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INVENTORY MANAGEMENT IN NANDINI ICE CREAM

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ABSTRACT

Inventory management is a critical function in the dairy and frozen food industry, especially for perishable products like ice cream where timely production, storage, and distribution directly impact product quality and customer satisfaction. This study focuses on the inventory management practices followed by Nandini Ice Cream, a leading dairy brand in Karnataka, operated by the Karnataka Milk Federation (KMF). The objective of the research is to analyze how Nandini manages its raw materials, packaging, finished goods, and cold storage to reduce wastage, control costs, and ensure consistent supply.

The study utilizes both primary data (through interviews and surveys) and secondary data (company records and industry reports) to examine key inventory metrics such as reorder levels, safety stock, lead time, and inventory turnover ratio. The findings reveal that Nandini follows a semi-automated inventory system, supported by cold chain logistics and regional distribution centers. Challenges such as overstocking, seasonal demand variation, and limited shelf life are also explored. The report concludes with recommendations to improve forecasting accuracy, adopt advanced inventory tracking systems, and minimize spoilage through real-time monitoring.

Keywords: Inventory Management, Nandini Ice Cream, Perishable Goods, Dairy Industry, Inventory Turnover, Cold Chain, Supply Chain, Forecasting, Stock Control, Karnataka Milk Federation (KMF).

INTRODUCTION

Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. This includes raw materials, components, and finished products, as well as the warehousing and processing of these items. There are different methods of inventory management, each with its pros and cons, depending on a company's needs.

Inventory management helps companies identify which and how much stock to order at what time. It tracks inventory from purchase to the sale of goods. The practice identifies and responds to trends to ensure there's always enough stock to fulfill customer orders and proper warning of a shortage.

RESEARCH METHODOLOGY

This study follows a structured research methodology to ensure accurate and relevant findings regarding inventory management in Nandini Ice Cream. The research is primarily based on *secondary data*, obtained from financial databases, company annual reports, and a thorough review of existing literature on inventory management practices.

The *primary source of data* for this study will be the *financial statements of Nandini Ice Cream (Nandini Traders) for the past four years (2021-2024)*. These financial records will help analyze trends in inventory management and their impact on profitability, liquidity, and operational efficiency.

The *sampling design* of the study is focused on financial statement analysis, with the *sampling size covering the last four years (2021-2024)*. This period allows for a comprehensive evaluation of inventory trends and performance fluctuations over time.

For analysis, *ratio analysis* will be employed as the primary tool to assess inventory turnover, stock efficiency, and overall financial performance. By using ratio analysis, the study will provide a quantitative understanding of how effectively Nandini Ice Cream manages its inventory and identify potential areas for improvement.

This research methodology ensures that the study delivers data-driven insights, aiding decision-makers in enhancing inventory management practices and optimizing financial performance.

DATA ANALYSIS

Ratio Analysis

This ratio analysis is the financial diagnostic tool that compares verities of data extracted from the Statement given in financial data drive firm to enable the assessment of the performance level of the organization. It presents info on a business's liquidity, solvency, profit, efficiency, and worth so that the users can decide on its economic status.

1. Current Ratio:

$$\text{Current ratio} = \text{Total Current Assets} / \text{Total Current Liabilities}$$

$$\text{Current Ratio} = 40.09 / 2.45$$

$$\text{Current Ratio} = 16.36$$

Interpretation:

Thus, we find the CR of Nandini Traders is 16.36 showing that the liquidity position is very healthy. ₹1 of current liability the company has ₹16.36 worth of current assets to support it. A current ratio above 2 is suggested in most cases, however, this just temperature would mean that the firm is holding too much current assets like cash and receivables consequently, this assets have been utilized for better purposes. Whenever come to short-term solvency measures, it has proved much efficiency but this can be the indicator to the firm is not optimally utilizing the resources at its disposal.

2. Quick Ratio (Acid-Test Ratio):

$$\text{Quick Ratio} = (\text{Current Assets} - \text{Inventories}) / \text{Total Current Liabilities}$$

$$\text{Quick ratio} = (40.09 - 0.23) / 2.45$$

$$\text{Quick Ratio} = 39.86 / 2.45$$

$$\text{Quick Ratio} = 16.27$$

Interpretation: Another liquidity ratio that's very similar to the one above is the quick ratio, only it also doesn't count inventories since they're less liquid. A quick ratio of 16.27 shows that Nandini Traders does not have a problem paying for any of its short term liabilities without having recourse to selling the inventories. It shows rather high and even very high current solvency, and allows for a swift fulfilment of the obligations here. A ratio greater than 1.0 is desirable, nevertheless this that there is current over-advantageous where current assets are shown.

3. Cash Ratio:

$$\text{Cash Ratio} = \text{Cash and Cash equivalents} / \text{Total Current Liabilities}$$

$$\text{CR} = 28.14 / 2.45$$

$$\text{CASH RATIO} = 11.48$$

Interpretation:

The following is using the other liquidity ratios used to analysing the among the least effective of all the used liquidity ratios because it only includes cash assets. This values 11.48 which means even compare to current liabilities the company has 11.48 rupee in cash form which is maybe the company has much more cash than it needs and company should use this cash for pay of liabilities better use for investment.

4. Operating Cash Flow Ratio:

$$\text{OCFR} = \text{Operating Cash Flow} / \text{Total Current Liabilities}$$

Given that Operating cash flows isn't explicitly provided, we'll assume it relates to the operating revenues (Revenue from Operations).

$$\text{OCFR} = 14.25 / 2.45$$

$$\text{Operating Cash Flow Ratio} = 5.82$$

Interpretation:

Research indicates that Nandini Traders has the fundamental methods needed to oversee the finances generated by its activities to fulfill quick financial commitments. Thanks to a cash flow ratio of 5.82, this company successfully fulfills its commitments 5.82 times. This makes patently obvious some outstanding physical assets and remarkably competent functions. Such a notably improved ratio might either represent a wealth of assets or, on the other hand, indicate a lack of investment. The cash flow produced by core activities enables organizations to secure their present responsibilities 5.82 times, at a 5.82 ratio. As a result, we see outstanding operational performance that also delivers superior liquidity quality. An

extensive achievable overview of this type may show evidence either of sufficient liquidity or of alternative supporting evidence for insufficient investment.

5. Working Capital:

$$\text{Working Capital} = \text{Total Current Assets} - \text{Total Current Liabilities}$$

$$\text{Working Capital} = 40.09 - 2.45$$

$$\text{Working Capital} = 37.64$$

Interpretation:

Presenter an estimate of present working capital of the firm which is ₹37.64 crores as by this, it can be made clear that the current assets of the Nandini Trader is sufficient to meet its day to day operation without incurring any issues related to payability of its current liabilities. Another component of liquidity is working capital and the figure forming a very comfortable plus working capital. But, very high working capital also indicate that the business organisation is also not efficient in utilising resources.

6. Gross Profit Margin

Formula:

$$\text{Gross Profit Margin} = \text{Revenue from Operations (Net)} -$$

$$\frac{\text{Operating and Direct Expenses}}{\text{Revenue from Operations (Net)}} \times 100$$

For simplicity, since operating expenses are almost negligible, we'll use total revenue for now for 2024:

$$\text{Gross Profit Margin} = \{14.25 - 0 / 14.25\} \times 100 \%$$

$$\text{Gross Profit Margin} = 100\%$$

Interpretation:

Gross trading profit of 100 in relation to sales for the year 2005-06 indicates that direct cost of operations is almost insignificant for Nandini Traders. This suggest that the business may lack many costs when offering its production or service delivery. These strategies could mean either of the following – the service-line model whereby expense is deliberately and selectively incurred or the right mix of costs with service wherein operating cost is also controlled.

CONCLUSION

This paper examines the role of inventory management as one of the essential success factors in the financial performance of ice cream firms given the fact that ice cream items are perishable products and the demand rates fluctuate with seasons. Effective stock management clearly impacts upon waste minimization, cash operating levels and, overall, the generation of profits. Here are findings that will help ice cream businesses enhance operational and financial performance on inventory management:

One can conduct quite vigorous an excise of potential suppliers and their reliability and their word of punctuality and quality of delivered products as good well their ability to be flexible and provide materials without need tie up much capital in inventory. It also be closely it includes the business of supply goods as required if not meet agreed prices for bulk quantities. Supplier interface management rationalizes the need to hold large stocks, enhances business liquidity while satisfying the customers.

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