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An Empirical Analysis of Break-Even Point Practices and Their Impact on Business Performance

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ABSTRACT

For decades, break-even analysis has been a key component in determining profitability, making pricing decisions, and planning production in management. Despite being widely used, there is a lack of empirical evidence about whether companies that consistently do break-even analyses outperform those that do not. This research examines the impact of break-even practices, including cost analysis, contribution margin review, and forecasting, on business success. Using financial data simulation and data collected from over 110 manufacturing and services companies, the research applies correlation and regression analysis, yielding the result that BEP practices improve performance in the companies participating in the research ($\beta = .58$, and $p < .01$) and that contribution margin analysis was the strongest of those. These results, while confirming cost-volume-profit (CVP) theory, demonstrate its application in contemporary digital financial theory and practices.

Keywords: Break-even Analysis, Cost Analysis, Contribution Margin, Forecasting, Business Success, Financial Data Simulation, Manufacturing Companies, Services Companies, Correlation Analysis, Regression Analysis, Break-even Point (BEP), Cost-Volume-Profit (CVP) Theory, Digital Financial Practices, Profitability, Pricing Decisions, Production Planning.

INTRODUCTION

From a managerial accounting perspective, break-even analysis is still one of the most ancient and most commonly used. Based on CVP Theory, break-even analysis allows a manager to determine the level of output at which total costs are equal to total revenue (Horngren et al. 1997). In the contemporary business world, costs are on the rise, there are competitors and pricing is adaptable/uncertain. The importance of the break-even point is increasingly apparent.

New data analytics and cost estimation tools have changed how companies examine their expenses, cost structure, margins, and profitability. There are indications that companies that integrate systematic cost data analysis into their processes enhance efficiency and effectiveness and make better operational and strategic decisions (Kumar & Prasad, 2022; Lin, 2023). A gap in the literature, however, is the very limited empirical research examining how BEP practices influence the overall business performance in emerging markets.

The purpose of this study is to examine the influence of break-even point analysis on firm performance. A sample of 110 firms from different industries had been surveyed. The primary question of the research

is:

To what extent does break-even point analysis enhance the performance of the organization?

LITERATURE REVIEW

Classical Foundations

Break-even analysis originated from cost–volume–profit theory. Garrison and Noreen (1999) and Horngren et al. (1997) suggested that familiarity with the theory's major components (fixed and variable costs, contribution margins, and break-even units) could facilitate cost and management decisions. They suggested that BEP assists organizations in devising strategies for pricing, product mix, and capacity.
Penrose (1959) and Anthony (1965) pointed out that firms, who, to some extent, use cost analysis, seem to enjoy operational costs stability and gain the ability to foresee financial pressures before they arrive.

Break-Even Analysis in Contemporary Research

BEP, to some extent, has gained the interest of scholars, which can be attributed, in large part, to the advancements of technology. Digital accounting systems, real time calculators of margins, and AI based forecasting systems have enhanced the accuracy of BEP (Lin, 2023; Al-Shammari, 2022).
According to Kumar and Prasad (2022), firms that employed digital CVP systems experienced 17–25% greater profitability as opposed to firms that relied on traditional spreadsheets. Likewise, Fatima and Malik (2020) concluded that BEP forecasting assist SMEs in dealing with pricing instability and in the management of production plans.

Break-Even Practices and Firm Performance

Numerous studies, for instance, Yazdanfar & Öhman (2015), have shown that there is a considerable influence of analysis of costs, margins, and forecasting of breakeven point on the profitability of the firms. Such firms, that take it upon themselves to monitor their break-even levels, voluntarily cut down avoidable fixed costs and direct their energy to thehigh margin products (Haldar & Rao, 2020).

Hypotheses

H1: Analysis of costs will correlate positively with business performance.
H2: Further assessment of the contribution margin will lead business performance to improve to a greater degree.
H3: Business performance will improve positively with break-even forecasting.

METHODOLOGY

Research Design

A cross sectional survey of quantitative style was utilized, collecting primary data from the 110 firms' financial managers with the use of organized questionnaires.

Variables

Independent Variables

- (F)Cost Analysis
- Contribution Margin Evaluation
- Break-Even Forecasting

Dependent Variable

- Business Performance
- Using a 5 point scale, Likert-style. 1 was the lowest, 5 was the highest.

DATA ANALYSIS

Reliability Analysis

Variable	Cronbach's Alpha
Cost Analysis	.82
Contribution Margin Eval.	.87
Break-Even Forecasting	.78
Business Performance	.85

All values > .70 indicate good reliability (Nunnally, 1978).

Descriptive Statistics

Variable	Mean	SD
Cost Analysis	3.89	.61
Contribution Margin Evaluation	4.01	.55
Break-Even Forecasting	3.74	.67
Business Performance	3.92	.63

Contribution margin evaluation scored highest, suggesting widespread adoption.

Correlation Matrix

Variables	CA	CME	BEF	BP	
Cost Analysis	1	.51**	.47**	.58**	
CME	.51**	1	.49**	.63**	
BEF	.47**	.49**	1	.55**	
Business Performance		.58**	.63**	.55**	1

Note: p < .01

Contribution margin evaluation has the strongest correlation with business performance.

Regression Analysis

Model Summary:

- R = .72
- R^2 = .52
- F(3, 106) = 37.45, p < .001

Regression Coefficients

Predictor	β	t	Sig.
Cost Analysis	.24	3.41	.001
Contribution Margin Eval.	.38	5.72	.000
Break-Even Forecasting	.29	4.35	.000

Interpretation:

- The business performance of firm was positively impacted by every variable related to cost.
- The most significant impact was the Contribution Margin Evaluation.

DISCUSSION

The study confirmed that break-even analysis practices positively influence business performance. This corroborates previous traditional works that recognize CVP and BEP as important management tools (Horngren et al. 1997; Garrison & Noreen 1999; Rafique & Mehmood 2022).

The positive effectiveness of contribution margin while ascertaining cost structures is a modern influence as variable cost in today's world is quite volatile because of worldwide supply chain variables. Lin (2023). Improving break-even as well enhances performance. This resonates and is consistent with recent studies that demonstrate the importance of analytical forecasting in cost management (Al-Shammari 2022).

Overall, firms that regularly assess their break-even point seem to be in a better position to manage their risks, set their prices optimally, and improve their profits.

CONCLUSION

This empirical study has confirmed the positive relationship of break-even point analysis practices and organizational performance. Firms that perform cost analysis, contribution margin valuation, and take break-even forecasts are more successful in competing in their industry.

Recommendations

1. Implement digital CVP and break-even analysis tools to facilitate real-time margin analysis.
2. Train Managers to analyze variable costs and categorize costs.
3. Perform break-even assessments; on a quarterly basis, to determine optimum capacity and pricing.
4. Align BEP analysis with budgeting and risk management.

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