



EVALUATION OF THE ECONOMIC PERFORMANCE OF THE FACTORY A CASE STUDY IN NAJAF TIRE FACTORY FOR THE PERIOD (2006-2014)

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Article history:	Abstract:
<p>Received: December 20th 2022 Accepted: January 26th 2023 Published: February 28th 2023</p>	<p>Multinational corporations are a huge economic force through the huge investments they make in the global economy. They have become an important center and a basic driving force for the global economic and political system through their influence in making economic, social and .political events and transformations in the world</p> <p>The study aimed to clarify the impact of multinational companies in attracting foreign direct investment to developing countries, including the UAE, based on the hypothesis that these companies are the main gateway to attracting foreign direct investment, as their investments and expansion of their activities had several positive effects such as creating new job opportunities and obtaining advanced technology. In addition to obtaining an increase in complementary relations in various sectors, the study concluded that foreign direct investment has become a global phenomenon that various countries are working to obtain, as the United Arab Emirates topped the Arab countries in incoming foreign investment, amounting to (13787) million dollars in the year (2019) due to Availability of an appropriate investment climate, advanced infrastructure, the establishment of many free and specialized industrial zones, in addition to its expansion through privatization operations .and business-friendly legislation</p> <p>The study came up with a package of proposals, including the need to develop and encourage investments to include sectors other than the oil and gas sector, and work to facilitate administrative procedures to facilitate the entry of investment companies, and continuous communication with international organizations interested in the work of these companies, in addition to not giving way to investment companies. In aspects occupied by local investors</p>

Keywords:

INTRODUCTION

For those in charge of overseeing projects in the public and private sectors, it is crucial to continue the performance evaluation process because it helps to uncover deviations from the foundational and planned objectives of projects, which can then be used to develop the necessary remedies and solutions to ensure that projects achieve their planning and foundational objectives. Additionally, performance evaluation plays a crucial and fundamental role in the accomplishment, growth, and diversity of industrial projects across all of their branches, which serve as

the primary pillars of the nation's economic and social development and, in turn, foster the growth and advancement of civilization.

When the performance evaluation is applied to all projects and solutions are found for any deviations, this maximizes the use of economic resources, increases the number of relationships between projects and different economic activities, creates job opportunities, satisfies the nation's demand for goods and products, and satisfies consumer desires . Iraq has been one of the nations with an interest in this sector , as it set up plants to produce tires,



automobiles, and various rubber products, it transferred technology from well-known worldwide firms. And Iraq now has the labor force, the knowledge, and the markets. It will be highly economically feasible for the nation to construct and advance such projects, as well as to assess the effectiveness of the existing laboratories and address all of its issues in order to stay on its true course and fulfill the goals for which it was founded.

It is one of the factories of the General Company for Rubber Products and Tires, whose main location is in the Babylon Tire Factory in Najaf, where he founded the Rubber Products Factory in 1977. In order to meet the demands of the Iraqi market, production lines for various rubber products are used, and he makes use of the technological privileges offered to him by the English corporation (Franci Shaw). In order to study this crucial time in the factory's history, from 2006 to 2014, when the factory started to deteriorate and its production nearly completely stopped, the topic of the thesis was chosen to be analyzing the performance efficiency of the rubber goods factory in Najaf.

Evaluation of the effectiveness of the economic performance of the Rubber Products Factory in Najaf was chosen as the subject of the tagged message. There are several factors to consider, including the plant's significance, particularly in the chemical industry sector (rubber industry). The General Company for Rubber and Tire Industries, a division of the Iraqi Ministry of Industry and Minerals, is where it is located. Additionally, it contributes to the overall industrial sector and makes products that are reasonably priced and fulfill the demands of both consumers and other laboratories. Despite this plant's significance to the industrial sector and its contribution to fostering economic growth ,

The research seeks to accomplish a number of objectives to compete in the market, including:-

1. Investigating the reality of the Najaf rubber factory's operations and demonstrating the influence of costs and their connection to revenues to determine if the factory is profitable or not..
2. Determining the indicators' deviations in order to create the appropriate remedies and solutions to reach the predetermined targets.
3. Researching the effects of technological advancements in the rubber industry on the effectiveness of plant performance and the potential for production line rehabilitation.
- 4.. Researching how imported rubber products affect factory performance efficiency and how to create factory products that can compete with these products.

LITERATURE REVIEW

Evaluation of the effectiveness of ongoing projects

1. Performance assessment Idea, significance, and objectives

A . Idea

Any institution's performance is evaluated systematically in order to establish benchmarks for what has been done throughout operation and to make comparisons with previously established organizational goals ⁽¹⁾ . This is accomplished by having information systems that offer all information and by utilizing the feedback principle. To determine whether there were any deviations or mistakes in the work stages that caused this deviation, as well as to make sure that all the resources involved in the production process had been used effectively and efficiently to reach the objectives the institution had set for itself, the actual achievement was compared to the standards. ⁽²⁾ . There are numerous concepts for evaluating performance, but most of the sources concur on a particular concept because each concept links to a specific goal. However, he thinks that performance evaluation for any institution entails taking a close look at the actual results attained and comparing them to the results previously established to determine whether or not they were successful. It is supported by a positive deviation. ⁽³⁾

B. Significance

Since it is possible to identify the sources of imbalance in the economic units and address them, as well as to develop the positive aspects and find ways to develop them, performance evaluation plays a significant role, is very important, and is necessary at all times and in all economic systems. This allows us to demonstrate

(1) Elaine D. Pulakos , Performance Management A roadmap for developing, implementing and evaluating performance management systems , SOCIETY FOR HUMAN RESOURCE MANAGEMENT , page 9

(2) Dr. Mahmoud Abdel-Fattah Radwan, assessing the performance of institutions under balanced performance standards, training and administrative development expert, training advisor to the Arab Group for Training and Publishing, member of the Training and Development Association. Publishing the Arab Group for Training and Publishing, year 2012-2013, page 9

(3) Operations Evaluation Department , Asian Development Bank , Guidelines for Preparing Performance Evaluation Reports for Public Sector Operations , January 2006 , page 7



the significance of performance evaluation. In the areas mentioned below ⁽¹⁾.

1- Conducting the performance evaluation process continuously for the producing institution helps to swiftly identify any imbalances and at the point of occurrence or creation, which enables prompt corrective action to be taken to fix any deviations and get them back on track. ⁽²⁾.

2- The early discovery and acceleration of deviations in a particular area of the production institution will stop them from spreading to other areas, hence lowering losses and losses. ⁽³⁾.

3- The national economic master plan is connected to the enterprise production plan. In order to accomplish the intended objectives, the evaluation of performance efficiency therefore focuses on the consistency of follow-up and the organization of all inputs and outputs of the manufacturing firm. ⁽⁴⁾.

4-Evaluating employees' performance fosters a sense of accountability and loyalty to the company where they work. They will create a sense of responsibility for themselves and their work when they perceive that their direct officials are evaluating their performance at work, which will boost their productivity. ⁽⁵⁾.

C. Objectives

The following objectives should be included in the identification process for institutional performance evaluation in order to complete the concept:

1- Increasing productivity is a primary aim for every productivity institution since it is the institution's

⁽¹⁾ Dr. Abdul-Wahhab Matar Dahri, Project Evaluation and Economic Feasibility Studies, Iraq: Ministry of Higher Education and Scientific Research, University of Baghdad, 1990. pg. 429

⁽²⁾ Jody Zall Kusek , Ray C. Rist , A Handbook for Development Practitioners Ten Steps to a Results-Based Monitoring and Evaluation System , THE WORLD BANK , Africa Region Knowledge and Learning and Operations Evaluation Department , page 162

⁽³⁾ Directorate-General for Economic and Financial Affairs , Impact of the current economic and financial crisis on potential , © European Communities, 2009 , page 38

⁽⁴⁾ Michael Lieder , Integrated evaluation of resource efficiency and cost effectiveness in production systems , Licentiate thesis , KTH Royal Institute of Technology School of Industrial Engineering and Management Department of Production Engineering , 2014 , page 83

⁽⁵⁾ Joel Rodriguez, Kelley Walters , The Importance of Training and Development in Employee Performance and Evaluation , Consulting, Statesville, North Carolina, USA , 2017 . page 209

ultimate objective after completing primary goals and intermediate goals) ⁽⁶⁾.

2- One of its key goals is to identify issues and work to solve them, and then to understand the institution's strengths and weaknesses in performance. Through this knowledge, the institution can then determine its future goals and strategies, which must be made with great clarity after the internal and external environments are analyzed. This process is called analysis (T.O.W.S) ⁽⁷⁾.

3-Through performance assessment, it is possible to assess the producing institution's degree of performance for the tasks assigned to it after comparing it to the tasks outlined in its production plan. ⁽⁸⁾.

4- Which identifies the effectiveness of the use of existing economic resources in a rational, rational, and optimal way in order to achieve the highest return, the lowest costs, and high quality. ⁽⁹⁾.

2. Guidelines for assessing the effectiveness of economic performance

In order to ensure the achievement of the objectives, it is important to take into account a number of principles when evaluating the economic performance of productive institutions. It is also important to compare proposals and investment opportunities in order to determine the best course of action in light of these considerations. The following is a summary of the key project evaluation principles. ⁽¹⁰⁾ :

A- Make an effort to avoid conflicts between the evaluation process' criteria and the institution's goals that we are reviewing. ⁽¹¹⁾.

⁽⁶⁾ Meeting of the OECD Council at Ministerial Level , The Productivity-Inclusiveness Nexus , Paris, 1-2 June 2016 , page 69

⁽⁷⁾ Uses of SWOT analysis , <https://www.business.qld.gov.au/starting-business/planning/market-customer-research/swot-analysis/uses>

⁽⁸⁾ Performance evaluation – Definition, method, survey questions and example, <https://www.questionpro.com/blog/performance-evaluation/>

⁽⁹⁾ Adrian Tan , Marion Sarteel , The underlying reasons for resource (in)efficiencies , January 2013 , page 7

⁽¹⁰⁾ Joseph Stiglitz, Amartya K. Sen, Jean-Paul Fitoussi , The measurement of economic performance and social progress revisited: Reflections and Overview , Columbia University , 2009 , page 8

⁽¹¹⁾ United Nations Development Program me , HANDBOOK ON PLANNING, MONITORING AND



B- Making sure there is no contradiction between the producing institution's evaluation criteria and the goals of other institutions that are complementary to it or that are related to it.

C- The planned producing institution should be highly compatible with the goals and specifications of the development plans. ⁽¹⁾ .

D- The availability of the necessary tools, equipment, and resources to complete the evaluation process in a precise and understandable manner. ⁽²⁾ .

3. Performance efficiency assessment phases

The theory of the consequences that the productive institution has on society, the environment, and the economy is the most crucial topic that is addressed, and it is the basis on which the process of evaluating projects or productive institutions is founded. Through some processes, goods and services are produced, but the existence of this producing institution and its processes, inputs, and outputs have an impact on society over the short, medium, and long terms. Because production institutions are practical practices, processes, and applied procedures but were initially built on theoretical underpinnings as well as on scientific laws and principles, it is important to assess how effectively they operate. The following illustrates these steps in brief. ⁽³⁾ :-

A - Preparing the institution's productive calendar plan (calendar design). The creation of the evaluation plan for the concerned institution, or what is known as the evaluation design, will be carried out with great ease as long as the evaluation and management of the productive institution work in harmony and balance, as the process concludes with the creation of a road map for the work team that implements the evaluation. ⁽⁴⁾ .

EVALUATING FOR DEVELOPMENT RESULTS , New York , USA , 2009 , page 129

⁽¹⁾ Peter Valentine, Series Editor , Evaluating Effectiveness A framework for assessing management effectiveness of protected areas , 2nd Edition , Switzerland , page 31

⁽²⁾ Dr. Margaret Chan , World Health Organization. WHO evaluation practice handbook , Switzerland , 2012 , page 50

⁽³⁾ Omid Haass , Gustavo Guzman , Understanding project evaluation – a review and reconceptualization , Australia , 2019, page 6

⁽⁴⁾ Cleone Baradas. GUIDELINES FOR PREPARING AND USING A DESIGN AND MONITORING FRAMEWORK , ASIAN DEVELOPMENT BANK , Manila , 2020, page 38

B- the phase of data collection and statistical analysis ⁽⁵⁾

In order to conduct a thorough and in-depth analysis of the productive institution and all of its many components and operations, all the data, information, and statistics are now gathered. The evaluation process is thorough and accurate whenever the data and information obtained are thorough and accurate, and the sources of this information are the balances of review and preliminary study of the institution in addition to the lists of production, sales, profits, costs and wages, and manpower lists. These data are taken for a specific time series known for the purpose of identifying the nature of the economic development of the institution. ⁽⁶⁾

C- The stage where data and statistical information are studied and analyzed . At this step, it is determined whether the implementation complied with the requirements or designs of the equipment unique to the production enterprise by studying and reviewing the technical features of the production enterprise. To determine the strength of the institution's financial situation and the availability of the necessary liquidity to meet its needs, treating it and technical analysis must be combined with financial and economic study of the institution. ⁽⁷⁾ .

D- The stage of the evaluation procedure
The evaluation process of the productive institution is carried out using the standards that are appropriate for the activity of the institution to be evaluated following the study of the available data and information, provided that this stage is thorough for all departments and centers of the productive institution with the aim of coming to a decision characterized by high accuracy. ⁽⁸⁾ .

4. Success variables for gauging economic performance effectiveness

There are fundamental requirements for the success of the performance evaluation process that would

⁽⁵⁾ Syed Muhammad Sajjad Kabir , METHODS OF DATA COLLECTION , Curtin University , 2016 , page 203

⁽⁶⁾ Dr. Munir Shaker Muhammad, Dr. Ismail Ismail, d. Abdel Nasser Nour, Financial Analysis, Introduction to Decision Making, Al-Tale'a Press, first edition, Amman, year 2000, page 25

⁽⁷⁾ Dr.. Hashem Alwan Al-Samarrai, Safwan Muhammad Al-Bakri, Economic and Financial Evaluation of the General Company for the Battery Industry for the period (1992-2002), Master Thesis, College of Administration and Economics, University of Baghdad, year 2004, page. 76.

⁽⁸⁾ Dietmar Mälzer , The Evaluation Process in 10 Steps – a Guideline , Berlin, Germany , 2017 , page 12



increase the degree of evaluation of the productive institution to a high level of accuracy and reliability and work to aid senior management or decision makers in making wise decisions to correct errors and deviations and to identify responsibilities to raise the outcomes of the productive institution to the level of ambition. We list these requirements below. ⁽¹⁾ :-

A- The organizational structure of the producing institution must be very clear and include a detailed list of each manager's duties and authority, while also making sure that these roles are distinct from one another. ⁽²⁾ .

B- In order for the production plan of the organization being evaluated to meet the criteria for being clear, realistic, and feasible, it must be thoroughly studied and discussed with all levels of the production organization. This will ensure that the goals are balanced and combine the administration's aspirations with what it already has. Among the options that can be put into practice ⁽³⁾ .

C- The productive institution must have personnel with experience in the performance evaluation process who are aware of their responsibilities, familiar with the nature of the activity carried out by the productive institution, and capable of applying the evaluation criteria and indicators with great accuracy. ⁽⁴⁾ .

D- The productive institution must have an efficient and integrated system of information and data required for the performance evaluation process, and its management must be able to easily and quickly access this information because it aids in the making of wise and prompt decisions to correct deviations and

errors in a timely manner to prevent the institution from suffering losses in the process. Productivity ⁽⁵⁾ .

RUBBER INDUSTRIES

1. What is rubber

Polymers that can revert to their previous shape after being stretched, tugged, or otherwise altered are collectively referred to as rubber. ⁽⁶⁾ . New in rubber marketing . According to research by the International Institute for Manufacturers and Producers of Synthetic Rubber, rubber is currently employed in several goods and products that can be regarded as necessary to ensure modern conveniences for people, such as tires, rubber pads, etc. It has been determined that rubber becomes brittle in cold temperatures and flexible in heat. Throughout history, there were numerous names for rubber. As rubber was referred to by an initial word by the Ecuadorean Indians, they called it "kik," which in ancient Mexico meant "blood." "As for the Indians of Central America and Mexico," the name hevea, Rubber was referred to as "castilloa," "funtumia Elastic," and "manihot glaziovii" by Brazilians and West Africans, respectively. Natural rubber was produced from specialized trees known as rubber trees. ⁽⁷⁾

2. Manufacture of natural rubber

The manufacturing process for natural rubber starts with the process of gathering from rubber trees and placing them in large tanks, which is the most common method. Next, latex is coagulated, which is a process that has been used since the nineteenth century in many products like tires, shoes, and waterproof fabrics. By adding acids like formic acid to this stock of latex, a process known as coagulation or thickening that turns the latex, also known as polyisoprene, into a mass, is carried out. This process lasts for about 12 hours. The water is then squeezed out of this mixture using a succession of rollers. where it is dried and made into thin, 1/8-inch-thick plates on shelves made of wood. In most cases, drying takes several days. Dark brown is the color of the rubber that is created, and occasionally hot air is employed. In

⁽¹⁾ Myrna Alexander , Performance Monitoring Indicators A handbook for task managers , O PERATIONS P OLICY D E P A R TMENT W ORLD B ANK , WASHINGTON ,1996 , page 21

⁽²⁾ Thomas G. Cummings , Christopher G. Worley , Organization Development & Change , University of Southern California , USA , 2008 , page 420

⁽³⁾) Dr. Majid Al-Karkhi, Performance Evaluation in Economic Units Using Financial Ratios 388 Standards to Evaluate Performance in Different Economic Units, Dar Al-Manhaj for Publishing and Distribution, Year 2014, page 42

⁽⁴⁾ Phil Rabinowitz , Marcelo Vilela , Achieving and Maintaining Quality Performance , <https://ctb.ku.edu/en/table-of-contents/maintain/maintain-quality-performance/overview/main>

⁽⁵⁾ National Treasury Department , Performance Information Handbook , SOUTH AFRICA , 2021 , page 26

⁽⁶⁾ Rubber – Definition, Types, Processing, Uses , <https://www.geeksforgeeks.org/rubber-definition-types-processing-uses/>

⁽⁷⁾ Philip J Watson, The History of Rubber Statistics , UK , page 1



this technique, high-quality rubber is created when drying rubber ⁽¹⁾ .

3. Synthetic rubber, its manufacture and types

A- Synthetic rubber:

This kind of rubber is a stable polymer that is mostly manufactured from petroleum by-products. And synthetic rubber is a material with mechanical or physical properties that make it highly flexible under pressure, and it can also return to its previous shape and size after the pressure factor is removed without any permanent change in its shape or size. Synthetic rubber is used in the production of cars, trucks, and other vehicles, as well as aircraft, as well as a variety of products and other useful goods ⁽²⁾ .

B- Method of manufacture:-

Numerous varieties of synthetic rubber have been created over time. The process of so-called polymerization of molecules results in synthetic rubber. Two processes are used to do this: the first is known as addition polymerization and needs joining many molecules together in long chains, while the second is known as condensation polymerization and only requires attaching a few molecules together. Some. These procedures use petroleum byproducts and are chemical procedures. ⁽³⁾ .

4. Rubber industries' significance

Due to its many practical applications, overlap with numerous consumer and production goods, and ease of formation and manufacture in accordance with the various and diversified needs of people, the manufacture of rubber goods and products is regarded as one of the significant and indispensable industries. Because of their necessity and adaptability in this day and age, rubber industry products are in high demand and are being produced in growing numbers, making them one of the necessities of life and present in every house and factory.

This sort of industry is significant since it produces a variety of goods and finds application across many different economic sectors. Additionally, this sector of

the economy indirectly supports the integration of many other industrial and commercial projects' production cycles, and these projects' products are as follows. ⁽⁴⁾ :-

- a- Tires on cars, trucks, airplanes, and other vehicles
- b Other car uses include gaskets, rubber tubes, pads, and hoses.
- c- The clothing industry, including wetsuits
- d- Rubber coatings and adhesives.
- e. Items used in the medical field, such as gloves and blood bags.
- f- additional diverse industries

Rubber Products Factory in Najaf, case study

One of the General Company for Rubber Products' factories, the rubber products plant has its main office in the Babel Tire Factory in Najaf. The factory for rubber goods was established in 1977, and it is situated in the heart of Najaf Al-Ashraf, a city in the industrial region of Aden. Since it took 16 months to construct and use the technological concession given to him by the English company (Franci Shaw), and because he was administratively connected to the Diwaniyah Tire Factory at the time due to the lack of the products factory in the department of preparing mixtures or kneads, the bicycles, due to the fact that he could only work on the two forming parts. And in order to meet market demands, the factory was developed in the 1980s. A contract was made for a unit for the production of thermal radiator hoses (Al-Joinat), and the technology and equipment for it were from the German company Avon. Vulcanization uses the dough from the Diwaniyah tire factory as semi-manufactured materials. Its annual hose capacity was expected to be 1.5 million. A contract for a unit to produce quiches with a cross-section and equipment was made during the same time frame. The production line and all of its equipment are from German Schultz, and the Danish Rubicon Company provided the technology. A comprehensive and specialized line was established in 1992 to produce plastic polyethylene pipes for use in water and power plants as well as plastic chips. All of the machinery and tools necessary for the manufacture of rubber items for various purposes were installed and put into operation in 1994. They were then removed in 1996. Because the factories are situated in the Al-Najaf Governorate, the administrative connection between the rubber products factory and the Diwaniyah tire production plant was also linked to the nearby Babel tire production factory, and since the Babylon tire

⁽¹⁾ Shinzo Kohjiya , Yuko Ikeda , Chemistry, Manufacture and Applications of Natural Rubber , London , 2014 , page 3

⁽²⁾ Rubber parts: Production Processes , <https://epidor-srt.com/en/blog/rubber-parts-production-processes/>

⁽³⁾ Siemens AG , Production of Synthetic Rubber , Process Gas Chromatograph MAXUM edition II controls and optimizes Butyl Rubber production , GERMANY , page 3 <https://docplayer.net/32286798-Production-of-synthetic-rubber.html>

⁽⁴⁾ Guanghai Material , <http://ar.gh-material-es.com/news/the-applications-of-natural-rubber-15050545.html>



factory began producing in 1994, processing semi-manufactured materials there due to its high production capacity and high level of modernity. Regarding the rubber goods manufacturing line, which is thought to be the newest line and was installed and put into use in the rubber products factory in 1994, it creates the items displayed below. ⁽¹⁾:

- A** - Various types of rubber braces
- B** - Closed rubber belts with dimensions of up to 80 cm in width, 50 meters in length, and up to 15 mm in thickness
- C** - Rubber car mats and mudguards
- D**- Diaphragms made of rubber
- E** - The extra rubber tools for controlling the machinery, tools, and trucks owned by public and private sector businesses.

1- One issue is the factory that makes rubber items.

The following are some of the detrimental factors that contributed to the factory's decreased output and lower profit margin:

- A** - Older manufacturing processes and significant maintenance costs
- B** - The technology is outdated and requires replacement.
- C** - There are a lot of laborers, which resulted in work insecurity and covert unemployment, which raised labor prices.
- D** - The laboratory must research the industry to learn about the newest and most well-liked rubber products available.
- E** - Primary raw materials: the usage of inferior raw materials that do not meet quality standards

2- Futuristic Vision Products Factory

And given the current rise in demand for rubber products, which must be met primarily through strategic changes and efforts to improve the company's image in order to advance the growth and development process, several crucial steps must be taken to boost the plant's efficiency, including the following:-

- A** - Market study: A thorough, scientific investigation to identify the key goods that the market consistently requires in the right amounts to support their production in the lab, while also taking into account their potential for future development and change as well as customer preferences.

B - Technological development of all production lines, tools, machinery, and molds to guarantee high production standards and technical requirements that can compete with imported goods on the market.

C - Increasing output while reducing waste and damage by utilizing ultra-modern equipment that guarantees continuous production.

D - Turning on the entire quality system in order to preserve product specs and quality while boosting customer confidence.

E - Work to educate and train staff members to improve their technical and managerial abilities.

F - Starting research and development in order to keep products in line with consumer preferences, satisfy all of his objectives, and work toward ongoing innovation while keeping costs as low as feasible.

3- Performance efficiency evaluation standard The rubber goods factory's manufacturing capacity from "2006 to 2014"

The designed production capacity, the maximum production capacity, the available energy, and the actual production capacity for all the products that the factory produces, which is what brings in money for it, are all explained in Table No.(1) below. ⁽²⁾

⁽¹⁾The source of the information is a meeting with Mr. Qasim Al-Mudhaffar, director of the rubber products factory, and reviewing the factory's documents

⁽²⁾ Source: Production Division in the Rubber Products Factory of the State Company for Rubber and Tire Industries in Najaf



Table No. (1) shows the production of rubber products from 2006 to 2014

The year	unit of / Product measure		Design production capacity	Max production capacity	Available production capacity	Planned production capacity	Actual production capacity	the growth
	Product Type	measuring unit	Quantity	Quantity	Quantity	Quantity	Quantity	%
2006	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	420,000	360,000	—
	hoses	Number	1,500,000	1,500,000	700,000	120,000	94,421	—
	rubber goods	Number	20,000	20,000	18,000	14,000	12,995	—
2007	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	450,000	435,000	25
	hoses	Number	1,500,000	1,500,000	700,000	50,000	23,482	(75)
	rubber goods	Number	20,000	20,000	18,000	15,000	14,571	12.4
2008	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	310,000	240,000	(44.8)
	hoses	Number	1,500,000	1,500,000	700,000	75,000	39,775	69.4
	rubber goods	Number	20,000	20,000	18,000	12,500	10,649	(26.9)
2009	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	220,000	145,500	(39.4)
	hoses	Number	1,500,000	1,500,000	700,000	30,000	8,133	(79.6)
	rubber goods	Number	20,000	20,000	18,000	7,000	3,599	(66.2)
2010	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	250,000	165,000	(13.4)
	hoses	Number	1,500,000	1,500,000	700,000	25,000	3,644	(55.2)



	rubber goods	Number	20,000	20,000	18,000	6,000	2,064	(42.7)
2011	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number			0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	280,000	201,000	21.8
	hoses	Number	1,500,000	1,500,000	700,000	10,000	2,521	(55.2)
	rubber goods	Number	20,000	20,000	18,000	5,000	2,695	30.6
2012	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	300,000	210,000	4.5
	hoses	Number	1,500,000	1,500,000	700,000	10,000	26	(99.0)
	rubber goods	Number	20,000	20,000	18,000	15,000	8,110	200.9
2013	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	350,000	246,000	17.1
	hoses	Number	1,500,000	1,500,000	700,000	10,000	0	(100.0)
	rubber goods	Number	20,000	20,000	18,000	8,000	3,051	(62.4)
2014	Bicycle tires and tubes	Number	10,000	10,000	0	0	0	0
	belt	Number	2,000,000	2,000,000	0	0	0	0
	pipe	M.L	1,620,000	1,620,000	900,000	325,000	273,000	11
	hoses	Number	1,500,000	1,500,000	700,000	10,000	555	—
	rubber goods	Number	20,000	20,000	18,000	3,000	1,266	(58.5)

We can see from the table that some production lines have stopped operating as a result of technical obsolescence and the wear and tear on machinery and equipment. Regarding the other production lines, we observe a decline in marketing equipment as well as a reduction in production capacity as a result of equipment and machine stoppages brought on by installation-related defects.

4- PRODUCTIVITY STANDARDS

A- **Productivity of raw materials** = "total production value"/"primary materials value"

B- **Labor productivity** = " total production " / " number of employees "

C- **The value of labor productivity (wage productivity)** = "total production quantity" / " and rewards workers value wages "

D- **Productivity of production inputs** = " total output value " / " production input value "

E- **Productivity of capital** = " total output value " / " money capital value "



The production efficiency of the factors of production, as shown in Table No. 1, can be calculated using the data and information currently available for the time period "2006-2014" about the value of production, the number of employees, the value of wages and salaries, the value of raw materials used in production, the value of capital, and the value of production requirements Table No. (2).

Table No. (2) "2006-2014" "partial productivity norms for rubber products factories" (Iraqi Dinar)

The year	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total production value	393,100,000	385,940,000	266,363,700	112,485,000	140,596,500	188,750,000	310,356,000	256,025,000	239,572,500
Value of production inputs	193,985,380	181,844,010	144,686,211	75,966,444	88,717,604	113,043,750	160,917,093	132,721,235	130,842,975
Number of Workers	622	594	564	502	438	412	394	336	290
Salaries	3,525,440,724	3,440,220,229	3,357,059,771	3,275,909,550	3,196,720,974	2,961,625,725	2,691,904,193	2,454,985,371	2,080,751,334
Raw Materials Value	67,344,500	66,664,300	55,304,552	40,686,075	43,356,668	47,931,250	59,483,820	54,322,375	52,759,388
Invested Capital	1,787,121,833	1,694,281,926	1,558,727,031	1,397,216,741	1,345,172,141	1,305,573,851	1,307,964,457	1,197,229,403	1,577,095,596
work productivity	631,994	649,731	472,276	224,074	320,997	458,131	787,706	761,979	826,112
Wage productivity	0.11	0.11	0.08	0.03	0.04	0.06	0.12	0.10	0.12
productivity raw materials	5.84	5.79	4.82	2.76	3.24	3.94	5.22	4.71	4.54
capital productivity	0.22	0.23	0.17	0.08	0.10	0.14	0.24	0.21	0.15
Productivity production inputs %	2.03	2.12	1.84	1.48	1.58	1.67	1.93	1.93	1.83

Table No. (2) also shows the following:

● **Productivity at work**

Despite the decline in employment, it is important to note that labor productivity fell between 2006 and

2009, reaching its lowest point of (224,074) dinars, as a result of the decline in the total value of production. It then started to rise, reaching its highest point of (826,112) dinars in 2014, as a result of the continued



decline in employment as well as the rise in the value of production..

• Payroll Productivity

Due to the high rate of salaries and wages following the implementation of the new compensation system, we observe that the value of wage productivity is poor .The sum then starts to increase, reaching its highest level in 2014, totaling 0.115 dinars, as a result of the continuous decline in the number of workers and the rise in the value of production..

• Raw material production productivity

Since the rate of raw material consumption is nearly constant, with the exception of significant equipment damage, we observe a decline in the productivity of raw materials, which fell to its lowest level in 2009 at 2.76 dinars. From there, it fluctuated up and down due to changes in the production value, reaching its highest level in 2006 at 5.84 dinars.

• Productivity of Capital

We see that capital productivity varies between high and low, reaching its peak percentage in 2012 by (0.24%) and its lowest percentage in 2009 by (0.08%). In addition, capital productivity as a whole is very low as a result of the plant's poor output during the study period.

• Production input productivity

Standards for the rubber goods factory's added value for the years "2006-2014" are listed in Table No. 3. (Iraqi Dinar)

The year	Production value	Value of production inputs	Gross added value	Depreciation	Net added value	Evolution %
2006	393,100,000	193,985,380	199,114,620	71,479,560	127,635,060	—
2007	385,940,000	181,844,010	204,095,990	71,479,560	132,616,430	2.5
2008	266,363,700	144,686,211	121,677,489	71,479,560	50,197,929	(40.4)
2009	112,485,000	75,966,444	36,518,557	71,479,560	34,961,004	(70.0)
2010	140,596,500	88,717,604	51,878,896	71,479,560	19,600,664	42.1
2011	188,750,000	113,043,750	75,706,250	71,479,560	4,226,690	45.9
2012	310,356,000	160,917,093	149,438,907	71,479,560	77,959,347	97.4
2013	256,025,000	132,721,235	123,303,765	71,479,560	51,824,205	(17.5)
2014	239,572,500	130,842,975	108,729,526	97,680,000	11,049,526	(11.8)

CONCLUSIONS AND DISCUSSION

A periodic and ongoing performance evaluation must be conducted for the project's continued success and the achievement of the goals set forth by its management in order to identify deviations and their root causes and develop solutions before these issues and deviations worsen and result in greater losses. The effects of the world markets are felt by the factory making rubber products from two angles.

There is a fluctuation in the value of the productivity of production inputs between rise and decline due to the fluctuation in the value of production, and its highest value was recorded in 2007 and was (2.12) Dinar. It is important to note that the productivity of production inputs starts to decline in the year 2006 and reaches its lowest value in 2009, which was equal to (1.48) Dinar.

5- Standards for value-added

Where there are multiple indicators used to determine added value, the following information and Table No. (3) should be used:

A- The following equation is used to get the total added value:

Total value added = (value of production) – (value of production inputs)

B- The overall value added :According to the equation below, it is calculated:

Net value added = (total value added) – (depreciation)

C- The growth of the total added value: According to the equation below, it is calculated:

Evolution of the value added (total) = " the current year of the total added value " / " previous year the total value added " X 100

The first side uses imported technology and is reliant on imported raw resources.

The second is that, while looking at the manufacturing statistics for the time period, Iraqi marketplaces are accessible to international markets (2006, 2014) We observe through the factory's production capabilities and Although the production lines' design capacities are set, we observe that both their planned and actual capacities are declining for a number of reasons, the



most significant of which are: 1- Poor market research and inaccurate demand forecasting
2- The absence of marketing channels nationwide to speed up the marketing process
3- Utilizing outdated technology that prevents the expansion of manufacturing or the creation of products of average quality
4- Recurrent production line issues brought on by outdated equipment
5- Power interruptions and a shortage of substitute energy sources
6- The two employees lacked both material and moral incentives to keep them motivated.

Due to the aforementioned factors, we observe a general deterioration in the standards and an inefficiency in the factory's performance (labor productivity, wage productivity, physical productivity, machinery and equipment production).

Regarding the financial standards and evaluation (financial profit, rate of return on invested capital and criteria of total and net added value), As salary costs are added to the total costs, there will be no financial profit but rather a loss because salaries are paid by the state, the rate of financial profit is low, and this is related to the standards of production capacity. We observe a significant decrease in their values over the study period (2006–2014).

Since there is a sizable market for rubber products and many industries, including those in agriculture, industry, health care, and other services, use rubber products, certain steps must be done to ensure the industry's success in the nation. These steps include

- 1- That an actual analysis of the market is conducted, and that the items are those that the market demands in big amounts and that are proven to be effective
- 2- Accurately and systematically forecasting demand
3. Locate the sources of high-quality and reasonably priced raw materials.
- 4- Choosing contemporary technology that is appropriate for the nation's circumstances
- 5- Putting personnel through training to boost their productivity
- 6- Strengthening staff rivalry with rewards and incentives
- 7- Opening numerous stores to advertise goods
- 8- Maintaining a close eye on how the product will progress technologically .

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