

THE ROLE OF PROCESS RE-ENGINEERING IN RATIONALIZING COSTS AND STRENGTHENING THE COMPETITIVE POSITION OF INDUSTRIAL ENTITIES-APPLIED RESEARCH IN KARBALA CEMENT FACTORY

Mohammed Abed Kadhim(1)
yshsgy@gmail.com

Ali Mohammed Thijeel AL-Mamouri(2)
asst.prof.ali@pgiafs.uobaghdad.edu.iq

The Post Graduate Institute of Accounting and Financial Studies
Accounting Studies Department- University of Baghdad- Iraq(1,2)

ABSTRACT	KEYWORDS
In its theoretical framework, the research adopted the topic of process re-engineering and its related aspects, such as aspects of its concept, elements, importance, and stages of application, in addition to presenting the relationship between re-engineering and information technology, as well as the use of information technology in the field of industry. While the field frame of the study dealt with a presentation of the reality of cement factories in Iraq, and the extent of their need to bring about radical and comprehensive changes in all aspects of their work in order to keep pace with the developments and developments taking place in the Iraqi and international environments. The problem of the study focused on the ability of Iraqi bank administrations to understand and assimilate the process of re-engineering and its requirements as one of the most important strategies that must be adopted to meet the challenges and keep abreast of recent developments in the cement industry and modern information technology to rationalize its costs and enhance its competitive position.	Process re-engineering, rationalizing costs , competitive position

Introduction

The dynamic changes taking place in the business environment, most notably the intensity of competition, the advancement of technology, the short life cycle of the product, and others have made the traditional administrative techniques of cost and administrative accounting incapable in light of these changes in providing information that helps economic entities achieve the goal of cost management by rationalizing them as well as supporting economic entities in the production of products with competitive prices that meet the needs and desires of customers. Therefore, it has become

necessary for these entities to follow the process re-engineering technology to keep pace with the above changes and respond to them, which is one of the most important of these modern technologies in their applications through which the economic entity can rationalize its costs and thus strengthen its competitive position. The process re-engineering approach would help the Karbala Cement Factory of the Iraqi General Cement Company in managing costs by rationalizing them and thus achieving a competitive position for the plant.

The first axis: research methodology and previous studies

First: the research methodology

Research problem:

The process of re-engineering the industrial activities of the Iraqi cement factory is one of the requirements of the current stage in the life of the cement industry in Iraq, as the factories should prepare it at the forefront of the strategies that they must adopt to face challenges and threats and keep abreast of developments in the field of cement industry and technology. In the ability of the factory departments to understand and comprehend the concept of re-engineering, its requirements, stages and its impact on the performance of its activities, and thus it can be said that the problem of the study crystallizes in the light of the negatives and challenges facing the Iraqi cement industry currently, and that the control of traditional industrial business over the activity of the cement industry, and as a result of the inflexibility of banking laws and legislation On the one hand, and not adopting policies to introduce modern changes based on modern technologies in the cement industry and not adopting modern cost strategies such as continuous improvement, comprehensive quality management, benchmarking and re-engineering of processes approved by cement industry factories in developed countries on the other hand.

Through the above, the main problem of the research can be identified (negligence and laziness of the industrial entities to seriously and deliberately rethink their operations and re-engineer them radically and fundamentally to develop their products, keep pace with innovation and renewal in the products of competing companies, sustain competitive advantages and rationalize their costs).

Research objectives

This research aims at a number of objectives that can be summarized in the following points:

- 1- Identifying the obstacles and problems that impede the application of the process re-engineering approach in the cement industry, and suggesting appropriate ways to encourage and support its use in the industrial sector.
- 2- Shedding light on some experiences and expertise in the field of process re-engineering in the cement industry that enables them to rationalize the costs of their outputs, which gives them competitive capabilities and advantages.
- 3- Presenting some results and recommendations to those in charge of managing the cement industry in Iraq, which gives vision and ideas on the areas of application of process re-engineering to achieve a competitive advantage in cement factories and to develop perceptions in future plans.

Research Hypothesis

The research is based on a main hypothesis: (The application of process re-engineering leads to the rationalization of costs for economic entities and the consolidation of their competitive position).

The importance of research The importance of the research is evident in the following points:

- 1- Contribute with the help of economic entities (the research sample) to use modern technologies for management, and give a clear idea about each method of process re-engineering.
- 2- It contributes to increasing the level of senior management's awareness of the importance of adopting the field of process re-engineering in order to improve the performance of Iraqi economic entities that lead to customer satisfaction and thus achieve a competitive advantage over its competitors.
- 3- This research, through its practical application, can provide solutions to the problems that cement industry factories suffer from, especially in how to develop and design their products, as well as provide indicators that help adopt the process engineering approach by specialists to be able to achieve change and raise the quality of their products. and rationalize its costs.

Research Methodology

- 1- The inductive approach: by relying on studying and analyzing previous theoretical and applied studies related to the subject of research, as well as research and articles published on the World Wide Web (Internet), with the aim of forming the theoretical framework.
- 2-The analytical descriptive approach: by applying the process re-engineering approach to rationalize costs and achieve a sustainable competitive advantage on a cement manufacturing plant by analyzing the results from this application.

Second: previous studies

- **Dhaidan, 2022)**

The role of integration of costing techniques based on specifications and process re-engineering in improving product quality.

search seeks

- Analyzing the complementary relationship between cost-based technology and process re-engineering technology in improving product quality.
- Clarify the role of using cost technology based on specifications in integration with process re-engineering technology to improve product quality.
- Conducting the process of applying integration between cost technology based on specifications and process re-engineering technology in the Iraqi industrial economic entity, the research sample?

The most important conclusions

- Process re-engineering technology focuses on bringing about a radical change in operations in order to achieve fundamental and radical improvements in performance standards represented in quality, cost, speed, and service.
- The application of process re-engineering technology is carried out through specific steps starting from defining the vision and objectives of the company, understanding and defining the processes that will be re-engineered, establishing a re-engineering team, defining and identifying customers, defining customer requirements, understanding the current process, designing the new process, passing implementation and follow-up.

The most important recommendations

- The need for the economic entity to study the research sample. Paying attention to studying the market, searching for new marketing outlets, and continuous communication with customers, in order to know

the specifications they require, which achieve the desired value from the customer's point of view, in order to improve the quality of its products in balance with foreign products, which leads to its survival and continuity in the world. Intense competition.

- Focusing on the customer to determine the specifications that the customer desires and what each specification represents of importance to the customer - to control its costs and avoid any waste or extravagance in cost.

- **Sungau & Ndunguru, 2015**

"BUSINESS PROCESS RE-ENGINEERING: A PANACEA FOR REDUCING OPERATIONAL COST IN SERVICE ORGANIZATIONS"

Process re-engineering is a comprehensive solution to reduce operational costs in service organizations (Applied research)

Objectives of the study

Evaluation and effects of process re-engineering technology on operational cost, and its statement, directly or indirectly, as a treatment for reduction.

The most important conclusions

The technology of process re-engineering does not have a significant direct impact on the operational cost, however it has indirect effects on operating costs, and re-engineering works to improve the first-level structures, quality of service, and speed of delivery, which in turn affects the second-level structure of operating cost and It was found that there is a discrepancy between the current research and the other reported research, due to the reason that the current research refers to the overall effect of re-engineering in establishing operating costs, while other research provided effects in specific elements of operating cost creation.

The most important recommendations

Process re-engineering enables service economic entities to reduce paperwork, reduce rework costs, and reduce the number of employees in operations.

The second axis: the theoretical side

The term re-engineering operations means starting over with the modern administrative style, which is related to the operations and work performed by the economic entities. . (Haroush, 2015: 318), some researchers do not consider process re-engineering a tool, technology, or approach, but rather a philosophy of change that is represented in responding to the rapid dynamic changes in the surrounding environment that prompted economic entities to adopt this philosophy in order to make the best use of investments in technology (Al-Mamouri; Al-Dhaheri, 29:2020), and adapting its operations to meet the challenges and continue in the modern business environment. (Al-Awadi, 2014: 14), and the types can be detailed in other forms, including (administrative operations, executive operations, and support operations) (Al-Agha, 2006: 35), to avoid the isolation of the economic entity from its competitors, and to pursue seriousness to ensure its continuity and competitiveness. economic and effectiveness for individuals and institutions concerned with the implementation of procedures and development programs, the increase in Growth rates in the various fields of production through which the individual income rate increases and the relationship and feedback between inputs and outputs are stimulated ,(Ali, Abd , & Kareem , 2022).

Recently, the interest in process re-engineering has increased on the part of decision makers from senior management in economic entities , and the identification of process re-engineering is an appropriate entry point towards studying and establishing the appropriate specific scientific perceptions of the

concepts and opinions it presents, and in view of what characterizes the concept of process re-engineering. on a set of concepts, including:

1- Using tools and means to take advantage of modern technology to reach the best possible combination of these tools and means to reach a radical change in all parts of the economic entities in order to meet the needs of customers. (Parker, 1993:29).

2-The method of realization, improvement and radical and comprehensive development in the performance of economic entities in a relatively short time. (Paul; Cespedes, 1995: 36).

3- A radical and comprehensive redesign of the planning processes to raise their surplus value, and redesign the policies, systems, and organizational structures that support the processes of improving workflow, producing the economic entity, achieving the planning goals and objectives, and meeting the needs of customers. (Fragoso, 2015: 383).

Operations re-engineering has been defined as a set of techniques aimed at re-engineering operations for all operations in economic entities by redesigning them in a way that achieves effective performance and based on different technologies that seek to achieve goals. (Dhaidan, 54: 2022), and is characterized as an effective program to implement a strategic turning point through re-engineering operations with the aim of achieving significant gains in service, cost, and time. (Wheelen; Hunger, 2012: 288).

The referential extrapolation of the concepts of process reengineering indicates that there are basic components to this concept according to a general and comprehensive view presented by many researchers, including: (Drury, 2018: 603), (Al-Jazrawi, 2000: 10), (Al-Barwari, 2000: 46), (Kenneth, 2018: 17).

- **Fundamental Re-thinking: (Horngren, 2015: 475)**

Rethinking is being conducted by reconsidering the foundations and assumptions that determine the methods of work used, and that information technology capabilities are given preference (Thijeel, 2018: 1576), and it should support the re-engineering of operations by providing a conducive environment to work on, and simplifying the changes that are being promoted. (Sungau, 2015: 146).

- **Radical Re-design**

The radical expression of the word (Radical) is derived from the Latin word (Radix) and means roots (Al-Hammadi, 2006:124), and bringing about a radical change, not a specific modification (Shamrukh, 2022:124), and is characterized as a process of getting rid of previous procedures, and adopting new methods To perform the work, that is, it is the radical change, not the minor changes (Hamer, Champ, 1993: 33), in order to bring about positive changes in the economic entities , which makes them more capable of solving problems, and providing products and services efficiently and effectively. (Abu Al-Nasr, 2002: 10).

- Change focuses on operations (Process Change): Operations re-engineering focuses on analyzing and rebuilding operations, not organizational structures, departmental tasks, responsibilities, and functions in the economic entity. Al-Badawi, 2017: 51) (Al-Saeed, 2012: 236).
- Change depends on information technology: it relies on process re-engineering to invest in the use of modern technologies, and the use of these technologies in an effective and efficient manner leads to the implementation of work in a creative manner (Ibrahim, 2014: 240), and re-engineering attempts depend Operations use the rapid developments in information technology and its various applications, as the use of personal computers, networks, and databases helps to facilitate the performance of operations, and thus reduce performance time and cost, as well as increase productivity, develop, and improve quality and conformity (Thijeel, 2018: 570), so it is necessary to identify opportunities for

improvement in new processes, as well as familiarity with recent developments in information technology, from investing economic entities in information technology effectively that may lead to improving performance levels in the case of adopting re-engineering of operations based on information technology. (Kiran, 2016: 40).

The applied aspect

.Cement industry, its stages and manufacturing methods

Cement is the material that possesses cohesive and adhesive properties in the presence of water, which makes it able to bind the concrete components together, and their cohesion with the reinforcing steel and transform them into a complete interconnected entity, and it has the property of setting and hardening by chemical reactions. In the presence of water, it is known as hydraulic cement, as cement is made by mixing calcareous materials such as limestone or chalk limestone with clay materials such as shale or clay.

Limestone Crushing : Limestone is broken by the crusher, and the crushed stone is transferred to the line field, as it leads to the collection of limestone in a field for mixing and storage, and materials are withdrawn in the required proportion from this field.

Raw Mill : The mill crushes and softens the materials with huge mechanical equipment, and grinds them into pebbles with a diameter of (10-50 mm).

Mixing Silos : The conveying of the ground materials from the grinding system to the mixing tanks for mixing and homogenizing operations.

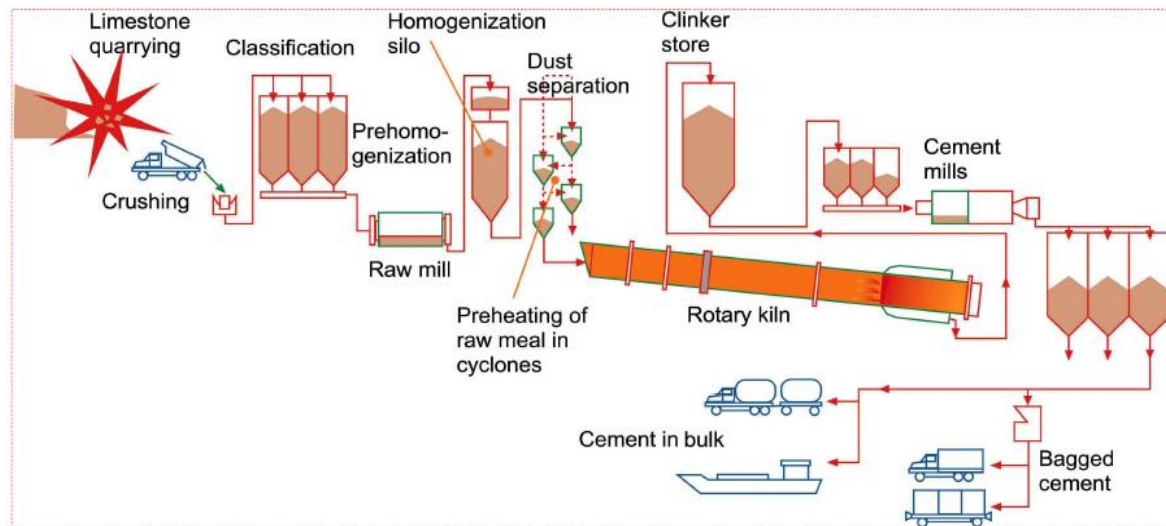
Burning furnace : The process of burning materials after grinding and mixing them in cement kilns is the basic manufacturing step in this industry to produce clinker.

Clinker Cooling: The process of cooling the clinker does not differ in the types of cement. Air cooling is used, except for the type of white cement. The process of cooling is water (water cooling). There are no emissions at this point.

Clinker Storage : Storing the clinker after cooling it in huge concrete tanks, and this requires the existence of a filter with a suitable bag quality to withstand the heat and humidity to work to remove any emission during the casting operations on a deviation as well as the soft materials resulting from the process of drawing the clinker to the cement stage. The quality of the filters should be monitored, and ensured her job.

Cement Mill : The clinker is grinded after increasing the percentage (3-5%) of gypsum (calcium sulfate) in order to control the initial setting time and cement solidification reactions, as it is ground to high fineness, which calls for providing the cement grinding entity with a filter system that works to capture fine cement and raw materials. Soft materials such as clinker and gypsum are removed during drawing and transport operations, as these soft materials are transformed on the product line.

Cement Packing : It is the last stage in cement production, and it includes tanks, filling in bags and filling cement tanks using the bulk cement method. It can be summarized in Figure (1) below:



The methods used for the cement industry : There are two basic methods in the cement industry that can be followed, and its required steps applied to achieve the required physical and chemical transformations, as they differ among themselves in equipment design, operating method and fuel consumption:

The Wet Process: After preparing the raw materials (cracking, crushing, grinding), the clay materials are usually mixed with a certain percentage of water to become a homogeneous mixture, then they are mixed with the calcareous materials prepared inside the washing mills and the wet grinding method is used to form a mixture in the form of a paste called (Slurry) and contains a percentage of High humidity ranges between (30-45)%, and the length of the kiln reaches (230) meters, and its diameter is (5-7) meters, with a slope of (3%). The clay is fed directly to the kiln, or to a dryer first, as it is dried in The drying range is due to the hot gases coming out of the oven, and the evaporation of the dough water is accompanied by an increase in its viscosity, as the dough undergoes physical changes only to turn into a semi-circular mass of different sizes with an increase in heating, then it completes later the other stages of production. This method, used in the past, is characterized by easy technology, no need for certain technical skills, as well as high homogeneity of raw materials compared to other methods, low rates of dust thrown into the outside environment, and one of its disadvantages is high fuel consumption.

Dry Process : In this method, the raw materials are prepared (cracking, crushing, grinding), and then they are mixed and homogenized in mills while they are in their dry state without adding water to them. Then they are kept in closed tanks and sent to feed the rotary kiln, as the length of the kiln reaches 70 meters. The efficiency of the kiln is greater in the case of heating the raw meal before entering it into the kiln. This method is more advanced than the wet method, and it is commonly used in modern cement industry technologies. It is balanced with the wet method with less fuel consumption, and one of its disadvantages is the high rates of dust thrown into the outer environment.

Decisions to rationalize costs by switching from the wet method to the dry method.

Conversion from the wet method to the dry method, the use of multi-stage pre-heaters, the use of electric motors, and high-efficiency mills contributed to achieving savings in the consumption of thermal energy and electrical energy required for the cement industry.

The following is a review of the most common energy efficiency improvement measures in this industry:

- 1- The use of highly efficient electric motors, especially motors that operate for more than (3500) hours annually, as well as the use of drive units (for fans) with variable speed, which help reduce the motor speed by controlling the frequency, voltage, or current of the motor.
- 2- Developing technologies for grinding raw materials and grinding cement, by using the cylindrical grinding system and integrating it with the traditional grinding system, as well as using highly efficient dynamic separators, which contributes to achieving a tangible reduction in the consumption of electrical energy.
- 3- The use of auxiliary materials for the grinding process such as (Mono Ethylene Glycol) to reduce the density of the materials that need to be grinded, and increase the conductivity, and then reduce the specific energy consumption.
- 4- Improving combustion efficiency by using advanced burners, and using modern electric motors of high efficiency.
- 5- Improving energy efficiency in auxiliary systems, such as steam boilers, thermal insulation, and lighting systems.

.Apply process re-engineering to industrial entities The steps of applying process re-engineering to the Karbala Cement Factory go through several stages:

. Determine the vision and plan that the research sample seeks It is clear from the field observation of the researcher in the Iraqi General Company for Cement (Karbala Cement Factory), the research sample, and the interviews with its officials that the most important thing that the factory seeks to achieve from a planning vision is to produce a product (cement) of all kinds that meets the requirements of consumers and in a way that achieves an important competitive position. And improve the value of its products by rationalizing their costs.

.Formation of a multidisciplinary re-engineering team

After defining and clarifying the planning vision for the plant, a specialized re-engineering team is formed, which includes several specializations (design, technology, production, management accountant and assignment, research and development).

Determine consumer requirements.

At this stage, the consumer requirements that should be met in the cement product of all kinds in terms of quality are determined, and they represent the essence of the tasks of the re-engineering team that should be taken into account. The basic requirements sought by the consumer, especially (contractors) who are considered among the most important consumers of the company's products (cement of all kinds) in the availability of its products, which are almost limited to both the appropriate price and high quality. Quality is measured by conducting laboratory tests, and when it fails, it leads to damages. contractors, refusing the works executed by them, or accepting them with financial discounts, exposing them to contractual responsibility, and thus harming the reputation of the products of the cement factories.

.Planning the re-engineering process

After determining the requirements of customers, and the appropriate manufacturing method, and in the light of those requirements, the process of planning for re-engineering related to the cement product begins, including the various activities involved in these operations, and restructuring, organizing, and arranging them in a manner that is consistent with manufacturing operations, and achieving this purpose by applying The disjointed analysis technique in light of the adoption of re-engineering, which in turn focuses on cost rationalization.

.Implementation of the re-engineering approach At this stage, the re-engineering approach is put into practice, and all the aforementioned steps are reviewed to ensure their compatibility with the factory's objectives, the most important of which is rationalizing its costs and achieving a competitive advantage by increasing product quality, matching its specifications to the customer's desires, and reaching the lowest cost. With regard to quality, as long as there is a proper match between the customer's voice, which is expressed in its requirements, and the engineering requirements and manufacturing processes that contribute to production, including activities that increase value for the customer, the required increase has been achieved. As for the cost, as long as practical energy is relied upon when applying disjointed analysis technology as a basis for allocating costs related to manufacturing operations and activities, with the exclusion of costs that do not increase the value of the product, the required rationalization has taken place. This has led to customer satisfaction with the product, and it is possible to start putting the stages of re-engineering technology into practice.

And the application of process re-engineering leads to the exploitation of its energies. The table below shows the percentages of energy utilization for the activities and activities producing cement in the years (2008-2009)

Table No. (14)
Energy utilization ratios for cement

	before re-engineering		After re-engineering	
the years	2008	2009	2018	2019
Design capacity (1) thousand tons	2000	2000	2000	2000
The planned capacity is (2) thousand tons	400	520	1800	1800
Actual production (3) thousand tons	244,7	215,9	1607	1648
Operating ratio (2/1)	20	26	90	90
Execution rate (3/2)	61.1	41,5	89,3	91,5
Utilization ratio (3/1)	12,2	10,8	80,4	82,4

Source: It was calculated by the researcher based on the reports of the Research and Development Department.

From the above table, the following is clear:

1- A significant increase in the utilization of the design capacity of the plant was noted, as it reached (82.4%) for the year 2019 (after re-engineering), parallel to the year 2009, which reached the utilization rate (10.8%), which indicates the achievement of the desired purpose. Among them, the realization of a remarkable increase in the production capacity, which also led to an increase in the employment rate from (26%) to (90%).

2- Exploiting the plant's resources effectively and efficiently, as the planned percentage reached (90%) of the design capacity for the years (2018, 2019), which is the highest planned capacity for production from the designed capacity, parallel to the years before re-engineering, which reached the highest percentage in the year 2009, as It amounted to (26%) of the design capacity, while the implementation rate amounted to (91%), which indicates an improvement in the production capacities of the factory, and the exploitation of its energy with the highest possible efficiency, and regular industrial production without obstacles or difficulties in all stages of production.

3- The presence of idle capacity (unutilized) amounting to (1784.1) thousand tons, at a rate of (89.2%) for the year / 2009 of the designed capacity for the production of the factory, which indicates the poor performance of the factory, and the lack of efficient and effective use of its resources to produce and develop its products to meet the needs Consumers, and this was a motive for the higher management to re-engineer by giving an investment opportunity to operate the plant and to conduct an in-depth study to develop production lines, meet the desires of customers, and then increase energy utilization rates.

Conclusions

1- The fierce competition witnessed by the contemporary industrial environment and the rapid developments have made the economic entities carry out their work in a competitive environment directed by the customer. Thus, it is better for them to achieve the extra value from him if they want to survive and maintain their competitive position in the light of this. the environment.

2- Re-engineering technology represents all practices, procedures and activities that contribute to increasing or maintaining the adequacy and effectiveness of the production equipment of the economic entities , in a way that contributes to achieving the objectives of the economic entity, which are linked to the lowest cost and high quality. Therefore, it is important in all production stages, which start from The design stage right up to the final products.

3- The use of re-engineering technology before the economic entities leads to an increase in the quality of the product, a reduction in its costs by making a radical change, and the elimination of the activities of manufacturing operations that do not increase the value of the product in relation to the customer's requirements.

4- The results of applying the method of process re-engineering clearly showed an increase in the quantities of the planned production capacity, as it reached before re-engineering for the years (2008, 2009) it ranged between (400, 520) thousand tons per year, respectively, and after the process re-engineering of the plant it became for the years (2018, 2019) by (1800) annually. The actual production capacity increased significantly, so it was (244, 215) thousand tons for the years (2008, 2009) respectively, and it has increased by (1600) thousand tons annually after re-engineering. This confirms the effectiveness of the integration between the two approaches above for the results obtained.

Recommendations

- 1- The traditional cost accounting system applied in the Karbala Cement Factory due to the availability of all the necessary information to measure the costs of products, and to benefit from them in the decision-making process, and to take into account the changes and developments that occur in the industrial environment in order to reach maximizing profits at the aggregate level of the entity.
- 2- The need for the economic entities of the research sample to apply the process re-engineering method due to the development in the industrial environment, dynamics and manufacturing techniques, which required those entities to develop their manufacturing and productivity methods in order to achieve their planning purposes.
- 3- The need for the necessary elements and requirements to apply the re-engineering approach to ensure its success in rationalizing costs and enhancing competitive advantages for the economic entity, and that entity should focus on rationalizing costs, availability of products, and time to ensure competitive advantage in the light of re-engineering operations.
- 4- Follow the steps of process re-engineering to reduce the stages of the technical path of the current manufacturing processes in the factory, which contributes to shortening the production cycle, increasing the flexibility of production, as well as times of downtimes and manufacturing operations, and thus improving the overall performance of the factory.

REFERENCES:

1. Abu Al-Nasr, Muhammad Medhat, "Successful Work Teams - Building, Growing, and Managing to Accomplish Tasks Better and Easier", first edition, The Arab Group for Training and Publishing, Cairo, Egypt, 2002.
2. Al-Agha, Maram Ismail, "An Applied Study of Re-engineering of Administrative Processes, Re-engineering in Banks in the Gaza Strip," to obtain a master's degree in Business Administration - Faculty of Commerce - Department of Business Administration, Islamic University - Gaza, Palestine, 2006.
3. Al-Amouri, Ali Muhammad Thajeel; Mohamed, Mahmoud Mohamed; Al Dhaheri, Ali Razzaq Ali, "The influence of economic factors on the emergence of asymmetric costs and the rationalization of operational decisions," Journal of Accounting and Financial Studies (JAFS), Volume (15), Issue (50), 2020.
4. Al-Awadi, Mustafa Saad Salem, "Process Reengineering and its Role in Achieving Competitive Advantage," Baghdad, 2014.
5. Al-Barwari, Nizar Abdel-Majid, "Quality Management: An Introduction to Excellence and Leadership," first edition, Al-Warraq Foundation for Publishing and Distribution, Jordan, 2011.
6. Al-Hammadi, Ali, "The Path to Excellence," first edition, Dareen Hazm for Publishing and Distribution, Amman, Jordan, 2006.
7. Ali, R. H., Abd , W. H., & Kareem, A. D. (2022). The role of the Federal Office of Financial Supervision in auditing industrial activity to achieve sustainable development. *World Economics & Finance Bulletin*, pp. 11, 38-48.
8. Al-Saeed, Mabrouk Ibrahim, "Strategic Management of Libraries in the Light of Contemporary Management Trends (Total Quality - Engineering - Knowledge Management - Electronic Management)", second edition, Arab Group for Training and Publishing, 2012.

9. Al-Sayed Al-Badawi, Muhammad, "Total Quality Management - How to Develop Your Project and Product", first edition, Dar Al-Ulum for Publishing and Distribution, Cairo, Egypt, 2017.
10. Dhaidan, Ahmed Muhammad Hamzah, "The role of integrating cost technologies based on specifications and process re-engineering in improving product quality," a thesis submitted to the Council of the College of Administration and Economics / University of Baghdad, which is part of the requirements for obtaining a doctorate degree - philosophy in accounting sciences, Iraq, 2022.
11. Drury , Colin , " Management and Cost Accounting" 10th Edition , Cengage Learning. , U.K. , 2018 .
12. Fragoso , J. T. , "Business Process Reengineering in Government Agencies Lessons from an Experience in Mexico" , Journal of service science and management (8) (3) , 2015.
13. Haroush, Nour El-Din, "The Science of Management from the Traditional School of Handra," first edition, Dar Al-Ayyam for Publishing and Distribution, Jordan, Amman, 2015.
14. Horngren C T., Datar S. M. and Foster G., "Cost Accounting: A Managerial Emphasis",15th Edition. Pearson Education. Upper Saddle River. New Jersey, 2015.
15. Ibrahim, Al-Saeed Mabrouk, "Strategic Management of Libraries in Light of Contemporary Management Trends" First Edition, Al-Arabiya Group for Training and Publishing, Egypt, Cairo, 2014.
16. Kenneth, Ndangoh , "APPLYING BUSINESS PROCESS REENGINEERING TO SMALL AND MEDIUM SCALE ENTERPRISES (SMES) IN THE DEVELOPING WORLD" , European Journal of Computer Science and Information Technology , European Centre for Research Training and Development UK , Vol.(6), No.(1) , 2018.
17. Parker J. , "Guide to Business process Reengineering, 1993.
18. Paul , A ; Cespedes S. , "Reengineering is Just A Catalyst IN Bank Culture Change" the bankers magazine, 1995.
19. Shamroukh, Mervat Gamal El-Din Ali, "Requirements of engineering as one of the mechanisms for organizing society and training workers in institutions of higher education," Future Social Journal, Volume (4), Issue (9), 2022.
20. Sungau , Joseph , " BUSINESS PROCESS RE-ENGINEERING: A PANACEA FOR REDUCING OPERATIONAL COST IN SERVICE ORGANIZATIONS " , INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION (IJM&P) , v. (6), n. (1) , 2015.
21. Sungau , Joseph , " BUSINESS PROCESS RE-ENGINEERING: A PANACEA FOR REDUCING OPERATIONAL COST IN SERVICE ORGANIZATIONS " , INDEPENDENT JOURNAL OF MANAGEMENT & PRODUCTION (IJM&P) , v. (6), n. (1) , 2015.
22. Thijeel, A. M., Flayyih, H. H., & Talab, H. R. (2018). The relationship between audit quality and accounting conservatism in the Iraqi banks. Opción: Revista de Ciencias Humanas y Sociales, (15), 1564-1592.