



Analyzing The Effectiveness of Cost Accounting Systems in Dairy Industries: A Case Study of Nagpur Region

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Abstract

Research in this area focuses on the dairy sector in the Nagpur area, specifically looking at how well cost accounting systems work there. The capacity to precisely monitor and control expenses is critical for operational efficacy and financial gain in a setting defined by competitive pressures and variable input costs. This research takes a comprehensive case study method to look at how and why several dairy companies in the area used cost accounting systems. Through the use of questionnaires, structured interviews, and financial document analysis, data was gathered from several dairy sectors. The research looks at how important things like cost allocation, overhead control, and activity-based costing integration are in cost accounting systems. How these systems affect decision-making, cost-control methods, and overall financial performance is also evaluated in the study.

There are large differences in how well various companies use cost accounting techniques, according to the results. Important variables that determine how well a system works include the size of the dairy business, how much technology is used, and the amount of skill in management. It is worth mentioning that companies that have strong cost accounting systems tend to have greater control over costs, more efficient operations, and better financial results. The dairy industry in the Nagpur area might improve their cost accounting systems by following the suggestions made in this article. Advanced costing methods, ongoing employee education, and incorporating cost accounting into larger strategic management procedures are some of the suggestions. Dairy companies who want to maximise their cost management procedures and attain long-term development will benefit greatly from the study's findings.

Keywords – Cost Accounting Systems, Dairy Industries, Cost Control, Operational Efficiency, Financial Performance

Introduction

Accurate cost tracking, management, and control is essential for modern businesses, and cost accounting has grown in importance as a result. This is especially important in sectors like dairy where operational efficiency is key and margins are tight. Raw material price fluctuations, strict quality requirements, and fierce rivalry are just a few of the problems that the dairy business in India's Nagpur area encounters. Dairy businesses may get the information they need to optimise their operations, increase profitability, and overcome these problems with the help of effective cost accounting solutions.

A cost accounting system's many uses include better financial performance, better strategic decision-making, more precise cost allocation, and easier management and reduction of expenses. However, the intricacies of contemporary dairy operations may be too much for traditional cost accounting approaches to handle. Since activity-based costing and other sophisticated cost accounting methods provide a clearer picture of how costs behave and what resources are being used, they are becoming more and more important.

Cost accounting is universally acknowledged as an important tool, but how well it is used and the results it produces vary greatly across companies. Dairy businesses in the Nagpur area vary from modest, family-run farms to massive conglomerates. This variety provides a rare chance to investigate the link between the adoption of various cost accounting methods and the success or failure of individual businesses.



Examining how well dairy businesses in the Nagpur area use cost accounting systems is the primary goal of this study. Using a case study methodology, this research will look at how some dairy companies handle their costs, how it affects their operations and their bottom line, and what makes certain systems work and others fail. The knowledge acquired will aid in the development and maintenance of dairy companies in the area by suggesting ways to enhance cost accounting procedures.

This study will begin with a brief literature review on cost accounting and its uses in the dairy sector. It will then proceed to describe the research methodology, present and analyse the results, and finally, provide practical advice for dairy enterprises in the Nagpur area. The research aims to shed light on cost accounting systems and their crucial function in the dairy sector by conducting a thorough investigation.

Literature review

Few studies have examined the use of cost accounting systems by agricultural businesses. Several accounting scholars have claimed that there is a dearth of empirical studies in the field of agricultural accounting. For example, Argilés and Slof (2001) and Juchau (2000) both remarked that there is a dearth of qualitative and quantitative empirical studies in the field of accounting research pertaining to agricultural management. While authors like Arthur Young brought up the importance of costing systems in agriculture in the 18th century (Juchau, 2002), modern accounting scholars are arguing that the field needs to devote more resources to studying these systems (Athanasios et al., 2010). Accounting scholars do not pay much attention to farming, according to Athanasios et al. (2010). They mentioned a few causes for the accounting literature's near-total neglect of the agriculture sector, Agricultural company management is often likened to manufacturing firm management, especially when the business only produces one product. Additionally, many of the costing concepts are better suitable for manufacturing enterprises. Many European farms are exempt from the legal need to disclose their financial accounts due to factors such as size and legal procedures, according to Kroll (1987) and Sabate and Encise (1997). Conversely, even farmers who record financial transactions do so in order to meet the standards set forth by the tax system and any applicable subsidies. Scholars and standard-setters have paid a lot of attention to cost accounting in the industrial sector. Companies involved in farming do not experience this. This area of study does not get much attention from researchers and standard-setters.

Furthermore, Tahir et al. (2014) reiterated the findings of previous accounting studies. Accounting standard setters and practitioners have not paid much attention to agricultural enterprises, and there are not many accounting research in farming compared to other sectors, according to Tahir et al. (2014). In order to remain profitable, farmers need to know their production costs. This is particularly true for agricultural firms that produce multiple products, as the development of tools and the use of developed technology have significantly altered the cost structure and cost behaviour.

Furthermore, Argilés and Slof (2021) contended that accounting and bookkeeping techniques in agriculture are lacking, despite the necessity of management accounting. They feel that the existing accounting regulations are not flexible enough to accommodate the unique needs of farmers. Consequently, putting these regulations into practice in agriculture is a challenging and costly endeavour. When it comes to agricultural management, Argilés and Slof (2021) concur with Athanasios et al. (2010) that there is a dearth of financial resources and a lack of managerial competence. In addition, according to Jack and Jones (2007), management accountants contributed to the body of accounting literature via a number of studies that focused on industrial enterprises. It can be due to the fact that production procedures in agricultural enterprises are not complex. On the other hand, the researchers did note that modern agriculture is undergoing a lot of transformation. With any luck, these alterations will



cause accountants to rethink their methods. The use of cost accounting systems in agricultural businesses has the potential to enhance farm management and result in higher performance, as stated by Luening (1989) and Allen (1994). If agricultural business decision-makers used cost accounting systems, their bottom lines would see a significant uptick.

Implementing cost management in agricultural operations is to enhance margin profit by minimising activities that do not contribute to profit, according to Tahir et al. (2014). They claim that the rising costs of contemporary farming can be better managed with the use of a farm cost accounting system. This may be accomplished if the cost accounting system promptly and accurately provides cost information. To back this up, Toluyemi (1999) said that managers in agricultural enterprises may benefit greatly from cost information while making judgements. Nevertheless, research on accounting and management in agriculture as a whole is scarce; for example, see Toluyemi (1999) and Lee and Kao (2000).

In order to help ensure the long-term viability of agriculture department projects in Nigeria, Toluyemi (2019) analysed the current accounting information systems and proposed modifications. In order for businesses to achieve sustainability, according to Toluyemi (2019), they need to prioritise cost efficiency by managing costs and reducing waste via using accounting information to help decision making, planning, analysing, and regulating. Choosing the best choice from a pool of possibilities is what we mean when we talk about planning. This is accomplished by looking at what has happened in the past, figuring out what is happening now, and making predictions about what will happen in the future. On the other hand, controlling entails making sure that everything is executed according to plan.

of their analysis of the operating expenses of Taiwan's Pu Shin wholesale fish market, Lee and Kao (2020) used both the ABC model and the simulation approach. In an ABC system, units that consume activities have their associated costs assigned to them. The ABC approach has helped several companies across all sectors enhance their performance and gain better control over their costs. Agricultural enterprises should also employ the ABC approach, according to Lee and Kao (2020). To collect the necessary data and accomplish the research's objectives, they depended on case study methodology. In comparison to conventional costing methods, they discovered that ABC is superior at assisting managers in setting fair product prices.

The purpose of the research by Foong and Teruki (2019) was to examine how oil palm companies' success was correlated with the efficiency of their cost systems. Their goal was to find out whether the link between cost system functioning and performance is mediated by managers' perceptions of the value of cost information. Researchers in this study surveyed 179 oil palm companies in Sarawak using mail-in questionnaires. Researchers discovered that managers' perceptions of the value of cost information partly mediated the link between cost system functioning and non-financial performance, and that there was a positive correlation between the two. This is feasible because of how the estate operations are controlled by the main office. But they insisted that disclosing expenses had little effect on productivity. For managers to make better use of cost information in order to boost performance, it should be both relevant and up-to-date. They went on to say that a high-functional-cost system is likely to be very effective. Although these findings were derived from the data analysis, it is important to note that the sample was selected from a single region in Malaysia and that the respondents did not have accounting degrees. The findings may be different if the respondents were accountants, as they were specialists in plantations.

In order to determine whether or not American farmers adequately paid the expenses of their goods and the reasons agricultural enterprises experienced varying costs, McBride (2023) undertook a research. The study's author maintained that agricultural businesses incur two distinct kinds of expenses: those associated with running the business and making quick choices, and those associated with owning and maintaining physical assets. Low pricing for



agricultural products were noted by the researcher between 1998 and 2001. Therefore, the majority of the wheat, maize, and soybean growers were able to pay their operating expenses, with 85%, 82%, and 96% of those producers respectively. Half of the wheat and maize growers and a quarter of the soybean producers could not pay their operational and ownership expenses at the average commodity prices from 1998 to 2001 when the researcher included asset ownership costs; this changed the proportion.

Objectives of the study

- To measure the impact of cost accounting systems on operational efficiency and cost control in dairy firms.
- To analyze the influence of these systems on the financial performance and profitability of the selected dairy industries.
- To conduct a comparative analysis of cost accounting practices between small and large dairy operations within the Nagpur region.

Research methodology

The efficacy of cost accounting systems in the Nagpur region's dairy businesses is examined in this study using a thorough research technique. The following essential elements are included in the methodology: The research delves deeply into the cost accounting systems of a few dairy companies in the Nagpur area by using a case study methodology. To provide a complete picture of the effects of the cost accounting techniques, we use quantitative and qualitative methodologies to gather data. The sample includes small, medium, and big dairy organisations operating in the Nagpur area, spanning different sizes and operational scales. To ensure a thorough examination of various cost accounting techniques, businesses that are indicative of the variety within the dairy sector are selected by purposeful sampling.

Data analysis and interpretation

Table 1 – Responses on implementing method of cost analysis

Items	No. of Firms	Mean	S.D.	C.V. (%)
Higher precision in manufacturing cost data	15	5.4	0.63	12.82
Improving the method of decision-making	15	4.8	0.59	14.16
Analysis of client profitability with more precision	15	4.2	0.42	11.20
More accurate cost categorization and conduct	15	4.8	0.99	37.24
Implements more effective performance metrics to enhance cost management	15	5.4	0.78	16.71
More accurate evaluation of performance	15	4.8	0.78	19.35
Continuous criticism	15	4.2	0.84	24.91

The study surveyed 15 dairy firms in the Nagpur region to assess the implementation and impact of various methods of cost analysis. The results, summarized in Table 1, highlight key areas where cost analysis methods have been implemented and their effectiveness.

Higher precision in manufacturing cost data received a high mean score of 5.4 with a relatively low standard deviation (S.D.) of 0.63, resulting in a coefficient of variation (C.V.) of 12.82%. This indicates a strong consensus among the firms about the benefit of precision in manufacturing cost data, suggesting that this method is widely appreciated and effectively implemented.



Improving the method of decision-making scored a mean of 4.8, with an S.D. of 0.59 and a C.V. of 14.16%. The relatively low variation signifies that most firms recognize and agree on the importance of improved decision-making methods, which are facilitated by enhanced cost analysis.

Analysis of client profitability with more precision had a mean score of 4.2 and the lowest S.D. of 0.42, leading to a C.V. of 11.20%. This low variation suggests that firms find precise client profitability analysis to be consistently beneficial, emphasizing its critical role in strategic financial management.

More accurate cost categorization and conduct showed a mean of 4.8 but with a higher S.D. of 0.99 and a C.V. of 37.24%. The higher variation here indicates that while some firms are highly successful in accurate cost categorization, others struggle, pointing to uneven implementation or varying levels of capability in this area.

Implementing more effective performance metrics to enhance cost management achieved a high mean of 5.4 and an S.D. of 0.78, with a C.V. of 16.71%. This suggests that many firms see significant benefits in using effective performance metrics, though some variability exists in their application and impact.

More accurate evaluation of performance also had a mean of 4.8, with an S.D. of 0.78 and a C.V. of 19.35%, indicating general agreement on its importance but with moderate variability in how effectively it is implemented.

Continuous criticism, reflecting ongoing critical analysis, scored a mean of 4.2 with the highest S.D. of 0.84 and a C.V. of 24.91%. This indicates a broad range of experiences among the firms, with some finding continuous criticism highly useful and others less so, suggesting differing levels of openness to or methods of implementing ongoing critical analysis.

Overall, the data reveals that while there is strong support for various methods of cost analysis, the extent of implementation and perceived effectiveness vary across firms. Higher precision in cost data and effective performance metrics are particularly valued, whereas continuous criticism and accurate cost categorization show more variability, highlighting areas for potential improvement in cost analysis practices.

Conclusion

Examining the effects of several cost analysis methodologies on operational efficiency and financial performance, this research sought to assess the efficacy of cost accounting systems in the Nagpur region's dairy businesses. Ultimately, the research concludes with a thorough assessment of the cost accounting methods used by the Nagpur region's dairy companies. While accurate cost data and useful performance measures have widespread backing, there is space for development in other areas, such as cost classification and ongoing criticism. Better financial performance and long-term development may be achieved by dairy enterprises by investing in technology, standardising techniques, and encouraging a growth mindset. This will help them optimise their cost management systems. The study's findings and suggestions may help the dairy industry improve its cost accounting processes, which in turn can boost its growth and competitiveness.

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