advantage
0.00	22.65	0.23	4.03	1	4.03	Regression
			0.18	75	13.35	Residual
				76	17.38	Total

From the previous table, we note that the square of the coefficient of determination was (0.23). In other words, the business process re-engineering variable explains (23%) of the variable of sustainable competitive advantage in private hospitals. Moreover, the arithmetic value of F is (22.65), and by comparing it with the tabular value of F with a degree of freedom (75.1) and its value was (2.78), we note that the arithmetic F value is greater than the tabular value of F. Thus, we accept the second main hypothesis and the probabilistic value of the test confirms this, and it was (0.00) less than the significance level (10%). This indicates that the model is valid for measuring the causal relationship between the independent variable and the dependent variable. That is, we accept the previous hypothesis, meaning (there is a significant effect on the dimensions of business process re-engineering and sustainable competitive advantage in private hospitals).

As for testing the simple linear regression coefficients related to the model, which can be reached through the following table:

Table (3-11) Simple Linear Regression Coefficients

sig probability value	Calculated t-test value	St. Error standard error	Standard coefficients (Beta)	coefficients of the independent variable
0.00	3.90	0.38	1.50	Constant
0.00	4.76	0.11	0.53	Business process re-engineering

Increasing the awareness of the members of the private hospitals surveyed about the extent to which they benefit from the business process re-engineering process by improving the operations in the hospital's business practices and enhancing its sustainable competitive advantage, whether at the level of sub-dimensions or the macro level. We note that the value of the t-test for the (Business Process Re-engineering) parameter was (4.76), and its probability value (0.00) is less than the significance level (10%). This indicates that the variable (Business Process Reengineering) has a statistically significant effect at a significant level (10%) on the variable (Sustainable Competitive Advantage) in hospitals and that the value of this factor was (0.53) in the simple regression equation, which means that a change by one unit of the business process re-engineering variable will change by (0.53) units of the sustainable competitive advantage variable. This means that business re-engineering affects achieving competitive advantage by (53%). As for the simple regression equation, it can be represented as follows:

$$\mathbf{Y = 1.5 + 0.53\ X}$$

Where

Y: dependent variable (sustainable competitive advantage)

X: Independent Variable (Business Process Reengineering)

Thus, the sub-hypotheses about private hospitals can be tested using multiple linear regression, as the independent variables are the dimensions of business process re-engineering as follows:

(Organizational Structure X1, Information Technology X2, Empowering Personnel X3, Process Design X4)

Moreover, the dependent variable is the variable's dimensions (sustainable competitive advantage).

1- (There is a significant effect between the dimensions of business process re-engineering and quality).

To test this hypothesis, we will rely on multiple linear regression analysis, as the independent variables are the dimensions of (business process re-engineering) and the dependent variable is (quality) for private hospitals. As for the results of the analysis of variance (ANOVA) to test the significance of multiple linear regression, they were as in the following table:

Table (4-11) sum of squares, square coefficient of determination, and F news to test the effect relationship

sig probability value	value F	Selection parameter square	Mean square	Variable degree	sum of squares	Sources of variance for the quality variable
0.00	11.13	0.38	1.18	4	4.72	Regression
			0.11	72	7.63	Residual

From the above table, we notice that the square of the coefficient of determination was (0.38). That is, the variables of the dimensions of business process re-engineering explain 38% of the quality variable. Furthermore, the arithmetic F value is (11.13), and by comparing it with the tabular F value with a degree of freedom (72.4) and its value was (2.03), we note that the arithmetic F value is greater than the tabular F value. Thus we accept the hypothesis, and the probabilistic value of the test confirms this. It was (0.00) less than the significance level (10%), indicating that the model is valid for measuring the causal relationship between the independent and dependent variables. That is, we accept the previous hypothesis, meaning (there is a significant effect between the dimensions of business process re-engineering and quality in private hospitals). As for testing the multiple linear regression coefficients related to the model, which can be reached through the following table:

Table (5-11) Multiple Linear Regression Coefficients

sig probability value	Calculated t-test value	St. Error	Standard coefficients (Beta)	coefficients of the independent variable
0.00	6.01	0.41	2.47	constant
0.11	1.62	0.09	0.14	Organizational Chart
0.00	5.69	0.04	0.21	Information Technology
0.08	1.804-	0.07	0.117-	Empowering workers
0.18	1.37	0.08	0.11	Process Design

We note that the value of the t-test for the parameter (organizational structure) has reached (1.62) and its probability value is (0.11) which is greater than the significance level (10%), which indicates that the variable (organizational structure) has no statistically significant effect at the level of significance (10). %) on the (quality) variable. Moreover, the value of the t-test for the (information technology) parameter has reached (5.69), and its probabilistic value is (0.00), which is less than the significance level (10%), which indicates that the (information technology) variable has a significant effect. Statistical at a significant

level (10%) on the variable (quality) and that the value of this factor was (0.21) in the multiple regression equation, and that the value of the t-test for the factor (empowerment of workers) reached (-1.804) and its probabilistic value (0.08), which is less than the Significance level (10%), which indicates that the variable (empowerment of workers) has a statistically significant effect at a significant level (10%) on the variable (quality) and that the value of this factor was (-0.117) in the multiple regression equation. In contrast, the value of the t-test The (process design) parameter has reached (1.37). Its probability value is (0.18), which is greater than the significance level (10%), which indicates that the (process design) variable has no statistically significant effect at the level of Significant (10%) on the (quality) variable. From the above, it is clear that the two dimensions (information technology and employee empowerment) affect the implementation of quality application as one of the dimensions of competitive advantage in Al-Ahly Hospital, as the contribution of the above two dimensions to the adoption of quality leads to the success of the investigated hospital in performing its tasks and achieving competitive advantage. As for the multiple regression equation, it can be represented as follows:

$$\mathbf{Y = 2.47 + 0.21}\boldsymbol{X2} \mathbf{- 0.117}\boldsymbol{X3}$$

Where

Y: the dependent variable (quality)

X2: Independent Variable (IT)

X3: Independent Variable (Empowerment of Workers)

2- (There is a significant effect between the dimensions of business process re-engineering and costing).

To test this hypothesis, we will rely on multiple linear regression analysis, as the independent variables are the dimensions of (business process re-engineering) and the dependent variable is (cost) for private hospitals. As for the results of the analysis of variance (ANOVA) to test the significance of multiple linear regression, they were as in the following table:

Table (6-11) sum of squares, square coefficient of determination, and F news to test the effect relationship

sig probability value	value F	Selection parameter square	Mean square	Variable degree	Sums of squares	Sources of Variation for the Cost Variable
0.00	7.90	0.31	2.80	4	11.18	Regression

From the previous table (6), we note that the square of the coefficient of determination was valued at (0.31), meaning that the business process re-engineering dimensions variables explain 31% of the cost variable in eligibility and that the arithmetic F value is (7.90) and by comparing it with the tabular F value With a degree of freedom (72.4) and its value was (2.03). We note that the arithmetic value of F is greater than the tabular value of F, and thus we accept the hypothesis and the probabilistic value of the test confirms this, and it was (0.00) less than the significance level (10%), and this indicates that the model is valid for measuring the relationship Causality between the independent variables and the dependent variable, i.e., we accept the previous hypothesis meaning (there is a significant effect between the dimensions of business process re-engineering and cost in private hospitals). As for testing the multiple linear regression coefficients related to the model, which can be reached through the following table:

Table (7-11) Multiple Linear Regression Coefficients

sig probability value	Calculated t-test value	St. Error	Standard coefficients (Beta)	coefficients of the independent variable
0.01	**2.82**	**0.75**	**2.12**	**Constant**
0.75	**0.32**	**0.16**	**0.05**	**Organizational Chart**
0.00	**5.36**	**0.07**	**0.35**	**Information Technology**
0.23	**1.213-**	**0.12**	**0.143-**	**Empowering workers**
0.85	**0.19**	**0.14**	**0.03**	**Process Design**

We note that the value of the t-test for the parameter (organizational structure) reached (0.32) and its probability value (0.75), which is greater than the significance level (10%), which indicates that the variable (organizational structure) has no statistically significant effect at the level of significance (10). %) on the (cost) variable, and that the value of the t-test for the (information technology) parameter was (5.36) and its probability value (0.00), which is less than the significance level (10%), which indicates that the (information technology) variable has a significant effect. Statistical at a significant level (10%) on the variable (cost) and that the value of this factor was (0.35) in the multiple regression equation, and that the value of the t-test for the factor (empowerment of workers) reached (-1.213) and its probabilistic value (0.23) which is greater than the significance level (10%), which indicates that the variable (empowerment of workers) does not have a statistically significant effect at a significant level (10%) on the variable (cost), while the value of the t-test for the (process design) parameter reached (0.19) and the probabilistic

value It has (0.85), which is greater than the significance level (10%), which indicates that the variable (process design) has no statistically significant effect at the level of significance (10%) on the variable (cost). This indicates that the ability of business process re-engineering in the dimension of information technology has an effective impact on the cost in the private hospitals investigated, as whenever the hospital management has the capabilities, tools, and advanced procedures that help radical change in the way its performance contributes to achieving the competitive advantage.

As for the multiple regression equation, it can be represented as follows:

$$Y = 2.12 + 0.35X2$$

Where

Y: dependent variable (cost)

X2: Independent Variable (IT)

3- (There is a significant effect between the dimensions of business process re-engineering and creativity).

To test this hypothesis, we will rely on multiple linear regression analysis, as the independent variables are the dimensions of (business process re-engineering) and the dependent variable is (creativity) for private hospitals. As for the results of the analysis of variance (ANOVA) to test the significance of multiple linear regression, they were as in the following table:

Table (8-11) sum of squares, square coefficient of determination, and F news to test the effect relationship

sig probability value	F value	Selection parameter square	Mean square	Variable degree	Sums of square	Sources of variance for creativity variable
0.01	3.90	0.18	0.91	4	3.65	Regression
			0.23	72	16.85	Residual
				76	20.50	Total

From the previous table (8), we note that the square of the coefficient of determination was valued at (0.18), meaning that the business process re-engineering dimensions variables explain (18%) of the innovation variable in hospitals, and the arithmetic F value is (3.90), and by comparing it with the tabular F value With a degree of freedom (72.4) and its value was (2.03). We note that the arithmetic value of F is greater than the tabular value of F, and thus we accept the hypothesis and the probabilistic value of the test confirms this, and it was (0.01) less than the significance level (10%), and this indicates that the model is valid for measuring the relationship Causality between the independent variables and the dependent variable, i.e., we accept the previous hypothesis meaning (there is a significant

effect between the dimensions of business process re-engineering and creativity in private hospitals). As for testing the multiple linear regression coefficients related to the model, which can be reached through the following table:

Table (9-11) Multiple Linear Regression Coefficients

sig probability value	Calculated t-test value	St. Error	Standard coefficients (Beta)	coefficients of the independent variable
0.00	4.13	0.61	2.52	constant
0.60	0.53	0.13	0.07	Organizational Chart
0.02	2.48	0.05	0.13	Information Technology
0.05	1.978-	0.10	0.190-	Empowering workers
0.05	1.99	0.12	0.23	Process Design

We note that the value of the t-test for the parameter (organizational structure) has reached (0.53), and its probability value is (0.60), which is greater than the significance level (10%), which indicates that the variable (organizational structure) has no statistically significant effect at the level of significance (10). %) on the (creativity) variable, and that the value of the t-test for the (information technology) coefficient was (2.48) and its probabilistic value (0.02) which is less than the significance level (10%), which indicates that the (information technology) variable has a significant effect Statistical at a significant level (10%) on the variable (creativity) and that the value of this factor was (0.13) in the multiple regression equation, and that the value of the t-test for the factor (empowerment of workers) reached (-1.978) and its probabilistic value (0.05), which is less than Significance level (10%), which indicates that the variable (empowerment of workers) has a statistically significant effect at the level of significance (10%) on the variable (creativity) and that the value of this factor was (-0.19) in the multiple regression equation, while the value of the t-test The (process design) parameter has reached (1.99) and its probability value is (0.05), which is less than the significance level (10%), which indicates that the (process design) variable has a statistically significant effect at the level of Significant (10%) on the variable (creativity) and the value of this factor was (0.23) in the multiple regression equation. This indicates that the dimensions of business process engineering (information technology, employee empowerment, and process design) effectively impact the creativity dimension to achieve the competitive advantage of the surveyed private hospitals. As for the multiple regression equation, it can be represented as follows:

$$\mathbf{Y = 2.52 + 0.13X2 - 0.19X3 + 0.23X4}$$

Where

Y: dependent variable (creativity)

X2: Independent Variable (IT)
X3: Independent Variable (Empowerment of Workers)
X4: Independent Variable (Process Design)
4- (There is a significant effect between the dimensions of business process re-engineering and flexibility).
To test this hypothesis, we will rely on multiple linear regression analysis, as the independent variables are the dimensions of (business process re-engineering) and the dependent variable is (elasticity) for private hospitals. As for the results of the analysis of variance (ANOVA) to test the significance of multiple linear regression, they were as in the following table:

Table (10-11) sum of squares, square coefficient of determination, and F news to test the effect relationship

sig probability value	value F	Selection parameter square	mean squares	Variable degree	sum of squares	Sources of Variation for the Elasticity Variable
0.00	14.81	0.45	3.46	4	13.82	Regression
			0.23	72	16.80	Residual
				76	30.62	Total

From the previous table, we note that the square of the coefficient of determination was valued at (0.45), meaning that the business process re-engineering dimensions variables explain (45%) of the flexibility variable in hospitals, and the arithmetic F value is (14.81), and by comparing it with the tabular F value with a degree of freedom (72.4 Its value was (2.03). We note that the arithmetic value of F is greater than the value of the tabular F, and thus we accept the hypothesis that the probabilistic value of the test confirms this, and it was (0.00) less than the significance level (10%), and this indicates that the model is valid for measuring the causal relationship between the variables. The independent and the dependent variable, that is, we accept the previous hypothesis, meaning (there is a significant effect between the dimensions of business process re-engineering and flexibility in private hospitals). As for testing the multiple linear regression coefficients related to the model, which can be reached through the following table:

Table (11-11) Multiple Linear Regression Coefficients

sig probability value	Calculated t-test value	St. Error	Standard coefficients (Beta)	coefficients of the independent variable
0.03	2.21	0.61	1.35	constant

0.07	**1.874-**	**0.13**	**0.239-**	**Organizational Chart**
0.00	**3.86**	**0.05**	**0.21**	**Information Technology**
0.73	**0.35**	**0.10**	**0.03**	**Empowering workers**
0.00	**5.33**	**0.12**	**0.62**	**Process Design**

We note that the value of the t-test for the parameter (organizational structure) has reached (-1.874), and its probability value is (0.07), which is less than the significance level (10%). This indicates that the variable (organizational structure) has a statistically significant effect at the significance level (10). %) on the (elasticity) variable and that the value of this factor was (-0.239) in the multiple regression equation, and that the value of the t-test for the (information technology) coefficient was (3.86) and its probabilistic value (0.00) which is less than the significance level (10%), which indicates that the (information technology) variable has a statistically significant effect at a significant level (10%) on the (flexibility) variable and that the value of this factor was (0.21) in the multiple regression equation, and that the value of the t-test for the (empowerment of workers) coefficient has reached (0.35) and its probability value (0.73) which is greater than the significance level (10%), which indicates that the variable (empowerment of workers) does not have a statistically significant effect at a significant level (10%) on the variable (flexibility), while the value of the t-test The (process design) parameter has reached (5.33) and its probabilistic value is (0.00), which is less than the significance level (10%), which indicates that the (process design) variable has a statistically significant effect at the level of Significant (10%) on the (elasticity) variable and that the value of this factor was (0.62) in the multiple regression equation. This indicates that the re-engineering of business processes in its dimensions (organizational structure, information technology, and process design) has an effective impact on flexibility, that is, when the researched private hospitals are flexible with their adopted strategy through the distribution of powers and the organization of an effective communication mechanism and work on the use of modern technologies as tools for change, this will affect flexibility to provide services to contribute to achieving competitive advantage. As for the multiple regression equation, it can be represented as follows:

$$\mathbf{Y = 1.35 - 0.239X1 + 0.21X2 + 0.62X4}$$

Where

Y: The dependent variable (elasticity)

X1: The Independent Variable (Organizational Structure)

X2: Independent Variable (IT)

X4: Independent Variable (Process Design)

Conclusions:

It was found that the management of the researched private hospitals in Baghdad takes into account the nature of the positive relationship to the dimensions of business re-engineering and its impact on competitive advantage by keeping pace with development, technology, and a common vision and empowering workers to contribute to the realization and understanding of problems and familiarity with all the basic operations of work that would create and help in responding to challenges new. Furthermore, take advantage of workers' skills in creating creativity to raise the level of services provided in general. However, it was not successful in employing the organizational structure in bringing about changes in quality and cost of services, which is the flexibility to contribute to implementing change programs and the organization of effective communication mechanisms between departments in line with work requirements. As well as the lack of contribution of process design as one of the dimensions of business re-engineering in making an impact on the dimensions of quality and cost due to the poor dissemination of quality standards among employees and consider them part of the culture of the organization and their failure to participate in courses and continuous training of medical and health staff for this purpose. We conclude that the relationship of business process re-engineering dimensions to competitive advantage must be studied in light of improving process design because of its important role in eliminating and neutralizing the negative impact of workers' experiences and providing high-quality services in the surveyed hospitals.

Recommendations:

The need for hospitals to adopt a new approach to reduce the costs of health services provided and follow modern systems in determining, analyzing, or estimating costs. Furthermore, work to develop and enhance the skills and capabilities of its employees to improve the quality of services provided to keep pace with changes and creativity, addressing failures, and developing workers' experiences by introducing them to specialized training courses to improve their creativity and competitiveness by providing new products and services or making changes in their operations, systems and methods. Moreover, the need to develop special programs to enhance its creative capabilities and attract and attract workers who can cover skill and experience gaps to ensure the achievement of creativity, development, and improvement and this can be achieved through many means, including focusing on specialized courses, building strategic partnerships in the field of training with leading health organizations, and supporting health centers research and development.

References

1- Al-Hasani, Zainab Abu Ali Khalaf, (2016), Re-engineering administrative processes in the light of the strategic orientation/field research for a sample of senior leaders in the Ministry of Oil, a master's thesis submitted to the College of Administration and Economics - the University of Baghdad, unpublished.
2- Al-Kahlout, Ahmed Khalil Mahmoud, (2017), the relationship of process re-engineering to achieving competitive advantage in Palestinian universities in Gaza, a master's thesis in Business Administration, Faculty of Economics and Administrative Sciences, Al-Azhar University - Gaza.
3- Ahmad, Raghdan, (2011), Competition - Competitiveness and Strategic Alternatives, Jarir Publishing and Distribution House - Amman King Hussein Street, 1st Edition.
4- Riyanto, Agus, Ina Primiana, Yunizar &Yudi Azis, Re-engineering support for competitive advantage through organizational basis, information and communication technology: a literature review, (2018), Problems and Perspectives in Management.
5- Hiksas, Yan, Yuyus Suryana, Erie Febrian, Imas Soemaryani,(2018), EFFECT OF BUSINESS PROCESS RE-ENGINEERING, MARKET ORIENTATION AND COMPETITION ENVIRONMENT TO PLANNING STRATEGY AND ADVANTAGES COMPETITIVE INDUSTRY ELECTRONICS BEKASI INDUSTRY AREA, International Journal of Business, Economics and Law.
6- IMMACULATE, NAIBEI CHEPKEMOI, BUSINESS PROCESS REENGINEERING PRACTICES AND PERFORMANCE OF PHARMACY AND POISONS BOARD IN KENYA,(2017), DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF KENYATTA UNIVERSITY.
7- Julius, Ikharehon Idialu, Nosa,omoregie,(2015), BUSINESS PROCESS RE-ENGINEERING PERFORMANCE OF NIGERIA HEALTH PERCEPTION ON WAITING TIME, Department of Business Administration, Faculty of Management Sciences, Ambrose Alli University, Ekpoma, Edo State.
8- Harlan, Jesse,(2020),7 Business Process Reengineering Tips for Competitive Advantage, Director of Finance, Environmental Systems Corporation, by Panorama Consulting Group.
9- Seher, Naveeda,(2014), 10. Business Process Re-engineering and Organizational Structure – A Case Study of Indian Commercial Banks, University of Science and Technology Awantipora, Jammu and Kashmir India.
10- Mathur, Swati, (2016), Organizational Change Management through BPR Interventions: A Case Study of State Bank of India, Department of Management, Ambedkar University.
11- Makudza, Forbes, Gibson Muridzi & Darlington Chirima,(2019), An Analysis of the Business Process Reengineering (BPR) Implementation Practices and their Impact on Customer Satisfaction in the Banking Sector, Manicaland State University of Applied Sciences, Fernhill, Zimbabwe.
12- Hui chany, Chuan and Tsai,yafang, (2017), Identifying competitive strategies to improve hospitals' performance in a competitive environment, BMC health services research.

13- Michael, Ikon, Onwuchekwa Faith, Nwoye Christina,(2018), BUSINESS PROCESS RE-ENGINEERING (BPR) AND COMPETITIVE ADVANTAGE IN A RECESSED ECONOMY. A STUDY OF SELECTED BREWING FIRMS, Department of Business Administration, Nnamdi Azikiwe University, Awka, Nigeria, ANAMBRA STATE, NIGERIA.