

# The Role of the Value Chain in Supporting the Sustainability Strategy in Economic Units– from an Accounting Point of View An Exploratory Study

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## Abstract

The study aims to test the contribution of the application of the value chain approach in supporting the sustainability strategy in Iraqi industrial economic units from an accounting point of view. To achieve the objectives of this study, the opinions of a random sample of professionals in the field of financial accounting and cost accounting in Iraqi industrial companies trading their shares in the Iraq Stock Exchange were surveyed. A questionnaire was prepared and distributed to the study sample, which included two axes, the first axis information on the study sample to analyze the characteristics of the sample, and the second axis to test the role of the application of the value chain in achieving sustainability requirements developed by the researcher using previous studies. Sustainability requirements are six as follow: increasing growth rates in profits. Achieving competitive advantage, gaining and maintaining customers, improving the quality of production, satisfaction and loyalty of the employees and optimal use of the resources. The questionnaire data were analyzed using the statistical program (SPSS) version 23. The study found that the application of the value chain in Iraqi industrial economic units leads to cost reduction while maintaining quality, gaining customer satisfaction, increasing growth rates in profits, supporting competitiveness and enabling it to survive and continue, and support its sustainability strategy. The study recommends the need to apply the value chain in Iraqi industrial economic units in order to increase its ability to continue and stay in the competition market in the long term and to achieve sustainability from an accounting point of view. **Keywords:** Value Chain, Sustainability Strategy



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## **Introduction**

The modern business environment is experiencing many successive fundamental developments and changes due to many factors, most importantly the modern manufacturing, information and communication technology revolution, the globalization of markets and the intensification of global competition. In these circumstances, economic units aim to be stronger and better able to survive and sustain in the modern competitive environment. In order to achieve their objective of excellence and survival, they must constantly improve their competitive position by effectively maximizing value to customers, increasing interest in the operations of the economic unit, focusing on the quality of the products and services they perform, and managing the value chain effectively and efficiently. However, the traditional cost-accounting systems no longer meet the management's needs for the information needed to make strategic decisions regarding the survival and viability of these units because of its limitations on satisfying renewed customer desires and supporting competition needs. Therefore, economic units that wish to remain and continue to adopt strategic cost management methods, such as the value chain, as a modern cost management and cost reduction strategy that aims to reduce costs while maintaining quality, maximizing value to the customer, achieve the best harmonic advantages and thus increase the ability of the economic unit to survive, sustain, adapt to the modern competitive environment and achieve sustainability.

## **Research Methodology:**

### **1-1 Research problem**

The problem of the research is that most industrial economic units in Iraq rely on traditional cost-accounting systems and methods, which increase the costs of their products, weaken their competitiveness and affect their long-term viability and survival. These units must therefore use modern strategic cost management approach, including the value chain, to reduce costs and maximize the value to the customer in order to achieve the best competitive advantages that enable them to continue and survive and sustain their sustainability. Therefore, the problem of research could arise from the following question:

**Does the application of the value chain approach in Iraqi industrial economic units reduce costs, maximize value to the customer, achieve the best competitive advantages and support their sustainability strategy?**

### **1-2. Research objectives:**

The aim of the research is to present and analyze the value chain as a modern strategy in managing and reducing cost and developing the competitive advantages of economic units, as well as to present the sustainability strategy and its requirements as an objective pursued by

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economic units. In addition to surveying the opinions of the study sample on the extent to which the application of the value chain contributes to supporting the sustainability strategy in Iraqi industrial economic units if applied in these units.

## 1-3 Research hypotheses :

The research is based on a basic premise :

**"The application of the value chain approach supports the sustainability strategy in Iraq's industrial economic units"** .It branches out into the following sub hypotheses:

- 1- The application of the value chain approach contributes to increasing growth rates in profits.
- 2- The application of the value chain approach contributes to the competitive advantage.
- 3- The application of the value chain approach contributes to gaining and maintaining customers.
- 4- The application of the value chain approach improves the quality of production
- 5- The application of the value chain approach contributes to the satisfaction and loyalty of the employees .
- 6- The application of the value chain approach contributes to the optimal use of the resources.

## 1-4 The Importance of Research:

The importance of the study is the role played by the value chain in managing and reducing the cost, also reducing the cost of the product during the stages of its life cycle is considered from the research that attracts the interest of the economic units that seek to survive, continue and achieve competitive advantage. In addition, Iraqi industrial economic units need to apply the value chain as it is one of the necessary approaches to meet the challenges of competition and increase their ability to adapt to the modern competitive environment and support their sustainability

## 1-5 Research Methodology and Data Collection Method:

In order to achieve the objective of research and hypothesis testing, the descriptive analytical approach was followed which based on the following sources:

**First: Secondary Sources (theoretical framework):** the use of books, university thesis, and periodicals.

**Second: Preliminary Sources (practical aspect):** through a questionnaire form prepared using previous studies, and it subjected to arbitration by specialized academics to ensure its apparent sincerity, and distributed to a random sample of specialists in the field of financial accounting and cost accounting in Iraqi industrial companies. Five point Likert Scale was adopted, and SPSS was used to test the stability and validity of the questionnaire and

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to analyze the data. The statistical methods used are the Coefficient of Stability (Cronbach's Alpha) ,Correlation Coefficient (Pearson), Arithmetic Mean, Standard Deviation and One Sample T-Test.

## **1-6 Society and Research Sample:**

The research community is represented by the (20) Iraqi industrial companies whose shares are traded in the Iraq Stock Exchange, the questionnaire was distributed to a random sample of financial accounting and cost accounting specialists. The number of distributed questionnaires was (60) at a rate of (3) for each company, (55) questionnaires have been recovered, of which (50) are suitable for statistical analysis .

## **1-7 Previous studies :**

### **First Arab studies:**

**1-Al-Safar study, 2009, entitled "Developing the strategic perspective of management accounting using value chain analysis,"** The study aimed to present and analyse the strategic perspective that management accounting can adopt in a competitive business environment. The study found that value chain analysis is one of the strategic approaches that helps adapt to a strategic evolution of competition. The study recommends attention to value chain analysis and its potential application, particularly in highly competitive business environments

**2-Al-Shabani and Al-Hadidi Study, 2010, entitled "Use of the Value Chain as one of the Modern Cost Management Strategies for Reduction"** Applied study at the State Company for the Manufacture of Medicines and Medical Supplies. The study aimed to present how the value chain could be used as a modern strategy for cost management and reduction. The study found that traditional strategies were no longer useful in reducing costs, and that applying the value chain to the company actually contributed to reducing the cost of production by eliminating unnecessary activities. The study recommended that enterprises should use new strategies in the cost management where the value chain strategy is one of the most important of these strategies.

**3-Al-Safar and Obaid Study, 2015, "Value Chain Analytics in Managing and Reducing Cost,"** The study aimed at presenting and analyzing the value chain and demonstrating its role in managing and reducing cost at the Bagdad Soft Drinks\_ Company. The study found that value chain analysis enhanced the potential of economic unity to reduce costs. The study recommends that attention should be given to the analysis of the value chain and all the activities it contains, since it is the way in which all the strategic objectives of economic unity are achieved.

### **Second, Foreign studies:.**

**4-Hutaibat Study 2011 entitled : "The Value Chain for Strategic Management Accounting in Higher Education"** The study aimed to present

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the value chain proposal for higher education and the extent to which the value chain contributed to determining the competitive advantage of higher education in Jordan on the basis of resources and capabilities. The study found that the value chain approach contributes to the competitive advantage of higher education according to available resources and is an effective tool for strategic management and development of competitive advantages. The study recommended that attention be given to the application of the value chain approach in different institutions and that an effort be made to use all available information relevant to the achievement of competitive advantage.

The current study is similar to that of Al-Shaabani& Al-Hadi and Al-Safar &Abid, which found that the application of the value chain actually contributed to reducing the cost of production in industrial economic units by eliminating unnecessary activities. The current study also found that the value chain contributes to reducing costing. Hutaibat's study found that the application of the value chain leads to competitive advantages, and the Al- Safar study found that the value chain method helps to adapt to the development of competition strategy. The current study also found that the value chain leads to access to the best competitive advantages and increased adaptability to the competitive environment.

The current study differs from previous studies by finding a relationship between the application of the value chain and sustainability requirements in industrial economic units from an accounting point of view that was assumed by the study. That is, this study used new variables, namely the value chain and sustainability strategy, which have not been clearly discussed in the previous literature. This is distinct from previous studies and is therefore a knowledge contribution to an Iraqi environment.

## **Theoretical framework for research:**

### **2.1 Value chain concept :**

The value chain is one of the most important approaches that facilitate the process of identifying value creation centers in the economic unit, and is based on a set of functions ranging from the formation of the idea to the implementation of production and marketing of products. Porter divided these functions into nine sections, distributed into main activities and supporting activities. Macmillan & Tampoe explains, "The basic concept of the value chain is to add the greatest possible value at the lowest cost, to measure the amount of value and profit achieved for each part of the series, or the amount of improvements in cost, and the value chain input emphasizes the contribution of the economic unit to competitive advantage." (Macmillan& Tampoe, 2000:118. ) Porter defined the value chain as " regrouping the economic unit of its strategically appropriate activities in a way that leads to an understanding of cost behavior, and the underlying sources of excellence," ( Porter, 2001 : 77) . It was defined "as those activities that are sequential and

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succession in economic units that can add value to the product (good or service) provided to customers, where the value chain is an effective tool for the optimal use of the resources identified, and includes activities from the beginning of obtaining supplies from suppliers until end-use and disposal by the customer" (Horngren, et al., 2003: 26 ). It is also defined as "a series of functions that add to the customer the benefit of the products they acquire" (Horngren, et al., 2012, 28). It is also known as "a set of basic and supportive activities that are linked to each other to form a chain that adds value at every stage of the product." ( Romney & Steinbart, 2017:13) . Finally, it is defined as "it is an interconnected set of activities that generate value by passing the product through stages from the receipt of raw materials from processors to after-sales customer services" (Drury, 2018: 613). The researcher concludes from the above that the value chain represents a series of sequential and interrelated activities and processes that work in an integrated manner to add value to the commodity or service it provides, as well as to assist decision makers in economic units in searching for sources that would add value to the commodity or service and thereby increase its value to the customer. The value chain consists of two sets of internal and external ties, the first refers to the relations between the internal activities of the economic unit and the second refers to the activities that take place between the economic unit and external entities such as the processors and the customer. As a result, the economic unit should focus on these linkages so that value chain activities become more efficient and interlinked with product load at the lowest possible cost compared to competitors and in a way that works to achieve competitive advantage and gain customer satisfaction through efficient delivery and product quality, so it is essential for economic units to understand how value chain activities are implemented and viewed as a coherent series of activities.

**The concept of the value chain is based on two main axes :( Basili, 2001:103)**

**1- Identify activities that add value:** activities that consumers are convinced to add to the product or value, and the economic units use this concept to separate activities that add value and those that do not add value.

**2- Determining the costs that add value:** the costs that consumers are convinced to spend and which add value to the product, companies use this concept to separate costs that add value to those that do not add value. It should be noted that the relationship between the value chain and the value analysis is intertwined, as it has been shown from the foregoing that the value chain focuses on activities that add value and costs that add value, the value analysis is in the development and maintenance of value-adding activities and the exclusion of activities that add value, as is the case with costs.

## **2-2. Goals and advantages of the value chain:**

**The objectives of the value chain are : (Al-Kumi, 2002: 70 )**

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- 1- Identify the range of activities that can be a current or potential source of competitive advantages.
- 2- Assessing the contribution of internal activities to achieving the final value generated by the economic unit.
- 3- Determining strengths and weaknesses by analyzing the processes within the unit to evaluate the competitive dimension.
- 4- Provides the possibility of improving the profitability of the economic unit through the analysis of relations with customers, relations with suppliers and internal relations between value chains if there is more than one chain in the economic unit.

## **The advantages of the value chain in: (Elloumi, 2004 : 76 )**

- 1- Improving the cost position of the economic unit, thereby supporting its competitiveness in the domestic and global market.
- 2- Allowing management to analyze cost complexes and their causes, and thus reduce the total cost, reach the target cost, and therefore serve the application of the cost accounting system based on activities.
- 3- Identify new sets of cost engines as a result of the new division of economic unit activities.
- 4- Analysis of value activities reveals activities that do not partially or entirely add to value.
- 5- Helps identify the links between value activities in the economic unit.
- 6- Focus on cost reduction, and find ways to improve returns from the value chain.
- 7- Understanding cost management problems, and improving decision-making .
- 8- The economic unit helps to highlight performance indicators and clarify their management information system.

## **2-3 Value chain activities :**

**Activities under the value chain are divided to two types (Clayda, 2002: 420)**

### **1-Value-adding activities**

### **2-Non-value-adding activities of two types:**

- a. **The possibility of adding value:** it includes activities while not adding any value to the product itself but is necessary to produce this value where these activities help to create other activities that add value effectively, so if no such activity is carried out, it may result in a reduction in the value added to the product or, in fact, no excess value added to the product. An example of this activity is production planning, which does not add value because it does not add anything naturally to the product, but there is some possibility that this could result in the product not being of the right type, perhaps not in the right quantity or not at the required time and at the lowest cost, so the value of the product could be reduced from a customer's point of view.
- b. **Not possibility of adding value :**It includes the possibility of not adding the value of those activities that do not add any value to the product itself and



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does not benefit, but helps to implement other activities that add value and do not affect the absence of such activities in any way on the value of the product, for example storage activity is possible if there is no stock in the first place as in the case of applying production on time there will be no stock and the production of the product will continue and deliver without problems. Under the value chain, the analysis includes taking each activity or group of activities and measuring the relative value added they provide or their contribution to value added by other activities and then ensuring that their cost does not exceed even the value added or their contribution to value added. This contribution is measured by the difference in time, cost and results when the contribution occurs.

Value- adding activities are subdivided by Porter into main and supporting activities, and a range of sub-activities fall under each section, which can be illustrated through figure (1).

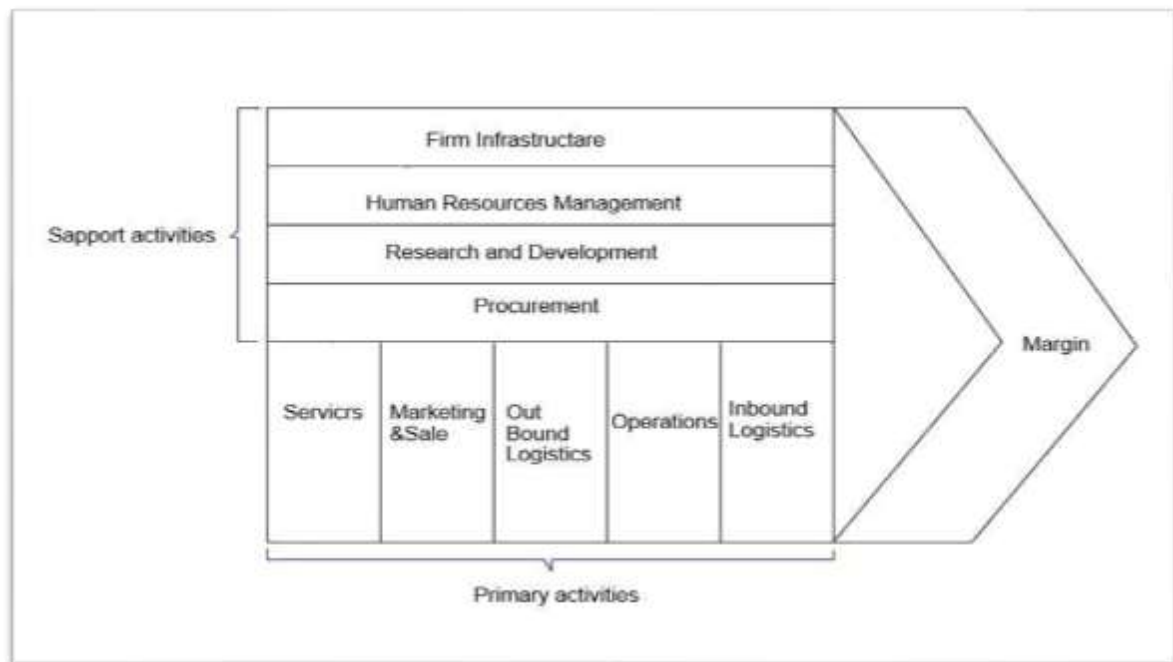


Figure (1) The Value Chain from Porter's point of view

Source: Source: Kannegiesser, Matthias, "value Chain Management in the Chemical industry Global Value Chain Planning of Commodities", Physica-Verlag Heidelberg, Germany, 2008, p12 .

**First, Primary Activities:** these activities refer to the actual creation, transport and transfer of products (delivery) to the customer, as well as the provision of after-sales services (Hinson,2010 : 325). Each category consists of a distinct set of activities upon which any industry relies to design its own strategy (Thoa, 2006:29). These activities are:



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**1-Inbound logistics:** means activities involving the receipt, storage and distribution of inputs leading to the production of products or services.

**2- Operations:** Includes all processes related to the conversion of different inputs into final products (products or services), including design, packing, packaging, aggregation, testing, quality control etc .

**3- Outbound logistics:** Means activities such as collecting and distributing the product or service to the customer, if the products will include storage activities, material processing and transportation, but in the case of services they are more interested in special arrangements to bring the customer.

**4-Marketing and sales:** are the activities involved in providing ways to enhance the customer's awareness of the product or service, and push them to buy the product. Activities may include advertising, sales management, sales and selection of distribution outlets.

**5-Service:** Activities aimed at enhancing or maintaining the value of the product or service; provision of post-sale services such as installation, maintenance, training, etc.

**Second, Support Activities:** these activities help to support, improve and enhance the effectiveness and efficiency of main activities without which main activities cannot properly perform their functions. According to Porter, these activities are in procurement, technological development, research and development, and human resources management (accounting, financing, legal).

The base structure of the economic unit or infrastructure "in the value chain allows to know the sources of competitive advantage and how to raise the added value of the economic unit, through which it can achieve the strategic fragmentation of the activities of the economic unit, identify and clarify the components of costs, and identify possible sources of excellence"(Kannegiesser, 2008:15).

## 2-4 Value Chain Analysis:

Value chain analysis is a tool for strategic analysis to gain knowledge of the value that the customer's economic unit can provide by reducing cost and achieving the best competitive advantages. The following are the steps and stages of the value chain analysis as well as the techniques and mechanisms supporting the value chain:

### 2-4-1 Importance of value chain analysis and its overall framework:

**2-4-1-1 Value chain importance:** Value chain analysis is one of the approaches that can be used to examine the nature and extent to which there is harmony or positive effect common to the different activities of the economic unit within the value chain. The administration can analyze these activities to identify the sources of competitive advantage, thus identifying the sources of internal, current and potential strengths and weaknesses. (

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Zaghloul ,2003 :28 ) noted that the rationale for adopting and applying the value chain is illustrated by the importance it possesses through five axes:

- 1- Focus on customer requirements and create value for clients in order to satisfy them.
- 2- Emphasis on cost control, where the identification of value chain activities is the basis for determining value chain costs, and hence the causation of cost that plays an important role in cost control.
- 3- Focus on cost reduction, where the analysis of value chain activities contributes to reducing cost by eliminating activities that do not add value to the product and focusing on activities that add value to the product.
- 4- Focus on profitability, where the variety of value chain activities can positively affect the goal of customer satisfaction through the products and services provided, which indirectly leads to increased revenues and then profits.
- 5- Value chain analysis is a useful tool for providing information for the coordination and integration of activities both within and outside the economic unit.

## 2-4-1-2 General framework of the value chain

Value chain analysis includes the following axes:

- 1- Review the value chain of each product in terms of the various activities involved in the production process, to identify activities that can be considered as strengths and those that are considered weaknesses.
- 2- Review the linkages that make up each product's value chain, which reflect the relationships between the performance of a valuable activity (e.g. marketing) and the cost of another activity (e.g. quality control).
- 3- Review of potential correlations between the value chains of different product lines as each element has value (Such as advertising or production) depend on economies of scale (lower average total cost in the short term as the volume of production increases), so that this activity can be done at the lowest possible cost per unit. If one product is not produced in a way that does not allow for size discounts, the same distribution channel can be used to distribute another product and so on.

**2-4-2 Steps and stages of value series analysis:** The basic steps and stages of the value chain can be described as follows: (Shahid, 2007, 131)

- 1- Identification of value chain activities: This step results in the identification of the main and supporting activities that form the value chain in the economic unit.
- 2- Identifying strategic activities: This step is based on the identification of each product specification that is valuable from the perspective of the current customer. The specifications are expected to be valuable to the future customer and may include quality, low price, etc., once these specifications have been established; the economic unit should determine which activities are responsible for generating competitive advantage.
- 3- Costing of each activity: This step relies on the search for cost drivers to assist the economic unit in the pricing process.

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4- Better management of the value chain than competitors.

**2-4-3 Stages of value creation using value chain analysis:** The economic unit can create value if it possesses competitive advantages that contribute to the creation of products or services that differ from competitors in the market, whether in terms of price or quality, or through any other specifications, such as timely delivery, to achieve this requires:

- 1- Identification of products or services with increased demand that meet customer requirements.
- 2- Work to create barriers to make access for competitors more difficult.
- 3- Work to produce products or provide services at a lower cost to competitors while maintaining quality.

**Value creation within value chain analysis goes through several stages as follows:**

- 1- In the modernization stage, emphasis is placed on enhancing the efficiency of processes and procedures. For example, value-added activities are identified by organizing production, improving cost efficiency and production efficiency through the introduction of innovative production technology or improving coordination, communication and process upgrading.
- 2- The product development stage: the conversion of old products into new products of higher quality and value is envisaged within this phase through the introduction of a new production system or the use of a sophisticated line.
- 3- Raising job performance stage: This is done by suggesting activities that promote better value added than before by suggesting new products rather than imitation.
- 4- The stage of upgrading the integrated chain between sectors: this is done by switching to another new value of the value chain between sectors through the links and trade relations between each of the actors in this sector.

## 2-5 Sustainability strategy:

Sustainability has become a key priority in the strategy adopted by most economic units in the 21st century, as it has a far-reaching impact on the success of the economic unit and its compatibility with the requirements imposed on it by the business environment of our modern world. The degree of success and acceptance of economic units of society today is measured by the amount of their contribution to improving the environment, preserving it, providing environmentally friendly products that are simultaneously compatible with the needs and desires of customers. This term was used in our times and specifically in the 1980s, which led the United Nations World Environment Committee (UNECE), 1987, to define sustainability as "the continuous development and preservation of resources to meet current needs without prejudice to the opportunities and needs of future generations" (Preston, 2001: 26). Subsequently, in keeping with contemporary trends in the perception and protection of the environment, and the emergence of marketing concepts compatible with social trends and based in essence on economic standards,

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sustainability was defined as "development strategies adopted by economic units to achieve two goals simultaneously, the first is to support and backup the environment and the second is to generate profit" (Kotler & Armstrong, 2008: 634). This means that economic units seek to positively align with the surrounding environment as their primary input in their series of operations on the one hand, and their concern for the protection and preservation of the environment as part of the environment on the other. It also seeks to make a profit as a strategic goal and to survive and continue. Sustainability is also known as "a business strategy that seeks to use best business practices, balancing the needs of current and potential stakeholders. Accordingly, the sustainability of economic units measures the extent to which companies integrate economic, environmental and social factors into their operations, and thus their impact on economic unity and society" (Artiach, et al., 2010: 32). Previous definitions focus on the sustainability of environmental and social systems, while the current focus of research is on the sustainability of economic units from an accounting point of view. The sustainability strategy is the one that economic units are seeking to achieve. Sustainability can be defined from an accounting point of view as the ability of the economic unit to continue and remain in business in the long term with high growth rates and good performance indicators that confirm this continuity and survival. To achieve this goal, there are some requirements or components that must be met, and if those requirements are achieved, sustainability will be achieved, and then these requirements become benefits or advantages that benefit the economic unit and society as a whole. Ross points out that the sustainability of economic units is: (Ross, 2010:31)

- 1- Meeting the needs of customers and investors.
- 2- Efficiency and cost reduction.
- 3- Achieving competitive advantage and profitability in the long term.
- 4- Improving productivity and attracting skilled workers.
- 5- Regulatory obligation.

In addition to the views of previous studies, the researcher assumes sustainability requirements that will be tested in research hypotheses: increased rates of growth in profits, competitive advantage, gain and maintain customers, improved quality of production, achieving employee's satisfaction and loyalty and optimal use of the resources. It should be noted that all the requirements for achieving a sustainability strategy are interlinked to protect sustainability, and must be highly efficient, and if any of those requirements are deficient, while the rest of the requirements remain equally efficient, this deficiency will affect the efficiency of one or more of the other requirements, and will pose a threat to the ability of the economic unit to achieve sustainability. For example, lack of attention to quality will result in a lack of optimal exploitation of resources, increased wastage and loss, no customer gain, low profits or loss, inability to achieve employee satisfaction and loyalty, and lower growth and profit rates in economic unit.

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## 2-6 Relationship between value chain and sustainability strategy for economic units:

With increasing competition, rapid technological development and consumers' desire for renewable products of high quality and price, economic units are seeking new strategies to reduce the cost of their products as well as to improve their competitiveness in the market, maximize their market share and ensure their survival, which is now a strategic goal and path for economic units: sustainability. Achieving this depends on several factors, including its ability to produce and market renewable products that meet consumers' requirements in terms of quality and price. In other words, sustainability from an accounting point of view has the requirements that have been assumed in the research, namely increasing the growth rates of profits, achieving a competitive advantage, gaining and maintaining customers, improving the quality of production, achieving employees' satisfaction and loyalty, and optimal use of the resources. According to the researcher, the application of the value chain method in industrial economic units meets sustainability requirements, as the value chain analyses the activities through which the production process is undertaken with a view to developing value-adding activities and eliminating non-value-adding activities. In other words, the strategic role of the value chain is to reduce costs, reduce waste, limit operations that do not increase value, and to study cost drivers and link them to revenue with a view to improve enterprise's ability to make decisions. Also, reducing costs positively affects the gain of a larger customer base by offering low cost products, affordable prices, high quality, efficient delivery and making the economic unit products more attractive to customers in a way that leads to gaining more customers, their choice of unit products, and the rejection of competing products, which improves their competitive position, maximizes their market share, and thus reflects positively on profits.

### Practical Side

#### 3.1 Analysis of the characteristics of the research sample:

Demographics of the research sample in table (1)

Table ( 1)

Demographics of the research sample

Academic Achievement	Diploma	Bachelor	Master or equivalent	Doctorate or equivalent	Total

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Frequency	2	18	22	8	50
Freq-Percentage	4%	36%	44%	16%	100%
Experience years	5 and below	6-10	11-15	More than 15	Total
Frequency	–	11	19	20	50
Freq-Percentage	–	22%	38%	40%	100%

Table (1) shows that the majority of the research sample members are highly qualified and have a high level of experience, and this supports and enhances confidence in the information collected from the questionnaire.

**3.2 Stability test:** Cronbach's Alpha for all questionnaire questions has been reached to (87%). This means that the stability factor has a statistical significance.

**3.3 Questionnaire validity test:** The validity of the questionnaire was verified by adopting the correlation coefficient (Pearson), as table (2) shows the correlation coefficient for each dimension of the questionnaire with the total dimensions.

Table (2)  
Correlation Coefficient for each dimension of questionnaire with the total dimensions.

No	Dimensions	Correlation Coefficient	Probability value
1	Increasing growth rates in profits	0.722	0.000*
2	Achieving competitive advantage.	0.799	0.000*
3	Gaining and maintaining customers.	0.724	0.000*
4	Improving the quality of production.	0.794	0.000*
5	Achieving employee satisfaction and loyalty.	0.870	0.000*
6	The optimal use of the resources	0.543	0.000*

Correlation is significant at level  $\alpha \leq 0.05$

Table (2) shows that the correlation coefficients for each dimension of the questionnaire are statistically significant at the level of significance ( $\alpha \leq 0.05$ ). Thus, all dimensions of questionnaire are considered a statistically significant function, that is, true to what they were designed to measure.

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## 3.4 Test hypotheses:

One sample t-test was used to test the hypotheses at their significance level (0.05) and confidence level (0.95).

**The first key hypothesis "The application of the value chain contributes to supporting the sustainability strategy in industrial economic units."**

**The first sub-hypothesis "The application of the value chain contributes to increasing growth rates in profits"**

Table (3)  
Arithmetic Mean, Standard Deviation and (t) value to increase growth rates in profits

No	Question	Mean	Std.D	t	Sig	Decision
1	<u>The value chain application contributes to:</u> Get a greater market share by improving competitive advantage.	3.960	0.668	10.149	0.000	Moral
2	Minimizing costs and increasing profits.	3.940	0.651	10.197	0.000	Moral
3	Add value to products (price, specifications, quality, delivery efficiency)	4.020	0.552	13.044	0.000	Moral
4	Reducing failure costs.	4.300	0.580	15.841	0.000	Moral
5	Analyze & improve relationships with customers and suppliers.	4.120	0.558	14.182	0.000	Moral
	Total	4.068	0.421	17.934	0.000	Moral

Table (3) shows that the total arithmetic mean (4.068) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.421) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 17.934) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the first sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to increasing profit growth rates.

**The second sub-hypothesis " The application of the value chain contributes to the competitive advantage.**

Table (4)  
Arithmetic Mean, Standard Deviation, and (t) value to competitive advantage



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N o	Question	Mean	Std.D	t	Sig	Decision
1	<b>The value chain application contributes to:</b> Control pricing decisions in response to market requirements.	4.020	0.714	10.102	0.000	Moral
2	Reduce product costs compared to competitors.	3.962	0.669	10.149	0.000	Moral
3	Assessment of competitiveness compared with similar economic units.	4.220	0.648	13.311	0.000	Moral
4	Developing market research and research and development activities to achieve excellence.	4.060	0.586	12.793	0.000	Moral
	Total	4.065	0.445	16.9.03	0.000	Moral

Table (4 )shows that the total arithmetic mean (4.065) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.445) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 16.903) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the second sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to achieving competitive advantage.

**The third sub-hypothesis: the application of the value chain contributes to gaining and maintaining customers.**

Table (5)

Arithmetic Mean, Standard Deviation, and (t) value to gain and maintain customers

No	Question	Mean	Std.D	t	Sig	Decision
1	<b>The value chain application contributes to:</b> Provide products below competitive prices	4.180	0.691	12.079	0.000	Moral
2	Continuous improvement of products to achieve customer satisfaction.	3.920	0.488	13.324	0.000	Moral
3	The speed of delivery of orders on time.	4.360	0.525	18.308	0.000	Moral
4	Reducing the costs of external failure.	4.200	0.404	21.000	0.000	Moral
5	Development of post -sales services.	4.380	0.490	19.902	0.000	Moral

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	Total	4.208	0.331	25.644	0.000	Moral
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Table 5 shows that the total arithmetic mean (4.208) is larger than (3) the hypothetic\_mean in the research, and that the standard deviation (0.333) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 25.644) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the third sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to gaining and maintaining customers.

**The forth sub-hypothesis: The application of the value chain improves the quality of production .**

Table (6)  
Arithmetic Mean, Standard Deviation, and (t) value to improve production quality

No	Question	Mean	Std.D	t	Sig	Decision
1	<b><u>The value chain application contributes to:</u></b> Continuous improvement of operations and production cycle .	4.040	0.637	11.534	0.000	Moral
2	Develop product specifications according to customers' requirements and competitors' trends.	4.000	0.534	13.229	0.000	Moral
3	Strengthen monitoring of operational processes to reduce waste and mismatches.	4.200	0.588	12.252	0.000	Moral
4-	Train and empower workers to improve quality and reduce failure costs.	4.060	0.637	11.534	0.000	Moral
5-	Granting of monetary and in-kind incentives to employees related to the quality of production.	3.900	0.429	13.748	0.000	Moral
	Total	4.004	0.333	21.222	0.000	Moral

Table ( 6) shows that the total arithmetic mean (4.004) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.333) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 21.222) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the forth sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application

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of the value chain in industrial economic units contributes to Improving the quality of production.

**The fifth sub-hypothesis: The application of the value chain contributes to the satisfaction and loyalty of employees.**

Table (7)  
Arithmetic Mean, Standard Deviation, and (t) value to satisfaction and loyalty of employees

NO	Question	Mean	Std.D	t	Sig	Decision
	<b><u>The value chain application contributes to:</u></b>					
1	Improving the quality of work life ..	4.060	0.739	10.131	0.000	Moral
2	Reducing job turnover and achieving job stability.	4.080	0.619	12.094	0.000	Moral
3	Train and empower workers and develop their skills and abilities.	4.100	0.614	12.659	0.000	Moral
4	Develop and adopt fair and transparent incentive systems.	4.040	0.604	12.160	0.000	Moral
5	Reducing the burden, pressures and risks of action.	3.980	0.654	10.590	0.000	Moral
	Total	4.052	0.438	16.915	0.000	Moral

Table ( 7) shows that the total arithmetic mean (4.052) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.438) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 16.915) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the fifth sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to the achieving the employees satisfaction and loyalty .

**The sixth Sub-hypothesis : The application of the value chain contributes to the optimal use of resources.**

Table (8)  
Arithmetic Mean, Standard Deviation, and (t) value for the optimal use of resources.

No	Question	Mean	Std.D	t	Sig	Decision
	<b><u>The value chain application contributes to:</u></b>					
1	Exclude activities that do not add value and reduce waste.	4.060	0.424	17.667	0.000	Moral
2	Improving the productivity of workers.	3.900	0.677	9.391	0.000	Moral

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3	Make the most of available work time and reduce waste.	3.980	0.654	10.590	0.000	Moral
4	Improve the efficiency of operations to reduce waste& loss.	4.000	0.728	9.707	0.000	Moral
	Total	3.985	0.435	15.986	0.00	Moral

Table ( 8) shows that the total arithmetic mean (3.985) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.435) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 15.986) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the sixth sub-hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to the optimal use of the resources.

Table (9)  
Arithmetic Mean, Standard Deviation, and (t) value for sustainability requirements

No	Dimensions	Mean	Std.D	t	Sig	Decision
1	increasing profit growth rates	4.068	0.421	17.934	0.000	Moral
2	Achieving competitive advantage	4.065	0.445	16.903	0.000	Moral
3	Gaining and maintaining customers	4.208	0.331	25.644	0.000	Moral
4	Improving the quality of production	4.004	0.333	21.222	0.000	Moral
5	Achieving employee satisfaction and loyalty	4.052	0.438	16.915	0.000	Moral
6	The optimal use of resources	3.985	0.435	15.986	0.000	Moral
	Total	4.063	0.297	25.274	0.000	Moral

Table ( 9 ) shows that the total arithmetic mean (4.063) is larger than (3) the hypothetic mean in the research, and that the standard deviation (0.297) has little dispersion of values from its arithmetic mean, the computed ( t ) value( 25.274) is larger than tabular (t) value ( 1.671 ) , and the probability value (Sig) is equal to 0.000. Therefore, the main hypothesis is a statistical function at the level of significance ( $\alpha \leq 0.05$ ), which means that respondents agree that the application of the value chain in industrial economic units contributes to This means that respondents agree that the application of the value chain method contributes to supporting the requirements of the sustainability strategy. The table also shows that the arithmetic mean of customer earn and maintain requirement was( 4.208 ) , the largest, and its standard deviation was( 0.331 ) , the lowest. This means that respondents agree that earning and maintaining customers is one of the most important requirements for achieving a sustainability strategy.

## Conclusions and Recommendations

# **The Role of the Value Chain in Supporting the Sustainability Strategy in Economic Units– from an Accounting Point of View An Exploratory Study**

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## **First, the Conclusions:**

1- Value chain is an effective strategic cost management tool that helps adapt to the development of competition strategies.

2- - The requirements of the sustainability strategy have become an integral part of the work programme of the economic units. From an accounting point of view, these requirements are to increase rates of growth in profits, achieve competitive advantage, earn and maintain customers, improve the quality of production, achieve employee satisfaction and loyalty, and the optimal use of resources

3-The opinions of the research sample agree that the application of the value chain contributes to higher rates of growth in profits by obtaining greater market share, reducing costs and adding value to products, and also contributes to competitive advantage by controlling pricing decisions in response to market requirements and assessing competitiveness compared to similar units.

4-The opinions of the research sample agree that the application of the value chain contributes to customers' gain and preservation by providing products at lower prices than competitors, continuous product improvement and speed of delivery, as well as to improving production quality by developing product specifications in accordance with customer requirements.

5-The opinions of the research sample agree that the application of the value chain contributes to employee satisfaction and loyalty by improving the quality of work and reducing turnover rates. It also contributes to the optimal use of resources by excluding activities that do not add value and improving the efficiency of operations to reduce loss and damage.

6-The opinions of the research sample agree that the application of the value chain contributes to achieving the requirements of sustainability strategy in economic units from an accounting point of view.

## **Second, the Recommendations:**

1- Economic units must use new cost management strategies, of which the value chain is one of the most important.

2- Attention to value chain application, particularly in highly competitive business environments because of its comprehensive analysis and capacity to coordinate efforts towards sustainability requirements.

3- The need to apply the value chain in Iraqi industrial units in order to increase its ability to continue and stay in the competition market at the long term and to achieve sustainability from an accounting point of view.

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# The Role of the Value Chain in Supporting the Sustainability Strategy in Economic Units– from an Accounting Point of View An Exploratory Study

دور سلسلة القيمة في دعم استراتيجية الاستدامة في الوحدات الاقتصادية - من وجهة نظر محاسبية  
دراسة استطلاعية

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## المستخلص

تهدف الدراسة إلى اختبار مساهمة تطبيق اسلوب سلسلة القيمة في دعم استراتيجية الاستدامة في الوحدات الاقتصادية الصناعية العراقية من وجهة نظر محاسبية .

لتحقيق اهداف هذه الدراسة تم استطلاع اراء عينة عشوائية من المختصين في مجال المحاسبة المالية ومحاسبة التكاليف في الشركات الصناعية العراقية المتداول اسهمها في سوق العراق للاوراق المالية , وذلك باعداد إستبانه وتوزيعها على عينة الدراسة , و تضمنت الإستبانه محورين , المحور الاول معلومات عن عينة البحث لتحليل خصائص العينة , والمحور الثاني لاختبار دور تطبيق سلسلة القيمة في تحقيق متطلبات الاستدامة التي تم وضعها من قبل الباحث بالاستعانة بدراسات سابقة وتتمثل هذه المتطلبات في ستة متطلبات وهي زيادة معدلات النمو في الارباح , تحقيق الميزة التنافسية , كسب الزبائن والمحافظة عليهم , تحسين جودة الانتاج , تحقيق رضا ولاء العاملين , الاستخدام الامثل للموارد , و تم تحليل بيانات الاستبانه باستخدام البرنامج الإحصائي ( SPSS ) اصدار (23). توصلت الدراسة الى ان تطبيق اسلوب سلسلة القيمة في الوحدات الاقتصادية الصناعية العراقية يؤدي الى خفض التكلفة مع الحفاظ على الجودة , كسب رضا الزبون , زيادة معدلات النمو في الارباح , دعم القدرة التنافسية ويمكنها من البقاء والاستمرار ودعم استراتيجية استدامتها . توصي الدراسة بضرورة تطبيق سلسلة القيمة في الوحدات الاقتصادية الصناعية العراقية وذلك لزيادة قدرتها على الاستمرار والبقاء في سوق المنافسة على المدى البعيد ولتحقيق الاستدامة من وجهة النظر المحاسبية .

الكلمات المفتاحية : سلسلة القيمة , استراتيجية الاستدامة