

# Lean Accounting Techniques in the E-Commerce and its Impact on Efficiency of Performance: An Empirical Study in the Branches of Insurance Companies

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The research aims to reveal the effectiveness of lean accounting techniques that depend on flexible or lean production, which aims to maximize the value provided to the customer by reducing costs and enhancing quality by identifying enhanced performance activities, especially in light of developments in the economic arena and transformations in the field of information technology in an internationally open-world due to the transformation in the field of electronic commerce, which reflected on the performance of companies by increasing domestic and foreign competition, so the research focused on what is the lean accounting in the evaluation of electronic commerce, which is measured by the efficiency of the companies 'performance and the extent of its application and the existing culture of their employees and knowledge of the importance of electronic commerce and evaluating profitable production lines for corporate and expand the target base.

**Key words:** *Lean accounting, E-commerce, performance efficiency.*



## **Introduction**

lean accounting techniques have become one of the basic requirements to respond to the globalization of the market that compels companies to compete on the basis of quality, flexibility and job opportunities, as companies aim to reduce costs increase productivity, flexibility and produce greater value for the customer and improve results, stock value and cash flows by adjusting their operationg strategies towards perspectives of the lean management philosophy: flexible or lean manufacturing (LM), however, this multi-dimensional approach combines a wide range of management practices (MP) including quality systems in a timely manner, work teams (WT), lean production (LP), and supplier administratioon in a high-quality combined system with a level of production adjusted to the needs of the consumer with little or no waste and then Flexibility in responding quickly to customer demands which are also a feature of companies that utilize flexible manufacturing (FM). Hence, this type of production approach clearly supports the differentiation strategy (DS) instead of the cost-based competition strategy (CS) which is the core of competition in electronic commerce that is based on creating continuous improvement processes through direct contact with customers and marketing products that suit their needs and avoid production excesses and standardization is the foundation for continuous improvement (CI) and empowering people to utilize visual controls (VC) to control processes and highlight possible problems by using reliable and experimented technology to support people and processes and promote the evolution of managers who truly recognize the business and the development of individuals and extraordinary teams that follow the corporate philosophy by respecting and providing all of that to the network of co-workers (This includes suppliers) with their challenge to improve them and support them and to avoid creating more than what can be sold and that customers and co-workers should be recognized as connected and integrated parties to the business, so the design of operations should be directed to give the customer only what they require and when they require while sustaining the highest quality with the minimum price (MP) which it represents the acceptable price to the customer or business that allows the corporation to have acceptable margins.

## **Conceptual framework**

What is Lean Accounting, the idea of reflects the use of scientific principles, practices, and means for accounting operations, financial reporting and cost. management (CM), which is the core of what the accounting function does, so when we enter into applied discussions related to lean accounting in insurance companies we hear a lot of justifications that do not apply to lean accounting, they manufacture different products that are more sophisticated, whether in service or in manufacturing, so each corporation must ask one of the customers when providing products or services and send a bill and collect them, i.e. must produce that product or provide this service (Kateryna, 2017).

Lean accounting is defined as an essential source of decision-making that is critical to the success of the graceful transformation process that focuses on simplifying operations and reducing waste in production by simplifying accounting, monitoring and evaluation systems, i.e. a new accounting method that stems from the increasing interest of corporations in embracing a flexible thinking culture. However, one of its goals is to measure the financial impact of performing lean improvement projects in industrial processes, such as cost regulation by value flow, changes in inventory valuation techniques, and differences in financial reporting to include non-financial information (Dan, 2014). Hence, lean accounting is based on changing the content of the work as less time is devoted to written content that is not added value and more time is allocated to the analytical content and then contributes to transformation utilizing the lean system and the conventional manufacturing environment allocates important resources to "cost accounting", which is confirmed by this determination the cost of each good made and attempting to manage costs by adhering to it in the flexible company (Abha, 2013). And lean accounting is based on a number of basic dimensions that are the main axis for their application in companies, namely:

### **Cost management (CM)**

The first dimension (Cost management) is very important in lean accounting, as the corporation tries to provide more competitive services and products in terms of job performance, delivery, cost, and quality. However, (CM) focuses on presenting information related to the profitable utilization of resources in providing that information. This comprehensive view of cost must incorporate cost planning in addition to cost accounting and cost control.

### **Determine the target cost**

Numerous studies determine the cost of the product life cycle (PLC) that is committed throughout the product design process (PDP) and that ranges between 85-95% of the total life cycle costs (TLCC), in other words, everything that we do daily without re-designing the product affects particularly 5-15% of the Life cycle costs (LCC), However, most thinkers in product development concentrate only on relevance, function, form, and hide costs even towards the end of the product development cycle (PDC) when accountants discover "cost" and add profit (AP) to determining the selling price, and marketing determines the selling price and if they are not able (i.e. Market price is lower), the only option is to re-design the goods (which is itself waste of resources) oppositely accept lower earnings so, therefore, lean accounting imposes the inclusion of the target cost in the product development process can avoid this cycle that cannot be won. Description Target cost costs as "a cost planning tool utilized to control production techniques and design specifications. Accordingly, it is more

oriented towards engineering and management rather than accounting. Accordingly, estimating the target cost understands the fact that the cost method determines the market price instead of  $\text{cost} + \text{Profit} = \text{sale price}$  and current reality is the  $\text{selling price} - \text{cost} = \text{profit}$ . In order to target the cost of marketing, the selling price must be determined during the stage of product conception, and then the following formula is applied:  $\text{sale price} - \text{profit} = \text{target cost}$  (Brosnahan, 2008).

### **Cost Control: lean style**

In addition to cost planning (CP), the concept of cost management (CM) involves cost accounting (CA) and cost control (CC). however, (CC) has become an intuitive expression of cost reduction (CR) and in a lean manner, the main method of (CR) is the Kaizen process, which is a team-based method to studying a problem and executing improvements all in a period of 1-5 days and how to conduct experiments on their work using the scientific method, and learn how discovering and eliminating waste at work through the use of partial solutions as long as some development is made and additional enhancements will be made in the future. however, the other main tool for reducing costs (RC) in the lean environment (LE) is the Kaizen methodology which includes making changes and then monitoring the results and modification, i.e. heading towards the flow of materials and the information represents the restructuring of the entire production area or the restructuring of the company (Wahdiat, 2016).

### **Cost Accounting**

The best way to look at cost is through cost accounting standards where the criteria show the cost, profit and loss of the company and the increase in sales that has been achieved, so understanding the cost criteria contributes to making the presentation of information practical and more beneficial because it gives practically any meaningful information about increasing sales and profit, and in lean accounting requires assimilation of accounting mechanisms and cost criteria, as absorption rates are determined on the basis of the public spending budget and the number of working hours or hours expected to be borne on a monthly basis, Thus determining the actual hours gained if the number of hours gained is less than the hours specified in the budget, an unwanted plus size variance will be created, Although most noted first-line supervisors may not recognize the privacy and generalities of (CA) standards, they learn quickly because of the bad disadvantages and that unfavourable differences in size can be sidestepped by creating enough hours and at the end of the month, they search about the parts that can be produced that will generate the largest number of hours, so the problem of most companies that show lean accounting in order to maximize their performance is that there is no association between the hours and what the client needs. As a result - avoid variation that creates excess stock (David, 2016).

## **Investment management (IM)**

The last important dimension in the transition to lean accounting to support the lean project is a rethinking of (IM) in most investment management corporations that makes people think about capital expenditures (CE). As for the lean environment (LE), it takes a wider definition. For instance, most corporations do not plan for working capital (WC), and in lean business (LB), they must be every month. Also, improving the inventory curve is not something that should occur at the end of the year in order to display the measures. Rather, it must happen continuously throughout the year because it frees a lot of space that accelerates the transformation process in addition to working capital (WC), as the investment plan (IP) should recognize the number of people working, and we should adapt to think of individuals as expenses, but if we consider of them as investments then we modify our behaviour in the contemporary economic environment, where this situation becomes a permanent addition to the infrastructure of the corporation then we made an investment (Brian & Bruce, 2006).

### **The scope of the shift to lean accounting:**

#### **1. Cost information (CI) and business decisions (BD):**

The main goal of (CI) is to hinder lean thinkers (LT) in their pursuit of small projects, and their goal is to repair (CI) in order to concentrate on it in full and highlight the benefits of their lean initiatives and eliminate the largest possible number of accountants without added value, but from the organization's broad perspective, (CI) is needed as an input to a wide range of (BD) and procedures, not just to support lean initiatives (LI) (Rosemary & Frances, 2010; Huntzinger, 2007).

#### **2. Pricing decisions (PD):**

the company that adopted lean accounting necessitates making (PD). The lean company believes in accounting only at the market price (MP) and the cost has no association with the price. however, the market wants to pay it or not, and the lean initiatives (LI) will enable the corporation to be profitable at lower prices but not at any price, so the company must manage its business portfolio carefully if it is want to succeed in the long run and must be able to recognize how each service, product, and client contribute to its overall business portfolio. Before accepting any request, even lean organizations need to answer questions such as Will this request covers the entire cost of the product or service? If not, will it at least cover the additional costs it causes to the organization? If it covers the incremental cost (IC), not the full cost, it is still in the best interest of the company to accept the request (Stenzel, 2008).

### **3. Investment decisions (ID)**

(ID) have a long-term influence on the organization, that enormous amounts of currency are irreversibly committed to a procedure, because it is a more beneficial use of those funds than any available alternative procedure, and thus the capacity to accurately foretell the influences on the costs of available uses and investment expenditures is critical to achieving long-term success for the organization before allocating funds to achieve a goal, either capital expenditures or expenditure projects, the organization must be able to foretell the consequences of its proposed actions and one of those consequences is a shift in costs. Will reducing the cost improve efficiency? (Thijee, Flayyih & Talab, 2018).

### **4. Other decisions and actions:**

Various decisions and other procedures need accurate and cost-effective information. Is it necessary to outsource a process? Should we manufacture or buy the product? Will, the organization does better meanwhile working overtime or adding another move? Would it be better to add operators and accelerate the line, or work at the speed of the contemporary line with the contemporary workforce? however, the fact-based explanations to these and numerous other important questions must be accessible to decision-makers whether the corporation will succeed, and without accurate, cost-relevant information to support those decisions, the CEOs or managers are either “blind” or even worse, because they view the world through deformed glass (Stenzel, 2008).

### **Lean Accounting Software Development:**

The internally developed software has become a frequently vital part of the operations of most institutions and is necessary for several of the primary functions of the supply chain (SC), financial reporting, administration, customer engagement (CE)... Etc. Since the release of the lean Software Development Statement in 2001, the methodology of development has steadily changed from the waterfall phase's model to the lean model. lean software development, which is the most used method today and more harmonious with dynamic business environments, because it decreases the cost of change, and quickly provides the highest value advantages to customers through cooperation, rapid repetition, and re-prioritization, and adapts smartly and easily to the priorities of developing business (Kennedy & Widener, 2008). Here are the most important principles of lean Accounting Software (Thomas, 2017).

### **The intellectual framework for electronic commerce:**

The essence of electronic commerce is the mechanisms that work by means of electronic communications in the implementation of its various operations in exchange, sale, purchase, and feedback, receipt, delivery and payment of prices, and then create a direct link with suppliers, distributors and customers with the company (Berkowitz, 2000) Also, electronic commerce is seen as a comprehensive process that aims to create a mix of electronic operations that contribute to maximizing customer value and reducing costs by providing electronic marketing services, electronic banking, and electronic processing, and the most important benefits of adopting electronic commerce can be found in the following (Alemayehu & Richard, 2007 ):

- It contributes to maximizing the company's profits by creating a comprehensive marketing program that contributes to achieving direct communication between the company and customers and reducing marketing and advertising costs.
- E-commerce contributes to reducing the company's costs by eliminating inventory by relying on a just-in-time production system (JIT).
- E-commerce contributes to providing customers with greater flexibility in terms of differentiation between offers of products and services at appropriate prices and thus enhancing the negotiating ability of customers and saving time and effort.
- E-commerce contributes to saving time, effort and cost as a result of increased competition in electronic commerce and increasing offers, which leads to lower prices and at the same time provides a great time for customers by choosing between different offers, anytime and anywhere.
- Electronic commerce is an essential part of the requirements of globalization created by the global economic system.

### **Lean Accounting in E-Commerce:**

lean accounting is one of the main developments accompanying changes in increasing production flexibility resulting from updates in the value chain that contribute to maximizing customer value, so lean accounting is a comprehensive information system for all parts of the organization, however, this system aims to promote continuous and interrelated improvement processes for the purpose of raising the level of decision-making processes, especially after the emergence of electronic commerce and electronic exchange due to changes in information technology, which represented a qualitative shift in the nature of business and the size of the targeted costs and at the same time confronting the diversity and multiplicity of customers' direct and continuous desires , Which requires flexibility in the production stages and the preparation of periodic reports on an ongoing basis in order to make a decision based on the amount of costs and profit achieved from the order, according to financial software systems



that rely on lean financial accounting in the company by developing a special guide in electronic accounts that depends on the acquired knowledge and experience resulting from the study of accounting software on the Internet (Adel, 2012) to include this development revenue and expense accounts related to e-commerce operations and the development of current income statements in programs, in order to display e-commerce activity and display reports on electronic commerce expenditures by relying on rapid developments in the field of information technology and communications, Which contributes to the mechanization of accounting in a graceful manner that corresponds to flexible production and customer requests in order to fulfil customer requests quickly and more accurately in delivery and less time and effort, at the same time, strengthening the production system (JIT) and avoiding inventory costs, and this shows the complementary relationship between lean accounting applications in Electronic commerce through developments in the field of the company's operations that change due to technological developments, so there was a need for a flexible accounting system which is competent to provide the appropriate mechanisms to keep pace with the great speed in the company's operations, complexity and follow-up, and to ensure its completion within the specified times through lean computerized accounting programs (IFAC, 2002).

### **The role of e-commerce in the insurance industry:**

Electronic commerce is the core of the insurance companies 'industry today, as all insurance and reinsurance companies work on maintaining information technology by encouraging investment in the field of information and electronic communication technology, with the aim of creating an integrated and coherent business system with customers in a manner that facilitates communication and offering products and services directly, uncomplicatedly and with less time and cost, through the use of electronic commerce and then, creating a flexible service production system that is able to keep pace with external competition and meets the needs of customers, which called for a lean or flexible accounting system that capable of keeping pace with changes in business and continuous improvements and calculating the cost and profit of customer orders directly, by integrating accounting methods with information technology in order to establish an electronic accounting system to communicate with intermediaries and address insurance documents and market analysis, due to the importance of insurance companies in supporting various economic sectors (Abass et al., 2020). Therefore, it has become one of the basics for insurance companies due to their overlap in various economic fields to enhance electronic work in order to raise the level of work efficiency and distribute insurance products via the Internet and open new distribution channels, as well as work on the most recent fundamental updates in the content of existing assets efficiency, with the aims to maximize profitability, and this requires continuous monitoring of the rapid developments in the field of information technology created by the



Internet, which generates new data and methods that the insurance industry will deal with in order to achieve the best results in the future (Faith 2007).

### **Research Methodology:**

The main problem is that insurance companies suffer from a lack of a modern, developed information network that available to customers with marketing, insurance products, as the company relies on its performance on the traditional method of completing various business activities at a time when insurance companies live in light of globalization and transformations in the field of information and communications technology after what has become the world as one city, therefor, the research problem lies in the lack of adopting lean accounting techniques that are based on lean production in e-commerce in order to contribute to the development of efficient performance of insurance, which in turn is reflected in the performance level of the services provided by it to customers.

### **Research hypothesis:**

In order to achieve the objectives of the research, the following hypotheses have been developed:

H0: There is a correlation between lean accounting techniques and the application of e-commerce in the performance efficiency of an insurance company.

H1: There is no correlation between lean accounting techniques and the application of e-commerce to the performance efficiency of an insurance company.

The research sample was collected and determined by relying on the questionnaire and personal interviews in order to obtain the most accurate practical and scientific information for research on lean accounting techniques, and their applications in electronic commerce in insurance companies in Iraq, as the research sample consists of (40) people distributed on different specialties included a group of corporate directors, financial and administrative accountants, and technological specializations, as the number of directors of the administration reached (5) individuals, at a rate of (12.5%) of the total individuals of the sample. as accountants constitute (15) individuals from the research sample, which is (40), and they are the largest percentage in the sample, as their percentage within the sample was (37.5%), while the administrators numbered (10) individuals, and specialists in the field of computers were reached (10) individuals from the total sample, that is, What percentage (25%) of the total sample of the research as shown in Table (1).

**Table 1:** Distribution the individuals the research sample according the specialty

Current piston	The number	The ratio %
Director f the Department	<b>5</b>	<b>12.5</b>
Accountant	<b>15</b>	<b>37.5</b>
Administrative	<b>10</b>	<b>25</b>
Technology specialist.	<b>10</b>	<b>25</b>
total	<b>40</b>	<b>100</b>

The characteristics of the research sample presented in Table (2), however, the results above show that the largest percentage of age groups in the research sample are the age group (30-39) years and their percentage (37.5%) of the sample size, as well as the age group (40-49) years was (37.5%) of the surveyed sample, while the category (50-59) years was at a rate of (12.5%) of the sample, as well as the age group between (20-29) years at the rate of (12.5%), and this gives a perception that the majority of its members are young, which they considered to be one of the categories accompanying developments in the field of information and communications technology, which have contributed significantly to the development of the e-commerce sector in the field of business and its marketing, which led to the use of lean accounting to indicate the extent of the efficiency of activities, and the extent to which they reach the set goals that reflect the success of strategies in the future and the success of plans for companies Insurance and expanding the insurance culture in Iraq, especially in the area of supporting economic projects, as insurance companies provide coverage for local projects against potential risks, and at the same time, play a major role in financing development plans by investing in the stock market.

Likewise, the characteristics of the research sample indicate that the holders of higher degrees and specialists in the field of research reach (40) of the research sample, while the holders of bachelor's degrees reached (25) of the sample, which is (62.5%), however, it appears from the table that the category (11- 20) years constitute the largest percentage in terms of total service years at (50%) of the sample, and it becomes clear that the chosen research sample has educational qualifications, experience, and work skills that indicate the high educational level of the research sample that should match the research variables.

**Table 2:** characteristics of the research sample

No.	The characteristic	characteristic distribution	Individuals in the sample	
			Frequencies	%
1	Age group (year)	20-29	5	12.5
		30-39	15	37.5
		40-49	15	37.5
		50-59	5	12.5
2	Educational qualification	Ph.D.	2	5
		Master	5	12.5
		BA	25	62.5
		diploma	8	20
3	Total service period	1-10	5	12.5
		11-20	20	50
		21-30	10	25
		31 years and over	5	12.5

## Results

In order to display and analyse the data that resulted from the questionnaire form by relying on the Turnstone scale to measure trends, as well as it is more flexible for the recipient to give him more space in choosing the appropriate weight, and this gives a clear perception of what this scale is, as it consists of eleven degrees, each of which represents a specific case for the direction or agreement on the paragraphs of the questionnaire, which is distributed from the highest weight that has been given the degree (11) to represent the answer field (agree by 100%) to the lowest weight who has been given (1) one degree to represent the answer field "I agree" with zero for analysing opinions and response of the research of sample of (40) persons from the research population represented by employees working in insurance companies in the governorates of the Middle Euphrates, however, in order to collect and analyse the responses of the research sample, frequencies tables were prepared for the research variables, In addition to using of statistical methods such as weighted mean, standard deviation (Si) and coefficient of variation (COV) to measure the relative dispersion and percentage% of the agreement percentages achieved for all paragraphs from the viewpoint of individuals (the research sample) with a view to identifying the extent of harmony and compatibility in their responses and opinions.

### Displaying the results of respondents' responses to lean accounting applications:

The results of the analysis of the opinions and responses of the target sample indicate in Table (3) which is about lean accounting applications, and the results show that the weighted mean is greater than the hypothetical mean of (6) and this is a clear measure about the

agreement of the research sample on the paragraphs of lean accounting applications in electronic commerce which explained in the details of the paragraphs of the questionnaire presented according to their point of view, however, this is evidence of the importance of applying lean accounting in measuring the ranges of electronic commerce in the efficiency of the performance of insurance companies in the governorates of Iraq, Especially after Iraq has witnessed major transformations in the economy in the light of general economic policies aimed at developing industrial and commercial sectors, and since the policies of insurance companies are working to provide security against some of the risks that threaten these sectors, it is one of the most multi-important things that the research sample realizes through Marketing insurance programs within electronic commerce, especially with the Central Bank emphasizing the adoption of money and electronic means in financial transactions. This important aspect is clear to those in charge of insurance companies by virtue of their accumulated experience and their knowledge of the importance of applying lean accounting to give an accounting image of the costs of attracting investments and expected returns, as well the economic feasibility statement for the insured dangerous projects. It is clear from Table (1) that the highest weighted mean was (8.9) with a standard deviation of (1.83) which belongs to the fifth question, which considers that "lean Accounting provides a new way to calculate production costs" represented by the method of value flow costs that focuses on the flow of value instead of products and determine where the value flow will be lost. Likewise, we find that the lowest weighted mean is (6.5), which is greater than the hypothetical mean, which indicates that the members of the research sample agree on the content of the paragraphs related to lean accounting applications and the importance of their application in electronic commerce in insurance companies.

**Table 3:** Frequency Distribution, weighted mean, standard deviations, coefficient of variation and percentage of responses of respondents

X1: lean accounting	100 %	90 %	80 %	70 %	60 %	50 %	40 %	30 %	20 %	10 %	0 %	S	percentage
X1	6	3	5	5	11	3	3	2	1	1	0	2.3	61.5
X2	5	8	11	6	6	2	1	0	1	0	0	1.76	77.0
X3	8	9	6	3	7	4	3	0	0	0	0	1.77	76.0
X4	5	4	6	6	8	6	2	2	1	0	0	2.95	68.0
X5	12	3	8	2	5	4	3	1	2	0	0	1.83	79.3
X6	4	6	7	6	5	1	5	3	0	0	3	2.55	54.5

X7	4	4	3	6	4	11	3	3	1	1	0	2.4	60.2
X8	8	3	3	2	7	10	0	1	2	1	3	2.8 5	60.7
Arithmetic mean	6.5	5	6.1	4.5	6.6	5.1 2	2.5	1.5	1	0.3 7	0.7 5	2.3 0	67.15

***Display the results of the responses of the respondents to the e-commerce sample:***

The results presented in Table (4) for analysing the opinions and responses of the research sample on the e-commerce paragraphs appear, as the results related to the weighted mean, however, this mean is greater than the hypothetical medium of (6) and this is a clear measure about the agreement of the research sample on e-commerce paragraphs, and the importance of e-commerce application in insurance companies, due to its important role in enhancing performance by expanding the targeted groups on various sectors as a result of the effective role that electronic commerce contributes to in the era of technology and communications, which contributed to reducing costs, time and direct contact with customers and target sectors, as it is clear from the table (2) that the highest weighted mean reached (9.1) with a standard deviation of (1.63) which belongs to the seventh question, which confirms the allocation of annual amounts in the company to acquire assets and efficiency for the application of electronic commerce and to conduct training courses for the use of computers and the Internet, Especially that the lack of resources and material capabilities in Iraq is one of the obstacles in not using electronic commerce, especially in light of the weak competition between companies in different sectors, also we find that the least weighted mean is (6.4), which is greater than the hypothetical mean, which indicates that the individuals of a sample of the research agreed on the contents of the paragraphs related to electronic commerce and the importance of their application in insurance companies in Iraq, in order to expand the base of insurance services at various economic and social levels.

**Table 4:** Repetitive Distribution, Weighted Arithmetic's, Standard Deviations, Variation Coefficient, and Percentage of Response of Individuals in the Research Sample

X2: E-commerce	100 %	90 %	80 %	70 %	60 %	50 %	40 %	30 %	20 %	10 %	0 %	Weighted mean	Standard deviation S	percentage
X1	6	11	4	6	4	4	2	2	1	0	0	8.2	2.36	72.3
X2	5	8	12	5	6	2	1	1	0	0	0	8.6	1.77	76.0
X3	8	3	2	8	7	5	0	2	3	2	0	6.4	3.32	51.2
X4	7	5	2	6	4	10	1	5	0	0	0	7.6	2.31	66.3
X5	5	9	8	3	5	6	0	3	1	0	0	8.2	2.18	71.5
X6	9	7	7	6	5	3	3	0	0	0	0	8.6	1.89	76.3
X7	10	9	8	5	4	4	0	0	0	0	0	9.1	1.63	79.5
X8	6	5	5	8	3	2	9	1	1	0	0	6.8	2.21	66.1
Arithmetic mean	7	7.1	6	5.8	4.7	4.5	2	1.75	0.75	0.25	0	7.93	2.20	69.9

*Present the results of the responses of the respondents about the performance efficiency*

By analysing the opinions and responses of the research sample about the dependent variable (the efficiency of the performance of insurance companies) and that are presented in Table (5), as the results related to the weighted mean are indicating that the mean is greater than the hypothetical mean of (6) and this is a clear measure about the agreement of the research sample on the questionnaire paragraphs about the efficiency of the company's performance and its relationship with electronic commerce applications and the importance of lean accounting in measuring and evaluating performance, as it appears from table (5) that the highest weighted mean amount reached (8.8) with a standard deviation of (1.97) which it belongs to the seventh question, which indicates that the company deals with models and Electronic documents, and the adoption of common rules for internal control, also find that the lowest weighted mean amounted to (6.6) which is greater than the hypothetical medium, which indicates that the members of the research sample agree on the content of special paragraphs, Especially working on the participation of employees of the insurance company in training and developmental courses to use the computer, the Internet and the means of communication with customers in order to enhance the efficiency of performance that is related to the quality of services and continuous improvement and build strong relationships with customers aimed at maximizing the value of the customer.

**Table 5:** Frequency distribution, weighted mean, standard deviations, coefficient of variation and percentage of responses of respondents

Y1: Efficiency of performance	percentage	standard deviation	Weighted mean	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Y1	60.1	3.10	6.6	0	1	1	5	7	6	8	1	1	2	
Y2	77.0	1.95	8.3	0	0	0	0	3	4	7	3	6	8	
Y3	75.2	1.98	8.4	0	0	1	0	2	3	3	9	7	9	
Y4	72.2	2.15	8.2	0	0	1	2	0	6	4	4	7	11	
Y5	60.1	2.51	6.8	2	1	1	2	1	12	5	5	3	6	
Y6	73.0	2.01	8.2	0	0	0	1	3	6	4	4	9	7	
Y7	78.0	1.97	8.8	0	0	0	0	1	2	8	7	6	8	
Y8	77.0	1.99	8.7	0	0	0	1	2	7	2	8	5	6	
Arithmetic mean	71.57	2.20	8	0.25	0.25	0.5	1.37	2.3	5.75	5.12	5.1	5.5	7.1	6.75

### **Research Hypothesis Examining**

The aim of examining the main hypotheses of the research is to estimate and measure the correlation and impact between lean accounting applications and electronic commerce (X1, X2) as independent variables for research with the efficiency of the performance of the insurance company as a dependent variable (y1) in a way that is consistent and ensures the achievement of the research objects, however, To achieve this purpose, a set of appropriate statistical methods has been used.

**The null hypothesis (H0):** There is no correlation and impact between lean accounting applications and electronic commerce in performance efficiency.

**The Hypothesis of Existence (H1):** There are a correlation and impact between lean accounting applications and electronic commerce in performance efficiency.

**Table 6:** Measuring the correlation and effect relationship between research variables at the 5% level of significance.

Calculated F value	P-Value	Table F value	R <sup>2</sup>	R	Estimating	The parameters
9.85	0.027	3.32	0.893	0.798	4.922	B
					3.998	B1
					2.846	B2

The final statistical results of correlation and impact relations between lean accounting applications and electronic commerce are shown in the performance efficiency in the table (3), as it exceeded the calculated value of (F) which reached (9.85) with an (F) tabular value of (3.32) at the level of significance (0.05) with two degrees of freedom (40, 2), in addition to that, the significance of the value of (F) is shown by calculating  $(0.05 > 0.027 = \text{Value-P})$ . This indicates the rejection of the null hypothesis (H0) and the acceptance of the hypothesis of existence (H1) which confirms the significance of the independent variables (X1, X2) that included in the model, also, the F test shows the significance of the estimated regression equation when the calculated value of F exceeds the tabular value at the level of significance (5%), that is, the result is acceptable with a confidence degree of (95%), and the determination factor (R2) indicates the explanatory power of the standard model, i.e. That the independent variables affect 89.3% of the changes in performance efficiency, and that 10.7% of the changes in performance efficiency are due to factors within the random error variable, which meaning that a 1% change in lean accounting techniques leads to a 3.998 change in the same direction in performance efficiency, That is, increasing the application of lean accounting techniques and adhering to them leads to identifying profitable sectors and products by assessing the value-added feasibility of all the company's product lines. As for electronic commerce applications by 1%, it leads to a change in the efficiency of performance by (2.846) in the same direction and this indicates that the electronic commerce field is a modern field that enables the National Insurance Company to complete marketing operations, exchange information and financial transfers in a manner that leads to reducing routine and simplifying procedures.

## Conclusion

In light of the results extracted to present theoretical and applied aspects and analysis, a set of conclusions have been reached, the most important of which is the weak marketing of insurance companies 'programs and products that enhance the insurance culture of society and government institutions, especially the private sector, with the importance of insurance and its role in protecting society and reducing the effects of potential risks to which it is exposed, As a large number of citizens believe that insurance is prohibited by Sharia law or that accidents are governed by the fate, and there is no need for insurance, which negatively



affects the volume of activity. however, the efficiency of insurance organizations is one of the important indicators in estimating the extent to which the institution achieves its goals and adapts it to the environment in which it performs in terms of exploiting the accessible resources through electronic commerce applications and using its techniques to enhance the value chain. The e-commerce mechanism enables insurance companies to display their products on a small area in the electronic network, to be viewed by the electronic network by a large number of potential customers in a short time and at the lowest cost, and then obtain customers' requests quickly and immediately. However, lean accounting system technologies contribute to supporting lean manufacturing by promoting lean thinking by adopting a lean culture and working to measure the costs of the financial impact of insurance product operations and reflecting potential risks.



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