

INVESTIGATING THE REALITY OF USING QUANTITATIVE METHODS IN IMPROVING DECISIONS IN A SAMPLE OF PUBLIC INDUSTRIAL SECTOR COMPANIES

Dhahir Abbas Al-Qaisi^A


ARTICLE INFO	ABSTRACT
Article history: Received 20 February 2023 Accepted 26 May 2023	<p>Purpose: The research aims to verify whether or not the production and marketing managers in Iraqi public companies (research sample) use the contemporary quantitative methods (operations research). The present research draws the attention on these managers to explain their importance and impact in choosing the best decision alternatives that respond to environmental complexities (economic, social, technical, and even political) that took place after the events of 2003.</p> <p>Theoretical Framework: The use of quantitative methods is seen as a criterion for the validity of decisions to be taken before implementation, which requires managers to think seriously about the importance and impact of these methods in reaching sound decisions, which raise economic efficiency and productivity, and improve the financial position of the company in its markets and among its competitors.</p> <p>Design/Methodology: The research community consists of (3) general industrial companies, as a sample chosen by the researcher to represent the Iraqi industry. And because the research problem is one of the existing and chronic problems in the Iraqi industry, therefore, the time series of the research included length of the economic life of the three companies.</p> <p>Findings: The results of the research showed that the industrial companies (the research sample) did not use quantitative methods in the past and in the present in decision-making processes, whether productive, marketing or other decisions, the researcher did not find any interest in the economic nature of the decisions taken. Therefore, we recommend attracting analysts and specialists in economics and management sciences to be a nucleus for the establishment of a central supporting unit that uses quantitative methods in the field of decision-making.</p> <p>Research, Practical & Social Implications: The research dealt with the issue of using quantitative methods in a sample of public industrial sector companies, and clarified its important role in making more objective decisions of an economic nature that works to reduce the randomness of dealing with local markets, the cases of uncertainty, and the economic and social benefits that can be provided to the companies themselves. And for members of society and those who deal with it.</p> <p>Originality/Value: The originality of the research is embodied in the investigation of whether quantitative methods are used or not by organizing survey lists that were distributed to production and marketing managers in industrial companies (the research sample) to answer them, which is a precedent that has not occurred before in the Iraqi industry.</p>
Keywords: Investigation; Quantitative Methods; Production; Marketing; Decision Alternatives; Optimal Choice Of Decisions; Local Markets.	<p>Doi: https://doi.org/10.26668/businessreview/2023.v8i6.1533</p>



^A Dr. Assistant Professor, Al-Farabi University College, Iraq. E-mail: DhahirAlqaisi54@gmail.com
Orcid: <https://orcid.org/0000-0001-8606-3835>

INVESTIGANDO A REALIDADE DO USO DE MÉTODOS QUANTITATIVOS NA MELHORIA DE DECISÕES EM UMA AMOSTRA DE EMPRESAS PÚBLICAS DO SETOR INDUSTRIAL

RESUMO

Objetivo: A pesquisa tem como objetivo verificar se os gerentes de produção e marketing em empresas públicas iraquianas (amostra da pesquisa) utilizam ou não os métodos quantitativos contemporâneos (pesquisa operacional). A presente pesquisa chama a atenção para esses gestores para explicar sua importância e impacto na escolha das melhores alternativas de decisão que respondam às complexidades ambientais (econômicas, sociais, técnicas e até políticas) que ocorreram após os eventos de 2003.

Referencial Teórico: A utilização de métodos quantitativos é vista como um critério de validade das decisões a serem tomadas antes da implementação, o que exige dos gestores uma reflexão séria sobre a importância e o impacto desses métodos na tomada de decisões acertadas, que elevam a eficiência econômica e a produtividade, e melhorar a posição financeira da empresa em seus mercados e entre seus concorrentes.

Desenho/Metodologia: A comunidade de pesquisa consiste em (3) empresas industriais gerais, como uma amostra escolhida pelo pesquisador para representar a indústria iraquiana. E porque o problema de pesquisa é um dos problemas crônicos existentes na indústria iraquiana, portanto, a série temporal da pesquisa incluiu a duração da vida econômica das três empresas.

Resultados: Os resultados da pesquisa mostraram que as empresas industriais (a amostra da pesquisa) não usaram métodos quantitativos no passado e no presente nos processos de tomada de decisão, sejam eles produtivos, de marketing ou outras decisões, o pesquisador não encontrou nenhum interesse na natureza econômica das decisões tomadas. Portanto, recomendamos a atração de analistas e especialistas em ciências econômicas e de gestão para constituir um núcleo para a constituição de uma unidade central de apoio que utilize métodos quantitativos no campo da tomada de decisão.

Implicações de pesquisa, práticas e sociais: A pesquisa abordou a questão do uso de métodos quantitativos em uma amostra de empresas públicas do setor industrial e esclareceu seu importante papel na tomada de decisões mais objetivas de natureza econômica que funcionam para reduzir a aleatoriedade de lidar com mercados, os casos de incerteza e os benefícios econômicos e sociais que podem ser proporcionados às próprias empresas. E para os membros da sociedade e aqueles que lidam com ela.

Originalidade/Valor: A originalidade da pesquisa se materializa na investigação da utilização ou não de métodos quantitativos por meio da organização de listas de pesquisa que foram distribuídas aos gerentes de produção e marketing de empresas industriais (a amostra da pesquisa) para respondê-las, o que é um precedente isso não havia ocorrido antes na indústria iraquiana.

Palavras-chave: Investigação, Métodos Quantitativos, Produção, Marketing, Alternativas de Decisão, Escolha Ótima de Decisões, Mercados Locais.

INVESTIGANDO LA REALIDAD DEL USO DE MÉTODOS CUANTITATIVOS EN LA MEJORA DE DECISIONES EN UNA MUESTRA DE EMPRESAS DEL SECTOR PÚBLICO INDUSTRIAL

RESUMEN

Propósito: La investigación tiene como objetivo verificar si los gerentes de producción y marketing en las empresas públicas iraquíes (muestra de investigación) utilizan los métodos cuantitativos contemporáneos (investigación de operaciones). La presente investigación llama la atención sobre estos gestores para explicar su importancia e impacto en la elección de las mejores alternativas de decisión que respondan a las complejidades ambientales (económicas, sociales, técnicas e incluso políticas) que se suscitaron después de los hechos de 2003.

Marco Teórico: El uso de métodos cuantitativos es visto como un criterio de validez de las decisiones a tomar antes de su implementación, lo que obliga a los administradores a reflexionar seriamente sobre la importancia y el impacto de estos métodos en la toma de decisiones acertadas, que eleven la eficiencia económica y la productividad, y mejorar la posición financiera de la empresa en sus mercados y entre sus competidores.

Diseño/Metodología: La comunidad de investigación consta de (3) empresas industriales generales, como una muestra elegida por el investigador para representar a la industria iraquí. Y debido a que el problema de investigación es uno de los problemas existentes y crónicos en la industria iraquí, por lo tanto, la serie temporal de la investigación incluyó la duración de la vida económica de las tres empresas.

Hallazgos: Los resultados de la investigación demostraron que las empresas industriales (la muestra de la investigación) no utilizaron métodos cuantitativos en el pasado y en el presente en los procesos de toma de decisiones ya sean productivas, de marketing u otras decisiones, el investigador no encontró ningún interés en el carácter económico de las decisiones adoptadas. Por lo tanto, recomendamos atraer analistas y especialistas en ciencias económicas y de gestión como núcleo para el establecimiento de una unidad central de apoyo que utilice métodos cuantitativos en el campo de la toma de decisiones.

Investigación, implicaciones prácticas y sociales: la investigación abordó el tema del uso de métodos cuantitativos en una muestra de empresas públicas del sector industrial y aclaró su importante papel en la toma de decisiones más objetivas de naturaleza económica que funcionan para reducir la aleatoriedad de tratar con empresas locales, los mercados, los casos de incertidumbre y los beneficios económicos y sociales que pueden aportar a las propias empresas. Y para los miembros de la sociedad y quienes se ocupan de ella.

Originalidad/Valor: La originalidad de la investigación se materializa en indagar si se utilizan o no métodos cuantitativos mediante la organización de listas de encuestas que se distribuyeron a los gerentes de producción y marketing de las empresas industriales (la muestra de la investigación) para responderlas, lo cual es un precedente eso no ha ocurrido antes en la industria iraquí.

Palabras clave: Investigación, Métodos Cuantitativos, Producción, Mercadeo, Alternativas de Decisión, Elección Óptima de Decisiones, Mercados Locales.

INTRODUCTION

The image of the rational orientation of the successful management is framed when it manages its available resources with decisions of an economic nature, By selecting the best methods and analytical tools used in taking them from among available alternatives in a timely manner, because the management expects from this decision to achieve the (desired) economic and social benefits in return. Reducing labor and production costs. Economics and its theories are the basis for rationalizing the decisions of the administrative process, and the quality and soundness of the decisions taken are related to the good selection of the means and methods used in analyzing and then interpreting them (such as statistics, mathematics, econometrics...etc), which enables the administration to identify and know the economic variables affecting the The soundness of the decisions taken now and in the future. Despite the negative repercussions produced by the events of 2003 on the results of the economic work of the industrial public companies, the researcher found that the managers working in the companies (the research sample) still base their production and marketing decisions on their personal expectations and their daily business experiences. This raises cases of uncertainty and risk, and thus greatly weakens the effectiveness and efficiency of the performance of those decisions taken. From that, the research problem has been represented in not using The quantitative analysis methods and tools for administrative decisions, including production and marketing decisions in public industrial companies (research sample), is one of the obstacles to planning and adapting these companies to the variables of environmental conditions and developments in the forces and components of their local economic, social and even political markets that surrounded them after the events of 2003.

The aim of the research was to attract the attention of administrative leaders working in companies (the research sample), including production and marketing managers in particular, to the importance and role of using quantitative analysis methods and tools in reaching

decisions of economic value that motivate them to continue production and improve it, and to restore society's confidence in its products again. and its services. The different analysis methods and tools are provided to the decision makers in the companies, The subject of the research is the economic basis for the validity of their expectations that choosing this decision as an alternative and not others will improve the effectiveness and efficiency of the decisions taken by reducing production and operating costs, and achieving increases in profits and social returns, due to its response to satisfying the largest possible number of members of society from its goods and services. Accordingly, the researcher builds his hypothesis as follows: The production and marketing department does not have a clear and shared vision of the role and importance of economics and its theories in evaluating and selecting alternatives to its decisions and making them more objective, by not using quantitative methods to choose the best of the alternatives to decisions available to them that make the influence of the movement of the elements and forces of their local markets close to the sites make their decisions.

The general objective of writing this research is the negative reality that the public industrial sector companies in Iraq are currently experiencing, which are now in dire need of concerted efforts by experts and specialists in management sciences, economics, and users of modern technologies, to save them from the economic recession that afflicted their various economic activities. Productivity, marketing, financial, and human resource management, resulting from wrong and unstable economic and development policies, due to the conditions of wars and economic sanctions (Al-Khafaji, 2020) and when (Shendi, 2011) refers to the need to find economic competencies capable of using modern technologies. Based on the foregoing, the researcher's modest contribution came in presenting the research problem for the purpose of developing its own treatments, and his reliance was on the conceptual framework that reviews the scientific material for the subject of research by defining it, and then Addressing the nature of its work and its importance from a theoretical and practical point of view, its areas of application, and highlighting the size of the role it plays in improving decisions.

LITERATURE REVIEW

Economics and Decision Theory

Taher & Else (2023) believes that the world of finance and business lives in the midst of changes, a revolution of information, and competition in the public and private business environment, and in order for business companies to face these challenges, they must contribute to a qualitative shift in the nature of their products that enables them to increase Customer

satisfaction, retention, evaluation of its competitive position and increasing market share, in a way that serves the individual, the organization and society. One of the most important methods was the total quality management system. The researcher believes that the use of quantitative methods in measuring decision alternatives to choose the best one is a major and vital branch of this system. It is useful, now, for public industrial companies, as they are witnessing a stage of transformation or the beginnings of adaptation and dealing with the cases and conditions of market economies, for decision makers in them to possess sufficient knowledge and understanding of the importance and role of expertise, knowledge and economic analysis methods required by the processes of manufacturing and making the right decisions, which entails activities managers Basic: such as production and marketing, from making decisions that lead (at the very least) to achieving convincing profits that motivate the continuation of production. And in terms of looking at those decisions taken and the convincing or regular profits they achieve, as a main indicator of the beginnings of correct adaptation with the movement and variables of the market economy, they at the same time refer to the realization of their senior administrative leaders and the rest of the working managers, led by the marketing and production manager, to the importance of learning and knowing the role and influence Economics and the application of its theories and standard tools in improving administrative performance by making decisions of an economic nature that are expected to be chosen for implementation, to increase production and economic efficiency and strengthen the financial and social status of business companies, including government companies, in their markets and among their competitors.

1- Administrative decision economics: concept and importance:

It is possible to say that the economic efficiency of any decision is based on a set of elements that must be thought about and worked on by the decision-maker, and among the most important main elements are: the mentality of the decision-maker himself, the goal of making the decision, and how to choose it from among the available alternatives. (i.e., what are the appropriate standard analytical methods or methods used in choosing it) and finally in choosing the appropriate time for decision-making and implementing it, from that indicates (James & else, 1996) that the success of administrative decisions related to the allocation of resources that are taken by projects in the sector The economic (public and private) in reaching its goals is linked to the important economic results achieved by those decisions, whose importance is not limited to projects only, but also to society in a large way. This is confirmed by (Keat & Young, 2006) when they deal with the importance of examining the economic nature of

administrative decisions in business establishments that It requires managers to make decisions that focus on how to best allocate and invest the company's scarce resources, and thus affect the company's ability to obtain acceptable returns through rapid adaptation P the variables that get consumers, competitors, technologies... and others.(Christopher & Maurice, 2011) believes that the concept of managerial decision economics lies in those basic economic relations that usually explain the differences between success and failure in economic decision-making. As for (Hornby & else, 1997), they indicate that the concept of Administrative decision economics expresses the need of managers to understand the economic nature of For administrative decisions in order to bridge the gap within the areas of application of related to administrative decisions: such as forecasting demand, costs, prices, investment and financing decisions, and placing them in their economic contexts by their specialized management in business companies. Accordingly, it can be said that the concept of administrative decision economics refers to the administration's endeavor or its ability to choose and implement the best alternative from the group of decision alternatives available to it at a certain point intime, which expects from its selection of this alternative (to address a specific problem) to achieve economic returns that cover the costs of its selection and implementation. This can only be achieved by using appropriate means and tools for analyzing decisions (quantitative methods) that measure what is expected from the results of each alternative and choosing the best result (the best alternative) that achieves the economic level in which you find that production costs have decreased from their previous levels and that their profits have started. And the sales index has become reflective of the satisfaction of its consumer audience on the price and specifications of its products, its diversity, and its arrival at the appropriate place and time to its local markets... and so on.

2- Decision Theory:

The concept or meaning of the administrative decision has been dealt with by many researchers and specialists in administrative and economic affairs, but they agreed that it is the best choice from a group of alternatives available to the administration to address a specific problem, but it is necessary to point out here, the difference between the concept of decision and decision theory due to its strong relationship to the subject of research. Al-Qaisi (2008) indicates that the decision is the experience, expertise and personal intuition of management in choosing the best possible alternative from a set of available alternatives to solve a specific problem, and that the best way for management to support those decisions (or that choice) is to subject it to economic analysis before implementation. This is what is meant by decision theory,

which includes in an essential part an evaluation of decision alternatives before starting implementation, as (Al-Amiri and Al-Haddad, 2009) dealt with the concept of decision theory that it is, a group of systematic analytical methods to deal with complex problems And with multiple dimensions that need scientific solutions and organized methods with the use of quantitative methods that support the management's orientations in choosing the best alternative. He believes (Abdullah, 2012) in the theories of decision-making, that it is the means that managers resort to to help them choose an alternative from the alternatives before them, and the aim is to rationalize the decision-making process, and to achieve the greatest benefits or to choose the best alternative, and one of the most used methods From a practical point of view, it is the experience and practical practice of the manager that constitutes a reservoir of knowledge that the manager returns to when information about the decision problem is incomplete. Managers can also confront situations and make decisions or imitate those who preceded them in decision-making (simulation), and they may resort to Specific standard models and methods that experience has proven correct in order to reduce the risk rate, and raise the percentage of certainty about the validity and correctness of the decision, and among the most important of these models, which are basic entry points in decision-making, are: quantitative and qualitative theories, and the theory of participation in decision-making. (Harem, 2009) The decision is a behavior and a conscious choice among several alternatives (or solutions to a specific problem) that have been analyzed, and then that analysis is followed by an action or procedure to implement this choice. Therefore, it can be said that the administrative analysis of decisions reflects the ability of the manager to choose the alternative that he deems better than other alternatives, based on diligence, personal experience and accumulated experience in the field of solving problems and choosing the best ways to address them. And then carry out an economic analysis of the factors influencing that chosen alternative, with the aim of raising the degree of the manager's expectation that his selection of this alternative alone as the best alternative to address the problem was correct. It achieves the desired goal or objectives. Economic analyzes of the decisions to be taken reduce the degree of risk and uncertainty. It supports and complements the manager's expertise and intuition with quantitative analyzes that are more accurate than before (Al -shamaa, 2007). We also note from the previous definitions that the process of economic analysis of administrative decisions begins when thinking about choosing the best alternative from among the available alternatives that achieves the economic and social goals drawn within the plans of the concerned

departments such as production, marketing and finance, and ends when it begins to be implemented, regardless of the consequences of that implementation.

3- Economic characteristics of the administrative decision:

A -Choosing the best alternative:

Choosing the best alternative indicates the management's ability to make the right economic decision that reflects the decision-maker's orientation towards achieving goals that satisfy the demands of all parties. economic and social, and with the least amount of time, effort and costs. In this area, (Al-Amiri and Al-Haddad, 2009: 39), while discussing the concept of decision, indicate that there are three main elements or pillars in the decision-making and decision-making process: the availability of a set of available alternatives, choice, and a goal or set of goals, which is usually represented in maximizing a benefit or cost reduction.

Accordingly, this indicates two main issues:

The first - is the importance of these pillars in defining or giving an economic nature to administrative decisions.

The second - that the function of maximizing the goal refers to the good choice of the best alternative on the part of the decision-maker.

B- Tools and methods for analyzing decision alternatives:

Almshabbak & Chouaibi (2023) indicates that developments in economic life in general have led to the need for the emergence of many modern ideas and methods to suit those economic developments or changes with the aim of investing them for the benefit of economic institutions operating in the public and private sectors alike, and among those applied ideas Modern. The quantitative methods were among those ideas related to measuring the available decision alternatives (productivity, marketing, financial) and choosing the best among them to achieve the desired economic result (Al-Najjar, 2009) mentions that the use of tools and methods of economic analysis of decision alternatives is considered one of the economic criteria on which management relies in the process of comparing or balancing available decision alternatives to choose the best one in order to achieve the highest output, and then reach the best decision. In this regard, (Hirschey, 2000: 23) indicates that decision makers in business companies must know the available options, i.e. the alternatives to decisions, costs and economic returns resulting from the analysis of each alternative and the extent of their understanding of the economic relationships that make up the decision problem resulting from the use of tools and methods of analysis. And that all of this depends on the best selection by decision makers of the appropriate analytical tools and methods for the decision problem itself.

In this, (Obeidat, 2004) indicates that choosing the appropriate analytical tool depends on a number of factors associated with The issue of the problem and the aim of addressing it and the nature of the data that was collected, as it is from the point of view of (Al-Baldawi & Al-Hamidi, 2008) that helps in making decisions in various fields with the aim of achieving the optimal use of resources, whether on the scale of the organization or the country in order to avoid the loss of capabilities on the one hand and to achieve the maximum financial return Possible investments on the other hand.

Accordingly, the available decision analysis tools and methods constitute one of the economic characteristics of the administrative decisions to be analyzed and to choose the best one for implementation, provided that the appropriate analytical method is chosen to reach the best desired results.

The concern of contemporary management and its emphasis on the good and appropriate choice of analysis methods is due to the fact that the methods of quantitative analysis of decisions share the same goal as the final result represented by either maximizing the return (revenue max) or minimizing the costs (cost min), and they differ in the procedures and means of reaching the result. Some of them use the direct method to reach the result, and some follow the indirect method to reach the same result, but they generally belong to two basic groups:(Al-Hiti, 2000).

* - Primary tools and methods, such as basic rules in mathematics, statistics, probability theory and its rules and distributions, decision tree, linear programming, prediction methods, network analysis and decision-making strategies.

*-- Advanced quantitative methods, which fall within what is called Operation Research and include some linear programming applications such as transfer, allocation, game theory, inventory control, quality control methods, and Markov chain. From this, (Net,Al-Rashidi, 2012) refers to the role of quantitative methods in addressing economic problems, and because they represent the application of scientific methods in solving daily work problems through improving production, marketing and financial decisions ... etc., their importance is highlighted in many areas at the level of business organizations, and the most important :

- #- It is an aid in making quantitative decisions using modern scientific methods.
- #- It works to address decision-making problems objectively and more accurately, away from randomness resulting from trial and error.
- #- Quantitative methods / art and science / optimal allocation of resources. It reflects the concept of efficiency and scarcity in applied mathematical models.

#- It helps to focus attention on the important characteristics of the problem without going into the details of other characteristics that do not affect the decision. This helps in identifying the appropriate elements for the decision and using them to reach the best.

C- The time of making a decision and acting on it:

(Drucker, 1990) says that the results of good deeds come by investing in opportunities, by setting a time limit for their completion, as actions that do not have specific times are closer to fun than to work. Accordingly, (Jawad et al., 1989: 137) indicate that the appropriate and efficient timing for decision-making is no less important than other factors, as there is no economic and social benefit from a sound decision taken after it is too late. Therefore, (Al-Qaisi, 2008) referred to the lack of waiting in the implementation of the decision after choosing it, and justifies that, with the trends of demand, the movement of competitors, the attitudes of consumers and their reactions towards the goods and services offered as being in constant change, which requires not hesitation or waiting, but rather a quick response to the problem before occurrence or exacerbation.

D- Results of the decision:

It is natural that the sound administrative decision chosen based on knowledge and understanding of the circumstances of its adoption and how to implement it leads to desirable economic results. Those results that Mashraqi (1997: 43) sees must be commensurate with the desired goals, according to the capabilities and resources available and in light of the current situation. The importance of economic characteristics in determining the economic nature of administrative decisions and the extent to which other factors influence their determination can be summed up as mentioned by (Buhoush, 1984: 157) that the decision-making process, in fact, is a technical process for defining choices and identifying the best alternatives available to management. The process of evaluating alternatives and adhering to a particular choice over others does not mean the validity of the decision and that its results will be accurate. By forming the decision structure or its constituent elements.

Based on this, it can be said and indicated that the degree of validity of the results of the decisions, in turn, depends on the level of coordination and integration between production and marketing decisions during implementation.

4 - Integration of administrative decisions:

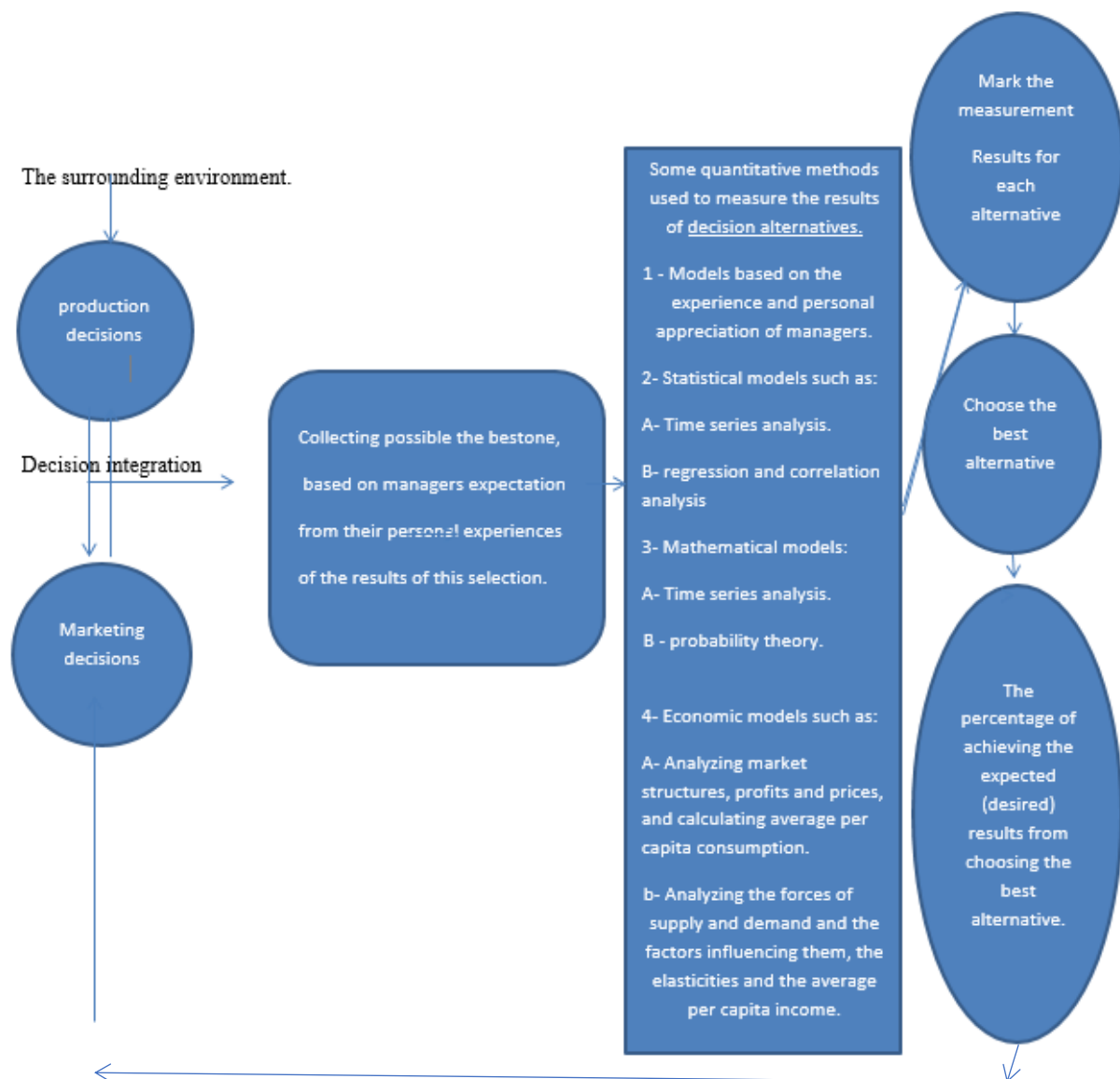
Al-Shamaa (2007) indicates the importance of defining the main results expected from choosing quantitatively measured decision alternatives "in the various departments of the company and on which the director of the production department, for example," or the director

of the marketing or financial department, or any manager of another department of the company, relies on In achieving the sub-objectives of the concerned department, because this leads to a process of consistency of the goals of each department and then their integration into the main objectives (major) of the company. Al-Shamma shows here the role and impact of using quantitative methods in analyzing decisions in understanding and realizing the purpose (economic nature) of choosing and measuring this alternative and not others and cooperating together "in order to achieve the expected results desired by the administration after its implementation through the cooperation of the main departments among themselves Such as production and marketing (if the decision is productive or marketing...) through these two departments carrying out the procedures of consistency and integration of their decisions to ensure that the highest basic results are achieved, for example: the decision to reduce the cost of a product of the company's products, the decision to set a new price for the product, determine the level New for energies, the decision to reach a certain level of growth that is limited to a specific period of time All these decisions the manager alone can implement In coordination and integration with the decisions of other managers in the company and determine who is closest to his technical specialization, although all managers are specialists in the field of work of their departments and all of them must integrate their work because they have common goals, which are the general and main goals of the company in which they work. From this, (Kreitner & Kinicki, 2007) deals with the concept of integration and its importance in business companies, in that it is cooperation between specialists to achieve a common goal. The specialists, in their opinion, are the heads of departments, given that the head of the human resources department is a specialist in managing, developing and training the employees of the company and what it needs in terms of manpower from the labor markets and others. Goods, services, stock control of raw materials and raw materials needed for production, as well as a manager, marketing, financial, legal, planning, and so on. These decisions are based on a quantitative and objective standard analysis that takes into account the decision-making conditions and the surrounding environment.

MATERIAL & METHODOLOGY

Approach adopted by the researcher to achieve the goal of the research and address its problem: It is the descriptive analytical approach that collects information and analyzes it and then draws results, which reflects the nature of field work, based on observation and interview at work sites to see how decisions are made by managers in the production and marketing

departments. In addition to preparing a set of questions arranged and organized into two survey lists, one for production managers and the other for marketing managers in companies (research sample), to answer them as another source for data collection and to support the practical side of the research. The researcher drew a diagram showing. The researcher drew an illustrative diagram showing how to address the research problem, with a table that includes the names of public industrial companies (the research sample). As for the time period of the research, it dealt with the problem of companies) from the beginnings of its work until now, as it is one of the existing problems in the Iraqi industry.



The verification rate is more that 60% (yes) for implementation.

The scheme is the work of the researcher, depending on the aim and hypothesis of the research.

RESULTS & DISCUSSION

The Reality of Using Quantitative Methods to Improve Decisions

Table includes public industrial sector companies (research sample).

	Main Products:	Location of work:	Date of incor	Name of the company:	Sequencing
	Types of electric motors, fans Air conditioners, lamps And other devices.	Baghdad- Al Waziriyah.	1997	The general Company for Electrical and Electronic Industries.	-1
	Types and sizes of liquid and dry batteries.	Baghdad-Al- waziriyah.	2016	The general company for the manufacture of cars and equipment- battery factory.	-2
	Liquid oils, vegetable ghee, cleaning powder and soaps and others.	Baghdad- Al- Rashid camp	1970	The general company for food products.	-3

Source: corporate Directory.

Preface:

The researcher believes that the method of using quantitative analysis tools and methods for administrative decisions to be taken in production and marketing in particular is one of the administrative methods that enable the company's management to choose the best of those decisions, and the results of its analysis show the management's expectations that it is the most capable in achieving the required goals. This is done through proper adaptation to developments in the movement and trends of its local markets that you have not been familiar with before, and that the results of the analysis of these selected decisions credibly reflect the correct handling of the impact of the changes in their current markets. In light of this, economic analysis methods contribute to determining the economic nature of administrative decisions on the one hand. And in the right direction towards the methodology of dealing with the market economy adopted by the state for its public industrial companies after 2003.

Through the field follow-up of the work of the production and marketing departments in the three companies, and the direct meetings with the managers of these two departments and many workers within their responsibility, and the notes taken on the answers of each of the production manager and the marketing director about the daily work progress, the study found a set of facts Objectivity that explains the reality of the economics of production and marketing

management decisions in the researched companies while they are operating within a tense economic, social and political reality (throughout their economic life .

1- Production Decisions:

In the companies (subject of the research), production decisions indicate the traditional tasks and duties that production managers undertake on a daily basis, such as: the decision to determine the required quantities of production, determining the capacities (production capabilities of the machines), the optimal use of available resources, production scheduling, preparing and skill levels of workers and for each production process, Most of which are focused on the need for continuity of production as a main objective without stopping, through the strict application of the orders and directives issued by the senior management of the company regarding the implementation of the production plan and objectives set by the planning department in it, where this department contributes to supervising the follow-up of the implementation of the plan with the production department and from Without the production manager having sufficient freedom, an active role, or an opinion, in amending or adding to some paragraphs of the plan, especially determining the production capacities (available and actual). There are many secondary decisions related to the plan that are taken and followed up on its implementation by the production managers, including: the times of deciding the transfer of finished products from the production lines to their storage locations to be under the supervision of the marketing department, determining the percentage of spoilage, following up the maintenance cycles and speeding up their implementation, while following up the work cycle due to the importance of its impact on the continuity of production quality, and coordination with other supporting departments in consolidating the production plan, such as the financial, commercial, human resources department... and other decisions that are described at best as routine decisions that managers do not rely on economic thinking and knowledge in how to choose them in an economic way that meets what the market needs And what its economic elements or components and competitors can affect the results of what they take from those referred to above what is always relied upon is appreciation, personal intuition, and field experience of managers in making decisions and solving daily work problems, which are among the traditional methods adopted in that choic.

Accordingly, the quantitative methods and tools had little interest in the thinking of the administrative leaders of the production and marketing departments alike, and that they had an impact on guiding and improving the decisions taken towards achieving their effectiveness and productive and economic efficiency. This made them not interested in following up, or at least

acquainted with those economic principles and theories that affect raising the efficiency of the decisions they make, which in turn was reflected in their weak follow-up and interest in what is happening in their local markets, considering that it is the responsibility of the Marketing Department alone.

2- Marketing Decisions:

The procedures for implementing marketing decisions and their traditional job responsibilities in the three companies (research sample) are similar in terms of the fact that the marketing department is just a sales department for the company's products and for well-known and predetermined markets, and it is not as wide as it was in the past, such as the markets of government institutions and their various departments, agents, Private sector companies, citizens, and when companies are unable to sell some of their products, they sell them to their employees, to reduce as much as possible from their accumulation in the company's stores. As for the pricing policy for the company's products, it is set by a central committee from within the company, and the position of the marketing department or its opinion on pricing is taken. It is used as advice, but it is not binding.

Although pricing is one of the tasks of the marketing function, and at the same time it expresses two basic issues:

A- The marketing managers' decisions are basically their suggestions or opinions related to their marketing duties, which are submitted to the higher managements for consideration before implementation. Therefore, their contribution to making major decisions, for example, in pricing, sales quantity, market research and studies, or a proposal to define new specifications for the existing product (development product), or their desire to advertise the product (promotion) ... and others, are weak and ineffective contributions. In addition, each of these decisions or any proposal to make certain marketing decisions (and this applies to production decisions as well) requires the use of quantitative standard methods and tools required by the policy of dealing with the market economy to demonstrate the economic feasibility of each decision, and due to the lack of such technical quantitative methods, So, there is no economic benefit to be expected from these marketing decisions if this feasibility does not exist at all, "except within the limits of the company's capabilities and available resources and what the senior management allows within the reality of the situation and the nature of the economic, social and even political conditions that the company is going through.

B- The importance and role of marketing decisions in displaying and selling products is related to the extent of production capabilities of companies and not to the economic indicators of their markets, i.e. the policy of selling what can be produced and not producing what can be marketed. That is, marketing decisions do not need quantitative measurements to adapt to the conditions and conditions of their markets, but rather need to adapt to the requirements of production decisions and not to the requirements of their local markets, and this contradicts the concepts of dealing with the economics of modern markets.

Therefore, it is natural for marketing decisions to lose many of their economic characteristics. Consequently, the means and methods of analyzing them (if any) become of no economic value from their use, and this leads to poor coordination and integration between production and marketing decisions, which affects the extent of achieving their economic goals and the confidence of the consumer community in their products and services and their ability to reach the market at the right time and place ... and so on.

3- The nature of the goals:

The goal behind making any production or marketing decision is not limited to addressing the issue of the decision (the decision problem), but rather goes beyond determining the best treatment method that achieves the greatest return and the least possible amount of time, effort and money. It is noted on the objectives behind those decisions taken in the companies surveyed that they do not express a quantitative measure in their results that justify the economic goal of choosing them, or the method chosen in their analysis. The goals and analytical methods in choosing alternatives to reach them are not found in the thinking of administrative leaders working in public industrial sector companies. The production and marketing objectives revolve around trying to increase production levels and the amount of sales without regard to the amount of costs of all kinds, the amount of money and efforts expended in them, and the number of changes that occur daily in the markets at the level of customers, competitors, suppliers, state decisions, etc., and therefore they are far from being goals. being of an economic nature. And the decisions related to it are closer to being of a production and service nature that lacks the element of creativity, innovation and the ability to adapt to the developments of the company's markets and economies.

4 - Tools and methods of decision analysis:

Within the concepts of economic work in government business projects, there are no tools, methods, or methods of analysis for administrative decisions to be taken to show what

economic profits they can provide while compressing the costs involved in their minimum limits as much as possible, where the production and marketing decisions of production and marketing managers are routinely evaluated through commitment Follow-up their performance of their traditional duties and tasks of their work Daily, they measure the efficiency of their decisions by means of production costs and sales revenue. Although they are not aware of the costs and revenues resulting from production and sales, regardless of product quality, consumer satisfaction, limited markets, etc., and in this sense, it is inconceivable for production and marketing managers to make decisions in which mathematical, statistical and economic tools and methods are used in their analysis to choose the best one.

CONCLUSION

1-The indiscriminate dealings of public industrial companies with their local markets, especially after the economic, social, and political, developments that occurred in them after the events of 2003, has become a bleak picture for decision-makers. After the local markets were known and known to deal with them before 2003 due to the adoption of the policy of central planning for the economy, after this year and until this day, they have become random markets for public companies, due to the lack of clarity of the type of economic policy that public companies must adopt, is the continuation By applying the policy of central planning of the economy, or the policy of the market economy.

2-There is no concept (decision economics or decision theory) originally "in the thinking or concerns of the administrative leaders in the production and marketing departments and other main and supporting departments in the companies (the research sample), and therefore the researcher did not find any evidence of the use of modern quantitative methods in the field of decision-making., or the mixed economy, or something else?

3 - The decision-making methods are based only on the judgments or personal estimates of the production and marketing managers and their accumulated experiences in solving daily work problems. Despite its importance, it does not help the administration to achieve the desired goals, especially since the components of the surrounding environment and decision-making conditions are constantly changing and volatile and characterized by uncertainty.

4 - The decisions of production and marketing are dominated by the (traditional) functional nature, in contrast to their lack, to a large extent, of their economic nature.

This does not encourage initiative and creativity in making decisions that respond to the needs of the market and the movement of its economic, social and political components, and the ever-renewing and diverse needs of consumers for goods and services.

5- he researcher found that marketing decisions are subordinate to production decisions and do not affect them. And that the marketing department in the three companies (the subject of the research) is still described as just a sales department, without carrying out real and analytical studies of the needs of the market and the consumer and studying the movement of competitors and prices, which indicates the lack of a joint and future work vision between the production and marketing department about the importance and role of the market in integration. Their decisions in the case of using standard quantitative methods in analyzing their alternatives before taking them for implementation.

6 - The production and marketing managers do not have sufficient and necessary information about the costs of the decisions they make and the returns they can achieve, in order for them to know how to deal with their available resources in an economical manner.

7- Public companies tend more on recruitment issues or job occupancy in their administrative departments on production tasks and duties of the public position than on technical and scientific qualifications from people with specializations in various economic, administrative and engineering sciences, financial mathematics, statistics, accounting and econometrics.

8-Organizational structures, despite their size, devoid of a specialized technical department or unit using analytical quantitative methods for alternatives to administrative decisions.

9- It is also noticeable, "weak organizational loyalty at the level of direct (lower) management from subordinates in particular," except for a few and rare cases. This is the result of what the events of 2003 produced, because one of the criteria for competence in studying and analyzing successful decisions before making them requires those working to implement them first, "belief in the goals to be reached and conviction in them, and secondly," sincerity, dedication and efforts during implementation in order to achieve those goals and thirdly, that They possess scientific and technical qualifications and precise specializations.

The recommendations for this study are listed below:

1- Planning to design intensive training programs for working administrative leaders, specialized technical cadres, and those who hold a baccalaureate degree in economics

and management among their employees, in order to familiarize them with the importance and role of the economic nature of administrative decisions, including production and marketing decisions after measuring them, with the aim of determining their economic and social effects in achieving the desired goals.

2- Attracting analysts and experts in economics, statistics, mathematics, and management sciences, and opening up to universities and institutes, to form a nucleus for establishing a central unit supporting decision-making operations, especially production and marketing decisions in public companies, directly linked to the company's senior management and enjoying administrative and technical powers and under the name (Technical Center for Decision Support) This technical unit is the main work of the use of quantitative methods (statistics, mathematics, econometrics, price elasticities ... and others) to analyze, measure and determine the real effects (economic and social) of the decisions that will be taken by managers, especially production and marketing decisions, to help them choose the best alternative that can be It achieves the highest expected percentage of results after its implementation.

3-In the researcher's estimation, one of the traditional problems that were and still.the events of 2003, is represented in the company's weak vision of the movement of the components and trends of its markets and the extent of its impact on its decision-making process, and thus leads to Poor efficiency of decisions taken. It is known that the company's eye on its markets is marketing management. Therefore, the researcher recommends that one of the main factors, but rather the vital and influencing factor in re-establishing the process of economic advancement for public companies, is finding specialized marketing leaders with scientific and technical insight who possess knowledge, know-how and prior (early) understanding. The effect of what may happen in terms of changes in the conditions and elements of market economies, the needs of consumers, customers, competitors, etc.

REFERENCES

Abdullah, Rabih Sareer, (2012), Administrative Decision, Dar Al-Hamid for Publishing and Distribution - first edition-Jordan/Amman.

Al-Amiri, Salih Mahdi Mohsen and Al-Haddad, Awatef Ibrahim,(2009),Operations Research Applications in Management, first edition, Ithra for Publishing and Distribution,Jordan.

Al-Baldawi, AbdalHamid,Abdal-Majid, and al-Hamidi, Najm Abdallah,(2007),Applied Quantitative Methods in Business Administration, first edition, Wael Publishing House.Amman.

Al-Hiti, Khaled Abdel-Rahim, (2000), Quantitative Methods in Management, first edition, Dar Hamed for Publishing and Distribution,Amman.

Al-Khafaji,Ahmed Jassim Muhammad, (2020), Iraq's transformation towards a market economy,House of Public Cultural Affair Economy Series,First Edition,Baghdad.

Almshabbak, A.N.S,Chouaibi,J.(2023). Measuring the Level of Voluntary Disclosure in commercial Bank and its effect on Improving Financial performance,International Journal of Professional Businessreview,V.8,N.1,P2.

Al-Najjar, Farid Ragheb, (2009), Operations Research in Management, University House..Alexandria.

Al-Shamaa, Khalil Muhammad Hassan, (2007), Principle of Management with a Focus onBusinessAdministration,FifthEdition,DarAlMasirahforPrintingandDistribution,Jorda.

Al-Qaisi, Dhahir Abbas, (2021), Economics of the Industrial Establishment, Dar Al-Doctor for Administrative and Economic Sciences, first edition,Baghdad.

Al-Qaisi, Dhahir Abbas Salman, (Baghdad,2008), Market studies and their impact on the efficiency of production decisions in the economic unit, PhD thesis - Al-Mustansiriya University.

11-Buhoush, Ammar, (1984) Modern Trends in Management Science, National Book Foundation.Algeria.

Drucker, Peter, (1990),Management by Results, translated by Dr. Amer Al-Kubaisi and Raqia Raouf Al-Chalabi,Baghdad university.

Jawad, Shawqi Naji,andothers, (1989), The reality of industry and administrative decision-making in institutions of higher education, Journal of Administration and Economics, Al-Mustansiriya University,Issue10.

Hareem, Hussein, (2009), Principles of Modern Management, second edition, Dar Al-Hamid for Publishing and Distribution, Jordan.

Hirschey, Mark, (2000), Managerial Economics, Harcourt College Publishers.

Hornby, Win; Gammie, Bob, & Wall, Stuart, (1997), Business Economics, Longman limited.

Keat, Paul G., & Young, Philip K.Y, (2006), Managerial Economics, Fifth Edition, Pearson Education international.

Kreitner & Kinicki (2007), Organizational Behavior, McGraw - Hill, Seventh Edition,New york.

International information network:

<https://vb.ckfu.org>, attachment. (2012), Quantitative methods in management, Melfi Al-Rashidi .

Mashreqi, Hassan Ali, (1997), The Theory of Administrative Decisions, first edition, Dar Al Masirah for Publishing and Distribution, Amman.

McGuigan, James R., & else, (1996), Managerial Economics, West Publishing Company.

Obeidat, Muhammad Ibrahim,(Amman, 2004),The Basics of Pricing in Contemporary Marketing, first edition, Dar Al Masirah for Publishing and Distribution,Amman.

Shendi, Adeeb Qassem, (2011), The Iraqi Economy... Where To?, Dar Al-Mawahib for Printing - First Edition,Iraq/Najaf.

Taher, H.A.B, Bushra,A.H.A,Afrah,R.I. (2023). Total Quality Management as a philosophy to Improve the Performance of the Academic Organization, International Journal of professional Business Review,Miami,V.8,n.1,p2.

ANNEXES

Thomas, Christopher R. & Maurice, S. Charles (2011), Management Economics, Tenth Edition, McGraw-Hill.

(research supplements)

Survey lists
Model (1)

Dear Mr. Production Manager.

good greeting :

Below, a set of questions related to the subject of the research ((Investigating the reality of using quantitative methods in improving decisions in a sample of public industrial sector companies)), please kindly answer them accurately and objectively in order to serve the purposes of the research and its sobriety from the scientific and practical point of view, and to contribute to the development of The administrative and economic performance of public industrial sector companies in Iraq.

With our high appreciation for your cooperation with us...

researcher

A.P.DR.Dhahir Abbas Al-Qaisi

	Clarify the question in order to determine the answer.	The subject of the question Notes.	sequencing
		What are the main decisions taken by the production manager? If there are other minor decisions, mention them	- 1
	The goal of profitability, or the goal of serving customers, or serving the community, or diversifying and developing products ... and others, or serving the individuals working in the company.	What is the purpose of making any of these decisions?.	- 2
	How do I choose the best alternative? And the extent of the contribution of your employees in the department, as well as other managers such as marketing and financial managers, in choosing it.	Is it because the manager's accumulation of experiences in dealing with daily production problems and personal assessments is still the only method approved by you in studying and analyzing production decisions in order to choose the best one?	- 3
	Quantitative methods such as: statistical models, including regression and correlation analysis, mathematical models, including linear programming, and economic models, including analysis and measurement of elasticities.	If you use quantitative methods to measure the results of production decision alternatives to choose the best one, what are those methods? And what is the most used method or method for you?	- 4

The other parties, who are the contractors with the company, including the owners of contracts to participate in production and marketing work with the company's management.	5- Does the manager have sufficient freedom to choose the alternative he deems appropriate without interference or pressure from the senior management of the company or other influential parties from within the company?.	-5
. The alternatives may be represented in: deciding the best amount of production that can be reached, or a decision to replace the current machines with modern ones, maintain them, or rent machines in place of them, or a decision to determine the required level of production capacities for a specific and specific amount of production.. and other production decisions.	Is there a specialized technical unit in the field of study and analysis for the quantitative measurement of the results of decision alternatives, to help the production manager know the quantitative expectation or predict its results before taking them for implementation.	-6
For example: the extent to which the company's senior management believes in using quantitative methods to improve production decisions, by supporting the production management with the financial and material resources and technical specializations it needs in this field, or the lack of expertise and specialized skills in the field of quantitative measurements of production decisions, or the current market conditions of the company And the developments that occurred in it no longer convince the administration to use quantitative methods because the desired economic and social feasibility has not been achieved.	Are there problems or obstacles (production constraints) that impede the process of improving decisions and taking them at the right time and place?.	-7
The availability of material and financial data and capabilities related to the subject matter of the decision, and the ability to convert them into direct information, the optimal use of those capabilities that the production management can benefit from in choosing and making decision alternatives available to the production manager in a timely manner.	The availability of information and capabilities that the production manager needs to support his decisions, and this information is on two levels:	- 8
The total costs as well as the total revenues resulting from the production and sale of the product.	<u>First, at the company level :</u> 1- Information on production costs and sales revenue.	
To determine the production capacities of machines, timetables, human, material and financial resources...etc.	2 - The volume of demand for the company's product and its price compared to competitors' prices, and the possibility of finding development alternatives for it.	
?. That is, does the marketing capabilities correspond to the production capabilities.. Is the marketing philosophy in the company working in the service of selling what can be produced, or producing what can be marketed?.	3- The size of the marketing capabilities and programs available in the marketing department of the company. And what information can marketing provide to the production manager to help him support his production decisions and integrate them with marketing decisions?.	

An economic unit specialized in studying and analyzing decisions including production decisions, assisting in finding alternatives and working to increase them and developing and training its employee and developing their technical skills...	4 - The volume of technical and financial support on the part of the company's senior management.		
That is, the most efficient allocation of the scarce resources available to you and the analysis and study of energies in terms of machines, labor and time based on the study of economic theories and principles and analysis of decisions.	<u>Secondly, at the level of the (external) environment:</u> 1- The extent of the knowledge of the production manager and the degree of his interest in economic principles and theories that affect raising the efficiency of his decisions in production and resource use.		
Although this is one of the duties of the marketing department, the common responsibilities and goals call for it.	2 - To what extent is the production manager informed and knowledgeable about the conditions of the company's markets, the movements of competitors, their strength, their methods of production, the level of technological development used by them in the production of competing products, their prices and presentation methods, and what distinguishes them from the company's products.		
That is, the type of competition prevailing in the company's markets, and how are the attitudes of the company's customers regarding its products and the types of customers who deal with the company, whether individuals or groups, state departments, companies (public, private).	3- Extent of knowledge of the nature and trends of the company's markets and the necessary production decisions capable of adapting to the economic and social market changes.		
Follow-up of its economic activities, especially the economics of its public industrial companies.	4- About the extent to which the production manager follows up on the government's economic approach and its economic decisions, especially those related to its public companies.		

Survey lists

Model (2)

Dear Mr. Marketing Manager

good greeting :

Below, a set of questions related to the subject of the research ((Investigating the reality of using quantitative methods to improve decisions in a sample of public industrial sector companies)), please kindly answer them accurately and objectively in order to serve the purposes of the research and its sobriety from the scientific and practical point of view, and to contribute to the development of all The administrative and economic performance of public industrial sector companies in Iraq.

With our high appreciation for your cooperation with us...

researcher

A.P.DR. Dhahir Abbas Al-Qaisi

Clarify the question in order to determine the answer.	The subject of the question Notes.	sequencing
	What are the main decisions taken by the marketing manager?.	- 1
The goal of serving the community, or profit goals, or serving the company's customers, or technical goals... and others.	The purpose of making any of these decisions ?	- 2
How do I choose the best alternative? And the extent of the contribution of your employees in the department, as well as other managers such as production and financial managers, in choosing it.	Is the accumulation of experiences in dealing with daily marketing problems and personal assessments still the only method adopted by you in studying and analyzing marketing decisions in order to choose the best one for implementation?.	-3
Quantitative methods such as: statistical models, including regression and correlation analysis, mathematical models, including linear programming, and economic models, including measuring the types of elasticities.	If you use quantitative methods to measure the results of decision alternatives to choose the best one, what are they? What is the most used method or approach?.	-4
The other parties are the owners of the partnership contracts in the company's business (investors).	5 - Does the manager have sufficient freedom to choose the alternative he deems appropriate? Without interference or pressure from the senior management of the company? or other influential parties from within the company?.	-5
. Decision alternatives such as: decisions related to selecting the best from campaigns to promote new products, choosing the best possible pricing, or selecting the best possible economic path or method for transporting final products from their production sites to their storage or consumption sites in the company's markets.	6- Is there a technical unit specialized in the study and quantitative analysis of alternatives to decisions? It helps the marketing manager know the quantitative expectation or predict its results before choosing it for implementation.	-6
? The extent to which the company's senior management believes in the importance of using quantitative methods in analyzing marketing decisions, by supporting the marketing department with what it needs financial and material resources and specialized labor in the field of analyzing decisions and predicting their results, or that the company's current markets and the speed of their fluctuations in their paths and the movement of their economic components no longer convince the management The importance of using quantitative methods to not achieve the desired economic and social feasibility.	7- Are there problems or obstacles (marketing restrictions) that impede the process of improving decisions and taking them at the right time and place?.	-7
the availability of data and physical and financial capabilities related to the subject matter of the decision, and the ability to convert them into direct information, and the optimal use of those capabilities that the marketing department can benefit from in choosing the best alternatives for marketing decisions available to the marketing	8- The availability of capabilities and information needed by the marketing manager to support his decisions. This information is on two levels First	-8

manager and taking them for implementation in a timely manner.			
	First - at the company level:		
That is, the capacity of machines and equipment, levels of skill, level of employee satisfaction, quality and quantity of raw materials and necessary raw materials that help in making sound decisions, that is, are the production capabilities available in the company compatible with the capabilities of the marketing department, that is, producing what can be marketed?	1- The size of the production capabilities available in the production department and the development capabilities in the research and development department of the company		
	2- What are the methods adopted in selecting the best pricing decisions, and the objective of pricing according to each new pricing case and its causes?.		
Does the marketing manager have information about the costs of producing the commodities to be priced?.	3- The total costs and revenues resulting from the production and sale of the product in the markets.		
). Considering that the manager does not work in isolation from the other managers in the company based on the common responsibilities and goals of the company.	4- The extent of the marketing department's contribution to following up and monitoring (ensure) the quality of the company's purchases of all production requirements (quantity and quality), (local, imported).		
Please attach the marketing sub-organizational structure that includes the academic qualifications of the associates, their numbers, and their marketing responsibilities.	5- Does the marketing manager rely on an (economic analysis unit) that studies, analyzes and measures the quantitative variables affecting his decisions before taking them in order to raise their efficiency and develop them in the future?.		
	Secondly - on the level of the surrounding(external) environment:		
What are the tools and means used by the Marketing Department to follow up on its markets and the movements of its competitors?.	1- Follow-up and monitoring by the marketing manager of competitors' movements, their strength in the market, their numbers, and the prices of their competing products, and what distinguishes the company's products?.		
? What kind of competition prevails with others, and how are customers' attitudes towards the company's goods and services as well as towards competitors, and the types of customers who deal with the company, individuals, groups, state departments, companies (public, private) .	2- What is the nature and trends of the company's local markets at present?.		
Analyzes of supply and demand, price flexibility, break-even point, market balances, etc., and renewing the appropriate marketing mix for the company and its customers, based on economic theories and principles.	3- The extent of the marketing manager's knowledge about economic principles and theories affecting the improvement of his marketing decisions.		
The state's relationship with economic affairs, especially the economics of its industrial public companies.	4- About the extent to which the marketing manager follows up on the state's economic curriculum and its economic decisions, especially those related to its public companies.		