



Information Analysis Techniques for Decision Making: Research on Hanoi Businesses

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ABSTRACT:

Businesses in Hanoi want to operate effectively in a competitive environment, they must be invested in capital, and modern technology and managed according to modern methods. In addition, business administrators need to be provided with sufficient useful information as a basis for making short-term and long-term business decisions. In management accounting technical groups, the decision-making information analysis technical group always plays an important role in providing information to administrators. The author conducted research at manufacturing enterprises in Hanoi, with 145 survey questionnaires sent to 145 companies in the second quarter of 2023. The author used SPSS to process the collected data, the results show that short-term and long-term decision-making information analysis techniques have been implemented in businesses in Hanoi but the level of use of different techniques is different.

KEYWORDS: Information analysis techniques, decision-making, Hanoi.

1. INTRODUCTION

In a market economy, competition between businesses and economic groups is becoming increasingly fierce. The success or failure of each business depends greatly on the strategic goals the business builds. At that time, the role of management accounting information was increasingly expanded and its position was affirmed. Management accounting must provide appropriate, timely and reliable cost information for planning, controlling and using resources, evaluating operational efficiency and making business decisions. In this information, information provided from the decision-making information analysis technical team plays an important role. That is information about revenue, costs, output and analysis of how changes in these factors affect profits? In the production and business processes, administrators often face decisions such as changing selling prices, increasing advertising, changing materials used, etc. Applying information analysis techniques to make decisions In management accounting, information will be provided as a basis for administrators to perform their functions.

For businesses in Hanoi, when they operate in a globalized environment, it means they face more and more competitors. New businesses must learn a lot from their competitors, starting with the need for when the break-even point will be achieved, how many products the business needs to sell to reach the target profit, etc. This information becomes a necessity for experienced managers, who are facing the current need to fend off competition from competitors, who are looking for ways to do business more effectively. Through this source of information, it gives administrators a clear view of the break-even point, the points needed to achieve target profits, and special business situations. This is also the source of information for administrators to realize their strategic goals. Therefore, for businesses in Hanoi to aim for sustainable development in a globally competitive environment, business administrators need to be provided with useful information to make business decisions.

This article studies the level of use of decision-making information techniques at businesses in Hanoi, expressed through three main contents, including systematizing relevant theories, analyzing the current situation and offer solutions.

2. LITERATURE REVIEW

Break-even point analysis

According to Garrison, Noreen and Brewer (2010), the break-even point is the point at which sales (revenue) give zero profit. Break-even analysis is part of cost-volume-profit (CVP) analysis performed to answer questions such as at what point does sales (revenue) decrease before the business begins to lose money? Therefore, the break-even point can be calculated by finding the point at which revenue equals variable costs plus fixed costs. The break-even point is calculated both in terms of quantity and revenue. For administrators, break-even point is an important indicator of the administrator. This is the basis for managers to make business decisions such as choosing a business plan, choosing a reasonable product consumption structure, and determining the output level to achieve the desired profit.

According to Hansen, Mowen, and Guan, while the break-even point is useful information, most businesses aspire to have profits greater than zero. CVP analysis shows us how to determine how much product to sell, to achieve desired profits. Desired operating profit can be expressed as a dollar amount or a percentage of sales revenue. Therefore, the cut-off point can be calculated by finding the point where revenue equals variable costs plus fixed costs plus desired profit. The points needed to achieve the desired profit are calculated both in terms of quantity and in terms of revenue. For administrators, before each production and business period, always determine the profit target to be achieved. Through the essential point, administrators can easily see how many products need to be sold and how much revenue needs to be achieved so that the business can achieve its initial goals.

Analyze volume cost and profit relationships

According to Drury (2004), CVP analysis is based on the relationship between volume, costs, and profits in the short run, the short run being a period of one year or less, in which the firm's output is limited by current production capacity. In the short run, some inputs may change, and some may not.

According to Hansen, Mowen, and Guan (2010), cost-volume-profit analysis focuses on price, revenue, volume, costs, profits, and sales. It can be used to determine the sales volume or revenue needed to break even or achieve a target profit. Changes in fixed and variable cost patterns affect a company's profits.

According to Garrison, Noreen, and Brewer (2006), the CVP analysis model is based on a simple model of how profits respond to prices, costs, and sales volume. This model is used to answer questions such as: what is the break-even quantity, what is the margin of safety, and what will happen if there are changes in price, cost, and sales volume? .

In management activities, administrators often have to consider production and business activities in many different aspects and relationships to find the optimal solution. The cost-volume-profit relationship is one of the economic relationships that managers often consider to make decisions about a business plan, especially the consideration of short-term business plans and options in daily operations of the business.

Analyze customer profitability

According to Bellis Jones (1989), customer profitability analysis was introduced as a powerful technique to provide a solution to the problem of measuring customer profitability and can be used as a vehicle to support a customer-focused strategy. Measure segment profitability and manage customer relationships based on customer value so that both customers and the company achieve their goals.

Dwyer (1989) defines customer lifetime value assessment as the present value of expected profits (i.e. total profit), net of costs from the customer. According to Guiding and McManus (2002), assessing customer lifetime value is an advanced development of customer profitability analysis. However, assessing customer lifetime value is a fundamental and quantitative measure of the financial outcome of the relationship a company has with its customers.

Techniques for evaluating customers or customer groups are assets involved in calculating customer value for the company (Cadez and Guiding, 2008). Therefore, classifying customers as assets makes customers part of the company's value (Gupta and Lehmann, 2003). Identifying and creating customer value is considered a prerequisite for a company's survival and long-term success.

Analyze product profitability

To determine product profits, it is necessary to use revenue and cost information for each product line. Depending on the administrator's purpose of using information, costs are determined by different methods, including costing by the full method, calculating costs using the direct method or calculating costs using the activity-based costing method. According to Cokins (2013), businesses need to choose an appropriate cost calculation method because when prices are calculated using different methods, the profit of the product line will be different.

The net present value

Net present value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. Net present value is used in capital budgeting and investment planning to analyze the profitability of a proposed investment or project. If the NPV result of a project or investment is positive, this means the expected rate of return earned from the project or investment is there, indicating the attractiveness of the project. Therefore, if the net present value NPV is greater than 0, the project should be approved. If the NPV of a project or investment is negative. That means the project's expected rate of return is less than the discount rate. This is not 100% certain that the project will lose money, but because the profit margin generated is smaller than the discount rate, it is considered worthless. This is the basis for investors to consider not approving the project. If the NPV result is 0, the project or investment is not profitable but also not at a loss but is at break-even. Of course, the letterhead may or may not approve the project depending on whether the initial expected discount rate is optimistic or not. Besides its advantages, NPV has many limitations. Because the formula for calculating NPV is based on estimates and must assume too many numbers, its accuracy is no longer high. Many financiers believe that if the NPV index lacks objectivity, it is very difficult to be accurate. NPV is only useful when comparing projects at the same time. Because it is applied at a certain time, it cannot calculate all opportunity costs and does not accurately reflect other factors that can impact the project.

Internal rate of return

IRR is the abbreviation for Internal Rate of Return. The IRR index is understood as the internal rate of return and is also the profit rate of a business. This index helps businesses measure investment efficiency, estimate the profitability of investments and calculate and balance the investment budget for the business to achieve the best results. IRR is analyzed as the compound rate of return expected to be achieved annually on an investment. Calculating IRR helps businesses measure the profits and revenue achieved after calculating the initial capital expenditure. Real IRR is a metric tool that calculates the

profit that can be generated from an investment project. If the internal rate of return (IRR) is greater than or equal to the amount of capital spent, the project is likely to bring profit. Therefore, calculating the IRR index is the basis for businesses to decide whether to invest in that project or not. For businesses with many projects, determining the internal rate of return helps businesses choose the project with the highest profitability.

3. RESEARCH METHOD

Implementation process

Step 1: We build a questionnaire on Google Forms, send it to accountants and business managers via email using a convenient sampling method, and send it to friends, relatives, and partners. ...

Step 2: The number of survey questionnaires distributed was 150, sent to 150 enterprises, and the number of votes collected was 145 from 145 enterprises, reaching 99%. All receipts met the required information requirements.

Step 3: We analyzed the data on SPSS 22 software with the following tools: checking the reliability of the scale using Cronbach's alpha; EFA exploratory factor analysis; correlation analysis; and regression analysis.

4. RESULTS

Information analysis techniques for short-term decision-making

Short-term decision-making information analysis techniques studied in this article include break-even point analysis, cost-volume-profit relationship analysis, product profit analysis and customer profit analysis. The results of the rate of using information analysis techniques to make short-term decisions in different types of businesses (manufacturing enterprises, commercial enterprises, service enterprises and other enterprises) are shown in Table 1. Statistical results show that different businesses have different rates of using information analysis techniques to make short-term business decisions. Among them, service businesses and other businesses have a higher usage rate than other businesses, but this difference is not significant. Product profit analysis technique is the technique most businesses choose to use (57% -74%). Customer profit analysis technique is the technique that businesses choose to use the least (22% -50%).

This result is quite similar to studies conducted in many countries around the world. Ahmad (2012) conducted research in Malaysia, the results showed that 60% of businesses used information analysis techniques to make short-term decisions. In India, the rate is much higher, Joshi (2001) pointed out that information analysis techniques for decision making in businesses ranges from 65% - 82%.

Table 1. Percentage of using information analysis techniques for short-term decision making

Technique		Production		Trade		Services		Other	
		No.	%	No.	%	No.	%	No.	%
Break-even analysis	Yes	24	62%	31	62%	25	74%	11	79%
	No	23	49%	19	38%	9	26%	3	21%
Cost - volume - profit analysis	Yes	26	55%	27	54%	24	71%	10	71%
	No	21	45%	23	46%	10	29%	4	29%
Analyze product profitability	Yes	35	74%	31	62%	27	79%	8	57%
	No	12	26%	19	38%	7	21%	6	43%
Analyze customer profitability	Yes	20	43%	11	22%	6	18%	7	50%
	No	27	57%	39	78%	28	82%	7	50%

Table 2 shows the results of the level of use of short-term decision information analysis techniques. The results show that commercial enterprises have the lowest level of use of information analysis techniques for short-term decision making (Mean < 3). The remaining businesses all have average or above average usage levels.

Table 2. Level of use of information analysis techniques for short-term decision making

Technique	Production	Trade	Services	Other
Break-even analysis	3.12	3.03	3.65	3.86
Cost - volume - profit analysis	3.01	2.93	3.53	3.65
Analyze product profitability	3.51	3.06	3.87	3.02
Analyze customer profitability	2.93	2.03	2.01	3.52

Information analysis techniques for long-term decision making

Long-term decision-making information analysis techniques studied in this paper include net present value and internal rate of return. There are many previous studies studying this content such as Joshi (2001), Abder-Kader et al. (2006). The results of the research on the rate of use of long-term decision-making information analysis techniques are shown in Table 3. Statistical results show that the internal rate of return analysis technique is used at a high

rate. The highest is 68% in manufacturing enterprises, and the lowest is 40% in commercial enterprises. Regarding the net present value analysis technique, service businesses choose to perform it at a rate of 53%, while commercial businesses only do it at a rate of 20%.

Table 3. Percentage of using information analysis techniques for long-term decision making

Technique		Production		Trade		Services		Other	
		No.	%	No.	%	No.	%	No.	%
The net present value	Yes	27	57%	10	20%	18	53%	6	43%
	No	20	43%	40	80%	16	47%	8	57%
Internal rate of return	Yes	32	68%	20	40%	21	62%	8	57%
	No	15	32%	30	60%	13	38%	6	43%

The level of using information analysis techniques to make long-term decisions is shown in Table 4. All businesses have an average level of using information analysis techniques to make long-term decisions. Manufacturing businesses have the highest use of these techniques. While in commercial enterprises, the level of use is quite low.

Table 4. Level of use of information analysis techniques for long-term decision making

Technique	Production	Trade	Services	Other
The net present value	3.01	2.24	3.01	2.98
Internal rate of return	3.42	2.97	3.65	3.21

5. CONCLUSION

Analysis results show that, for information analysis techniques for short-term decision making, two techniques, CVP analysis and product profit analysis, are the techniques used with the largest proportion. The remaining techniques all have low usage rates. Corresponding to the usage rate, the level of use of two techniques, CVP analysis and product profit analysis, is also above average. While the remaining techniques have a very low level of use. Compared to previous studies on applying CPV analysis techniques, the rate of using CPB analysis techniques in businesses in Hanoi is lower, with research in Australian businesses by Chenhall and Smith. (1998), this rate is 86%, and 65% in Indian businesses (Joshi, 2001).

For long-term decision-making information analysis techniques, the internal rate of return is the most used technique. In different businesses, the level of use of information analysis techniques to make long-term decisions is also different. This result is quite similar to the study of Chenhall and Smith (1998) in Australia with the level of using internal rate of return techniques being 98% and 85% in Indian businesses (Joshi, 2001).

From the analysis results, it has been shown that the use of decision-making information analysis techniques at Hanoi enterprises is different for different types of enterprises. And for each type of technique, businesses also choose to implement it at different levels. Theoretically, four short-term decision-making information analysis techniques and two long-term decision-making information analysis techniques are basic techniques in management accounting to provide information to managers. These are channels that provide basic information to help administrators have more information as a basis for making business decisions. However, in practice, research shows that many techniques are not highly appreciated and are not used much. In today's highly competitive environment, businesses have useful sources of information for managers to make business decisions, which will bring competitive advantages to businesses. This helps businesses achieve operational efficiency, achieve strategic goals and develop sustainably in the future. Therefore, Hanoi businesses need to learn the meaning of information analysis techniques in making business decisions and increase the use of these techniques in the process of collecting, processing and providing information to administrators.

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