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THE ROLE OF COST VOLUME PROFIT ANALYSIS ON THE MANAGERIAL DECISION-MAKING IN MANUFACTURING FIRMS IN MOGADISHU – SOMALIA

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Abstract

The Purpose: The study examined at how manufacturing firms used cost-volume-profit analysis while making managerial Decisions. **Design, Methodology, and Approach:** An online survey and a quantitative methodological approach were used to gather the study's primary data. The target market consists the Manufacturing Firms in Mogadishu, Somalia. 88 respondents who worked in the accounting and finance departments of manufacturing firms provided the information. The data were examined using the regression method of data analysis and the social science statistical program SPSS (version 24). **Findings:** The study showed the importance of cost volume profit analysis in any production firm's decision-making. The results also show a positive relationship between unit variable cost and managerial decision-making, as well as a significant relationship between total revenue and managerial decision-making. These findings suggest that manufacturing firms should use their understanding of cost volume profit analysis when making managerial decisions. Finally, the researchers suggested that Manufacturing firms look at their CVP analysis, which consists of (unit variable cost and total revenue), and analyze it effectively before undertaking managerial decisions in order to attain an effective profit. They also suggested that results from cost volumes analysis of a firm should be put into practice in order to ensure that the firm does not lose in their cost of production.

Keywords: total revenue, total variable costs, cost volume profit analysis, and managerial decision-making.

1.0 BACKGROUND OF THE STUDY

The origins of the concept cost volume profit (CVP) model can be seen in the writings of Hess, Mann, and 1907, which divided fees into fixed and variable variables and assumed that there was only one product and no uncertainty. By establishing a new class of pricing (semi-variable charges), which includes costs that aren't immediate, Williams (2014) suggests a new differentiation between the multiple cost components organizations are faced with.

The potential risks associated with the options that planners and decision-makers select is of interest to them. For instance, a film producer may have been shocked by the number of screenings needed for a brand-new movie in order for the business to recoup all of its production costs and generate the desired goal profit (Atkinson, 2012).

Many decision-makers evaluate the possibility of at least breaking even or generating a target profit to assess the risk of a project. Uncertainty exists when an actual number deviates from an anticipated value. Strong experience in cost and revenue conduct is required to comprehend the relationship between an assignment's sales, charges, and income (Matsumura, 2012). The

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CVP analysis gathers all of the business's financial records and focuses on the costs, quantity provided, and price are related to one another.

CVP analysis can be a helpful technique for establishing the extent and gravity of the financial crisis a company is experiencing and for assisting in selecting the essential solution. The primary goal of this study is to develop methods to assist decision-makers in coping with the CVP model's shortcomings (Hansen, 2010).

Businesses can manufacture a variety of goods and divide the overhead costs among them on a worldwide scale (Noreen, 2013). In order to reflect their product mix, the employer could also need to alter the CVP evaluation (Noreen, 2013).

Production is methodically divided into batches in order to do this. The batch values are then evenly transmitted to the CVP as a single product. The batch can be used as a whole to define the batch sales and variable costs (Glautieret, 2013).

However, the complexity of the matrix structure is now causing problems that result in unclear duties, a lack of responsibility, and insufficient profit margins. In addition to the need for flexibility, a corporation is going through a strategy change. The volume cost profit analysis technique allows a company to examine its production costs, substantially simplifying the process of reassessing the current corporate structure and decision-making culture. This study will contrast how cost volume profit analysis is applied in manufacturing firms' managerial decisions as a result of these challenges, which have now become a substantial problem in the manufacturing sectors.

The main aim of this study is to investigate the managerial decision-making processes used by industrial companies in Mogadishu. The first explicit objective of this article is to investigate how total variable costs influence management decision-making in Mogadishu's industrial firms. The second objective is to determine the effect of overall income on managerial decisions made in Mogadishu manufacturing firms.

2. LITERATURE REVIEW

2.1 Theatrical Framework

Classical economics theory

Theoretically, the study will be based on Adam Smith's Theory of CVP Analysis, a classic economics theory that he created in the late 18th to early 19th century. According to this hypothesis, businesses will make a normal profit if they have perfect competition and their marginal income equals their marginal cost (Datar, 2019).

This study is grounded in the idea that management's goal is to maximize profit, with profit being defined as the difference between total revenue and total cost (Horngren, 2019). Therefore, after looking at the cost of production, it is up to management to choose and carry out the most profitable course of action. Accountants often concur with the traditional economic theory. However, as was noted by (Mahar, 2018).

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2.2 Review-related Literature

2.2.1 The concept and definitions of CVP analysis

Using a CVP analysis, you can systematically look at how changes in activity (or production) affect total sales income, expenses, and net profit (Drury, 2014). It is a mathematical illustration of how cost-effective it is to produce a good. The CVP model's representation of the links between a product's revenue and cost functions is used to assess the financial effects of a variety of strategic and operational choices. Given a specific cost structure, the planning tool known as cost-volume-profit analysis can be quite helpful in anticipating sales and profit levels (Burch, 2015).

Traditional CVP analysis has primarily been used by industrial businesses with a base of tangible products (for example, furniture). But the idea itself is relevant to service businesses like those in the banking, insurance, and other financial services sectors (Ihemeje, 2015). As was already noted, breakeven analysis, also known as cost-volume-profit analysis, is frequently employed in the manufacturing industry (Horngren, 2011).

2.2.2 Cost

Different definitions exist for the word cost. The amount of spending (real or notional) incurred or due to a specific good or service is what the Chartered Institute of Management Accountants (CIIMA) refers to as a cost. According to (Okoye, 2011), cost is the value of the economic resources employed in the production of goods and services.

2.2.3 Volume

The amount of goods or services sold during regular business hours by a corporation in a given period of time; also, the volume at which something is heard or the area that something occupies (Baumol, 2009).

2.2.4 Profit

According to each individual, the word "profit" means something different. Profit is generally viewed as income going to the stockholders (Dwivedi, 2008). Profit is defined by an accountant as the sum of all realized revenues less all recognized expenses, including overhead and production costs. The return that a businessman might anticipate from the second-best alternative use of his resources is what economists refer to as profit, which is defined as a return above the opportunity cost (Dwivedi, 2008).

2.2.5 Concept and definitions of managerial decision making

When discussing decision-making, it is vital to define a choice since decision-making is the process of making decisions. This is necessary to properly explain management accounting as a crucial element of management and a tool for decision-making. Choosing a path of action that will lead to a particular desired outcome is the standard definition of a decision. This

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demonstrates that selecting a plan of action from a range of options is not a procedure that is carried out at random. (2008) Burstein

2.2.6 The linkage between CVP analysis and managerial decision making

Manufacturing firms can utilize cost volume profit analysis to get a thorough understanding of their production chain and identify the links that have an impact on the organization's ability to make a profit (Martland, 2013). A corporation must do a cost volume profit analysis in order to make an appropriate managerial decision, according to the study's findings thus far. This analysis will help manufacturing companies realize effective profits while also identifying areas for improvement. Thus, it can be inferred that the use of cost volume profit analysis is essential for the managerial choices made by industrial firms. (2013) Maryland.

2.2.7 Conceptual framework

Employing the managerial decision-making process, total revenue, and the chosen independent variables of variable cost and total revenue as dependent variables. Therefore, the following research framework is the main emphasis of this study.

3.0 METHODOLOGY

The target population of this study is manufacturing Firms n Mogadishu-Somalia. However, the research team chose a few manufacturing companies, including Afi, Ijaabo, and Dasani mineral water. The target audience for this study included 34 participants from the Afi mineral water firm, 33 participants from the Ijaabo mineral water firm, and 33 participants from the Dasani mineral water firm, totaling 100 participants.

A sample is a subset of components drawn from a population that is thought to be representative of the population (Black, 2016). The researchers chose 80 responders as the sample size from the target demographic of the n 100 employees. 27 Afi, 27 Ijaabo, and 26 Dasani made up the major respondents.

4. FINDINGS AND DISCUSSIONS

Analysis of Response rate

Description	Number	Rate (%)
Questionnaires Administered	**80**	**100**
Questionnaires Not Received	**0**	**0**
Responses Received	**80**	**100**
Invalid Responses	**0**	**0**
Valid/Usable Responses	**80**	**100**

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Demographic data

Variable	Frequency	Percentage %
Gender		
Male	63	78.8
Female	17	21.3
Total	**80**	**100.0**
Age		
less than 30	15	18.8
31-35	30	37.5
36-40	23	28.8
41-45	7	8.8
46-above	5	6.3
Total	**80**	**100.0**
Educational level		
Secondary	12	15.0
Diploma	4	5.0
bachelor degree	44	55.0
Master	12	15.0
PHD	8	10.0
Total	**80**	**100.0**
Job category		
Owner	12	15.0
Manager	20	25.0
Employee	48	60.0
Total	**80**	**100.0**
Experience		
less than one year	4	5.0
1-2 years	12	15.0
2-5 years	20	25.0
more than 5 years	44	55.0
Total	**80**	**100.0**
Company name		
Afi mineral water	27	33.8
Ijaabo mineral water	27	33.8
Dasani mineral water	26	32.5
Total	**80**	**100.0**

Source: primary data, 2022

According to the study's descriptive data, 63 (78.8%) of the respondents were males, while the remaining 17 (21%) were women, proving the industry's majority among men. Furthermore,

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30 (37%) of the respondents were between the ages of 31 and 35, 15 (18.8%) of the respondents were under the age of 30, 23 (28.8%) were between the ages of 36 and 40, 7 (8.8%) were between the ages of 41 and 46, and the average age of the respondents was 5 (6.3%) for those who were 46 years old or older. Out of 80 responders, 15% had earned a secondary degree. Only 5% of respondents had a diploma. About 55% of employees have bachelor's degrees, which was the highest representation. 15% of the representatives had master's degrees. 10% of respondents have doctorates.

Despite this, the report also lists the respondents' years of experience. It is clear that the majority of our target responders have 5 years or more of experience because just 5% had less than a year's worth of experience, 15% had between 1-2 years' worth, 25% had between 2 and 5 years' worth, and 55% had more than 5 years. Thus, the categories of respondents who participated in the study by the company are revealed from the table. Out of the 80 respondents in the study, 33.8% were from Afi, 33.8% were from Ijaabo, and another participant was Dasani for 32.5%, indicating that these businesses are accessible in the distribution of manufacturing.

The total variable cost on managerial decision making in manufacturing firms

Descriptive analysis of variable costs	**Mean**	**SD**	**Response**
Variable costs are those whose quantities change as the quantity of output changes.	1.48	.779	Agree
We separate our operating costs into fixed and variable categories	1.56	.840	Agree
In long run Variable cost depends our unit cost	1.98	.693	Agree
When labor costs are a variable costs but not a fixed cost, an increase in labor costs leads to an increase in both average total cost and marginal cost.	2.03	.886	Agree
Total Average	**1.7625**	**0.7995**	**Agree**

Source: primary data 2022

The table above shows that respondents generally agreed that variable costs are those whose amounts change when the volume of production changes, as demonstrated by a mean of 1.48 and its corresponding standard deviation of.779 in the survey. Alternatively, the respondents stated that they divide their operational costs into fixed and variable categories as indicated by a mean of 1.56, and its reported standard deviation of.840. With a mean of 1.98 and a standard deviation of.693, the respondents also concurred that the variable cost is dependent on our unit cost over the long term.

Similarly, the respondents concurred that when labor costs are variable rather than fixed, a rise in labor expenses results in an increase in both the average total cost and the marginal cost, as evidenced by the mean of 2.03 and its reported standard deviation of.886.

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To determine how the firm's overall income generation affects managerial decision-making, total organization revenue generation.

Descriptive analysis of total revenue	Mean	SD	Response
The business will fail if overall revenue declines over the long term.	1.61	.755	Agree
Total revenue boosts an organization's operating profit.	1.84	.737	Agree
When an organization's overall income is high, it will get better at making wise decisions that will increase revenue; nevertheless, when its overall revenue is low, it will become less wise for management to make certain decisions.	1.91	.917	Agree
In our experience, many entrepreneurs make mistakes when it comes to revenue even though they have created really respectful other elements of their business model.	2.33	1.088	Disagree
Reduced overall revenue Real choices are influenced by non-operating revenue.	2.73	1.043	Agree
Total Average	**2.084**	**0.908**	**Agree**

Source: Primary Data 2022

According to the above table, the respondents were in agreement that the business would collapse if overall revenue declined over the long term, with a mean of 1.61 and an equivalent standard deviation of.755.

Furthermore, the respondents concurred with the mean of 1.84 and its corresponding standard deviation of.737, demonstrating that total sales raises operating profit for the company. In addition, respondents concurred that a high total revenue generated by an organization would improve the organization's ability to take more advantageous decisions in order to increase revenue, but a low total revenue generated by an organization would reduce the type of managerial decisions made, as indicated by a mean of 1.91 and its equivalent standard deviation of.917. The respondents disagreed with the mean of 2.33 and its corresponding standard deviation of 1.088, which suggested that many entrepreneurs make mistakes when it comes to revenue even though they have built highly respectable other components of their business strategy. Likewise, a mean of 2.73 and a standard deviation of 1.043 show that respondents believed that a decrease in total revenue from non-operating sources results in meaningful decisions.

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Decision making of manufacturing firms

Descriptive analysis of Decision making	Mean	SD	Response
In our organization, key decision-makers select the best course of action, and once a critical choice is taken, it is carried out as intended.	1.78	.842	Agree
Individuals at my organization are clear about their role they should play in making and carrying out major decisions, and leaders at my company welcome feedback and healthy debate.	2.05	.953	Agree
In our organization, key decision-makers select the best course of action, and once a critical choice is taken, it is carried out as intended.	2.33	.991	Agree
When we make key decisions at our company, they lead to positive outcomes	2.90	1.143	Disagree
CVP analysis can assist decision-makers in assessing the risks associated with the business.	3.09	1.070	Disagree
Total Average	**2.43**	**0.9998**	**Agree**

Source: Primary Data 2022

According to the above table's mean of 1.78 and its corresponding standard deviation of.842, respondents agreed that their organization's leaders always choose the best course of action when making crucial decisions, and that once a critical decision has been made, we carry it out as planned.

Instead, with a mean of 2.05 and a standard deviation of.953, the respondents agreed with the statement that leaders at their business encourage suggestions and healthy debate and show dedication to and support for significant decisions after they have been made. The respondents also agreed that their company's employees understand their responsibility in developing and implementing critical decisions, as indicated by a mean of 2.33 and its associated standard deviation of.991.

In addition, with a mean of 2.90 and a standard deviation of 1.143, the respondents disputed that crucial choices our business makes lead to successful outcomes. The respondents also disagreed that CVP analysis can help decision-makers assess the risks connected to the firm, which have a mean of 3.09 and an associated standard deviation of 11.070.

Correlation analysis

Variables	Variable cost	Total revenue	Decision making
Variable cost	1		
Total revenue	.926**	1	
Decision making	.898	.987	1

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CORRELATION ANALYZE

Source: Primary date, 2022

Correlation is significant at the 0.01 level (2-tailed).

The table above illustrates the correlations between the dependent variable and its explanatory variables. It reveals that the dependent variable, management decision-making in manufacturing businesses, and the independent variable, unit variable cost, have a correlation of 0.898, or almost 89.9.

While the managerial decision-making of manufacturing firms and Total Revenue on managerial decision-making showed a correlation of 0.987 or approximately 98.7%, the two explanatory variables, Unit Variable Cost and Total Revenue, respectively explained approximately 89.9% and 98.7% of the result on the dependent variable (managerial decision-making of manufacturing firms). The two explanatory factors have been successful in explaining the results, according to this strong and confident number.

This result illustrates that there is a substantial relationship between the independent variables and the three explanatory variables, which suggests that the control variables are likewise related.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.975	.603

5. MAJOR FINDINGS

The results of the study's analysis of the data, which revealed a number of conclusions in line with its goals, are listed below: The first goal was to determine how total variable costs affected managerial choice-making. The study demonstrated that unit variable cost also influences the degree to which manufacturing firms make their decisions. This result clearly demonstrated that manufacturing companies take unit variable cost into account before making managerial decisions. This is because these firms must have recognized the importance of unit variable cost in the development of their business and, as a result, believes it to be very useful when making decisions regarding their production processes. With an average mean of 1.7625 and a standard deviation of 0.7995, the respondents are in agreement.

The second objective was to figure out how a firm's total revenue impacts managerial decision-making. The majority of respondents believed that the firm makes decisions on how to maintain and improve upon these standards when the revenue generated is high. However, when a gross revenue output is low, it also makes choices that will raise the amount of income it generates. With an average mean of 2.084 and a standard deviation of 0.908, the respondents are in agreement.

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According to data analysis on managerial decision-making in manufacturing firms, the majority of respondents agree that leaders make the best choices when making important decisions, implement those decisions as intended after they are made, and encourage input and healthy debate. They also agree that individuals are aware of their responsibilities when it comes to making and carrying out important decisions. With an average mean of 2.43 and a standard deviation of 0.9998, the results indicate that the respondents were in agreement.

Correlation study show that there is a strong relationship between the dependent and independent variables, which means that the two explanatory variables are no longer associated and have a strong relationship. Total variable costs and total revenue will both have an impact on managerial decision-making if either of these variables is out of order.

The findings of the regression analysis demonstrate that the independent variables account for 97.6% of changes in management decision-making, while other variables outside the scope of the study account for 2.4%. The R2 value of 0.976 suggests that this is the case.

6. RECOMMENDATION

The researchers suggest the following in light of the study's findings:

- The management of manufacturing firms and other cost-volume-profit analysis users must choose which excellent price-volume-profit analysis approach to apply.
- • Production businesses must provide trend analysis with cost-volume-profit outcomes from prior years in order to compare them to current conditions and the performance of other industries.
- Cost-volume-profit analysis approaches must be utilized in the decision-making process of manufacturing firms in order to improve managerial effectiveness.
- • Only if there is enough software for cost-volume-profit analysis cans one obtain the benefit of effective cost control, high potential for efficiency, and increased profitability.
- In order to maximize sales volume and ultimately sales value, business organizations should aim to increase the number of output products they produce.

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