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Research Article

Optimizing Financial Decision-Making: Use of Relevant Costing Techniques in Manufacturing Businesses in the Philippines

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ABSTRACT

This study investigates the application and effectiveness of relevant costing among manufacturing businesses in Bulan, Sorsogon, with an emphasis on their impact on business performance. The research specifically assesses the extent to which relevant costing principles—such as identification of relevant and irrelevant costs, incremental analysis, pricing and cost control decisions, investment evaluation, and decision-making under resource constraints—are utilized by local manufacturing owners. Additionally, it examines key business performance indicators including gross profit rate, operating profit rate, and production yield rate, and explores the relationship between relevant costing utilization and business performance outcomes.

Employing a quantitative research design that integrates descriptive and correlational approaches, the study surveyed 94 manufacturing business owners from a population of 124 registered entities, with data drawn from official local government records and audited financial statements spanning 2022 to 2025. Descriptive statistics revealed that relevant costing is "sometimes" applied in decision-making processes, with pricing and cost control decisions showing relatively higher utilization compared to incremental analysis and investment evaluation. Business performance analysis indicated low profitability levels, reflected by a gross profit rate of 17.46% and an operating profit rate of 3.75%, while production efficiency, measured by production yield rate, was moderate at 83.57%. Canonical Correlation Analysis established a statistically significant moderate relationship between relevant costing practices particularly in pricing, cost control, and investment appraisal and financial performance indicators. However, the inconsistent application of these practices limits their potential to fully enhance profitability, suggesting that other factors such as market dynamics and operational capabilities also influence business outcomes.

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The findings underscore the need for improved managerial skills in cost analysis and capital budgeting, alongside the adoption of standardized financial planning tools. Practical recommendations include conducting targeted training, implementing procedural checklists, establishing profitability-linked performance metrics, fostering advisory partnerships, and promoting benchmarking against industry standards. By strengthening relevant costing utilization, manufacturing businesses in Bulan, Sorsogon can enhance decision quality, improve profitability, and increase competitiveness in a challenging economic environment. This research contributes valuable insights for business owners, policymakers, educators, and researchers aiming to advance financial decision-making practices and sustainable growth in the local manufacturing sector.

Keywords*: Relevant costing, Business performance, Gross profit rate, Operating profit rate, Production yield rate*

Background

In the dynamic landscape of rural economies, manufacturing enterprises serve as both economic anchors and engines of innovation. In the Municipality of Bulan, Sorsogon, a thriving commercial hub in the southernmost part of Luzon, the manufacturing sector is a critical contributor to local development. From small-scale food processing and furniture-making to garments production and handicrafts, these businesses provide employment opportunities, stimulate the local supply chain, and add value to the municipality's agricultural and raw material outputs. Despite their contributions, many of these enterprises operate under tight financial constraints, often relying on limited capital and facing inconsistent access to advanced financial management practices.

Against this backdrop, the ability to make sound financial decisions becomes essential for business survival and growth. One key approach is relevant costing, a managerial accounting technique that focuses on identifying and analyzing only those costs and revenues that will change as a result of a specific decision. By filtering out irrelevant information—such as sunk costs or fixed overheads unaffected by a decision—managers can focus on the financial elements that truly matter. This precision is especially valuable for short-term decision-making scenarios such as setting competitive prices, determining whether to outsource production, or discontinuing underperforming products.

Scholars emphasize that relevant costing supports operational efficiency by ensuring that resources are directed toward activities with the highest potential returns (Garrison, Noreen, & Brewer, 2021). Its application helps businesses avoid unnecessary expenses, reduce waste, and respond more quickly to market changes—all of which are closely linked to improved profitability and long-term competitiveness. In manufacturing settings, where production costs can fluctuate due to raw material prices, labor availability, and demand cycles, the ability to distinguish between relevant and irrelevant costs becomes a strategic advantage.

However, the application of relevant costing in rural manufacturing contexts like Bulan is not yet widely documented. Research indicates that small and medium-sized enterprises (SMEs) in developing economies often face gaps in financial literacy and lack access to structured decision-making frameworks (Nguyen et al., 2019; Abor & Quartey, 2010). This gap leaves them vulnerable to inefficient resource allocation, pricing errors, and missed growth opportunities. In Bulan, many manufacturing owners rely heavily on intuition or traditional practices rather than data-driven analysis, which can lead to inconsistent business performance.

From a business performance perspective, relevant costing directly supports three key areas: 1.) Profitability – by ensuring that pricing decisions cover relevant costs while remaining competitive; 2.) Cost Efficiency – by eliminating

expenditures that do not contribute to decision outcomes; and 3.) Market Responsiveness – by allowing managers to adapt quickly to changing customer demands and competitive

pressures. The rationale for this study lies in bridging the knowledge and practice gap for Bulan's manufacturing industry. By examining the extent of relevant costing adoption and its relationship to business performance, the research aims to offer practical recommendations tailored to the municipality's economic environment. This is particularly timely as local businesses seek to recover from recent global and regional economic disruptions, where every peso saved or wisely invested can determine business continuity.

This study adds to the growing body of literature on rural manufacturing competitiveness. While much of the academic discourse on managerial accounting tools has focused on urban and industrialized economies (Drury, 2018; Hilton & Platt, 2020), there is an increasing recognition of the need to adapt and localize these tools for small and medium-sized enterprises (SMEs) in rural settings. The Municipality of Bulan, in the Province of Sorsogon, exemplifies this need. As a growing municipality with a vibrant manufacturing sector, Bulan plays a significant role in the local economy through job creation, value addition to raw materials, and support for local supply chains. However, despite its economic potential, the sector faces persistent challenges, including limited financial literacy, resource constraints, and inadequate access to effective financial management tools. These issues hinder many manufacturers from making informed decisions that could boost profitability and ensure long-term sustainability.

This study is therefore highly relevant to Bulan's business landscape. It aims to provide practical insights into how manufacturing enterprises in the municipality can adopt and benefit from relevant costing—a proven financial management tool that, when properly understood and applied, can guide optimal operational and investment decisions. By addressing these gaps, the research seeks to empower local business owners with actionable strategies to improve efficiency, enhance profitability, and strengthen their competitive position. Ultimately, the study goes beyond presenting numerical analyses; it seeks to demonstrate how sound financial decision-making can secure livelihoods, fortify the local economy, and position Bulan's manufacturing sector for resilience and growth in an increasingly competitive market.

Objectives of the Study

The primary objective of this research is to examine the application and effectiveness of relevant costing and capital budgeting practices among manufacturing businesses in Bulan, Sorsogon. Specifically, the study aims to:

1. Assess the extent to which manufacturing businesses in Bulan, Sorsogon utilize relevant costing in their decision-making processes in terms of:
    a. Identification of Relevant and Irrelevant Costs;
    b. Use of Incremental Analysis;
    c. Pricing and Cost Control Decisions;
    d. Evaluation of Investments and Expansion Options; and
    e. Decision Making under Resource Constraints;
2. Assess the business performance and financial stability of manufacturing businesses in Bulan Sorsogon in terms of;
    a. Gross Profit Rate;
    b. Operating Profit Rate; and
    c. Production Yield Rate; and
3. Establish the relationship between the use of relevant costing and business performance indicators.

Methodology

This study employed a quantitative research design that integrated both descriptive and correlational approaches to effectively address the research objectives. The descriptive component was used to outline the extent of relevant costing and capital budgeting practices among the respondents, while the correlational approach examined the statistical relationships between these practices and selected measures of business performance.

The primary respondents consisted of registered manufacturing business owners operating within the Municipality of Bulan, Sorsogon. The selection of this population was based

on official records obtained from the Licensing Department of the Local Government Unit (LGU) of Bulan. Financial data, particularly figures from audited financial statements covering fiscal years 2022 to 2025, served as the main source of quantitative evidence for the analyses.

Based on LGU records, there were 124 registered manufacturing businesses in the municipality at the time of the study. The distribution of these establishments by legal form of business is presented in Table 1.

Table 1. Research Population

Form of Business Establishments	Total No. of respondents	%
Corporation	12	9.67%
Sole Proprietorship	112	90.33%
Total	**124**	**100%**

As shown in Table 1, a significant majority (90.33%) of the manufacturing businesses in Bulan are registered as **sole proprietorships**, while only 9.67% are incorporated entities. Given the relatively small population size, the sample size was computed using **G*Power statistical software**. Setting the parameters at a **95% confidence level** and a **5% margin of error**, the minimum required sample size was determined to be **94 respondents**. The proportion of corporations and sole proprietorships in the final sample closely mirrored their actual distribution in the population, as shown in Table 2.

Table 2. Actual Respondents (Population = 124; Sample Size @ 95% Confidence level = 94)

Form of Business Establishments	Total No. of respondents	%
Corporation	7	7.45%
Sole Proprietorship	87	92.55%
Total	**94**	**100%**

In analyzing financial decision-making practices, the study focused on relevant costing techniques, including the identification of avoidable costs and the application of decision-making frameworks. Data analysis was conducted using both descriptive and inferential statistics. Measures such as frequency distributions, means, and standard deviations summarized the prevalence and intensity of relevant costing. To assess relationships between these relevant costing practices and business performance indicators, the study employed Pearson's correlation coefficient. In addition, Canonical Correlation Analysis (CCA) was utilized to explore the combined influence of relevant costing and relevant costing practices.

To measure the extent of relevant costing utilization in the decision-making processes of manufacturing business owners, the study employed a five-point Likert scale with response options coded as follows: 1 – Never, 2 – Rarely, 3 – Sometimes, 4 – Often, and 5 – Always. Business performance indicators include gross profit rate, operating profit rate and production yield rate using the following indicators:

A. Gross Profit Rate

Degree	Computed BP (%)	Interpretation
Low	< 20%	Low gross profit rate — margins are weak; review cost of goods sold, pricing, and product mix
Moderate	20%-35%	Moderate gross profit rate — generally acceptable but monitor input costs and pricing to improve margins.
High	> 35%	High gross profit rate — healthy margins; maintain cost controls and quality to sustain performance.

B. Operating Profit Rate

Degree	Computed BP (%)	Interpretation
Low	< 5%	Low operating profit rate — operating costs are compressing profitability.
Moderate	5%-12%	Moderate operating profit rate — acceptable but consider efficiency and cost control measures to raise margin.
High	> 12%	High operating profit rate — solid operating performance; reinvest or strengthen competitive position.

C. Operating Profit Rate

Degree	Computed BP (%)	Interpretation
Low	< 80%	Low production yield — production quality problems; immediate corrective actions needed.
Moderate	80%-89%	Moderate yield — performance is workable but target process improvements to reduce waste and rework.
High	> 90%	High production yield — efficient production and strong quality control; continue continuous improvement.

The research adhered to established ethical standards. Participation was voluntary, and respondents were fully informed of the study's objectives, scope, and data usage. Written consent was obtained prior to data collection, and strict confidentiality measures were implemented to ensure that all information was handled responsibly and in compliance with ethical guidelines for research involving human participants.

Results and Discussions

A. Extent Of Relevant Costing Utilization in the Decision-Making Processes of Manufacturing Business Owners

The study assessed the extent to which manufacturing businesses in Bulan, Sorsogon utilize relevant costing in their decision-making processes. As shown in Table 3, the overall average mean score is 2.82, indicating that relevant costing is "sometimes" applied in managerial decisions. This suggests a moderate but inconsistent adoption of relevant costing principles in the local manufacturing sector. While the technique is not entirely neglected, its integration into daily decision-making appears partial and situational rather than systematic.

Table 3. Relevant Costing Utilization

Latent Variables	Mean Scores
1. Identification of Relevant and Irrelevant Costs	2.79
2. Use of Incremental Analysis	2.55
3. Pricing and Cost Control Decisions	3.17
4. Evaluation of Investments and Expansion Options	2.70
5. Decision Making under Resource Constraints	2.91
Average Mean Scores	**2.82**

Note: 4.50-5.00=Always; 3.50-4.49; Often; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

Among the latent variables, Pricing and Cost Control Decisions obtained the highest mean score (3.17), reflecting a relatively stronger application of relevant costing concepts in determining product prices, controlling operational costs, and managing profitability. This is consistent with the notion that pricing decisions are often immediate and tangible areas where managers perceive the direct benefits of relevant cost information (Drury,

2018). In many small and medium-sized manufacturing enterprises, competitive pressures necessitate a closer link between cost data and pricing strategies (Hilton & Platt, 2020).

Conversely, Use of Incremental Analysis registered the lowest mean score (2.55), suggesting that managers only "sometimes" apply this tool to evaluate alternatives and choose the most profitable course of action. Incremental analysis, a core element of relevant costing, requires identifying only those costs and revenues that will change as a result of a decision (Garrison et al., 2021). The low utilization rate may imply either a skills gap in applying incremental analysis or a tendency to rely on traditional, full-cost approaches, which, while useful, can obscure the marginal effects of decisions (Horngren et al., 2021).

The findings also show that Identification of Relevant and Irrelevant Costs (2.79) and Evaluation of Investments and Expansion Options (2.70) are areas where relevant costing is applied at a moderate but not optimal level. This raises concerns because accurate identification of relevant costs is foundational for sound managerial decision-making, especially when considering capital expenditures or strategic expansions (Seal et al., 2019). Failure to distinguish relevant from irrelevant costs—such as sunk costs—can lead to suboptimal choices and wasted resources (Bhimani et al., 2019). Decision-Making under Resource Constraints scored 2.91, indicating that relevant costing is only partially used in scenarios involving scarcity of resources such as labor hours, machine capacity, or raw materials. In theory, relevant costing is particularly powerful under such conditions because it helps prioritize the allocation of scarce resources toward the most profitable products or services (Drury, 2018). The moderate score implies that while managers recognize its value, they may not consistently employ formal analyses, possibly due to time constraints, lack of structured decision-making processes, or limited access to advanced costing tools.

The overall pattern—moderate utilization across all dimensions—suggests that while manufacturing businesses in Bulan, Sorsogon are aware of relevant costing principles, they may lack the depth of application necessary to fully optimize decision-making. This aligns with previous studies indicating that small and medium-sized enterprises in developing regions often exhibit partial adoption of modern management accounting techniques due to constraints in technical expertise, organizational culture, and technology integration (Ahmad, 2017; Pavlatos, 2015).

Table 3.1 shows the mean scores for the sub-variable *"Identification of Relevant and Irrelevant Costs,"* which is part of the broader construct of relevant costing utilization. The overall average mean score is 2.79, interpreted as *"Sometimes"*on the scale used. This indicates that while manufacturing business owners in Bulan, Sorsogon are familiar with the principles of relevant costing, their actual use of these techniques in decision-making is irregular and far from being a routine practice.

Table 3.1 Relevant Costing Utilization - Identification of Relevant and Irrelevant Costs

	Benchmark Statements	Mean Scores
1.	I distinguish between costs that will be affected by a decision and those that will not.	3.11
2.	I regularly exclude sunk costs when evaluating alternative courses of action.	2.76
3.	I assess avoidable and unavoidable costs before making a decision.	2.61
4.	I separate fixed and variable costs to determine their relevance in decision-making.	2.37
5.	I consider opportunity costs when comparing business options.	3.10
	Average Mean Scores	**2.79**

Note: 4.50-5.00=Always; 3.50-4.49; Often; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

Among the indicators, the highest mean score (3.11) was for the statement, *"I distinguish between costs that will be affected by a decision and those that will not."* This suggests a moderate ability among respondents to identify which costs are relevant to specific

managerial choices, an important first step in applying relevant costing effectively. A similarly high score (3.10) was recorded for considering opportunity costs, implying that some owners recognize the value of what is sacrificed when selecting one option over another. However, this awareness is not consistently translated into practical decision-making. On the other hand, the lowest score (2.37) was for separating fixed and variable costs for decision-making purposes. This points to a significant gap in cost classification skills, a fundamental requirement for determining the incremental effect of a decision on total costs. Likewise, the relatively low score (2.76) for excluding sunk costs indicates that some owners may still factor in past, irrecoverable expenditures, potentially leading to less optimal decisions.

The findings suggest that manufacturing business owners in Bulan, Sorsogon apply relevant costing techniques only sporadically, with noticeable weaknesses in technical areas such as cost classification and sunk cost exclusion. Many may intuitively know which costs matter in a given decision, but without a consistent, structured approach, their decision-making process remains less effective. This inconsistent application may stem from a lack of formal managerial accounting training, a preference for intuition over structured analysis, or a focus on short-term cash flow rather than long-term cost efficiency. These patterns are consistent with Hilton and Platt's (2020) observation that small business decision-making often leans more on experiential judgment than on formal cost analysis. Similarly, Al-Mawali et al. (2018) found that SMEs in developing economies rarely apply advanced costing techniques systematically due to limited resources and accounting expertise. Cadez and Guilding (2012) further note that integrating strategic management accounting tools, such as relevant costing, can significantly improve decision quality and financial outcomes.

The relatively low adoption in certain areas also reflects what Drury (2018) calls the *"implementation gap"* where managers understand costing concepts in theory but fail to put them into practice. This is especially true in small-scale manufacturing, where owner-managers often juggle multiple roles and have little time for structured cost analysis. Hence, Bulan's manufacturing business owners are not entirely unfamiliar with relevant costing, their inconsistent application prevents them from fully optimizing financial decisions. Closing this gap could foster more data-driven strategies, ultimately boosting profitability, resilience, and competitiveness in today's volatile economic climate.

Table 3.2 presents the mean scores for the "Use of Incremental Analysis" in decision-making among manufacturing business owners in Bulan. The overall mean score of 2.22, which falls under the *"Rarely"* category, reveals that incremental analysis—one of the central tools in relevant costing—is not consistently employed as part of their managerial practice. This finding suggests that while some elements of incremental thinking are present, its systematic application remains limited.

Table 3.2. Relevant Costing Utilization – Use of Incremental Analysis

	Benchmark Statements	Mean Scores
1.	I evaluate only the additional costs and benefits that arise from a specific decision.	2.36
2.	I compare alternative courses of action based on incremental revenues and costs.	2.20
3.	I avoid including irrelevant historical costs in decision analysis.	2.47
4.	I use incremental analysis for make-or-buy decisions.	3.10
5.	I apply incremental costing principles when deciding whether to continue or discontinue a product line.	2.60
	Average Mean Scores	**2.22**

Note: 4.50-5.00=Always; 3.50-4.49Ooften; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

From the results, the highest mean score (3.10) came from the statement, *"I use incremental analysis for make-or-buy decisions."* This suggests that when local manufacturing owners are deciding whether to produce goods in-house or outsource them, they tend to weigh the additional costs and benefits more deliberately. This outcome is understandable—make-or-buy scenarios often present clear and measurable cost differences, making them easier to analyze even without complex financial models.

A moderate score (2.60) was recorded for *"I apply incremental costing principles when deciding whether to continue or discontinue a product line."* This indicates that some business owners do consider the extra revenues and costs involved in product line decisions, but such practices are applied only occasionally. Other aspects of incremental analysis received noticeably lower ratings. For instance, *"I avoid including irrelevant historical costs in decision analysis"* scored 2.47, implying that sunk costs, expenses that can no longer be recovered, still play a role in decision-making, despite their lack of relevance to future outcomes. Even more telling are the low scores for *"I evaluate only the additional costs and benefits that arise from a specific decision"* (2.36) and *"I compare alternative courses of action based on incremental revenues and costs"* (2.20), both in the *"Rarely"* category. These results highlight a fundamental gap in the consistent application of one of relevant costing's core principles: focusing solely on the financial elements that actually change as a result of a decision.

Taken together, these findings suggest that while some Bulan manufacturers apply incremental analysis when faced with high-impact, straightforward decisions, like make-or-buy choices, its broader and more systematic use in everyday operations remains underdeveloped. Hilton and Platt (2020) similarly observed that smaller enterprises tend to adopt structured costing methods only for specific, pressing decisions rather than as part of their regular decision-making framework. There are likely several reasons for this selective application. First, using incremental analysis effectively requires more than basic cost awareness; it demands the ability to distinguish relevant from irrelevant information, a skill not always present among owner-managers without formal training in managerial accounting (Al-Mawali, Zainuddin, & Nasir, 2018). Second, small manufacturers often operate with lean administrative staff, limiting the time and resources available for detailed analysis. Third, many prioritize immediate cash flow concerns over longer-term cost optimization, which can make incremental costing seem less urgent or necessary (Drury, 2018).

From a managerial perspective, the low adoption of incremental analysis carries serious implications. Decisions based on incomplete or misleading financial information increase the risk of strategic missteps. For example, allowing sunk costs to influence decisions can lead to the "loss aversion" trap, where unprofitable ventures are continued simply because resources have already been invested. Similarly, failing to compare alternatives using incremental revenues and costs may mean overlooking opportunities to reduce expenses or boost profitability (Cadez & Guilding, 2012). These patterns align with global research on SMEs in developing economies. Cadez and Guilding (2012) reported that firms integrating strategic management accounting tools—such as incremental analysis—tend to make higher-quality decisions and perform better financially. Likewise, Al-Mawali et al. (2018) found that gaps in technical expertise and limited resources often prevent SMEs from fully adopting such methods, weakening their ability to compete in cost-sensitive markets.

As presented in Table 3.3, the computed average mean score was 3.17, which falls under the "Sometimes" range (2.50–3.49). This suggests that relevant costing is applied in certain pricing and cost control decisions, but its use is not yet institutionalized as a consistent managerial practice.

Table 3.3 Relevant Costing Utilization – Pricing and Cost Control Decisions

	Benchmark Statements	Mean Scores
1.	I use relevant costing when determining selling prices for products.	3.24
2.	I analyze only the costs that change when offering special prices or discounts.	3.10
3.	I apply relevant cost analysis when negotiating contracts with suppliers or customers.	3.75
4.	I use relevant costing to assess the profitability of customized orders.	3.44
5.	I base cost control measures on costs that can be influenced by management decisions.	2.33
	Average Mean Scores	**3.17**

Note: 4.50-5.00=Always; 3.50-4.49Ooften; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

Among the benchmark statements, the highest mean score was recorded for the application of relevant cost analysis in negotiating contracts with suppliers or customers (M = 3.75), indicating that managers are more likely to incorporate relevant costing principles when high-stakes agreements or procurement deals are involved. This finding aligns with the assertion of Hilton and Platt (2020) that negotiation contexts often compel managers to focus on incremental costs and benefits to secure favorable terms. Similarly, assessing the profitability of customized orders (M = 3.44) and determining selling prices for products (M = 3.24) also showed relatively higher mean scores, highlighting that relevant costing finds more traction when decisions involve non-standard pricing and product differentiation (Drury, 2018).

On the other hand, the lowest mean score was observed for basing cost control measures on costs that can be influenced by management decisions (M = 2.33), which falls within the "Rarely" category. This indicates a gap in integrating relevant costing as a proactive cost management tool. Such a result implies that while managers may use relevant costing reactively in certain pricing decisions, they seldom use it systematically to manage controllable costs—suggesting a missed opportunity to enhance operational efficiency. This is consistent with the findings of Horngren et al. (2021), who emphasize that many SMEs, despite understanding relevant costing concepts, fail to translate them into sustained cost control practices due to limited accounting expertise or lack of formalized cost systems.

From a higher-order analytical perspective, these results reveal an uneven application of relevant costing principles. While managers appear to recognize its strategic value in contract negotiations and custom pricing scenarios, they underutilize it in continuous operational decisions such as cost control. This selective usage could be rooted in the perception that relevant costing is more applicable to discrete, high-impact decisions rather than routine managerial functions. The implication is that without consistent application across different decision-making contexts, firms risk making suboptimal operational choices that may erode long-term profitability.

This can be linked to prior studies where Atrill and McLaney (2019) argue that the partial adoption of relevant costing can lead to inconsistent decision quality, especially in competitive environments where pricing flexibility and cost discipline are equally critical. Moreover, the moderate mean score overall suggests that while awareness of relevant costing exists, there is room for capacity-building interventions, particularly in translating the concept from theory to practice. As Nuhu et al. (2017) noted, relevant costing is most effective when embedded in a broader managerial culture that values evidence-based decision-making and cost accountability. This simply means that training programs and managerial workshops on the holistic application of relevant costing could help bridge the gap between sporadic use and systematic integration.

Table 3.4 presents the evaluation of relevant costing utilization among manufacturing businesses in Bulan, Sorsogon, specifically in

relation to investment and expansion decisions. The overall average mean score of 2.70 indicates that relevant costing principles are applied "sometimes" across decision-making contexts. This suggests that while the concept is recognized, it has yet to be systematically embedded in managerial practice.

Table 3.4 Relevant Costing Utilization – Evaluation of Investments and Expansion Options

	Benchmark Statements	Mean Scores
1.	I apply relevant costing principles when considering equipment replacement.	3.20
2.	I consider only future costs and revenues that differ between alternatives.	2.78
3.	I assess relevant costs when deciding on plant expansion or relocation.	2.60
4.	I use relevant cost analysis to choose between different investment opportunities.	2.00
5.	I apply relevant costing to evaluate outsourcing options.	2.92
	Average Mean Scores	**2.70**

Note: 4.50-5.00=Always; 3.50-4.49Ooften; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

Among the benchmark statements, the highest mean score (3.20) was observed for "I apply relevant costing principles when considering equipment replacement." This finding implies that managers are more inclined to apply relevant costing when faced with tangible and straightforward investment choices, such as deciding whether to replace outdated machinery. This aligns with Horngren et al. (2018), who noted that equipment replacement decisions often present clear differential cost and benefit structures, making the application of relevant costing more intuitive for managers.

Conversely, the lowest mean score (2.00) was recorded for "I use relevant cost analysis to choose between different investment opportunities." This indicates that managers tend to rarely employ relevant costing in more complex investment comparisons. One possible explanation is that these decisions often involve intangible factors, risk considerations, and strategic uncertainties, which may discourage reliance on purely cost-based analysis (Drury, 2022). It also reflects a gap in translating accounting theory into practical investment evaluation frameworks, especially in small and medium-sized enterprises (SMEs), which dominate Bulan's manufacturing landscape.

The mid-range scores for statements on considering only future costs and revenues (2.78), assessing relevant costs for expansion or relocation (2.60), and evaluating outsourcing options (2.92) suggest an inconsistent application of relevant costing principles beyond equipment replacement. This inconsistent usage mirrors the findings of Hilton and Platt (2020), who emphasized that many managers struggle to differentiate between relevant and irrelevant costs, particularly when qualitative factors and sunk costs complicate the decision environment.

From a broader perspective, these results highlight a transitional stage in managerial decision-making practices. While relevant costing is recognized in principle, its application is often situational and reactive, rather than strategic and routine. This finding resonates with the conclusions of Cadez and Guilding (2017), who observed that in emerging economies, the adoption of advanced management accounting techniques tends to be incremental, shaped by organizational learning curves, resource constraints, and exposure to modern accounting education. The moderate overall utilization score of 2.70 points to both a challenge and an opportunity for Bulan's manufacturing sector. On one hand, limited and selective application of relevant costing may hinder optimal decision-making, potentially resulting in missed cost-saving opportunities and suboptimal investment choices. On the other hand, the positive uptake in specific areas like equipment replacement signals that managers are receptive to structured costing techniques when these are presented in clear, actionable formats.

Given these results, there is a strong case for capacity-building interventions such as targeted training programs and managerial workshops that demystify relevant costing and demonstrate its applicability across varied investment contexts. Additionally, embedding simple but reliable cost-tracking systems can encourage more consistent use of relevant costing in everyday decision-making. If embraced fully, this could pave the way for more agile pricing strategies, improved cost efficiency, and enhanced competitiveness in both local and regional markets—a point also emphasized by Ahmad (2017) in his study on the strategic benefits of management accounting in SMEs.

Table 3.5 reveals that manufacturing managers in Bulan, Sorsogon register an overall average mean score of 2.91 for the use of relevant costing when making decisions under resource constraints. This places their utilization in the *"sometimes"*range, pointing to a moderate yet inconsistent adoption of the technique. In other words, while the principles of relevant costing are recognized, they are not yet a routine part of daily decision-making—particularly in situations where resources are scarce.

Table 3.5. Relevant Costing Utilization – Decision Making under Resource Constraints

	Benchmark Statements	Mean Scores
1.	I identify relevant costs when production resources are limited.	2.98
2.	I use relevant costing to prioritize products or services with the highest contribution margin per unit of constraint.	2.96
3.	I apply relevant cost analysis when determining the optimal product mix.	2.87
4.	I consider only the costs that affect production capacity decisions.	2.81
5.	I rely on relevant costing to make scheduling and resource allocation decisions.	2.92
	Average Mean Scores	**2.91**

Note: 4.50-5.00=Always; 3.50-4.49Ooften; 2.50-3.49=Sometimes; 1.50-2.49=Rarely; 1.00-1.49=Never

The highest score (2.98) came from the statement, *"I identify relevant costs when production resources are limited."* This indicates that many managers are conscious of the need to pinpoint costs that truly matter in constrained situations, such as when machine hours, labor, or raw materials are in short supply. Hilton and Platt (2020) highlight that identifying relevant costs is the first and most crucial step toward sound operational choices under such conditions.

A close second (2.96) was the practice of prioritizing products or services with the highest contribution margin per unit of constraint. While this shows that some managers take profitability per bottleneck resource into account, it is not yet frequent enough to be considered a standard practice. Drury (2022) notes that maximizing contribution margin under constraints can be one of the most profitable applications of relevant costing, but it requires both technical expertise and timely data—two resources that many small and medium-sized enterprises (SMEs) may lack.

On the other hand, the lowest score (2.81) was for *"I consider only the costs that affect production capacity decisions."*This suggests that some managers still include irrelevant costs—like sunk or fixed costs—in their calculations, potentially leading to poor allocation of scarce resources. As Horngren et al. (2018) point out, overlooking the distinction between relevant and irrelevant costs can distort decision-making, especially when managers are under time pressure.

Other areas, such as applying relevant cost analysis to determine the optimal product mix (2.87) and using it for scheduling or resource allocation (2.92), also fell within the *"sometimes"* category. These findings are consistent with Cadez and Guilding's (2017) observation that even when managers understand the theory behind relevant costing, real-world application is often hindered by the absence of structured decision models and robust cost-tracking systems. Taken together, the results suggest that managers in Bulan are partially

equipped to apply relevant costing in resource-constrained situations, but their use remains selective and situational. This "intermittent adoption" pattern may be due to limited managerial training, insufficient access to accurate cost data, and a preference for intuitive rather than analytical decision-making. Relevant costing tends to be used more readily in straightforward scenarios than in complex allocation problems that demand more advanced analysis.

B. Business Performance of Manufacturing Sector in Bulan, Sorsogon

The study sought to assess the business performance (BP) of manufacturing businesses in Bulan, Sorsogon in terms of gross profit rate, operating profit rate and production yield rate.

Table 4. Business Performance of Manufacturing Sector in Bulan, Sorsogon

Business Indicators	Computed BP	Degree
1. Gross Profit Rate (GPR)	17.46%	Low
2. Operating Profit Rate (OPR)	3.75%	Low
3. Production Yield Rate (PYR)	83.57%	Moderate

The business performance indicators in Table 4 reveal that manufacturing enterprises in Bulan, Sorsogon recorded a Gross Profit Rate (GPR) of 17.46%, an Operating Profit Rate (OPR) of 3.75%, and a Production Yield Rate (PYR) of 83.57%. According to the established performance scale, these values fall under the *low* category for both GPR and OPR, and *moderate* for PYR. This performance pattern carries significant implications for the extent and quality of capital budgeting applications in their operational and strategic decisions. The findings suggest that while some elements of production efficiency exist, manufacturing businesses in Bulan, Sorsogon exhibit profitability profiles consistent with limited or inconsistent application of advanced capital budgeting techniques. Strengthening the use of formal methods such as NPV, IRR, and sensitivity analysis could improve both cost management and operational yields, ultimately contributing to sustainable profitability.

A low gross profit rate (below 20%) indicates that the cost of goods sold absorbs a substantial proportion of revenue, leaving narrow room for profitability. This suggests that either input costs are relatively high, pricing strategies are suboptimal, or both. In capital budgeting terms, such a result may point to inadequate evaluation of cost-reduction investments or weak prioritization of projects aimed at enhancing operational efficiency. According to Gitman and Zutter (2015), capital budgeting techniques such as *net present value (NPV)* and *internal rate of return (IRR)* are critical for identifying projects with the highest value creation potential, including those that can reduce production costs or increase margins. The low GPR in this study may reflect either limited use or ineffective application of these methods in investment decisions.

Similarly, the operating profit rate of 3.75%—classified as low—signals that high operating expenses are compressing profitability despite moderate production efficiency. In theory, capital budgeting should guide decisions toward investments that improve process automation, reduce administrative overhead, or streamline supply chains (Brealey, Myers, & Allen, 2019). The fact that OPR remains weak suggests that either these opportunities are not being systematically evaluated or, if evaluated, not implemented with rigor. The production yield rate of 83.57%—falling in the moderate category—implies that while production quality and efficiency are relatively acceptable, there is still noticeable waste, rework, or process variability. In high-performance manufacturing contexts, a yield closer to or above 90% is often considered world-class (Liker, 2004). From a capital budgeting perspective, this moderate yield suggests that investments in process improvement, equipment upgrades, and employee training—often justified through *payback period* or *benefit-cost ratio* analyses—are either underutilized or inadequately prioritized.

Linking these performance indicators to decision-making behavior, the results suggest that manufacturing businesses in Bulan may be

employing capital budgeting techniques in a limited, ad hoc, or primarily short-term manner. The predominance of low profitability ratios, coupled with only moderate production yields, aligns with the observation by Yapa et al. (2017) that small and medium-sized enterprises (SMEs) in developing economies often rely more on heuristic or informal methods than on rigorous, quantitative capital budgeting tools. This can lead to suboptimal investment choices, particularly in cost-intensive sectors such as manufacturing.

The low GPR and OPR point to an urgent need for systematic integration of long-term investment evaluation tools into managerial decision-making. Projects with demonstrably positive NPV and acceptable IRR could address chronic cost inefficiencies and strengthen margins. Likewise, the moderate yield rate indicates that capital budgeting applications should not be confined to financial investments alone but also extend to quality improvement initiatives—aligning with the lean manufacturing perspective that "quality is free" when defect prevention is embedded in the process (Crosby, 1979). Finally, given the competitive pressures in regional manufacturing markets, failure to enhance capital budgeting sophistication risks perpetuating low profitability cycles and eroding competitive advantage.

C. The Relationship Between Relevant Costing Practices and Business Performance of Manufacturing Secton in Bulan, Sorsogon

Table 7. Canonical Correlation Analysis Between Relevant Costing Utilization (RCU) and Business Performance Indicators (BPI)

Canonical Function	Rc	Rc^2	Wilks' λ	F	df1	df2	p-value	Redundancy Index (RCU → BPI)	Redundancy Index (BPI → RCU)
1	0.536	0.287	0.712	2.31	15	152.3	0.005 **	0.156	0.142
2	0.312	0.097	0.896	1.12	8	120.0	0.354	—	—
3	0.187	0.035	0.962	0.65	3	61.0	0.587	—	—

Note: Rc^2 = Squared Canonical Correlation; $p < 0.05$ indicates significance. Only Function 1 is statistically significant.

Table 8. Canonical Loadings for Significant Function (Function 1)

Variable Set	Variables	Canonical Loading
Independent Variables (RCU)	Identification of Relevant and Irrelevant Costs	0.612
	Use of Incremental Analysis	0.581
	Pricing and Cost Control Decisions	0.694
	Evaluation of Investments and Expansion Options	0.653
	Decision Making under Resource Constraints	0.601
Dependent Variables (BPI)	Gross Profit Rate	0.667
	Operating Profit Rate	0.645
	Production Yield Rate	0.598

Loadings > |0.50| are considered substantial.

The Canonical Correlation Analysis (CCA) revealed that out of the three possible canonical functions, only the first function was statistically significant (Wilks' $\lambda = 0.712$, $F(15, 152.3) = 2.31$, $p = 0.005$). This function explained 28.7% of the shared variance ($Rc^2 = 0.287$) between the set of Relevant Costing Utilization (RCU) variables and the Business Performance Indicators (BPI)**.** The redundancy indices show that RCU explains 15.6% of the variance in BPI, while BPI explains 14.2% of the variance in RCU, indicating a moderate but meaningful cross-predictive relationship.

Pricing and Cost Control Decisions (loading = 0.694) and Evaluation of Investments and Expansion Options (loading = 0.653) emerged as the most influential relevant costing practices linked to performance outcomes. On the performance side, Gross Profit Rate (loading = 0.667) and Operating Profit Rate (loading = 0.645) showed the strongest relationships with the RCU set, suggesting that relevant costing practices exert a more direct influence on financial profitability than on operational efficiency. Production Yield Rate was positively related (loading = 0.598) but to a lesser degree, implying that cost analysis techniques may indirectly influence operational output through better resource allocation.

The findings imply that consistent application of relevant costing methods especially in pricing strategies and investment appraisals, can moderately enhance financial performance in Bulan's manufacturing sector. However, given the average RCU score of only 2.82 ("Sometimes"), these benefits are not fully realized, potentially explaining the low profitability levels (GPR = 17.46%, OPR = 3.75%). These results are consistent with Hilton and Platt (2020), who emphasized the role of relevant costing in isolating avoidable costs and supporting profit-maximizing choices. The moderate strength of the relationship suggests that other factors such as market conditions, production technology, and supply chain efficiency may also play substantial roles in determining business performance. The results likewise imply that equipping managers with advanced skills in incremental analysis, cost control, and capital budgeting can directly improve profitability outcomes, establishing links between specific costing decisions and profit/yield metrics can help managers refine decision-making processes and local government and business associations can promote standardized financial planning tools and benchmarking systems to help SMEs apply cost analysis more consistently.

Output

This research adds to the existing body of knowledge. Manufacturing Business Owners may likewise utilize the findings of this study as basis in formulating enhanced policies and strategies to improve their business performance. Educators and researchers can use the findings as educational material and as a reference for future studies on similar or related topics.

Conclusions and Recommendations

It was concluded that manufacturing business owners in Bulan, Sorsogon demonstrate a basic understanding of relevant costing principles particularly in distinguishing decision-affected costs and recognizing opportunity costs. Their application of these techniques is inconsistent and limited. Likewise, the manufacturing businesses in Bulan, Sorsogon exhibit low business performance in terms of profitability but with moderate production efficiency. The Canonical Correlation Analysis indicates a statistically significant moderate relationship between relevant costing utilization—particularly in pricing, cost control, and investment evaluation—and business performance indicators such as gross and operating profit rates in Bulan's manufacturing sector; however, inconsistent application of these costing practices limits their potential to fully enhance profitability, underscoring the need for improved managerial skills and standardized financial planning tools to better leverage relevant costing for stronger business outcomes.

Based on the findings, here are some practical recommendations to help manufacturing businesses in Bulan, Sorsogon improve their use of relevant costing and boost performance:

1. Organize hands-on workshops and training sessions that focus on how to apply relevant costing techniques in everyday decisions—like understanding different types of costs, analyzing opportunity costs, setting the right prices, and evaluating investments.
2. Encourage businesses to use simple, clear procedures and checklists to make sure relevant costing principles become a regular part of their daily decision-making process.
3. Help businesses connect their costing decisions directly to profitability by setting clear key performance indicators (KPIs) around pricing, cost control, and investment returns—so they can make smarter, data-driven choices.

4. Support partnerships with accountants, financial advisors, or local business centers that can offer ongoing guidance—helping owners understand their costing data better and take effective action to improve.
5. Promote regular tracking and comparison of costs and performance against industry benchmarks—so businesses can spot areas for improvement, monitor progress, and stay motivated to use relevant costing more effectively.

References

Ahmad, K. (2017). The implementation of management accounting practices and its relationship with performance in small and medium enterprises sector. *International Review of Management and Marketing, 7*(1), 342–353.

Ahmed, Z., & Aslam, F. (2018). The role of business laws in sustainable business operations. *Journal of Business Law, 23*(3), 45–61.

Al-Mawali, H., Zainuddin, Y., & Ali, N. (2018). Management accounting systems and organizational performance: A resource-based perspective. *International Journal of Accounting & Information Management, 26*(3), 356–374. https://doi.org/10.1108/IJAIM-05-2017-0064

Anwar, S. (2020). Management strategies and business sustainability: A case study of SMEs. *Journal of Strategic Management, 31*(1), 78–95.

Atrill, P., & McLaney, E. (2019). *Management accounting for decision makers* (9th ed.). Pearson Education.

Bennouna, K., Meredith, G. G., & Marchant, T. (2010). Improved capital budgeting decision making: Evidence from Canada. *Management Decision, 48*(2), 225–247. https://doi.org/10.1108/00251741011022590

Berger, P. G., & Jaffee, D. (2020). Legal frameworks and their impact on business longevity. *Journal of Business and Economics, 39*(2), 112–130.

Blocher, E., Stout, D., Juras, P., & Cokins, G. (2019). *Cost management: A strategic emphasis*. McGraw-Hill Education.

Brealey, R. A., Myers, S. C., & Allen, F. (2019). *Principles of corporate finance* (13th ed.). McGraw-Hill Education.

Brealey, R. A., Myers, S. C., & Allen, F. (2020). *Principles of corporate finance* (13th ed.). McGraw-Hill Education.

Brigham, E. F., & Ehrhardt, M. C. (2019). *Financial management: Theory & practice*. Cengage Learning.

Cadez, S., & Guilding, C. (2012). Strategy, strategic management accounting and performance: A configurational analysis. *Industrial Marketing Management, 41*(5), 713–723. https://doi.org/10.1016/j.indmarman.2011.09.007

Cadez, S., & Guilding, C. (2012). Strategy, strategic management accounting and performance: A configurational analysis. *Industrial Marketing Management, 41*(5), 669–682. https://doi.org/10.1016/j.indmarman.2012.05.002

Cadez, S., & Guilding, C. (2017). Examining distinct antecedents of management accounting innovation: Evidence from Slovenia. *Accounting and Business Research, 47*(4), 369–390. https://doi.org/10.1080/00014788.2016.1239578

Cengiz, E., & Duman, B. (2021). The impact of accounting practices on business sustainability. *Journal of Accounting and Business Research, 42*(4), 193–210.

Crosby, P. B. (1979). *Quality is free: The art of making quality certain*. McGraw-Hill.

Drury, C. (2018). *Management and cost accounting* (10th ed.). Cengage Learning.

Drury, C. (2021). *Cost and management accounting: An introduction*. Cengage Learning.

Drury, C. (2022). *Management and cost accounting* (11th ed.). Cengage Learning.

Gitman, L. J., & Zutter, C. J. (2015). *Principles of managerial finance* (14th ed.). Pearson Education.

Graham, J. R., & Harvey, C. R. (2018). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics, 60*(2), 187–243.

Hall, J., & Millard, S. (2010). Capital budgeting practices used by selected listed South African firms. *South African Journal of Economic and Management Sciences, 13*(1), 85–97. https://doi.org/10.4102/sajems.v13i1.101

Hilton, R. W., & Platt, D. E. (2020). *Managerial accounting: Creating value in a dynamic business environment* (12th ed.). McGraw-Hill Education.

Hilton, R. W., Maher, M. W., & Selto, F. H. (2020). *Cost management: Strategies for business decisions*. McGraw-Hill Education.

Horngren, C. T., Datar, S. M., & Rajan, M. V. (2018). *Cost accounting: A managerial emphasis* (16th ed.). Pearson Education.

Horngren, C. T., Datar, S. M., Rajan, M., Wynder, M., Maguire, W., & Tan, R. (2021). *Cost accounting: A managerial emphasis* (3rd Australasian ed.). Pearson Australia.

Kaplan, R. S., & Atkinson, A. A. (2015). *Advanced management accounting*. Pearson Education.

Lavia, D. (2021). Cost control strategies for small manufacturing enterprises. *Journal of Business and Finance, 15*(3), 56–72.

Liker, J. K. (2004). *The Toyota way: 14 management principles from the world's greatest manufacturer*. McGraw-Hill.

Nuhu, M., Baird, K., & Appuhami, R. (2017). The adoption and success of contemporary management accounting practices in the public sector. *Asian Review of Accounting, 25*(1), 106–126. https://doi.org/10.1108/ARA-02-2016-0025

Okafor, M. T., & Okorie, O. C. (2020). Financial management practices and the sustainability of small businesses in Nigeria. *Business and Finance Journal, 29*(2), 112–129.

Peel, M. J., & Wilson, N. (1996). Working capital and financial management practices in the small firm sector. *International Small Business Journal, 14*(2), 52–68. https://doi.org/10.1177/0266242696142004

Ross, S. A., Westerfield, R. W., & Jaffe, J. (2021). *Corporate finance*. McGraw-Hill Education.

Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2019). *Fundamentals of corporate finance* (12th ed.). McGraw-Hill Education.

Shim, J. K., & Siegel, J. G. (2022). *Financial management for executives: A practical approach*. Wiley.

Vignesh, S., & Kumar, V. (2019). Strategic management for business growth: A review of approaches. *International Journal of Business Studies, 28*(3), 88–102.

Yapa, P. W. S., Wijesinghe, K. N., & Gunawardana, K. D. (2017). Capital budgeting practices: Evidence from manufacturing SMEs in emerging economies. *Journal of Accounting and Organizational Change, 13*(3), 338–357. https://doi.org/10.1108/JAOC-08-2016-0060