ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

# THE ROLE OF SUPPLIERS IN ACHIEVING MANUFACTURING FLEXIBILITY "AN ANALYTICAL STUDY IN THE GENERAL COMPANY FOR FOOD PRODUCTS"

1Khalid Masrij Mukhelif Almaksousi
khalid2m4561252@gmail.com
2Dr.Nagham Ali Jasim
nagam\_aja@uomustansiriyah.edu.iq
Al-Mustansiriya University / College of Administration and Economics Department of Business Administration

#### **Abstract**

The research aims to demonstrate the importance of suppliers in activating manufacturing flexibility, and thus the research problem emerged from the reality of the challenges facing the General Company for Food Products, which require careful selection of suppliers and building good relations with them, which ensures the progress of the production process in a coordinated manner devoid of interruptions, which in turn achieve success for the researched company. An intentional sample of (83) individuals was adopted from (the general manager and his assistants and directors of departments and divisions), and the research included tests for a number of main and sub-hypotheses about the availability of correlation and influence relationships between its variables. spearman, coefficient of determination R2, (Test-F), (Test-Z) and linear regression analysis.

The research reached a set of results, the most prominent of which was the presence of an effective influence role for suppliers in achieving manufacturing flexibility at the General Company for Food Products, and the suppliers' financial position recorded the highest impact in activating manufacturing flexibility among the components of the suppliers.

**Keywords:** supplier, manufacturing flexibility.performance, availability, accessibility,

#### Introduction

Organizations face the challenge of constantly changing the tastes of customers. Therefore, it was necessary for organizations to adopt manufacturing flexibility as one of the important strategic options for the organization, as there is no impact on the manufacturing process when there is a sudden change in the internal and external environment, and the adoption of the concept of manufacturing flexibility in business enterprises is And its compatibility with the supplier portfolio design, is one of the most prominent tools that can give business organizations sufficient flexibility in manufacturing processes and work to increase and implement them efficiently.In

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

order to possess what distinguishes the organization from the rest of the competitors in the same business market and to maintain this advantage and due to the limited studies that have focused on the role of suppliers in activating manufacturing flexibility, the researcher seeks to provide an integrated framework that works on describing and diagnosing research variables, as well as analyzing the relationship and influence on them and presenting. Some recommendations that contribute to improving the reality of work in the research community represented by the General Company for Food Products because of the many challenges and great responsibility it faces.

### **Research Methodology**

1- Research problem:

The General Company for Food Products lacks clear visions of the role of suppliers in activating manufacturing flexibility, and how to choose the appropriate suppliers and exploit their ability and potential in a way that achieves the organization the best performance of the production process that enables it to keep pace with developments in the production sector and face the continuous change in the quantity of supply and demand as well as the change in consumer tastes. And the shortness of the product life cycle, hence the problem of the study lies in recognizing the importance of suppliers and its sub-variables (technical capacity, price, quality, financial position, supplier management) in activating manufacturing flexibility in the General Company for Food Products.

From the foregoing, the following questions can be raised:

- 1.1- What is the nature of the relationship of the General Company for Food Products with suppliers?
- 1.2- What is the level of awareness of the researched organization of the importance of the supplier portfolio?
- 1.3- What is the extent of the influence of suppliers on the production process in the organization?
- 1.4- What is the impact of suppliers on the flexibility of manufacturing in the organization?

#### 2- Research objectives

- 2.1- Assessing the current reality of the food products company in the field of manufacturing flexibility by dealing with current suppliers and determining the amount of manufacturing flexibility enjoyed by the organization.
- 2.2- Assessment of the organization's current suppliers and the possibility of strengthening the relationship with suppliers in order to activate manufacturing flexibility.
- 2.3- Diagnose the basic dimensions of manufacturing flexibility that enhance the organization's ability to face change in the industry environment.

ISSN Online: 2771-8948

www.aiird.journalspark.org

Website: www.ajird.journalspark.org Volume 02, March, 2022

2.4- Studying the correlation and regression (impact) relationships between suppliers' portfolio and manufacturing flexibility.

#### 3- Importance of Research

The importance of the research lies in the following points:

- 3.1- It deals with renewable variables in the business management literature, which are represented by the independent variable supplier portfolio and the dependent variable manufacturing flexibility.
- 3.2- I combined the variables of the current study in one hypothetical model.
- 3.3- The importance of research lies in its field aspect, by providing the scientific bases on which the research organization under research can be based in determining the important variables in improving its performance.
- 3.4- Enable the organization to deal with cases of uncertainty by selecting suppliers who contribute to activating manufacturing flexibility in a way that helps the organization obtain an important competitive weapon.
- 3.5- Explanation of how manufacturing flexibility in choosing suppliers is affected in the company under study.
- 3.6- Develop mechanisms and courses of action that contribute to providing guidance to senior management in the field of selecting suitable suppliers in the future.
- 3.7- Addressing the classifications and dimensions of manufacturing flexibility in the Iraqi environment and determining the type of relationship between the supplier and the organization and its impact on activating manufacturing flexibility.
- 3.8- Presenting a research that includes ways to compare between suppliers, determine the dimensions of manufacturing flexibility, and determine its role in helping organizations obtain a competitive advantage.

# 4- The Hypothetical Scheme of the Research

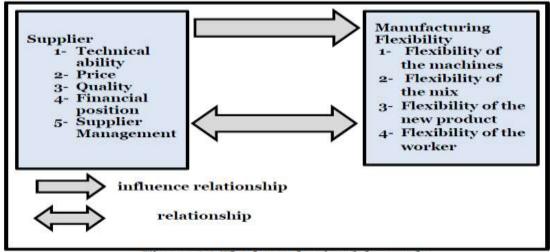


Figure (1) The hypothesis of the study

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org Volume 02, March, 2022

Figure (1) shows the research hypothesis. The process of building the research hypothesis included dividing its basic variables as follows: Figure (1) The hypothesis of the study

#### **5- Research Hypotheses**

The first main hypothesis: (there is a significant statistically significant correlation between supplier portfolio and manufacturing flexibility).

**The second main hypothesis:** (there is a significant and statistically significant effect of supplier portfolio on manufacturing flexibility).

#### Theoretical framework of the research:

# 1- The concept of suppliers:

It is an individual, group of individuals or an organization who have certain resources needed by the organization and who are usually from outside the organization and who provide the organization with the resources it needs (goods or services) to be used as inputs in the operational processes of the organization (Abu Hajar, 2015:9). The role of suppliers is to provide the necessary inputs for the transformational process, and the supplier can be an external party to the organization, such as the supplier who supplies the organization with its needs of various resources (Al-Najjar and Mohsen, 2012: 5).

Table (1) Some concepts of suppliers according to the opinions of some writers and researchers

Researcher And Year	AL-concept						
Winser and Tan,2000:23	"Any entity carrying out commercial business organizations in the industrial zone."						
Andersson and Norman,2002:3	A person or organization that provides goods and products to the consumer or another organization for the purpose of completing the production process.						
AL-Bakri, 2011: 74	A natural or legal person who supplies business organizations with raw materials, whether manufactured or semi-manufactured.						
AL-Abdali, 2012: 332	Suppliers are organizations and individuals specialized in providing the physical raw materials necessary to produce goods and services, and they are the important link in the supply chain and in the formation and distribution of consumer value for each organization.						
Al-Fadl and Muhammad, 2012: 155	The supplier is responsible for other suppliers as he purchases goods and supplies them to other parties, taking advantage of the price difference by owning the technical and practical experience of trading.						
AL-Ugaili,2019: 20	Supply represents the responsibility related to providing materials in the right quantity and quality, at the right time and price, from the right supplier and at the right place of receipt for the business organization.						

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org

Volume 02, March, 2022

# 2- Supplier Portfolio Dimensions

## 2.1- Technical capabilities:

It means whether the supplier has the technical ability to manufacture or supply the product according to the required specifications, and the supplier's ability and ability to meet the specifications specified by the buyer in the commodity. The supplier's possession of technical capabilities helps reduce the uncertainty associated with the work, and in some cases the supplier allows the organization to benefit from its technical capabilities, and thus saves the organization to invest in modern technical capabilities (Galbraith, 2014: 31).

#### 2.2- Price

Some organizations consider price as the main criterion, but organizations offering higher prices may provide higher reliability of supply, higher service levels, etc. A lower price often indicates poor quality of service or service. At the same time, the price is often negotiable. The price should take into account all the costs of purchasing a particular physical resource, such as transportation, administrative costs, risk of changes in exchange rates, customs duties, etc. One of the main considerations for selecting suppliers is affordability. If organizations focus on managing their money, a competitively priced supplier is an attractive option. However, the cheapest price does not always represent the best value for money. If there is doubt about the supplier's product quality or poor service, you may incur additional costs for returns and exchanges, and the risk of losing business with any delay in delivery. If you decide to pass on poor quality to customers, you risk ruining your business reputation (Kinnunen, 2019:8).

#### 2.3- Quality

It is possible to know the quality of the products and services provided by obtaining direct feedback on the basis of which improvement and development measures are taken to overcome and avoid weaknesses, because the customer's point of view is the main determinant of the extent to which the organization achieves competitive precedence, which depends on several factors, most notably excellence in performance and reliability. And conformity to the specifications and requirements of the customer or the service provided (Luthra et al., 2017: 8).

#### 2.4- Financial Position

It is important to conduct a financial assessment of suppliers at an early stage in the sourcing process. Concluding a contract with a financially unstable supplier may lead to problems such as supply interruption or lower product quality if the supplier must reduce costs in order to make a profit or stay competitive. Or worse, the supplier's business could fail. So to reduce risk it is necessary for organizations to assess the financial stability of suppliers. The collection of key supplier financial information

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

such as revenue, financial references, continuity plans, and third party assessments ensures that threats to the organization are minimized when partnering with a third party organization (Babich, 2010:586).

#### 2.5- Supplier Management

Supplier management is a systematic approach to assessing the vendors who supply goods, materials, and services to an organization, determining each supplier's contribution to success and developing strategies to improve their performance. The Supplier Relationship Management System helps determine what value each supplier offers and which is most important to business continuity and performance. It also enables managers to establish better relationships with suppliers based on the importance of each supplier.

Supplier Relationship Management is used by supply chain professionals who regularly interact with suppliers in areas such as procurement, project management, and operations. Supplier relationship management is sometimes known as supply chain relationship management, and it is one of the many areas of supply chain management. It is similar to managing vendors and purchases, but there are key differences. Vendor management generally focuses on setting costs and service level agreements between the organization and its vendors, while purchasing focuses on purchasing itself (ie ordering, contracting, invoicing and paying) (Park, et al, 2010:52).

#### 3- Concept of Manufacturing Elasticity:

The importance of manufacturing flexibility in the management of production and operations has increased as a result of the nature of the change that occurred in the business environment, which affected the form of competition, which depends heavily on the continuous improvement of the technical characteristics of products, which are in response to the various requirements of customers. Flexibility is the ability of the organization that allows it to respond or Willingness to adapt to changing conditions. Changing conditions here may be the speed of change in customer needs or fluctuations in the availability of raw materials (Beckman, 2008: 382-381). Flexibility is defined as the ability to respond to changes that may relate to a change in the design of product or service features, or a change that occurs in customer demand or in the product or service mix provided by the organization. High flexibility can be a strength for the organization in the changeable environment (Stevenson, 2012:43-42). Manufacturing flexibility is the ability to respond efficiently to changing conditions, so managers are required to examine the type of uncertainty they face in order to be able to determine the type of flexibility they can adopt to address this (Gerwin, 2005:1171-1172). Manufacturing flexibility can be defined here as the ability of industrial organizations to manage their resources in a way that enables them to resist environmental uncertainty and the ability to change product outputs (Judi & Beach, 2008: 340). Manufacturing flexibility is one of the

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

ways to improve the quality of performance and product quality or is the ability to develop and choose alternatives for a specific situation or the ability of the manufacturing system to develop and select alternatives to produce various products that meet market requirements (Nayak, at al., 2013:29).

4- Importance of Manufacturing Flexibility:

The importance of manufacturing flexibility in the management of production operations has increased recently due to the nature of the change that occurred in the business environment (change in demand and customer tastes), which affected the form of competition between organizations, which depend largely on the continuous improvement of the technical characteristics of products in response to the various requirements of customers, which Allow the organization to respond or prepare to adapt to changing conditions, the changing environment conditions here may be the speed of change in the needs and tastes of customers, the quantity of demand or the availability of raw materials (Beckman, 2008:383-384)).

5- Objectives and Benefits of Manufacturing Flexibility:

By increasing flexibility in manufacturing, the following objectives can be achieved:

- 5.1-Develop a comprehensive understanding of strategic planning, current operational plans and identify risks when implementing manufacturing operations.
- 5.2- Analyze the key issues or mechanisms critical to resilience performance and other issues related to improving resilience such as obstacles and capabilities.
- 5.3- Develop and select the decision-making framework and decision-making tool and the main factors to be considered in order to facilitate improved resilience. (Ngamsirijit, 2008:38-39)
- 5.4- Ease of converting parts and using programmed automation.
- 5.5- Reducing the setup time and queues, as the machines are ready for processing.
- 5.6-Reducing the inventory under manufacture to (70%), because the manufacturing processes are ready as soon as the previous piece is finished.
- 5.7- Allows a faster response to new products and changes in demand and the completion of necessary operations.
- 5.8- Reducing costs as a result of the speed in completing operations and improving the competitive position of the organization.
- 5.9- It aims to produce a variety of products, of medium sizes, at an appropriate speed, and with an appropriate quality (Nayak, at al, 2013:34).

The practical framework of the research:

1-The link between the supplier portfolio with its independent dimensions and the flexibility of manufacturing:

The researcher uses the (Z-TEST) test to test the correlation hypotheses between the supplier portfolio with its five independent dimensions (technical capacity, price, quality, financial position, supplier management) and manufacturing flexibility. The correlation hypothesis will be accepted if the probabilistic value (p-value) corresponding to the value The calculated Z is smaller or equal to the level of

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

significance used in the study of (0.05), and the calculated Z value will be greater than its tabular counterparts of (1.96), which documents the acceptance of the correlation hypothesis with a confidence rate of (95%), while the researcher uses Spearman's correlation coefficient between the variables to explain the strength of And the trend of correlation between the supplier portfolio with its five independent dimensions and manufacturing flexibility.

Table (3) Results of the first main hypothesis test

			Link	Tes	st Z	
independent variable		Dependent Variable	coefficient between variables	The value z calculated	Probability value	Interpretation
	Technical capacity	Flexible manufacturing	0.776**	7.027	0.00	Accept the first secondary hypothesis
Independent variable dimensions	price	Flexible manufacturing	0.745**	6.746	0.00	Accept second secondary hypothesis
	quality	Flexible manufacturing	0.809**	7.326	0.00	Accept the third secondary hypothesis
	Financial Center	Flexible manufacturing	0.850**	7.697	0.00	Accept the fourth secondary hypothesis
	Management suppliers	Flexible manufacturing	0.837**	7.579	0.00	Accept the fifth secondary hypothesis
Suppliers		Flexible manufacturing	0.887**	8.032	0.00	Accept the first major hypothesis

Source: Prepared by the researcher according to the results of hypothesis testing by means of SPSS V25

# 1.1- The relationship between technical capacity and manufacturing flexibility

Table (3) confirms the acceptance of the secondary hypothesis that (there is a significant statistically significant correlation between technical ability and manufacturing flexibility), which confirms the acceptance of the first hypothesis emanating from the first main hypothesis with a confidence rate of (95%), as the calculated Z value reached (7.027), which is Significant, while the value of the correlation coefficient between technical ability and manufacturing flexibility was recorded (0.776) to establish that there is a strong direct correlation between technical ability and manufacturing flexibility according to the opinions of the research sample.

#### 1.2- Relationship between price and manufacturing elasticity:

Table (3) verifies the acceptance of the secondary hypothesis that (there is a significant statistically significant correlation between price and manufacturing flexibility) confirming the acceptance of the hypothesis emanating from the first main hypothesis with a confidence rate of (95%), as the calculated Z value reached (6.746), which is significant, While the value of the correlation coefficient between the independent dimension of price and manufacturing elasticity was (0.745), which shows that there

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org Volume 02, March, 2022

is a strong direct correlation between price and manufacturing elasticity, according to the opinions of the research sample members.

#### 1.3- The relationship between quality and manufacturing flexibility:

Table (3) confirms the acceptance of the secondary hypothesis that (there is a significant statistically significant correlation between quality and manufacturing flexibility), confirming acceptance of the hypothesis with a confidence percentage of (95%), while the calculated Z value was (7.326), which is significant, while the value of the coefficient of The correlation between the independent dimension of quality and manufacturing flexibility (0.809), which suggests that there is a strong direct correlation between quality as a supplier dimension and manufacturing flexibility.

# 1.4-The relationship between financial position and manufacturing flexibility:

Table (3) documents the acceptance of the secondary hypothesis that (there is a significant statistically significant correlation between the financial position and the flexibility of manufacturing), which confirms the acceptance of the hypothesis emanating from the first main hypothesis with a confidence rate of (95%), as the calculated Z value reached (7.697), which is significant , while the value of the correlation coefficient between the independent dimension of the financial position and the flexibility of manufacturing was (0.850), which shows that there is a strong direct correlation between the financial position and the flexibility of manufacturing depending on the opinions of the members of the research sample.

#### 1.5-The relationship between management and manufacturing flexibility

Table (3) documents the acceptance of the secondary hypothesis that (there is a significant statistically significant correlation between management and manufacturing flexibility), which confirms the acceptance of the hypothesis emanating from the first main hypothesis with a confidence rate of (95%), as the calculated Z value reached (7.579), which is significant, While the value of the correlation coefficient between the independent dimension of management and the flexibility of manufacturing was (0.837\*\*), which shows that there is a strong direct correlation between management and the flexibility of manufacturing, depending on the opinions of the members of the research sample.

#### 1.6- Relationship between Suppliers and Manufacturing Flexibility

It is extracted from Table (3) the acceptance of the first main hypothesis that (there is a significant statistically significant correlation between the supplier portfolio and the flexibility of manufacturing) with a confidence percentage (95%), as the calculated value of Z reached (8.032), which is significant, while the value of the correlation coefficient between The two variables (0.887\*\*) establish that there is a strong direct

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

correlation between suppliers and manufacturing flexibility. Table (3) also achieves acceptance of all secondary hypotheses emanating from the first main hypothesis, as Table (3) and Figure (2) show that the financial position recorded the highest correlation coefficient. with the manufacturing elasticity of (0.850), while the price recorded the lowest value of the correlation coefficient with the manufacturing elasticity, at (0.745).

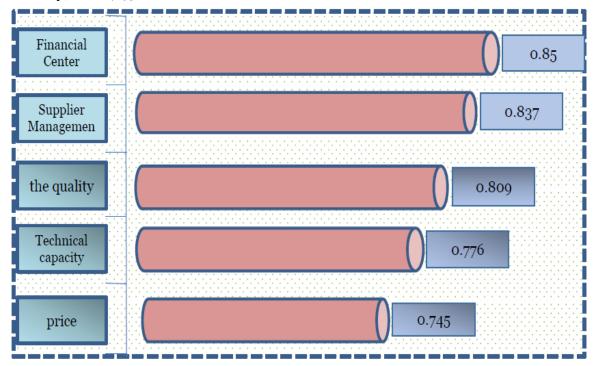


Figure (2) Distribution of supplier correlation coefficient with manufacturing elasticity

# 3.2- The impact of the supplier portfolio with its five independent dimensions on manufacturing flexibility

The researcher relies on the application of the (F-TEST) test to accept or reject the hypotheses of the impact of suppliers with its five independent dimensions (technical capacity, price, quality, financial position, supplier management) in manufacturing flexibility. The impact hypothesis will be accepted when the probability value corresponding to the calculated F value is smaller. From the level of significance (0.05), as well as the calculated F value is greater than its tabular counterparts of (4.0012) and thus accepting the hypothesis by (95%). Determination).

# 2.1- Effect of technical ability on manufacturing flexibility

Table (4) displays the acceptance of the first secondary hypothesis that (there is a significant effect with a statistical significance for technical ability in manufacturing flexibility) emanating from the second main hypothesis with a confidence percentage of (95%), as the calculated F value amounted to (122.75) which is significant, while the

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org Volume 02, March, 2022

value of the calculated F was The coefficient of determination (60.2%), which indicates the percentage of interpretation of the technical ability of the variable that expresses the flexibility of manufacturing.

#### 2.2- Effect of Price on Manufacturing Elasticity

Table (4) specifies the acceptance of the second secondary hypothesis that (there is a significant, statistically significant effect of price on manufacturing flexibility) emanating from the second main hypothesis with a confidence percentage of (95%), as the calculated F value reached (100.85) which is significant, and the value of the coefficient of determination reached (55.5%), which indicates the percentage of price interpretation of the variable that expresses manufacturing elasticity.

# 2.3- Effect of Quality on Manufacturing Flexibility

Table (4) documents the acceptance of the third secondary hypothesis that (there is a significant effect of statistical significance for quality in manufacturing flexibility) emanating from the second main hypothesis with a confidence percentage of (95%), as the calculated F value reached (153.21) which is significant, while the value of the coefficient reached Determination (65.4%) to show the percentage of quality interpretation of the variable that expresses manufacturing flexibility.

#### 2.4- The effect of the financial position on the flexibility of manufacturing

Table (4) specifies the acceptance of the fourth secondary hypothesis that (there is a significant effect of the financial position in the flexibility of manufacturing) emanating from the second main hypothesis with a confidence percentage of (95%), as the calculated F value reached (210.50), which is significant, and the value of the coefficient reached Determination (72.2%) to indicate the percentage of interpretation of the financial position of the variable that expresses manufacturing flexibility.

#### 2.5- Management's Effect on Manufacturing Elasticity

Table (4) specifies the acceptance of the fifth secondary hypothesis, which states that (there is a significant and statistically significant effect of management in manufacturing flexibility) emanating from the second main hypothesis with a confidence percentage of (95%), as the calculated F value reached (189.02) which is significant, and the value of the coefficient of determination reached (70%), indicating the percentage of supplier management's interpretation of the variable that expresses manufacturing flexibility.

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

Table (4) Results of the statistical analysis to test the second main hypothesis

	Dependent Variable	Factor identificat ion Rº %	Test F		
ndent variable			The value F calculate d	Probability value	Test results
Technical capacity	Flexible manufacturing	60.2%	122.75	0.00	Accept the first secondary hypothesis populated from the second major hypothesis
price	Flexible manufacturing	55.5%	100.85	0.00	Accept the second secondary hypothesis populated from the second major hypothesis
quality	Flexible manufacturing	65.4%	153.21	0.00	Accept the third secondary hypothesis manned from the second major hypothesis
Financial Center	Flexible manufacturing	72.2%	210.50	0,00	Accept the fourth secondary hypothesis pop- up from the second major hypothesis
Management suppliers	Flexible manufacturing	70%	189.02	0.00	Accept the fifth secondary hypothesis from the second major hypothesis
	Technical capacity  price  quality  Financial Center  Management	Technical Flexible manufacturing  price Flexible manufacturing  quality Flexible manufacturing  Financial Flexible manufacturing  Financial Flexible manufacturing  Management Flexible	Technical Flexible manufacturing 60.2%  Price Flexible manufacturing 55.5%  quality Flexible manufacturing 65.4%  Financial Flexible manufacturing 72.2%  Management Flexible manufacturing 72.2%	Dependent Variable  Dependent Variable  Factor identificat ion R <sup>2</sup> %  Technical Flexible manufacturing  Flexible manufacturing	Dependent Variable  Dependent Variable  Factor identificat ion R <sup>2</sup> %  The value Factor identificat ion R <sup>2</sup> %  Technical capacity  Flexible manufacturing  Flexible manufacturing

Source: Prepared by the researcher according to the results of SPSS V25

Figure (3) confirms that the financial position recorded the highest impact on manufacturing flexibility among all dimensions of suppliers, at (72.2%), followed by management with a determination factor of (70%), followed by quality with a determination factor of (65.4%), while the ability recorded Technical is the fourth impact ratio on manufacturing flexibility with a determination factor of (60.2%), while the price recorded the lowest impact ratio among all dimensions of suppliers on manufacturing flexibility, at (55.5%), as documented in Figure (3) as follows:

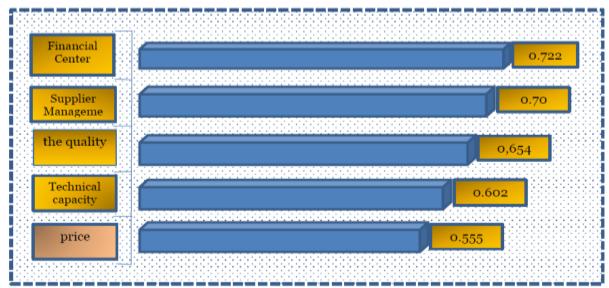


Figure (3) Descending order of the effect of supplier portfolio dimensions with manufacturing flexibility

3.2.6- The impact of the suppliers' combined dimensions on manufacturing flexibility:

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

Table (5) and Figure (4) document, and according to the results of the statistical analysis program (Amos), the acceptance of the second main hypothesis that (there is a significant and statistically significant effect of suppliers on manufacturing flexibility (confirming its acceptance with a confidence rate of (95%), based on From the application of the multiple linear regression analysis method to show the impact of suppliers (technical capacity, price, quality, financial position, supplier management) together on manufacturing flexibility, as the calculated F value reached (56,892) which is significant, because it is greater than the tabular F value of (2.3683). ) at the level of significance (0.05), especially that the probability value corresponding to the calculated F value was (0.00), which is below a significant level (0.05), and the value of the coefficient of determination was R2 (79%), which indicates the percentage of interpretation (effect) of the suppliers' dimensions combined for the variable The expression of manufacturing flexibility, documenting the presence of a clear influence of suppliers on the manufacturing flexibility of the General Company for Food Products, as indicated in Table (5) and Figure (4).

Table (5) Statistical analysis to test the effect of supplier dimensions combined on manufacturing flexibility

independent variable		Dependent Variable	Factor identifica tion R <sup>2</sup> %	Te	st F	
				The value F calculate d	Probabilit y value	Test results
Independent variable dimensions	Technical capacity price quality Financial Center Management suppliers	Flexible manufacturing	<b>79</b> %	56.89 2	0.00	There is a marked impact of suppliers from (technical capacity, price, quality, financial position and supplier management) groups in manufacturing elasticity
The selection factor is stated in the statement of interpretation of the independent variable R <sup>2</sup>						
Pandically at a moral level ( $0.05$ ) = $2.3683$ Values F						

Source: Prepared by the researcher according to the results of SPSS V25

Thus, we obtain a multiple linear regression model that expresses the linear influence relationship between suppliers (technical capacity (X1), price (X2), quality (X3), financial position (X4), supplier management (X5) combined in manufacturing flexibility, which symbolizes It has a (y) as follows:

$$Y = 0.772 + 0.01 X_1 - 0.05 X_2 + 0.30 X_3 + 0.45 X_4 + 0.23 X_5$$

ISSN Online: 2771-8948 Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

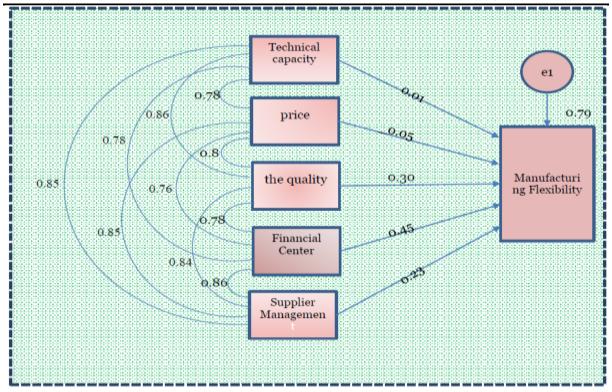


Figure (4) The influence relationship of suppliers on manufacturing flexibility according to the results of the statistical program AMOS 25th edition

#### **Conclusions and Recommendations**

#### 1- Conclusions:

- 1.1- Suppliers work to develop and modify materials based on the specifications required by the General Company for Food Products, and suppliers contribute to reducing costs through their ability to activate the process of reducing costs and timely delivery.
- 1.2- Suppliers compete with other suppliers on the basis of advertising and the quality of the product provided to the General Company for Food Products, with commitment to prices through the flexibility of responding to changes in market prices.
- 1.3- The quality of raw materials and products contributes to the evaluation and selection of the supplier, especially as it is the decisive factor for maximizing value and enhancing long-term relationships between the company and the supplier, and the company's possession of a competitive advantage by owning suitable and high quality suppliers.
- 1.4- The supplier's financial position clearly affects the supplier's investment decisions and plays a major role in the production cycle and reflects the supplier's sound financial performance, ensuring the continuity of providing and improving the service provided to the General Company for Food Products.
- 1.5- The supplier management is very interested in developing the relationship with the General Company for Food Products, while relying on the just-in-time delivery

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

system that helps to eliminate wastage of time through the effective management of the supplier in delivering value to the company.

- 1.6- The machines in the General Company for Food Products move from one operation to another without the need for a large amount of time for preparation and preparation, with the ability to work for long and continuous hours and carry out a large number of different operations.
- 1.7- The General Company for Food Products has the ability to provide different types of products without affecting the volume of production and not incurring additional transportation costs or affecting the overall performance. The company deals with multiple sources to supply the primary resources with good efficiency.
- 1.8- The General Company for Food Products offers new products in light of maintaining the quality of the current products, and the company seeks to provide new products and designs while maintaining the average single cost and uses the current production lines to manufacture new products by teaching workers to manufacture parts and new products.
- 1.9- It is noted that there is a significant correlation between the supplier portfolio and manufacturing flexibility, which means that the more the General Company for Food Products can use and employ the supplier portfolio and the more this leads to enhancing manufacturing flexibility.
- 1.10- There is a significant impact of the supplier portfolio on manufacturing flexibility, which means that whenever the General Company for Food Products is able to employ and activate the supplier portfolio in its work, this is reflected in the enhancement of manufacturing flexibility to it by the extent of its employment to select suppliers.

#### 2- Recommendations

- 2.1- The researcher recommends increasing the attention of the General Company for Food Products to suppliers because of their important role in the process of supplying the company with the raw materials necessary for the production process.
- 2.2- Increase interest in the scientific and practical aspects of suppliers and not focus only on the degree of technical and technological progress.
- 2.3- The necessity of taking into account the price imposed by the general company for food products imposed by the supplier and not limiting the choice to the geographical location near it and neglecting the rest of the important matters.
- 2.4- The necessity of emphasizing by the General Company for Food Products on the flexibility of manufacturing because it has a vital and important role in the production process and what it can give it the ability to face the dynamic environment and continuous changes, and in particular that the company deals with various products exposed to great fluctuations in the tastes of customers and can He did this by spreading the concept of manufacturing flexibility and notifying employees of its

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

importance in enhancing the company's competitive capabilities by holding training courses and workshops on manufacturing flexibility.

- 2.5- The necessity of enhancing the flexibility of machines in the General Company for Food Products and its factories by owning modern, advanced and multi-use machines and designing advanced maintenance software to avoid stopping and malfunctions that occur to the machines, which can cause sudden stops, and in a manner that maintains the continuity and performance of the machines.
- 2.6- The General Company for Food Products, through the Ministry of Industry and Minerals, should approach the competent authorities for the purpose of contracting and benefiting from investment companies in the food products sector to contribute to the development of the company through the conduct of partnership contracts, for the purpose of developing the company's good characteristics of skilled manpower, production machines and sites Its factories are located in most governorates of Iraq, as well as the company's reputation and long history.
- 2.7- Increasing the ability of suppliers to reduce costs by providing raw materials in the required quantities and at the right time that helps the company in two directions, the first is to reduce inventory and the second is to ensure that the production process does not stop.
- 2.8- Strengthening the role of quality in the evaluation and selection of suppliers, especially as it is the decisive factor for maximizing value and strengthening long-term relationships between the factory and the supplier.
- 2.9- Enhancing the role of the supplier's financial position in its investment decisions and thus having a clear impactful role in the production cycle.
- 2.10- Increase the company's supplier management's interest in strengthening and developing the relationship with suppliers.

#### **Sources**

- 1. Abu Hajar, Youssef Abdel-Razzaq Khalil, (2015) "Building a proposed model for selecting suppliers in achieving competitive priorities using the multiple criteria entrance", a published doctoral thesis submitted to the International University of Islamic Sciences, College of Graduate Studies, Department of Management, Amman, Jordan.
- 2. Al-Bakri, Thamer Yasser, (2011) "Marketing Management", Fourth Edition, Ithra for Publishing and Distribution, Amman Jordan.
- 3. Al-Abdali, Obaid bin Saad, (2013) "Marketing Dictionary" King Fahd National Library during publication, Saudi Arabia Riyadh.
- 4. Al-Akaili, Hala Waseem, (2019) "The relationship between supplier evaluation and the family brand strategy" A case study in the battery factory / Al-Waziriya, an unpublished master's thesis submitted to the Council of the College of Administration and Economics Al-Mustansiriya University.

ISSN Online: 2771-8948

Website: www.ajird.journalspark.org

**Volume 02, March, 2022** 

5. Al-Fadl and Muhammad, Muayyad, Hakim Mohsen, (2012) "Management of Materials and Purchases - A Quantitative Approach", first edition, Zahran Publishing and Distribution House, Jordan, Amman.

- 6. Al-Najjar, Sabah Majeed, Mohsen, Abdul Karim, (2012) "Production and Operations Management" Fourth Edition, Memory for Publishing and Distribution, Iraq Baghdad.
- 7. Andersson and Norman, A.M., R.E., (2002) Procurement of logistics services-a minute's work or a multi-year project, European Journal of Purchasing and Supply Management, Vol. (8), No. (2), pp.3-14.
- 8. Babich, V. (2010). Independence of capacity ordering and financial subsidies to risky suppliers. Manufacturing & Service Operations Management, 12(4), 583-607.
- 9. Beckman, S.L, (2008), "Operations Strategy: Competing in the 21st century", Mc Graw Hill/Irwin, Inc.
- 10. Galbraith, J. R. (2014). Matrix organization designs How to combine functional and project forms. Business horizons, 14(1), 29-40.
- 11. Gerwin, D. (2005). An agenda for research on the flexibility of manufacturing processes. International Journal of Operations & Production Management, 25(12):1171-1182.
- 12. Kinnunen, R. (2019). "Supplier evaluation by portfolio model": Master's thesis Case company: A pharmaceutical distributor, Lappeenranta University of Technology, LUT School of Business and Management, Master's degree Programme in Supply Management.
- 13. Luthra, S., Goninan, K., Kannan, D., Mangla, S. K., & Garg, C. P. (2017). An integrated framework for sustainable supplier selection and evaluation in supply chains. Journal of Cleaner Production, 140, 1686-1698.
- 14. Nayak, N. C., & Ray, P. K. (2013). An improved methodology for flexibility design in production system of manufacturing firms. International Journal of Materials, Methods and Technologies, 1, 167-188.
- 15. Ngamsirijit, W. (2008). "Manufacturing flexibility improvement: case studies and survey of Thai automotive industry" Thesis submitted to the University of Nottingham for the degree of Doctor of Philosophy.
- 16. Park, J., Shin, K., Chang, T. W., & Park, J. (2010). An integrative framework for supplier relationship management. Industrial Management & Data Systems, Vol. 110 No. 4, 2010 pp. 495-515.
- 17. Stevenson, W. J. (2012), "Operations Management: Theory and Practice", 11th ed, McGraw-Hill, Irwin, New York.
- 18. Winser and Tan, J.D., E.S., (2000) "Supply chain management and its impact on Purchasing", Journal of Supply chain management, Vol. (2) No. (3) pp.23-35.