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A Comparative Study Of Costing Techniques At Asian Beverage Private Limited

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Abstract: This study examines the effectiveness of different costing techniques used at Asian Beverage Private Limited. A comparison study was done on absorption costing, throughput costing, standard costing, Activity-Based Costing (ABC) on two products: 200 ml Campa Lime & Lemon and 500 ml Campa Cola. The data were collected through labour wages, water and power bills, input usage according to the bill of materials, along with other finance information. The results show that both the products earned maximum profits using the throughput costing and standard costing techniques, while the absorption and ABC methods required more refining. This study states that if pricing is based on the throughput or standard costing method and production process, profitability can be increased. Results recommend refining the company's costing structures to enhance cost efficiency and improve adaptability to market fluctuations.

Keywords: Absorption costing, throughput costing, standard costing, activity-based costing, costing techniques, cost efficiency, profit margin, profitability.

I. INTRODUCTION

Cost management works is very important for today's organizations to be successful and profit over time. The cost methods of Activity-Based Costing (ABC), Standard Costing, Throughput Costing, and Absorption Costing help organizations allocate their production costs based on the operational requirements. ABC provides the most thorough cost tracking of the cost categories and through the identification of activities it provides the most up to date costing to the activities; though ABC is the most detailed approach, funding for ABC isn't free, and it is the method that has the maximum time requirements and resource commitment. Standard Costing is a simpler way to budget and look for variances from standards, however it isn't the best cost reporting for its potential to reflect on actual costs of variable conditions that prevail. Throughput Costing is intended to maximize output and separates direct materials as product costs and depending on a lean organization, may provide similar distinction; conversely, Throughput Costing methods are probably impractical based on balance of fixed assignable costs for an industry. Absorption Costing method is the most standard method to report on and actually reports all costs of manufacturing the product; and as appropriate as Absorption may be, overhead allocation may lead to improper pricing procedures for a company's overhead becomes limitless. Each method will have its merits and detriments, and when it became determining what method is appropriate will become function of the work operations complexity, organizational cost structure, and level of detail of information the decision-makers are trying to gain.

II. OBJECTIVES OF THE STUDY

- To compare the differences in cost-effectiveness of throughput costing with absorption costing.
- To examine the financial findings of activity-based costing with standard costing in regard to cost management and reporting of financial information.
- To analyse each costing technique's financial impact on pricing and cost management decision-making processes.
- To suggest the effective costing technique.

III. SCOPE OF THE STUDY

The scope of this study compares several costing techniques at Asian Beverage Private Limited, including activity-based costing, standard costing, throughput costing, and absorption costing. It seeks to analyse these techniques financial outcomes, cost-effectiveness, and effects on pricing, profitability, and expenses allocation. The study will evaluate how each technique affects pricing and cost management decision-making by analysing secondary data, such as labour wages, water and power bills, input usage according to the bill of materials and other relevant financial data, offering insightful information for enhancing financial planning and operational effectiveness.

IV. REVIEW OF LITERATURE

- **Susan White & Daniel Green (2025)** Explored how Activity-Based Costing (ABC) can improve profitability by providing accurate cost allocation, allowing better pricing decisions.
- **William Parker & Sophia Taylor (2025**) Explored how ABC can assist in profitability analysis; also, confirmed it can allocate overheads and assist with rational pricing choices.
- **Nathan Cooper & Emily Harris (2024)** Detailed how ABC is enhanced over normal Absorption Costing for our purposes. ABC traces more accurate cost details and better informs cost management and profitability.
- **Michael O'Conner & Lisa Chen (2023)** Examined Throughput Costing costs from Absorption Costing's perspective, emphasizing Throughput Costing's sensitivity to material costs and appropriateness in terms of operational efficiency.
- **Robert Davis & Jessica Scott (2023)** Identified the implications for traditional financial performance under Standard Costing and its simplicity but useful discussions around when it might be limiting based on supply chains or complex production.

V. RESEARCH METHODOLOGY

Research Design: An analytical approach will demonstrate various costing techniques according to their applicability, such as activity-based costing, standard costing, absorption costing, and throughput costing, toward their impact in financial performance assessment.
Data Collection: Secondary data: Secondary data to assess how each costing technique affects pricing, profitability, and cost allocation come from labour wages, water and power bills, input usage according to the bill of materials and other relevant financial data.
Quantitative Analysis: Data-Driven Analysis will be conducted using numerical data Costing techniques will be evaluated against defined relevant costing formulas. The analysis will quantify the costing, efficient utilization and profitability using metrics and define benefits, challenges and conclusions thereof.
Comparative Analysis: A comparison between costing techniques will be evaluated on their impact and effectiveness-based decisions and profitability.

Formulas for Costing Techniques:

Absorption costing = Direct materials + Direct labour + Allocated variable overhead + Allocated fixed overhead
Throughput costing = Direct material costs ÷ Total units produced
Standard costing = Standard direct material cost +Standard direct labour cost +Allocated fixed and variable Overhead
Activity-Based costing = Direct material cost + Direct labour cost + ∑ (Activity cost pool × Activity rate)
Cost-Effectiveness Ratio = Cost per unit (Absorption Costing) ÷ Cost per unit (Throughput Costing)
Cost Allocation Variance = ABC cost per unit − Standard cost per unit
Selling Price = Cost per unit × (1 + Markup percentage)
Profit Margin = (Selling price per unit − Cost per unit ÷ Selling price per unit) × 100
Material Cost Variance = (Actual material cost − Standard material cost) × Actual quantity used

VI. Data Analysis and Interpretation

TABLE 1: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA COLA BOTTLE

Campa Cola Bottle				
Basic	**Costing (₹)**	**Pricing Decision (₹)**	**Profit Margin (%)**	**Material Cost Variance (₹)**
200 ml	2.56	10	74.4	0
500 ml	11.51	20	42.45	0
1000 ml	22.16	40	44.6	-2.4
2000 ml	38.96	65	40	-0.24

INFERENCE: The 200ml bottle of Campa Cola has the highest profit margin at 74.4% compared to the other quantity of Campa Cola sold, making it the most profitable of all variants of Campa Cola.

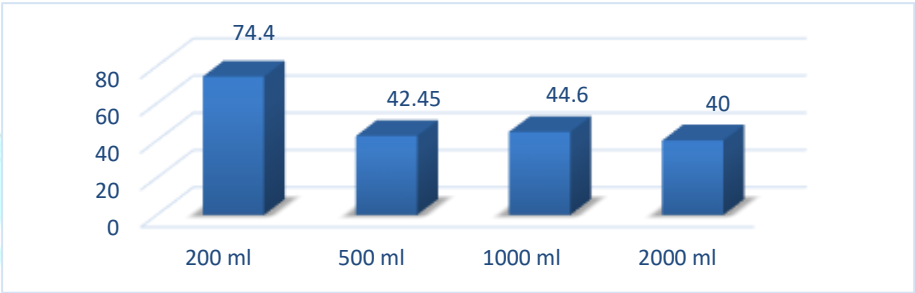

CHART 1: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA COLA BOTTLE

TABLE 2: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA LINE & LEMON BOTTLE

Campa Line & Lemon Bottle				
Basic	**Costing (₹)**	**Pricing Decision (₹)**	**Profit Margin (%)**	**Material Cost Variance (₹)**
200 ml	2.04	10	79.6	0
500 ml	11.02	20	44.9	0
1000 ml	21.08	40	47.30	-2.89
2000 ml	37.11	65	43.00	-0.06

INFERENCE: The Campa Lime & Lemon 200ml bottle has a total profit margin of 79.6%, the highest percentage compared to all other sizes of the Campa Lime & Lemon product type, making it the most profitable in the range.

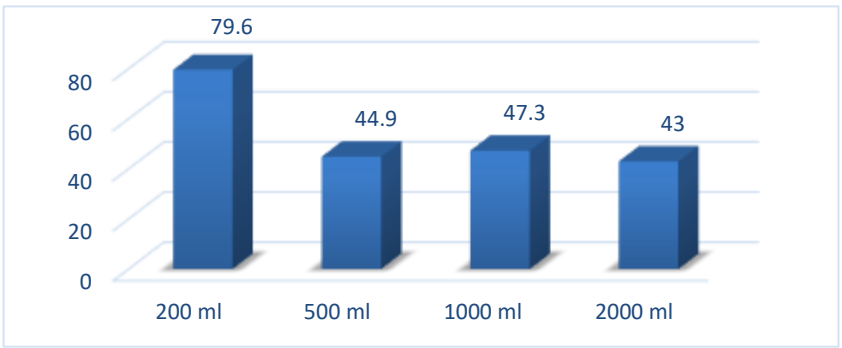

CHART 2: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA LINE & LEMON BOTTLE

TABLE 3: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA ORANGE BOTTLE

Campa Orange Bottle				
Basic	**Costing (₹)**	**Pricing Decision (₹)**	**Profit Margin (%)**	**Material Cost Variance (₹)**
200 ml	2.24	10	77.6	0
500 ml	11.18	20	44.1	0
1000 ml	21.53	40	46.18	-2.6
2000 ml	37.16	65	42.79	-0.47

INFERENCE: The Campa Orange 200 ml bottle has the highest profit margin of 77.6% compared to all other quantities of Campa Orange. Therefore, it is the most profitable variant in the product range.

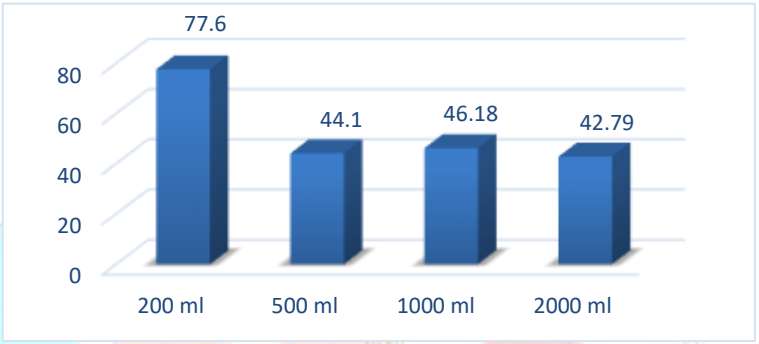

CHART 3: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA ORANGE BOTTLE

TABLE 4: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA 200 ML CAN

Campa 200 ML Can				
Basic	**Costing (₹)**	**Pricing Decision (₹)**	**Profit Margin (%)**	**Material Cost Variance (₹)**
Cola	5.23	20	73.85	0
Line &Lemon	5.06	20	74.70	0
Orange	5.18	20	74.1	0

INFERENCE: With a profit margin of 74.70%, the Campa Lime & Lemon product in the 200ml can represents both the highest and the most profitable revenue-generating variant compared to Campa Cola and Campa Orange, respectively.

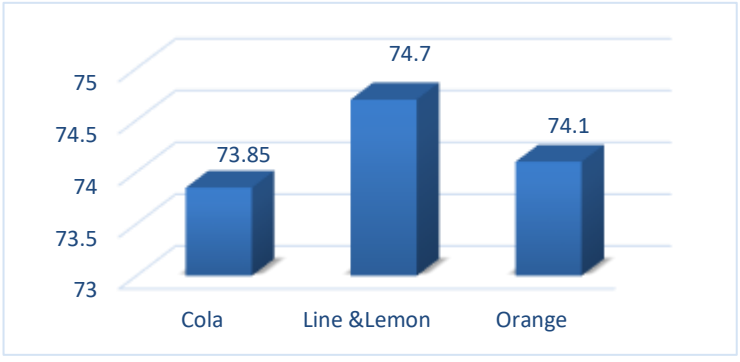

CHART 4: SHOWING COMPARISON OF DIFFERENT QUANTITY WITH HIGH PROFIT MARGIN FOR CAMPA 200 ML CAN

TABLE 5: SHOWING COMPARISON OF CAMPA PRODUCTS ACROSS DIFFERENT SIZES AND FLAVOURS

Comparison of Campa Products Across Different Sizes and Flavours															
Product Name	Campa Cola Bottle and Can					Campa Line & Lemon Bottle and Can					Campa Orange Bottle and Can				
Basic - ML	**200**	**500**	**1000**	**2000**	**200 Can**	**200**	**500**	**1000**	**2000**	**200 Can**	**200**	**500**	**1000**	**2000**	**200 Can**
Costing (₹)	2.56	11.51	22.16	38.96	5.23	2.04	11.02	21.08	37.11	5.06	2.24	11.18	21.53	37.16	5.18
Pricing Decision (₹)	10	20	40	65	20	10	20	40	65	20	10	20	40	65	20
Profit Margin (%)	74.4	42.45	44.6	40	73.85	79.6	44.9	47.30	43.00	74.70	77.6	44.1	46.18	42.79	74.1
Material Cost Variance (₹)	0	0	-2.4	-0.24	0	0	0	-2.89	-0.06	0	0	0	-2.6	-0.47	0

INFERENCE: When compared to any other flavour in any other size, the Campa Lime & Lemon 200ml bottle has an 80% profit margin and is highly profitable as its value exceeds all other sized versions in the product range.

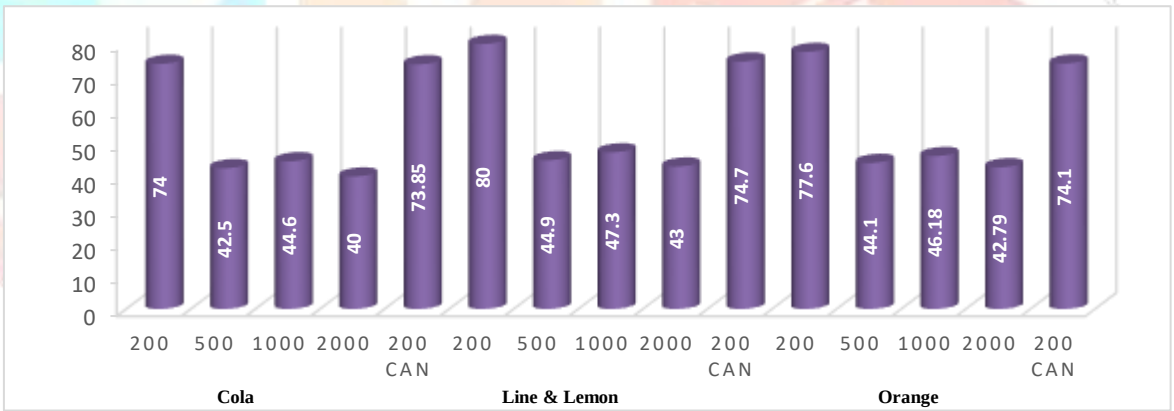

CHART 5: SHOWING COMPARISON OF CAMPA PRODUCTS ACROSS DIFFERENT SIZES AND FLAVOURS

VII. SUMMARY OF FINDINGS

PROFIT MARGINS & COSTING METHOD:

a. Throughput Costing (TC) yields the highest profit margins across all sizes and flavours.
b. 200 ml Bottle (highest margins overall):
   - Lime & Lemon: 79.6%
   - Orange: 77.6%
   - Cola: 74.4%
c. 200 ml Can: Also, highly profitable.
   - Lime & Lemon: 74.7%
   - Orange: 74.1%
   - Cola: 73.85%
d. Larger sizes (500 ml, 1000 ml, 2000 ml) show decreasing margins, but TC still remains the most profitable method.

COST VARIANCES:

a. Zero material cost variance for all 200 ml products (bottles and cans).
b. Negative material cost variance in 1000 ml and 2000 ml under TC (material costs higher than expected), but still highest profit with TC.

BEST PERFORMING FLAVOUR & SIZE:

a. Top performer: 200 ml Lime & Lemon bottle (79.6% margin).
b. Runner-ups: 200 ml Orange bottle (77.6%) and 200 ml Lime & Lemon can (74.7%).

VIII. SUGGESTIONS AND RECOMMENDATION

- Optimize the application of throughput costing, as it regularly produces the largest profit margins, particularly for the 200 ml bottle sizes, specifically the Lime & Lemon variety. This will enhance profitability for lower bottle sizes.
- Examine the adverse material cost differences observed in the 1000 ml and 2000 ml bottles by analysing production efficiencies, material procurement, and negotiating improved supplier contracts to mitigate expenses.
- Evaluate the modification of selling prices for items with enhanced profit margins, such as the 200 ml Lime & Lemon and Orange bottles, to accurately represent production costs and enhance profitability.
- Consistently assess the efficacy of absorption costing and standard costing for high-volume products such as the 500 ml Campa Cola, ensuring precise allocation of overhead costs to prevent cost inflation.
- Reducing material cost differences can be achieved by negotiating lower purchase prices with suppliers and keeping an eye on material costs, especially for bigger bottle sizes.
- Regularly review and modify pricing models to make sure that product prices support optimum profitability and accurately represent production costs, especially for high-margin items like 200 ml bottles.
- Make sure cost structures can adjust to shifting market conditions and manufacturing efficiency, enabling greater cost control and increased profitability across product lines.
- Initial consideration may be given to improving Activity-Based Costing (ABC) in order to prevent inflated expenses, boost profitability, and more effectively allocate overhead costs, particularly for the 500 ml Campa Cola.
- Perform routine evaluations of production procedures and overhead expenses to find areas for process optimization and cost reduction. This will help to keep costs under control and maximize profitability for a range of product sizes and flavours.

IX. CONCLUSION

This study examined the effectiveness of various costing techniques of beverage manufacturing process which focus on Absorption Costing, Throughput Costing, Standard Costing, Activity-Based Costing (ABC). Throughput Costing is the best costing system for maximizing profitability for every bottle size and flavour. The 200 ml bottle of Lime & Lemon is the best product as it has the highest profit margin (80%) and is the most profitable overall in the Campa range. Smaller size bottles, specifically the 200 ml size, generate the highest profit, while larger sizes (1000 ml and 2000 ml) do not show profit as services less profitability, however even with negative material cost variances throughput costing generates the profitability.

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