


**THE TRADE-OFF BETWEEN MAKE OR BUY STRATEGY AND THEIR RELATIONSHIP WITH FIRM PERFORMANCE**

**Suzan Abbas Abdullah<sup>A</sup>, Mohanad Kadhim Mejbel<sup>B</sup>**



ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 31 January 2023</p> <p><b>Accepted</b> 28 April 2023</p>	<p><b>Purpose:</b> The question of whether to make or acquire something is a crucial conundrum that many companies must solve. A crucial step in the operation of a business is determining whether it is more cost effective to develop and manufacture components or services in-house or to purchase them from outside vendors. In order to provide managers in the General Company for Electrical and Electronic industries (GCEEI) in Iraq with assistance in evaluating sourcing choices, the purpose of this study is to address this subject by bringing the conventional make-or-buy literature up to date by adding fresh academic insights.</p>
<p><b>Keywords:</b></p> <p>Make or Buy; Insourcing; Outsourcing; Firm Performance.</p> <div data-bbox="172 987 480 1234" style="text-align: center;">  </div>	<p><b>Theoretical framework:</b> the most prominent ideas and methods for deciding whether to produce something oneself or purchase it are explored, along with a literature analysis of relevant material. The phrases "make-or-buy" and "insourcing" and "outsourcing" were used to search for relevant articles in scholarly databases.</p> <p><b>Design/methodology/approach:</b> We analyzed the data for the year (2022) that is collected through visits and meetings with the Managers, in the (GCEEI) by using two approaches: a. economic analysis and b. break-even analysis to help managers evaluate sourcing decisions.</p> <p><b>Findings:</b> According break-even analysis for this case, the quantity should be manufactured is more than 4000 Unit so that the manufacturing costs are more than the purchase costs, then the company should go for buy if less than 4000 Unit. According to the results of the economic analysis, the manufacturing decision is the best in the three models because manufacturing costs are lower than purchasing cost.</p> <p><b>Research, Practical &amp; Social implications:</b> The findings recommend forming interdisciplinary teams consisting of professionals from many fields (buyers, R&amp;D staff, quality representatives, etc.) to prevent making make-or-buy judgments under circumstances of faulty and inadequate data.</p> <p><b>Originality/value:</b> Both professional and unskilled workers contribute to the company's success, and when decision-making and procurement become routine, a company's long-tenured employees may ease the burden of these recurring tasks.</p> <p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i5.1572">https://doi.org/10.26668/businessreview/2023.v8i5.1572</a></p>

**O TRADE-OFF ENTRE A ESTRATÉGIA DE FAZER OU COMPRAR E SUA RELAÇÃO COM O DESEMPENHO DA EMPRESA**

**Objetivo:** A questão de fazer ou adquirir algo é um dilema crucial que muitas empresas precisam resolver. Uma etapa crucial na operação de uma empresa é determinar se é mais econômico desenvolver e fabricar componentes ou serviços internamente ou comprá-los de fornecedores externos. Para ajudar os gerentes da General Company

<sup>A</sup> Middle Technical University, Technical Engineering College-Baghdad, 10001 Baghdad, Iraq.

E-mail: [suzan.abbas@mtu.edu.iq](mailto:suzan.abbas@mtu.edu.iq) Orcid: <https://orcid.org/0000-0002-9661-4802>

<sup>B</sup> Middle Technical University, Technical Engineering College-Baghdad, 10001, Baghdad, Iraq.

E-mail: [mohanad@mtu.edu.iq](mailto:mohanad@mtu.edu.iq) Orcid: <https://orcid.org/0000-0001-5108-5460>



for Electrical and Electronic Industries (GCEEI) no Iraque a avaliar as opções de fornecimento, o objetivo deste estudo é abordar esse assunto atualizando a literatura convencional sobre fazer ou comprar, acrescentando novas percepções acadêmicas.

**Estrutura teórica:** são exploradas as ideias e os métodos mais proeminentes para decidir se algo deve ser produzido por nós mesmos ou comprado, juntamente com uma análise da literatura do material relevante. As frases "make-or-buy", "insourcing" e "outsourcing" foram usadas para pesquisar artigos relevantes em bancos de dados acadêmicos.

**Projeto/metodologia/abordagem:** Analisamos os dados do ano (2022) coletados por meio de visitas e reuniões com os gerentes do GCEEI usando duas abordagens: a. análise econômica e b. análise de ponto de equilíbrio para ajudar os gerentes a avaliar as decisões de sourcing.

**Conclusões:** De acordo com a análise de ponto de equilíbrio para esse caso, a quantidade que deve ser fabricada é superior a 4.000 unidades, de modo que os custos de fabricação sejam superiores aos custos de compra, então a empresa deve optar pela compra se for inferior a 4.000 unidades. De acordo com os resultados da análise econômica, a decisão de fabricação é a melhor nos três modelos porque os custos de fabricação são menores do que os custos de compra.

**Implicações sociais, práticas e de pesquisa:** As descobertas recomendam a formação de equipes interdisciplinares compostas por profissionais de diversas áreas (compradores, equipe de P&D, representantes de qualidade etc.) para evitar julgamentos do tipo "fazer ou comprar" em circunstâncias de dados falhos e inadequados.

**Originalidade/valor:** Tanto os trabalhadores profissionais quanto os não qualificados contribuem para o sucesso da empresa e, quando a tomada de decisões e as aquisições se tornam rotineiras, os funcionários de longa data de uma empresa podem aliviar a carga dessas tarefas recorrentes.

**Palavras-chave:** Fazer ou Comprar, Insourcing, Terceirização, Desempenho da Empresa.

## LA DISYUNTIVA ENTRE LA ESTRATEGIA DE FABRICAR O COMPRAR Y SU RELACIÓN CON LOS RESULTADOS DE LA EMPRESA

**Objetivo:** La cuestión de si fabricar o adquirir algo es un enigma crucial que muchas empresas deben resolver. Un paso crucial en el funcionamiento de una empresa es determinar si es más rentable desarrollar y fabricar componentes o servicios internamente o comprarlos a proveedores externos. Con el fin de ayudar a los directivos de la General Company for Electrical and Electronic industries (GCEEI) de Irak a evaluar las opciones de aprovisionamiento, el objetivo de este estudio es abordar este tema actualizando la bibliografía convencional sobre "fabricar o comprar" y añadiendo nuevas perspectivas académicas.

**Marco teórico:** se estudian las ideas y métodos más destacados para decidir si producir algo uno mismo o comprarlo, junto con un análisis bibliográfico del material pertinente. Las frases "make-or-buy" e "insourcing" y "outsourcing" se utilizaron para buscar artículos relevantes en bases de datos académicas.

**Diseño/metodología/enfoque:** Analizamos los datos para el año (2022) que se recogen a través de visitas y reuniones con los Gerentes, en el (GCEEI) mediante el uso de dos enfoques: a. análisis económico y b. análisis del punto de equilibrio para ayudar a los gerentes a evaluar las decisiones de abastecimiento.

**Resultados:** Según el análisis del umbral de rentabilidad para este caso, la cantidad que se debe fabricar es superior a 4.000 unidades para que los costes de fabricación sean superiores a los costes de compra, entonces la empresa debe optar por la compra si es inferior a 4.000 unidades. Según los resultados del análisis económico, la decisión de fabricación es la mejor de los tres modelos porque los costes de fabricación son inferiores a los de compra.

**Investigación, implicaciones prácticas y sociales:** Los resultados recomiendan formar equipos interdisciplinares compuestos por profesionales de muchos campos (compradores, personal de I+D, representantes de calidad, etc.) para evitar tomar decisiones de "hacer o comprar" en circunstancias de datos defectuosos e inadecuados.

**Originalidad/valor:** Tanto los trabajadores profesionales como los no cualificados contribuyen al éxito de la empresa, y cuando la toma de decisiones y las compras se convierten en rutinarias, los empleados de larga trayectoria de una empresa pueden aliviar la carga de estas tareas recurrentes.

**Palabras clave:** Make or Buy, Insourcing, Outsourcing, Rendimiento de la Empresa.

## INTRODUCTION

Businesses are frequently faced with the decision of whether to produce a product or service that they make themselves or buy from another business. There can be different reasons that a company is thinking of buying instead of making, such as a shortage of production capacity in their factory or because the people at the company believe that it is cheaper to subcontract a product or service instead of making it. Businesses can choose to buy a small part of a product or buy the whole product from outside their organization. (Atrill & McLaney, 2012, p. 85) The decision whether to acquire services or goods from outside suppliers instead of producing them within an organization is called an outsourcing or make-or-buy decision (Drury, 2018, p. 207).

The corporation should weigh the benefits and drawbacks of in-house production vs contracting work out before making this choice since it is both difficult and costly (Coyle, 2017). The primary motivation for either outsourcing or insourcing is to save costs. (Mols, 2019).

Furthermore, there are a variety of considerations that make manufacturing choices that include in-house resources preferable. Reasons include quality, design, lead times, warehousing costs, transportation, politics, the environment, and society. The suppliers, the suppliers' knowledge, the cheap prices they provide, the suppliers' brands, the firms they serve, the suppliers' inventories, and the suppliers' procurement practices are all variables that tip the scales in favor of outsourcing. (Monika A, Anand K 2022).

Both insourcing and outsourcing might result in a variety of costs being incurred on the business. In-house manufacturing enterprises have a variety of expenditures, including labour expenses, operating expenses, administrative expenses, buying expenses, capital charges, and expenses of material, etc; (Tallman and Mudambi, 2010). The expenditures associated with outsourcing are broken down into three categories: management, go-down, and transportation. The criterion for creating may result in a cheaper end product, but the product quality control, adaptability, and speed of reaction are the aspects that determine whether or not a big investment is necessary.

One of the most difficult decisions that businesses must make is whether or not to manufacture or acquire their products. Therefore, in order to make a choice that strikes a balance between the organization's short-term and long-term goals, one has to have a vast amount of information to analyze the many kinds of trade-offs, to identify all of the resources that are accessible, and to come to a conclusion. In addition, since organizational norms and the

conditions of the market continue to change, it is possible that this decision may need to be made in an entirely different way in the not-too-distant future (Mahnoor. 2022).

Decision-makers and managers seeking information on which variables may impact a company's choice to purchase a product or service rather than produce it internally, and how relevant aspects should be analysed, so that the proper decision can be made to prevent future difficulties and excessive expenses. While many businesses rely on gut feelings when deciding whether to manufacture or outsource, many other choices are made in a piecemeal fashion. (McIvor, 2013), Due of resource constraints, it is unrealistic to expect companies to have their own engineering and production departments.

Because of their potential impact on the company's success, Make-or-buy choices and their repercussions received more scrutiny. As a result, a verified real-world case study necessitated an up-to-date, effective, practice-oriented, and comprehensive firm to handle make-or-buy choices in research and development or production. This research differs from the majority of its earlier works because it takes into account both financial and strategic considerations when determining whether to manufacture or purchase.

The make-or-buy dilemma faced by General Company for Electrical and Electronic in Iraq is the subject of this research, which summarizes its findings. Experts and business leaders were consulted on this topic in order to have a deeper comprehension of the make-or-buy approach that was implemented by the company. As a result of these discussions, one might draw the conclusion that, up to the 1990s, businesses performed a significant amount of their manufacturing in-house. During the course of the previous decade, there was a significant shift in the business climate. To be more explicit, the businesses hand over a significant portion of their operations to third-party contractors.

A study of the organizational players in the make-or-buy decision-making process in Iraqi businesses would be helpful to enlighten the close relationship between outsourcing and the make-or-buy dilemma.

### **Literature review**

There is a wide variety of research accessible in the topic of the decide-to-make-or-buy choice, all of which has produced contradictory findings. The majority of the studies employ a model for the purpose of determining whether or not their decision is appropriate and whether or not it is cost effective. Our study started with the methodical detection in the area of buy-or-make decisions of well-known academic journals, which are also referred in the literature to as

outsourcing or insourcing decisions. In academic databases, a search was conducted using the keywords "make-or-buy" and "insourcing or outsourcing." This part went through the comprehensive literature review that was done.

Welch & Nayak (1992), emphasised the significance of deciding whether to manufacture a product in-house or acquire one from a supplier, since bought inputs accounted for around 53% of sales income at all U.S. manufacturing facilities. Veugelers and Cassiman (1999) explored the innovative features that are included into the business strategies of manufacturing companies and investigated the connection between the innovative features that are ingrained and the industry or company. The manufacturing division of a Belgian corporation served as the research subject. McIvor (2000) thinks that in order for outsourcing to be successful, it must be included into the broader strategy of the organization. Quelin and Duhamel (2003, p. 647) spoke about how the savings on supplier monitoring costs need to be weighed against the operational costs of outsourcing. The effective criteria for strategic decision-making have also been examined. Gonzales-Benito (2007) thinks that it is crucial for the buying department and the company strategy to be linked with one another.

However, a significant number of companies, historically speaking, have been poor at considering strategic and technical challenges in the context of the make or purchase choice. Instead, their primary emphasis has been on the costs involved (Welch & Nayak, 1992). According to Wisner (2012), There are a number of benefits to bringing or keeping manufacturing in-house (make) for businesses. 1) It is in a company's best interest to safeguard its intellectual property if they have created a product, method, or technology that sets them apart from the competition. 2) If the company cannot find a supplier that is capable of producing the product in accordance with the specifications provided, then they may have to develop the technology themselves. 3) if a company has the know-how and resources to create on its own, it has more say in the product's design, manufacturing process, labour, and other inputs, which should lead to a higher quality end result. 4) a corporation may boost capacity utilization in the near term by producing items in-house. 5) Manufacturing the product in-house also allows for greater control of logistical factors like lead times and prices. 6) Cost savings: If making the product in-house is within the company's expertise, it may be more cost-effective to do so than to outsource it. This is because, although fixed costs may be higher, variable costs may be substantially lower.

Danese (2013) proposed an effective outsourcing approach, in which a textile producer outsourced both to worldwide and local markets to save costs and increase capacity flexibly.

Bianchi et al (2014) have shown that objective functions include outsourcing risk, penalty cost, and operational cost. Mensen and Atan (2014) completed the research which included the distribution of agreements with various establishments that were suited for them, the amount of each contract, and reservation capacity allocation discretionary power between national service providers. The research was predicated on the multi-objective issue that was presented in this study was resolved via the use of three distinct forms of goal programming.

When a company decides to outsource a task, it could be because of a number of factors, such as a deficiency in-house or a desire to save time and money by not devoting resources to it, or because the task is outside the company's core competencies or because of a period of rapid change in the business. These factors may be broken down into the following five categories: human, resource management, managerial, technological, and financial (Waters & Rinsler, 2015) (Abdullah et al., 2023).

Sako et al., (2016), investigated the Fortune of 500 firms and discovered that businesses with a large number of less reliable and competent suppliers were more likely to manufacture their own goods in-house. Also, businesses who had a large number of stable suppliers and a high concentration of those suppliers tended to focus more on internal sourcing in order to better their risk management and cope with the imbalance of power that comes with being reliant on suppliers. In a similar vein, Manda et al. (2018, p. 2) Use phrases such as "faster path" and "less costly and simpler way" when referring to outsourcing. However, there is still a relatively little body of published research that analyses whether people should manufacture or acquire things.

Meyer et al. (2021) noted that there is a gap between research and practice in the area of citation from the standpoint of industrial producers. (Hedenstierna et al. 2019) provide evidence of the financial advantages of a unique form of partial outsourcing that works in both directions. Their findings suggest that the features' general-purpose nature (i.e., no product-dependent setup and tooling) makes them well-suited for flexible outsourcing and makes it easier to dynamically trade production capacity between subcontractors and alternating contractors.

One of the drawbacks of the "make and buy" approach is the need to pay for both the management of internal manufacturing processes and the transaction expenses associated with buying from external vendors. Therefore, the corporation must weigh the benefits of the 'make and buy' approach against the costs in order to adopt it.

The make-or-buy strategy may be shaped with the aid of the methods discussed above, but it seems that none of these methods are intended to deal with particular make-or-buy choices by



weighing competing considerations. This indicates that the lack of a practical and organised method that helps in trading off key elements when addressing particular make or purchase choices is the biggest gap in the research.

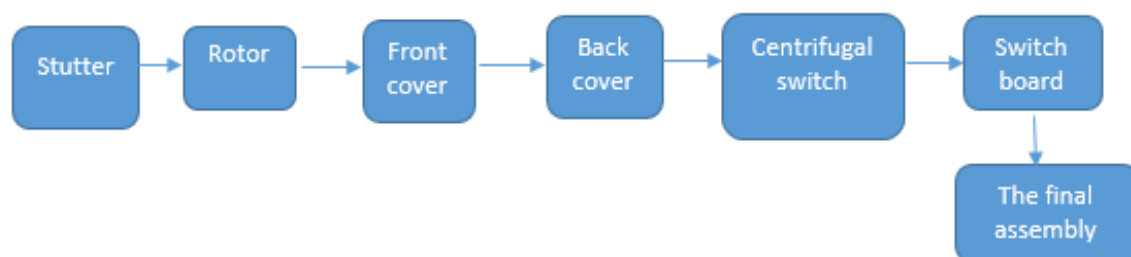
### Case Study

Iraq is home to the bulk of its country's manufacturing sector, the majority of which has decided to outsource its operations. The number of businesses that can complete every stage of the manufacturing process is rather low. As a result, the major objective of this study is to assist managers in evaluating sourcing choices and researching the Making process in the Iraqi business.

Therefore, we decided to gather data from the decision-maker in the Electrical and Electronic business since it is one of the major manufacturing firms in Iraq. The decision-maker was chosen because they had information about the decisions that were made as well as the outcomes. Noting that the costs are estimated in Iraqi dinars (IQD) in this research, the air cooler motor was selected to compare the costs whether it was obtained from external sources or if it was built within the firm. It is important to note that the costs are being compared in this study.

where all of the information required for its production was compiled, both in terms of the phases of production and the technical route, which is broken down into seven key stages and shown below in the table:

Table 1. Stages and technological path.



### METHODOLOGY

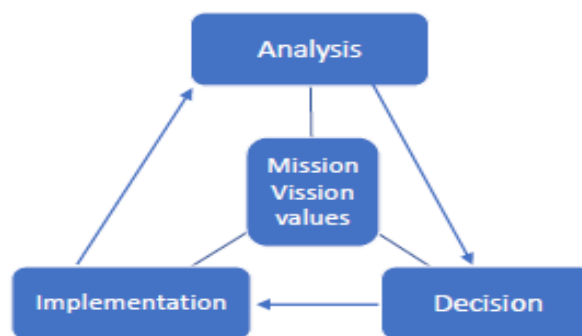
This is a choice that has been made to justify the numerous ideas that are involved in the process of making or purchasing decisions. It also reveals the various research that have been conducted. Figure 1 has an explanation of them. There are four different viewpoints about

the (GCEED): the firm-level, the performance management, the operational level, and the strategic decision making.

This is a choice that has been made to justify the numerous ideas that are involved in the process of making or purchasing decisions. It also reveals the various research that have been conducted. Figure 1 has an explanation of them. There are four different viewpoints about the (GCEED): the firm-level, the performance management, the operational level, and the strategic decision making.

That's a judgement based on a variety of research, and it justifies the underlying assumptions that inform financial or purchase-related choices. Figure 1 depicts this. There are four theories for the (GCEEI); firm-wide decision making, performance analysis, operational management, and strategy.

Figure 1. Learning cycle of Strategic Decision



The use of the break-even analysis and the economic analysis are two methods that may be examined in the context of strategic decision making. **a. economic analysis and b. break-even analysis.** These methods can be used to analyse for making or purchasing choices in the Iraqi industry. The Iraqi industrial sector has become responsible for a significant number of product and service-related activities. The primary concern with the make and by is determining whether we should follow the route of manufacturing a product ourselves or if we should purchase the product from a third party.

When it comes to the operational level, operational matters for outsourcing include buying operations, organizational structure, planning and scheduling. Other operational matters include the control methods, logistic activities, and production process.

The theory behind making decisions is based on levels of performance, yet measuring performance is an unpredictable process.



When it comes to this activity, determining how well logistics service providers are doing is tough. The performance is measured by how much inventory is reduced, how little product damage occurs, how reliable and consistent the delivery is, and how quickly a response is given. In the end, after doing research in a number of different fields and examining the results, a framework analysis was carried out, and an attempt was made to determine the sources for the make or purchase choice based on cost and time considerations.

This is a highly important choice for a corporation to make since it has implications for the organization's profits, costs, and quality. When it comes to the company that is accountable for making and purchasing choices for any business, there are a great number of different tasks or characteristics at play. This is a highly important choice that will have repercussions in the future. A cycle of activities that are shown in figure 1 is the process of making strategic decisions.

Make and purchase decisions may be approached in the following ways:

**Analysis of simple cost:** It is frequently beneficial in choosing the amount of money you should ask for a new item, or the quantity of units is an essential component to consider. [Case in point:] We utilised the fluctuation in quantity to figure out the profit, total cost, variable cost, and revenue. The specifics are covered in the section of analysis. A straightforward cost analysis may be computed by using a formula that takes into account revenue, fixed costs (FC), and variable costs (VC) respectively. The following are the specifics of the calculation:

$$\text{Profit (P)} = \text{Revenue(R)} - \text{Total Costs (TC)}$$

$$\text{Total Costs (TC)} = \text{Fixed Cost (FC)} + \text{Variable Cost (VC)} \quad (2)$$

$$\text{Variable Cost (VC)} = \text{Units Sold (US)} \times \text{Cost Per Unit (CPU)} \quad (3) \text{ Revenue}$$

$$\text{(R)} = \text{Units Sold (US)} \times \text{Price (P)} \quad (4)$$

**Break-Even Analysis:** When the sum of revenues and expenses is equal to zero, the business has reached its break-even point and is no longer losing money or making money.

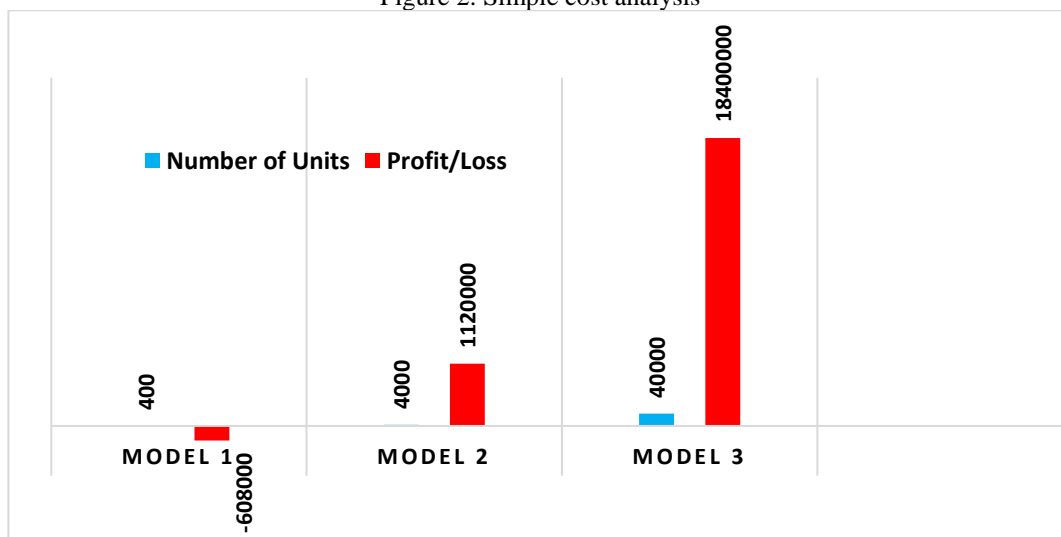
The overhead cost, materials cost, labor cost, variable cost, variable, and constant for producing 400, 4,000, and 40,000 engines, respectively, are as shown in Table 2.

Table 2. Analysis of simple cost

	Model 1	Model 2	Model 3
Number of Units	400	4000	40000
Fixed Cost	800000	800000	800000
Variable cost/Unit	3840	3840	3840
Labor Cost /Unit	7160	7160	7160
Material/Unit	21000	21000	21000
Overhead Cost/Unit	1020	1020	1020
Buying price/Unit	33500	33500	33500
Total Cost of Making	14008000	132880000	1321600000
Total Cost of Buying	13400000	134000000	1340000000
Difference	-608000	1120000	18400000

It has been determined via investigation that the point at which this situation reaches breakeven may be found in Table 2. In the event that the number to be created is larger than 4,000 units and the expenses associated with manufacturing are higher than the costs associated with purchase, the firm need to choose for purchase if the amount to be manufactured is 4,000 units or less. The graphical interpretation corresponds to what is shown in Figure 2.

Figure 2. Simple cost analysis



**Economical analysis:** is the analysis of a manufacturing system or sector. The purpose of the study is to ascertain the efficiency with which the economy or any component thereof functions. Considerable weight is given to a business's profit margin in economic analyses.

The formula's abbreviations are as follows:

Demand /year (r)

Rate of production/No. of unit per year (K)

Ordering cost/Procurement cost (Co)

Carrying cost/ Holding cost (Cc)

Purchase price/ Item cost (P)

Demand /year (D)

$$\text{Manufacturing Model Total Cost} = D * P + \frac{D * C_o}{Q_2} + C_c(k-r) * \frac{Q_2}{2 * k} \tag{5}$$

$$\text{For Manufacturing model, } Q_2 = \sqrt{\frac{2 * C_o * D}{C_c(1 - \frac{r}{k})}} \tag{6}$$

$$\text{Purchase model Total Cost} = D * P + \frac{D * C_o}{Q_1} + \frac{Q_1 * C_c}{2} \tag{7}$$

$$\text{For purchase model, } Q_1 = \sqrt{\frac{2 * C_o * D}{C_c}} \tag{8}$$

**Economic analysis:** The annual demand for the number of 5000 air cooler motors is considered to be average. The various expenses associated with either buying or making are detailed in the tables 3, 4 as following:

Table 3. Economical analysis (Buy)

<b>Purchase Model - Buy</b>	
Economical Analysis	
Ordering cost/Procurement cost (Co)	200
Carrying cost/ Holding cost (Cc)	20
Purchase price/ Item cost (P)	100
Demand /year(D)	40000
Q1	2828
Total Cost	4031108

Table 4. Economic analysis (Make)

<b>Manufacturing Model-Make</b>	
Economic Analysis	
Demand /year®	5000
Rate of production/No. of unit per year (K)	10000
Ordering cost/Procurement cost (Co)	80
Carrying cost/ Holding cost (Cc)	2
Purchase price/ Item cost (P)	100
Demand /year(D)	40000
Q2	2530
Total Cost	4002529

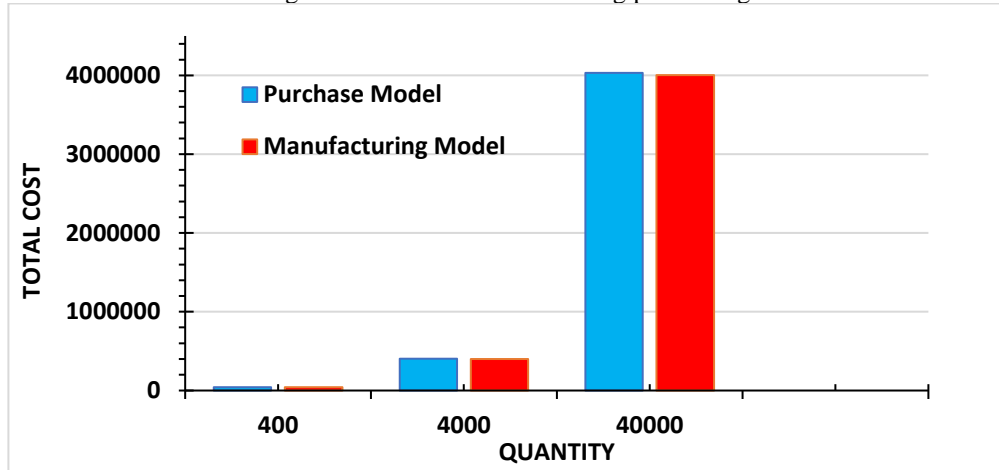
According to the results of the economic analysis, the manufacturing decision is the best in the three models because manufacturing costs are lower than purchasing cost. The calculations as shown table 5:

Table 5. Calculation of total costs.

Total Cost		
Quantity	Manufacturing Model	Purchase Model
400	40252	41788
4000	400800	405656
40000	4002529	4031108

The graphical interpretation for Total cost calculation is as shown in Fig 3.

Figure 3. Model of manufacturing/purchasing.



Because of this, the Strategic decision will continue to have a learning curve, which justifies its appropriateness. Start with analysis, then move on to decision making, and last, application. 1) is a straightforward cost study, 2) is an economic evaluation, and the third is a calculation of the point at which a business is profitable again. The confidence with which business choices and purchases may be made. Performance management and operational control are the other components of analysis. This is the part of operational control where you may emphasize monitoring and managing the quality of your operations. Considerations for making a profit when determining which raw materials to buy. Outsourcing's operational concerns include not just budgeting but also resource preparation. This will aid the person in considering other methods when deciding whether to manufacture or acquire anything. Production procedures, logistical operations, quality assurance checks, and internal and external supply chains are all examples of these processes.

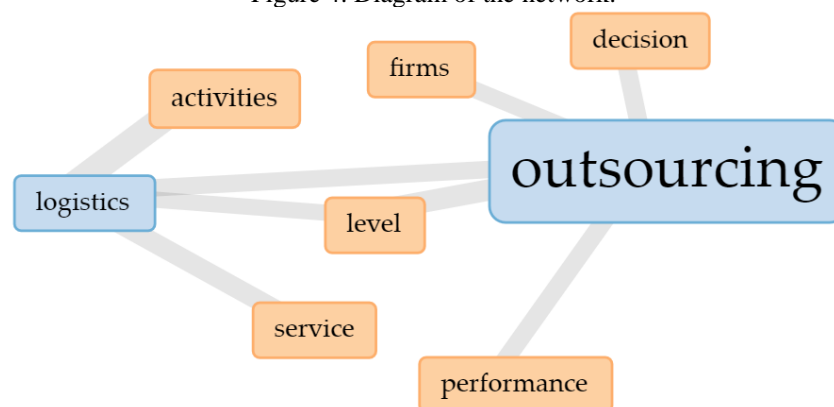
The other kind of analysis is called Performance Management, and it has a massive effect on the kinds of choices that are made about sales or purchases. It's not easy to analyse the success for providers of logistics based on factors such as quick response time, reliability, and consistency. This makes it tough to evaluate their performance. The sooner products are delivered, the fewer instances of product damage and stockouts there will be. When comparing

the prices of producing something yourself vs buying it, you'll find that the process of manufacturing anything involves a variety of unique expenditures. The waste material disposal cost, storage cost, monitoring cost, and added cost are all caused by the in-house protection, which is also the reason of the increased cost. The cost of purchasing includes the cost of the item being purchased, the cost of sales tax, the cost of shipping, the cost of inventory, and the cost of placing an order.

Outsourcing has seven fatal sins, including hidden expenses, losing control of the outsourced work, and neglecting to create an exit strategy. Text analytics was used for the investigation articles analyzed for studt analysis, which was determined utilizing a network diagram.

The significant words with a high weighting are highlighted in bold to emphasize their close relationship. Text Analytics is used in the study of network diagrams, which aids in identifying the critical logistics and outsourcing variables depicted in Figure 4.

Figure 4. Diagram of the network.



The research and analysis that was done to verifies the findings of this network diagram, which was used to make or purchase choices. The following are some considerations to make in light of the findings of the analysis:

1. Both logistics and outsourcing are tied to a company's operational level, which is the connecting point between the two.
2. Any company's sourcing selections are heavily influenced by a number of essential factors, including decision, firm, level, and performance.
3. It is essential for the company's supply chain and logistics that it provides various operations and services.

4. The relationship between logistics and sourcing is strong. The sourcing selection is influenced by the company's logistics.

### **Limitations**

This study was conducted to determine the key characteristics that should be included in an analysis of make or purchase choices. Although these factors have an impact on the organization to some degree, their significance cannot be standardized across all industries and businesses. The choice is dependent on a number of elements including, but not limited to, the organization's size, structure, the trained resources it employs, its capacity, its turnover rate, and its length of existence.

The research was conducted using a predetermined sample size; therefore, it is possible that it contains some inherent flaws that prevent it from reaching its full potential. Because of the larger sample size and the fact that additional criteria and circumstances are being taken into consideration for the analysis, the findings will be more accurate.

The manufacturer and the kind of business also have a role in the sourcing decision. The character of the work itself will also be an important consideration in the study. In addition, the location of the company, such as whether it is situated in a rural area, a semi-urban area, an urban area, a city, an organisation, or a nation.

### **Discussion and Conclusions**

The two different kinds of analysis, namely economic analysis and breakeven analysis, have both been thoroughly covered by this study. In order to assist managers in evaluating sourcing choices, both analyses give the data necessary to decide whether to manufacture or purchase the product. There are three more considerations to take into account before make and buy choice.

They are the amount of quantity, the feasibility, the competence of the labor, and lastly the level of quality. The analysis is insufficient for any organization to determine whether to buy or make the product based on its findings. In most cases, the judgments will ultimately be determined by a variety of other factors. The firm's most valuable asset is the combination of competent and unskilled resources. This asset is very vital to the organization. The findings of the research demonstrate that it is essential for any firm to prioritize the contentment and fulfilment of its workforce.



The length of the workforce plays a role in the decision-making process, and it eventually becomes a routine activity that has to be carried out in terms of both buying and making choices. The firm will be able to flourish as a result of the self-analysis, and it will also assist the company make decisions that are beneficial to the company. The corporation has the option of either pursuing a single strategy or beginning with a combination of strategies. The firm will get valuable feedback as well as an analysis of itself, which will be beneficial for the organization in making choices. Therefore, upper management should have confidence in their subordinates and likewise seek the satisfaction of their customers. This will provide a significant boost to the company's rate of expansion.

## REFERENCES

- Abdullah, S. A., Hussein, I. A., Mejbek, M. K. (2023). Evaluating the Performance of People in the Central Bank of Iraq (Cbi) According to the European Excellence. *Journal of Profess. Bus. Review.* | Miami, v. 8 | n. 2 | p. 01-21 | e0657 | 2023.
- Atrill, P., & McLaney, E. (2012). *Management Accounting for Decision Makers*. Harlow: Pearson Education Limited.
- Bianchi, M., Frattini, F., Lejarraga, J., & Di Minin, A. (2014). Technology exploitation paths: Combining technological and complementary resources in new product development and licensing. *Journal of Product Innovation Management*, 31, 146-169.
- Coyle, J. J. (2017). *Supply chain management: A logistics perspective (10e.)*. Cengage Learning
- Danese, P. (2013). Supplier integration and company performance: A configurational view. *Omega*, 41(6), 1029-1041.
- Drury, C. (2018). *Management and Cost Accounting*. China: Annabel Ainscow.
- González-Benito, J. (2007). A theory of purchasing's contribution to business performance. *Journal of Operations Management*, 25(4), 901–917. <https://doi.org/10.1016/j.jom.2007.02.00159>.
- Hedenstierna, C. P. T., Disney, S. M., Evers, D. R., Holmström, J., Syntetos, A.A., & Wang, X. (2019). Economies of collaboration in build-to-model operations. *Journal of Operations Management*, 65(8), 753–773. <https://doi.org/10.1002/joom.1014>.
- Mahnour Fatima. (2022). Make-or-Buy Decision Criteria in Pakistan Pharmaceutical Industry; a case of Albert Pharmaceutical Industry. In *Traders International Trade Academic Journal* Vol.4 Iss.2 e-ISSN-2667-4408 [www.intraders.org](http://www.intraders.org)
- Manda, V. R., Kampurath, V., & Msrk, C. (2018). 3D printing and its effect on outsourcing: A study of the Indian aircraft industry. *Journal of Aerospace Technology and Management*, 10, 1–22. <https://doi.org/10.5028/jatm.v10.862>

- McIvor, R. (2000). A practical framework for understanding the outsourcing process. *Supply Chain Management. An International Journal*, 5(1), 22–36. <https://doi.org/10.1108/13598540010312945>
- McIvor, R. (2013). Understanding the manufacturing location decision: the case for the transaction cost and capability perspectives. *Journal of Supply Chain Management*, 49(2). <https://doi.org/10.1111/jscm.12010>
- Mensen, A., & Atan, Z. (2014). Effective adjustments on the production plan as a response to short term demand fluctuations
- Meyer, M. M., Glas, A. H., & Eßig, M. (2021). Systematic review of sourcing and 3D printing: Make-or-buy decisions in industrial buyer–supplier relationships. *Management Review Quarterly*, 71, 723–752. <https://doi.org/10.1007/s11301-020-00198-2>
- Wisner, J. D. (2012). *Principles of supply chain management: A balanced approach* (3rd ed.). South -Western
- Mols, N.P. (2019). The internal competitor: buyer motives and marketing strategies. *19 Journal of Strategic Marketing*, 27(5), 405-416. DOI: 10.1080/0965254X.2018.1430053.
- Monika Arora, Anand Kumar( 2022) , "An Empirical Study on Make-or-buy Decision Making", *International Journal of Education and Management Engineering (IJEME)*, Vol.12, No.1, pp. 19-28, 2022. DOI: 10.5815/ijeme.2022.01.03
- Mudambi, S. M., & Tallman, S. (2010). Make, buy or ally? Theoretical perspectives on knowledge process outsourcing through alliances. *Journal of management studies*, 47(8), 1434-1456
- Quelin, B. V., Duhamel, F., 2003. Bringing together strategic outsourcing and corporate strategy: outsourcing motives and risks. *European Management Journal* 21(5), 647–661.
- Sako, M., Chondrakis, G., & Vaaler, P. (2016). How Do Plural-Sourcing Firms Make and Buy? The Impact of Supplier Portfolio Design. *Organization Science*, 27(5), 1161–1182. <https://doi.org/10.1287/orsc.2016.107>
- Veugelers, R., & Cassiman, B. (1999). Make and buy in innovation strategies: evidence from Belgian manufacturing firms. *Research policy*, 28(1), 63-80
- Waters, D., Rinsler, S, (2015). *Global Logistic, New Directions in Supply Chain Management*. London: Kogan Page Limited.
- Welch, J. A., & Nayak, P. R. (1992). Strategic sourcing: A progressive approach to the make-or-buy decision. *Academy of Management Perspectives*, 6(1), 23–31. <https://doi.org/10.5465/ame.1992.4274302>
- Meyer, M. M., Glas, A. H., & Eßig, M. (2021). Systematic review of sourcing and 3D printing: Make-or-buy decisions in industrial buyer–supplier relationships. *Management Review Quarterly*, 71, 723–752. <https://doi.org/10.1007/s11301-020-00198-2>

Hedenstierna, C. P. T., Disney, S. M., Eyers, D. R., Holmström, J., Syntetos, A.A., & Wang, X. (2019). Economies of collaboration in build-to-model operations. *Journal of Operations Management*, 65(8), 753–773. <https://doi.org/10.1016/j.jom.2019.05.005>