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Value Stream Baste Cost (VBC) and Their Impact on Accounting Measurement Efficiency (Applied Study)

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Abstract: In the light of the recent developments in the current century with the diversity of customers' desires, high demand, the era of globalization and the intensification of competition between companies to find a competitive advantage. The traditional methods have become insufficient and therefore do not fit the requirements of the current situation. Which has caused the need for the emergence of new practices and tools to support these developments. Where many companies have found out that the traditional accounting systems do not meet their demands because they can be expensive and take a long time to obtain the required results or they do not take into account the costs of wasted time. Therefore, it was necessary to use new and advanced tools that meet the desired goal that is called the value stream .Which is considered as a tool for obtaining convenient, fast information for improving the quality of the product and providing high flexibility in order to meet the requirements of customers at the lowest possible cost and to know the link and influence on the efficiency of the accounting measurement. The questionnaire method was adopted as a main tool in collecting data and information are related to the research variables and distributing them to 49 individuals are afforded on them by the positions of responsibility in the accounting work in five Iraqi industrial companies. And number of statistical methods are used for the purpose of data analysis for the answers of the research sample and test hypotheses through the help of the statistical program (SPSS). And then verifying the validity of the hypothesis from which the research was launched and depending on the results of the analysis. The research was concluded with a number of conclusions and recommendations. The most important of which was the existence of a close correlation to the value stream in raising the efficiency of accounting measurement . Where the correlation coefficient reached 0.987 and at a high confidence level of 0.99.

Keywords: Value stream, accounting measurement efficiency, value stream metrics, types of value stream.

First research : Research methodology

1-1) The research problem

The problem of the research is represented in the dialectic of the fairness and clarity of measuring costs for products or services through the foundations of allocating the approved and recognized costs . Whether it is traditional methods of allocating costs or the methods are used by relying on allocating costs on the basis of activities. Therefore, the problem leads us to some questions that are included the following :

1) Did the traditional methods of allocating costs not represent the real costs of products ?

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2) Are the recently adopted methods that allocate costs on the basis of activities fair and clear in the distribution of costs ?

1-2) The research objective :

The research aims to find a new basis for calculating costs through the following :

1) Recognition the concept, types, and measurements of value stream costs
2) Identify types of accounting measurement and the most important methods that raise the efficiency of accounting measurement
3) Finding the effect of value stream costs on accounting measurement efficiency

1-3) The research hypothesis :

The research hypothesis is based on the assumption that there is a significant , meaningful correlation between value stream measures and accounting measurement efficiency

1-4) The research significance :

The importance of the research is highlighted by focusing on the method of cost based on value . Since the focus on the value stream is one of the modern trends in determining costs and identifying this last trend in calculating costs and showing its impact on determining the basis for measuring cost . After cost accounting was based on calculating the cost of the product. Through traditional methods that do not meet the requirements of the competition market at the present time.

1-5) The community and sample of the research :

Five industrial companies were selected jointly for the research that are represented by (Diyala State Company, State Company for Automotive and Equipment Industry, State Company for Electronic Systems, State Company for Copper and Mechanical Industries, State Company for Hydraulic Industries) . As it is considered an appropriate environment for the application of value stream measures in calculating product costs.

Second research : Cost on the basis of value stream

1-2) Value

It is the creation of value for customers by understanding their demands, specifications and prices . So examining the value from the point of view of customers is regarded as the basis for designing products and processes more effectively.

2-2) Value stream :

It is expressed as all the activities are carried out by the economic unit to produce , deliver the product or service, starting from receiving the customer's order until delivering the product to the customer. (Maqled, 8: 2010) . Al-Laith & Shujaa indicates that the value stream is an effective tool in the process of continuous improvement . And it represents the management’s interest in the value of the customer to create the improvement process at a time when most of the financial processes are designed to meet the desired goals. Where the goal of the value stream is to increase the percentage of profits, develop work and achieve great returns for the economic unit and represents all the work are implemented by the unit in order to give value to the customer. (Laith & Shujaa, 2015:34) . Whereas Haskin points out that the value flow is a series of processes by which a product is transformed and delivered to the customer pursuant to the design . Where the value stream extends to multiple functions such as production, engineering, maintenance, sales , marketing, accounting, and human resources. (Haskin 2010 : 92) where the value

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stream (value stream) needs all the value-adding and non-hosting activities are required to bring a set of products and services from the starting point of design, customer demand, production till delivery of products or services to the customer . Where the value stream constitutes value creation to the customer. (Al- Nuaimi & Al - Bakri, 2013: 2)

Jraeanin points out that the value stream is an aggregate of all costs that can be assigned directly to the value stream and in full . And the modern companies must know how to define value to the customer . Whereas the customer value can be very effective through defining, understanding, monitoring and according to the value stream . Where the planning of the value stream represents as a visible composite of all the company's activities . Whether the value is added or not. (Gracanin , 2013: 1227).

3-2) Significance of Value Stream :

The value stream is considered one of the best ways that helps to facilitate carrying out of operations , then helps the company to achieve and accomplish the best. It is a method that helps the company to know how to improve greater value for the customer and bring benefit to its advantage. The function of the value stream is to maintain focus while carrying out production operations. It is made for facilitating , simplifying performance , doing reports in the presence of such a value stream. Operations are monitored in their proper form and with high accuracy. One of the requirements of the value stream is the presence of management to coordinate everything that is done in the economic unit, because of course all departments need coordination, and the responsibility rests with the entire manager within the value stream . It is better to use the value stream in the early stages because it helps to understand what is happening within the unit and determine what the customer needs and therefore through collecting information. (Laith & Shujaa , 2015:32)

Accordingly , Gunduz considers the value stream to be all activities that add value or that do not add value and describe those activities as follows :

1) Pure waste : Which is necessary but does not add any value to the customer and may be a waste of time, but it cannot be avoided
2) Activities that can add value to the customer
3) Activities that do not add value to the customer should be removed from the production process. (Gunduz, 2017: 2)

4-2) Elements of value stream : (Maskell & Baggley , 2004 : 31)

Reporting should be done according to the value stream and not according to the sections by the following:

1- Sharing value stream information with employees appropriately

2- Reducing the number of commonly used workplaces as much as possible

3- Controlling production processes rationally and limiting variables

4 - Monitoring waste out of control, such as waste and duplication

5- Monitoring stock and maintaining low stock.

5-2) Measuring the performance of the value stream is one of the most important measures are used in the value stream which are :

1) Sales per person

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This metrics measures the efficiency of the value stream . This value increases in proper time. As the sale of products increases, the value of the current increases. And for the success of this metrics . The people who work in the value stream must be known. The workers who work permanently, the value of sales per person becomes more important and useful . If the products are multiple and the prices, processes and materials are different. . (Maskell & Baggaley, 2003:131)

2) On time delivery :

On-time delivery measures the level of control within the value stream and determines the percentage of orders that are delivered to customers at the specified time. If the value current was under control , so the time of deliver demand to be in the suitable time . Whereas if the current value out of the control leads to delivery of demand may be low . There are several methods for this measurement, including the number of units that may be shipped to customers over the number of required units . And that any unit of measurement is used is not important as long as it is profitable for customers, provided that the value stream method focuses on improving the results of their work. (Gunduz,2015:43)

3) Dock to dock time

This metrics measures the flow of materials within the value stream. As it is used to improve materials per day and hour. If the flow rate of these materials decreases, it increases and leads to a decrease in the level of inventory within the value stream. It is possible by calculating the total inventory within the value stream on the average orders that are delivered to the customer (Gunduz, 2015:43)

4) First time through :

For the first time through (FTT) , it measures the percentage of installation, repair or re-selection or scrap , while some specialists consider them as a measure of the quality of production and the increase of FTT for the value stream. All processes have to be treated inside value stream and to get rid of differentiation within operations (FTT) of the value stream . It is to highlight on the level of control within operations by means of continuous improvement. (Al-Maini , 2013 : 1380)

Average of measure cost per unit :

Some value stream managers believe that there is no need to inform them about the cost of the product, but experience has shown that reporting the cost of the product is considered an important indicator for all value streams . And the average unit cost is measured by adding all costs to the value stream for a week and dividing it by the quantities of units that will be delivered to customers (Gunduz , 2015:45)

6-2) Types of value stream : The studies have specified in this field three types of the value streams which are (Hansen , 2009 : 564) :

1- Value stream of supplying the customers' orders

It focuses on providing current products to existing customers . And the raw materials are received , transported , transferred from the point of receiving the purchase order from the customer until the delivery of the product. It is considered one of the most important and most widely used types of value streams

2- Stream of value of developing new products

It is focused on develop new products for the coming customers that include marketers , engineers of operations and designers of products

3- Stream of value of sales and marketing

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It focuses on presenting existing products and new products to new customers. It turns out that identifying the types of value streams facilitates the identification of value streams when making decisions to convert towards the application of the rationalization approach. Where in the issue of identifying value streams and the processes are included in each value stream is one of the difficulties which face the transformation process

7-2) Value stream costs :

Costing systems use three methods for calculating product costs which are directly follow the cost , the use of cost drivers and cost reduction . And it is considered the most obvious and convenient is direct tracking of product costs. Whereas under the economic manufacturing . The costs are assigned to value streams and a single product value flow structure where multi-skilled workers are assigned to the value stream and are distributed over machines and operate and support functions are performed by a different set of workers for all production lines where indirect costs are allocated directly to value stream . The following is an explanation of the elements of value-stream costs (Al-Nuaimi & Al-Bakri , 2013: 12)

1- Value stream labor costs :

It includes direct and indirect wages are paid to workers for all value-stream activities, such as customer services, sales, marketing, accounting (Gurdals, 2007:70)

2 – Value stream material cost :

It includes the costs of materials are used in the value stream , so let it be weekly . Where the cost of raw materials being semi-finished products and that the stored materials must be under control, but if the stock is high, the raw materials are calculated on the basis of the materials are used in the stores of raw materials. Materials are used according to the withdrawal system by customers and dedicated to the value stream. (Kocamis ,2015:10)

3 – Cost of Maintenance of machinery and equipment :

They are the costs necessary to operate the machines, such as the cost of driving force, maintenance , spare parts, these costs are charged directly to the value streams and in some large enterprises, especially at the beginning of the transition period towards the application of the lean production system and the value costs system . There are some machines that serve more than one value stream and are difficult to replace due to the high price , the large size of all the presses and machines for cutting huge metals . When are authorized, they will be temporarily dealt with as common machines and the costs related to them will be distributed among the value streams, but this is contrary to the principles of the littering approach, because in the long run these common machines must be disposed of, as Maskell sees that it must replacing the common machines with smaller machines so that each stream receives a value with its own machines and the costs of the common materials are eliminated (Al-Laith & Al-Mashharawi , 2015:34) , citing from (Maskell, 2014:132)

4 – The facility costs

The cost of the facilities includes the rental , deterioration of the building, maintenance of the building, security and guards...so on . The costs of the facilities are charged to the value streams on the basis of space and this basis is the only one that is used in agile facilities and the reason is due to this basis stimulates the way of the value stream works to reduce the space that is used by the value stream. (Issa, 2014: 125)

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5 – Support cost

Support costs include supplies of plants , factory equipment, office supplies, spare parts, consumables, other miscellaneous costs that occur during the week . These costs are usually allocated directly to the value stream costs because they can easily be monitored and controlled by the value stream team (Al-Naimi and Al Bakri , 2013:13)

Third research : Efficiency of accountancy metrics

The accounting measurement process is considered as one of the issues in the field of accounting . Which represents the cornerstone and academic discussions since the beginning of the twentieth century . Where it is considered one of the important foundations through which it expresses the validity of the results and thus accounting information becomes of importance in the accounting community

1-3) Concept of accountancy metrics

Accounting measurement is defined as determining the numerical values of things or events for economic units . And these numerical values have been determined in a way that makes them suitable for everyone (Ibrahim , 2008: 12).

The International Accounting Standards Committee also defined accounting measurement " As the process of determining the monetary values of the elements that will be recognized in the financial statements and this requires choosing a specific basis for measurement . And different bases of measurement are used such as historical cost, current cost, realizable value and present value" (Al-Qadhi & Hamdan, 2008: 142)

2-3) Steps of accountancy metrics :

Some steps can be included through which the accounting measurement process can be completed. (Arif, Noura, 2011: 55)

1) It collects data on economic events are related to the project, such as revenues, expenses, assets and liabilities. It is measured in monetary units on the basis of the agreed exchange
2) Recording the previous physical operations according to the double entry system and based on objective evidence
3) Once the economic events are collected and recorded as they occurred . It is necessary to classify the different processes and events into interrelated groups so that useful information can be obtained
4) Summarizing the operations in order to achieve the desired information from recording the financial information are related to the economic unit . It is necessary that this information be summarized in the form of reports or a list submitted to the persons concerned with the economic unit or those interested in its financial assets

3-3) Aims of the accountancy metrics :

The accounting measurement is characterized by achieving the following goals (Hamad, 2015: 139)

1- Expressing economic events and phenomena in an appropriate unit of measure which is money

2- Measure the assets owned by the economic units and the obligations arising from them

3- Identifying the changes that occur in the assets, liabilities and property rights of the economic unit from one period to another and linking these changes in a limited period of time

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4-3) Types of accountancy measurement

Accounting measurement has witnessed a great development through the adoption of a number of methods and desired objectives for each tool, including: (Al-Dhahabi and Muhammad, 2009: 9)

1) Monetary measurement: It is the provision of appropriate financial information to users of financial information
2) Quantitative measurement: It is the method used in managerial accounting by providing appropriate information for making administrative decisions
3) Descriptive measurement: It is the provision of information used in evaluating the performance of the economic

Fourth research : Practical Method

This aspect includes a discussion and presentation of the results according to what was obtained from the outputs of the statistical program (spss) and they were interpreted according to the answers of the sample members . Where a hypothesis test was conducted by testing the correlation and influence relationships between the two research variables and descriptive statistics were found (mean, standard deviation and general trend) to find out the homogeneity of the answers and the agreement of the sample members on them.

1-4) Community and research sample :

A random sample of (49) individuals was chosen . Where the questionnaire was distributed to them , the answers and information were obtained. Table No. (1) shows the characteristics of the research sample individuals in terms of (gender, years of service, scientific specialization, age and job position)

Ratio %	No.	Property	Variable
71.4	35	Male	Gender
28.6	14	Female	
100	**49**	Total	
6.1	3	Less than 5	Duty years
61.2	30	5 – 10 years	
22.4	11	11 – 15 years	
10.2	5	More than 15	
100	**49**	Total	
28.6	14	25 – 30	Age
61.2	30	31 – 40	
8.2	4	41 – 50	
2	1	More than 50	
100	**49**	Total	
16.3	8	Diploma	Certificate
69.4	34	Bachelor	
14.3	7	Master	
100	**49**	Total	
2	1	Economy	Scientific specialization
22.4	11	Managing businesses	
75.5	37	Accountancy	
100	**49**	Total	

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2	1	Administrative	Job position
53.1	26	Accountant	
20.4	10	Auditor	
6.1	3	Director of auditing	
6.1	3	Director of human resources	
4.1	2	Observer	
8.2	4	Accounts organizer	
100	**49**	Total	

Table No. 1 : Properties of ones of research sample

We note from the above table that most of the sample members are males with a percentage of 71.4%, with 35 individuals . While the rest of the sample are females. As for the years of service for individuals, most of them ranged between 5-10 years . Where their number reached 30 , their percentage was 61.2% and the percentage of those ranging from their service is between 11-15 years, about 22.4 . And their number is 11 and this indicates that most of the sample members have sufficient experience

As for the ages of the sample, most of the respondents ranged between 31-40 years, 30 individuals, or 61.2%, and those aged between 25-30 years were 14, or 28.6% . While the percentage of individuals aged between 41-50 was 8.2%, and they achieved a (Bachelor's) degree. The highest percentage in the sample, as the number of those holding a bachelor's degree was 34 people, or 69.4%, followed by a diploma with 8 people, then a master's degree with 7 people. As for the scientific specialization only, the accounting major had the largest share, as the number of accountants reached 37 individuals, with a rate of 75.5%, and then followed Business Administration majored by 11 individuals, at a rate of 22.4%

The job positions ranged between (accountant) with a number of 26 and 53.1% and auditor at 20.1% with a number of 10 individuals. The position of (audit manager) and (human resources manager) reached 6.1% with 3 for each position, as was the position of (accounts organizer) by 8.2% and the number of 4 people

2-4) Descriptive Statistics for Statements

The descriptive statistical indicators were found for the research variables . Which include the arithmetic mean and the relative importance . As it is used to describe and measure the level of the research variables. The standard deviation was also found . Which is used to determine the extent of the dispersion of the answers of the sample members . The lower its value which led to an increase in the focus of the answers and more homogeneity

First : Value stream

A) Sales per person

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	88.2	0.497	4.41	**1) The measure of sales for each person represents the value and efficiency of the value stream and this efficiency can be increased by manufacturing and selling products from the same supplier**
Very	91	0.542	4.55	**2) Determining the required**

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convenient				**number of sales orders and coding sales orders may not reflect the performance rate clearly. Therefore, economic units should focus on the performance rate rather than the final results and numbers**
Very convenient	89.4	0.504	4.47	**3) The rate of sales per person is the best means of measurement for some economic units . As it is easy to calculate and understand . It is preferred to measure income for each person instead of sales, thus focus on the profitability of the value stream**
Very convenient	87.4	0.528	4.37	**4) Adopting the measurement of sales for each person working within the value stream and calculating the extent of the employee's contribution to achieving the profitability of the value stream helps evaluate the performance of employees**
Very convenient	89.4	0.504	4.47	**5) The measurement of sales for each person within the value stream can show the management the production capacity of the company represented by physical units of measurement expressed as revenues and profits**
Very convenient	89.06	0.479	4.453	

Table No 2

We note from the above table that the general trend of the axis is (very agree) . Where most of the sample members agreed that the efficiency of the value stream depends on the sales scale for each person and it can be increased by manufacturing and selling products with the same supplier and calculating the extent of the employee's contribution to achieving the profitability of the value stream and that the focus is on the rate of performance and sales measurement for each person shows management the production capacity of the company and thus increase revenues and profits

The arithmetic mean of the axis ranged from 4.37-4.55, and this is a strong indication of agreement, as the arithmetic mean of paragraph 2, which states: (Determining the required number of sales orders and coding sales orders may not reflect the performance rate clearly. Therefore, economic units should focus on the performance rate instead of results and numbers Final) 4.55, which is a high mean that shows the agreement on the importance of focusing on the performance rate rather than the results. This standard

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deviation was confirmed by it . Where it reached 0.542, which indicates the homogeneity of the answers for the paragraph, and the general trend was (Very Agree)

B) Delivery on agreed time

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	88.6	0.540	4.43	**The company can calculate the time of receiving the order to the customer and process it until the order is delivered to him**
Very convenient	87	0.522	4.35	**It varies from one product to another. The time of delivery of the product to the customer depends on the nature and difference in the production process of the product within the production line**
Very convenient	87.4	0.487	4.37	**Delivering the product to the customer adds value more than the time or period of shipping to the customer**
Very convenient	84	0.407	4.20	**When there is an orderly control over the delivery of the product to the customer . It is a high (good) indicator of the level of performance of the value stream and vice versa**
Very convenient	91.8	0.497	4.59	**Calculating the number of orders delivered to customers in relation to the total orders received from customers is an indicator that helps evaluate the efficiency of the performance of the value stream**
Very convenient	87.74	0.428	4.387	

Table No. 3

The arithmetic mean of the axis ranged between 4.20-4.59, and the fifth paragraph, which states (The calculation of the number of orders delivered to customers in relation to the total orders received from customers is an indicator that helps assess the efficiency of the performance of the value stream) was the highest mean in the paragraphs with a standard deviation of 0.497 . Which indicates on the importance of the paragraph and the extent of the homogeneity of the answers to it, as its relative importance reached 91.8, which is a high percentage

The relative importance of the first paragraph of the axis also reached 88.6, and the paragraph states that (The company can calculate the time of receiving the order to the customer and process it until the order is delivered to him) with an arithmetic mean of 4.43 and a standard deviation of 0.540. Arithmetic 4.387, with a standard deviation of 0.428, where the relative importance of the axis was 87.74, which is a high percentage that indicates the need for an organized control to deliver the product to the customer and

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process the time of receiving the order to the customer. It is a high indicator for measuring the efficiency of the performance level of the value stream and its evaluation

C) The time from dock to dock

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	89.4	0.504	4.47	**The time of receiving raw materials from the quayside and passing through the production process can be calculated within the value stream until it is converted into a complete product and marketed within the quayside (marketing)**
Very convenient	90.6	0.504	4.53	**The use of a system to control the limits and levels of storage for the value stream can contribute to measuring the time of the raw material from berth to berth**
Very convenient	89	0.503	4.45	**The application of the berth to berth time scale stimulates the process of improving the material flow by providing the flow of raw material information and cash flow**
Very convenient	87.4	0.487	4.37	**The integration of raw material flow information and cash flow provides metrics to measure the flow of the ordering process in the value stream of the product in the production process**
Very convenient	85.4	0.491	4.27	**The integration between the types of stock, represented by the finished product, the finished product, and the raw materials within the value stream stock, if its value is divided by the rate of units received per hour, is an indicator for measuring from the sidewalk to the sidewalk**
Very convenient	88.32	0.452	4.416	

Table No. 4

The standard deviation of the axis ranged between 0.487-0.504 . Which is an indicator of the homogeneity of the answers on the axis . Where the deviation of the axis was generally 0.452 and the relative importance of it was 88.32, which is a high percentage for the axis where the general trend of it is very convenient

The arithmetic mean of the axis reached 4.416, which is a high mean and indicates that the integration between the information of the flow of raw materials and the integration between the types of storage, represented by the finished product, the finished product, the finished product, the raw materials, and the

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application of the time scale from the sidewalk to the sidewalk stimulates the process of improving the flow of materials

The arithmetic mean for the second paragraph, which states (Using a system to control the limits and levels of storage for the value stream, can contribute to measuring the time of the raw material from pavement to pavement.) Its standard deviation was 0.504, with a relative importance of 90.6, and the arithmetic mean of the paragraphs ranged between 4.27-4.53

D) The first time through

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	89	0.503	4.45	**Production quality and process efficiency can be measured in the value stream regardless of reprocessing, repairing, retesting or rejection by first time**
Very convenient	90.6	0.504	4.53	**The objective of the first time measurement through the value stream (FTT) is to demonstrate the level of control by the improvement team and the value stream manager**
Very convenient	89.8	0.505	4.49	**Production for the first time through the value stream helps to clarify the production paths as well as the rejected, excluded and reprocessed elements as well as how to preferential treatment to improve the production process**
Very convenient	90.2	0.505	4.51	**The value stream efficiency of product delivery can be measured from the first time through FTT, thus completely improving the metering efficiency**
Very convenient	88.6	0.500	4.43	**Dividing the value stream into action steps that add value to the customer by calculating products for the first time**
Very convenient	89.62	0.482	4.481	

Table No. 5

The arithmetic mean of the axis ranged between 4.43-4.53, where the general trend of all paragraphs was very agreeable, and the second paragraph, which states (The goal of measuring the first time through (FTT) value stream is to show the level of control by the improvement team and the manager of the value stream.) It is the highest arithmetic mean of 4.53 with a standard deviation of 0.504, which is an indicator of the lack of dispersion of answers on the paragraph, where its relative importance was 90.6, which is a very high percentage

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The arithmetic mean for the axis as a whole was 4.481, with a deviation of 0.482, and a high relative importance of 89.62, where the general trend was very agreeable. It indicates the agreement of the sample members on the ability to measure the efficiency of the value stream to provide products for the first time through FTT, and that the aim of this measurement is to show the level of control by the optimization team and the value stream manager, thus fully improving metric efficiency

E) Average cost per unit

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	87.8	0.533	4.39	**Calculating the costs of the value stream and then dividing it on the units produced and delivered to the customer in the same week works to raise the efficiency of the accounting measurement as it is an important indicator for all value stream operations**
Very convenient	85.8	0.577	4.29	**When a company is run through the value stream, it becomes easy to calculate the costs of the value stream because they are direct costs of the value stream**
Very convenient	92.6	0.487	4.63	**Calculating the average cost according to the value stream converts costs into direct costs of the value stream and therefore there are no indirect costs, and this in turn helps to track costs per unit produced, which contributes to raising the efficiency of accounting measurement**
Very convenient	89.4	0.504	4.47	**The use of the average unit conversion cost in the value stream effectively contributes to calculating and determining the direct costs of the value stream**
Very convenient	88.2	0.497	4.41	**Calculating the actual costs of the value stream according to the actual reality requires a comparison with the costs desired by the customer**
Very convenient	88.7	0.464	4.436	

Table No. 6

The process of calculating the costs of the value stream and then dividing it on the units produced and delivered to the customer in the same week works to raise the efficiency of the accounting measurement. The standard deviation of the axis was 0.464, with a general trend in very good agreement

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The standard deviation of the axis ranges between 0.497-0.577, and the fifth paragraph states (The calculation of the actual costs of the value stream according to actual reality requires a comparison of the costs desired by the customer.) It is more homogeneous between the paragraphs where the general trend of it is very agreeable and it is the direction of all the items

The third item stated (The calculation of the average cost according to the value stream converts costs into direct costs of the value stream and therefore there are no indirect costs, and this in turn helps to track costs per unit produced, which contributes to raising the efficiency of accounting measurement.) With a high arithmetic mean of 4.63 and a relative importance of 92.6, where it ranged The arithmetic mean of the paragraphs as a whole is between 4.63 - 4.29

Second : Subordinate variable \ Efficiency of accountancy metrics

General direction	Proportional significance %	Standard deviation	Accountancy medium	Question
Very convenient	90.2	0.505	4.51	The accounting measurement process is done by expressing the assets, liabilities, revenues and expenses in monetary units on the basis of the agreed exchange and using different and multiple methods in the accounting systems, which makes the accounting measurement inaccurate subject to controversy
Very convenient	89	0.503	4.45	The compilation and recording of economic events by expressing them in monetary units and categorizing them into interrelated groups and with high efficiency provides the company with useful information for decision makers in a timely manner
Very convenient	89.8	0.505	4.49	Providing accurate information about the value stream to users of financial information is one of the goals of the accounting measurement efficiency, as the efficiency of the accounting measurement affects the users of accounting information in the company
Very convenient	89	0.503	4.45	Classifying costs according to their relationship to the value stream to direct costs and tracking them directly makes the process of measuring and distributing costs more reliable and credible because it does not depend on the basis for allocating costs, which can be unfair
Very convenient	86.2	0.466	4.31	Accounting measurement is of great importance in imparting transparency and credibility to the value stream and thus providing appropriate accounting information for decision-making

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Very convenient	88.6	0.500	4.43	Raising the efficiency of accounting measurement in economic units helps to raise the quality of accounting performance in the accounting units of companies
Very convenient	88.2	0.497	4.41	The adoption of a double mixture of accounting measurement methods (monetary and quantitative) contributes significantly to calculating product costs in the value stream, which leads to raising the efficiency of accounting measurement
Very convenient	88.7	0.467	4.434	

Table No. 7

The arithmetic mean for the axis reached 4.434, which is a high average that indicates the agreement of individuals on its terms, and this is confirmed by its standard deviation of 0.467, which is evidence of the lack of dispersion of answers and their homogeneity, as the efficiency of the accounting measurement was increased. Accuracy about the value stream for users of financial information and the compilation and recording of economic events and that raising the efficiency of accounting measurement in economic units helps to raise the quality of accounting performance in the accounting units of companies

The arithmetic mean of the paragraphs ranged between 4.31-4.51, where the first paragraph stated (The accounting measurement process is done by expressing the assets, liabilities, revenues and expenses in monetary units on the basis of the agreed exchange and using different and multiple methods in the accounting systems, which makes the accounting measurement inaccurate subject to controversy.) With a standard deviation of 0.505 and importance . A high percentage of 90.2, and the relative importance of the axis as a whole was 88.7, which is a high percentage of the importance of accounting measurement and the need to raise its efficiency and quality

3-4) Test of relation of track and correlation between research variables

The research hypotheses that were formulated based on the main research problem were tested, as the correlation between the independent variable (value stream) and the five hypotheses emanating from it and its relationship to the dependent variable (accounting measurement efficiency) is tested using the statistical method (Pearson) and the effect of the independent variable and hypotheses was also tested. dependent on the dependent variable, as follows :

First: the effect and the relationship between the independent variable (value stream) and the dependent variable (accounting measurement efficiency)

Sig	**f accounted value**	**t accounted value**	**Slope coefficient B**	**Determining coefficient R^2**	**Correlation coefficient R**	**Independent variable**	**Subordinate variable**
0.000	1759.5	41.947	1.012	0.974	0.987**	Value stream	accounting measurement efficiency

** It means signal at confidence degree 99 %

Table No. 8

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The results showed that there is a close correlation to the value stream in measuring and raising the efficiency of accounting measurement, as the correlation coefficient reached 0.987 at a high confidence level of 99%, meaning that there is a strong direct positive correlation between the two variables and thus accepting the main hypothesis which states "there is a statistically significant correlation between Combined Value Stream and Accounting Measurement Efficiency

The above table shows that there is an effect of the value stream variable on the efficiency of the accounting measurement, as the table showed that 97.4% of the changes in the efficiency of the accounting measurement were caused by the value stream, where the value of R2 reached 0.974 and the value of the regression coefficient B (1.012), which is a positive value that explains that the more the unit improves One of the value stream will lead to an increase and improvement of 1,012 in the efficiency of the accounting measurement, and the value of F is 1759.5 in terms of 0.000, which is a smaller significance than the level of significance. and accounting measurement efficiency.

Second: The effect and correlation of the five hypotheses emanating from the independent variable (value stream) and the dependent variable (accounting measurement efficiency

Sig	Accounted value f	Accounted value t	Slope coefficient B	Limiting coefficient R^2	Indication level	R	Independent variable	Subordinate variable
0.000	1053.2	32.45	0.953	0.957	Signal at confidence degree 99%	0.978**	Sales per person	**Accountancy measurement efficiency**
0.000	456.039	21.355	1.036	0.907	Signal at confidence degree 99%	0.952**	Deliver in time	
0.000	1702.3	41.259	1.017	0.973	Signal at confidence degree 99%	0.986**	Time from port to port	
0.000	1182.47	34.387	0.947	0.962	Signal at confidence degree 99%	0.981**	First time through	
0.000	588.35	24.256	0.966	0.926	Signal at confidence degree 99%	0.962**	Average cost per one	

** Means Signal at confidence degree 99%

Table No. 9

The above results showed that there is a (a statistically significant correlation between sales for each person and the efficiency of the accounting measurement), where the value of the correlation coefficient R was 0.978, which is a strong positive direct correlation, that is, the greater the sales measure for each

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person represents the value and efficiency of the value stream and thus raise the efficiency of the accounting measurement As well as for the other emerging hypotheses of the value stream, where the value of the correlation for delivery on time was 0.952, and for the time from berth to berth 0.986, between the first time through 0.981, and between the average cost per unit of 0.962, where we note the high value and strength of the correlation coefficient, meaning that there is a strong direct relationship between them And the efficiency of the accounting measurement, where the level of confidence was high, i.e. at 99%

As for the effect, there is an effect between the sales per person and the efficiency of the accounting measurement, meaning that "there is a significant effect of the sales of each person on the performance and efficiency of the accounting measurement," where the value of F (1053.2) at a significant level of 0.000 and the value of B (0.953), which is a positive value It explains that whenever one unit of the sales indicator is improved per person, it will lead to an increase and improvement of 95.3% of the accounting measurement efficiency

As for the on-time delivery indicator, there is an effect between it and the efficiency of the accounting measurement, that is, "there is a significant effect of on-time delivery in the performance and efficiency of the accounting measurement," where the value of t was 21.355 at a significant level of 0.000, and the value of B was (1.036), which is the value of Positive explains that whenever an improvement in one unit of the indicator will lead to an increase and improvement with the same value in the efficiency of accounting measurement. The table showed that 90.7% of the changes in the efficiency of accounting measurement are caused by delivery on time, where the value of R2 reached 0.907

As for the time indicator from the sidewalk to the sidewalk, there is a clear effect between it and the efficiency of the accounting measurement, meaning that "there is a significant effect of the time from the sidewalk to the sidewalk in the performance and efficiency of the accounting measurement", where the value of R2 was 0.973, and the value of t was 41.259 at the level of significance of 0.000. The value of B (1.017), which is a positive value that explains that whenever one unit of the indicator improves, it will lead to an increase and improvement with the same value in the efficiency of the accounting measurement. The table showed that 97.3% of the changes in the efficiency of the accounting measurement are caused by the time from the sidewalk to the sidewalk

The results also showed that "there is a significant effect (the first time through) in the performance and efficiency of the accounting measurement" and "there is a significant effect of the average cost per unit on the performance and efficiency of the accounting measurement"

Where the value of R2 was 0.962 for the fourth indicator, and the value of t was 34.387 at a significant level of 0.000, and the value of B was (0.947), which is a positive value that explains that whenever an improvement of one unit of the indicator will lead to an increase and improvement by the same value of the accounting measurement efficiency, the table showed that 96.2% of the changes The effect on the efficiency of accounting measurement is caused by the fourth indicator

Where the value of R2 was 0.926 for the fifth indicator, and the value of t was 24,256 at a significant level of 0.000, and the value of B was (0.966), which is a positive value that explains that whenever an improvement of one unit of the indicator will lead to an increase and improvement by the same value of the accounting measurement efficiency, the table showed that 92.6% of the changes The effect of accounting measurement efficiency is caused by the fifth indicator

4-4) Truth and constant of questionnaire

One of the most important steps of the questionnaire is to test the extent of its validity and reliability, as the questionnaire's validity is a measure of what was designed to be measured. The absolute value of the

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paragraph must be greater than 0.4 in order for it to be taken into account and belong to the axis. The results and their validity and the following tables show the validity and stability of the paragraphs where the coefficients were greater than the basic minimum

Cronbach coefficient	factor analysis	Questionnaire	
0.961	0.944	**Item no. 1**	Sales per person
	0.853	**Item no. 2**	
	0.967	**Item no. 3**	
	0.925	**Item no. 4**	
	0.967	**Item no. 5**	
0.920	0.844	**Item no. 1**	Deliver in time
	0.910	**Item no. 2**	
	0.894	**Item no. 3**	
	0.542	**Item no. 4**	
	0.615	**Item no. 5**	
0.947	0.955	**Item no. 1**	Time from place to another
	0.893	**Item no. 2**	
	0.959	**Item no. 3**	
	0.917	**Item no. 4**	
	0.818	**Item no. 5**	
0.978	0.962	**Item no. 1**	First time Through
	0.948	**Item no. 2**	
	0.977	**Item no. 3**	
	0.970	**Item no. 4**	
	0.939	**Item no. 5**	
0.936	0.970	**Item no. 1**	Cost average per one
	0.850	**Item no. 2**	
	0.773	**Item no. 3**	
	0.926	**Item no. 4**	
	0.952	**Item no. 5**	

Table No. 10

The following table shows the results of the factorial validity coefficient and Cronbach's alpha coefficient of the dependent variable

Cronbach coefficient	factor analysis	Questionnaire	
0.978	0.921	**Item No. 1**	Accountancy measure efficiency
	0.980	**Item No. 2**	
	0.948	**Item No. 3**	
	0.980	**Item No. 4**	
	0.810	**Item No. 5**	
	0.972	**Item No. 6**	
	0.953	**Item No. 7**	

Table No. 11

From the foregoing, the researcher believes that there is a significant correlation relationship between the value stream measures and raising the efficiency of the accounting measurement

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Fifth Research : Conclusions & Recommendations

1-5) Conclusions :

Based on the foregoing on the theoretical and practical side. A number of conclusions were reached as following :

1) The application of the value stream in companies helps them to focus on and control production processes and also facilitates the process of evaluating the performance and in coordination with the value streams in the departments
2) The adoption of the value stream costs reduces to some extent the indirect costs and makes the costs direct to the value stream, which contributes to raising the efficiency of accounting measurement
3) The efficiency of accounting measurement helps in imparting transparency and credibility in the costs of the value stream, which contributes to providing the appropriate information
4) The application of the types of value streams (processing, product development, sales) contributes to providing information to verify the efficiency of the accounting measurement and effectively
5) The results showed that there is a close correlation to the value stream in raising the efficiency of accounting measurement, as the correlation coefficient reached 0.987 and at a high confidence level of 0.99

2-5) Recommendations

Based on the following conclusions . The researcher recommends the following :

1. Developing the industrial companies' awareness of the concept of the value stream and its types in order to be able to apply it
2. The surveyed industrial companies provide effective accounting systems that enable them to apply modern methods, including value stream costs
3. Training accountants working in the cost departments to apply the value stream costing calculation because of its clear impact on the efficiency of the accounting measurement
4. Work to focus on raising the efficiency of accounting measurement, which provides accounting information that helps the administration in making decisions and evaluating performance

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