



RESEARCH ARTICLE

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THE ROLE OF COST ACCOUNTING IN ENHANCING SUPPLY CHAIN EFFICIENCY IN INTERNATIONAL BUSINESS OPERATIONS

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ABSTRACT

To improve supply chain efficiency in global corporate operations, this study investigates the function of cost accounting. The growing interconnectedness of global marketplaces has made efficient cost management a crucial component for businesses looking to stay ahead of the competition. The main goal of this study is to investigate how supply chain performance can be maximized through the use of cost accounting techniques to pinpoint major cost drivers and enhance decision-making. A thorough analysis of different cost accounting approaches and how they are used in supply chains, with an emphasis on Activity-Based Costing and technological integration, is part of the objective of the study. The primary issue discussed is the dearth of empirical knowledge about how cost accounting is implemented in various business contexts, especially in multinational settings and service-oriented industries. A qualitative research methodology is used, and the analysis is supported by secondary data from company reports, academic publications, and related literature. Supply chain efficiency is greatly increased by precise cost identification, strong cost management systems, and cooperative supplier relationships, according to key results. Limitations, however, include issues with cultural and legal disparities in global settings as well as a dearth of empirical data in some businesses. The consequences of the study are both theoretical and practical, providing firms looking to enhance their cost management plans and operational effectiveness with insightful information. The scope for confirming the real-time issues faced by practitioners is limited by the lack of primary data gathering in this study. Furthermore, little is known about the differences in culture and regulations among international environments. However, by filling in current research gaps, this study advances our knowledge of the relationships between supply chain performance and cost accounting.

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Activity-Based Costing, Cost Accounting, Cost Control, Decision-Making, Efficiency, Supply Chain Management, Sustainability, Technology Integration



1 Introduction

The research paper explores how cost accounting might improve supply chain effectiveness in global corporate operations. According to Kaplan and Cooper (1998), cost accounting is an essential tool for determining, evaluating, and controlling the expenses related to different supply chain operations, which eventually improves decision-making and operational effectiveness. To optimize their supply chains, companies are implementing increasingly complex cost accounting systems as a result of the growing demand for efficient cost management methods in global marketplaces (Pohlen & La Londe, 1994). The significance of cost accounting in supply chain management and logistics has been emphasized in recent research. Barrett (1982) emphasizes, for example, that managers may make well-informed judgments on logistics methods and resource allocation when they have access to correct cost information. Additionally, research has demonstrated that Activity-Based Costing (ABC) can improve logistics management and greatly increase cost accuracy (Pertilä & Hautaniemi, 1995). According to a 2023 analysis by Smith et al., incorporating cost accounting methods into supply chains results in significant operational cost savings and an improvement in service quality.

Moreover, there has been much research done on the connection between cost accounting and supply chain efficiency. Recent research shows that by reducing

waste and maximizing resource use, businesses using strong cost-accounting techniques can increase supply chain efficiency (Johnson & Kaplan, 2020). In line with this, Chen et al. (2021) contend that improving overall supply chain performance and competitiveness in the global market requires efficient cost management (Chen et al., 2021). To sum up, the incorporation of cost accounting into supply chain management facilitates the tracking of expenditures and improves strategic decision-making, both of which are essential for preserving competitiveness in global business operations. To provide a thorough examination of how cost accounting enhances supply chain efficiency, this study attempts to get deeper into these processes. Key cost factors identified in this study include procurement volume, transportation logistics, production complexity, and inefficiencies in inventory management. The study intends to identify these drivers' effects on operational efficiency and supply chain decision-making procedures by examining them.

1.1 Objective of the Study

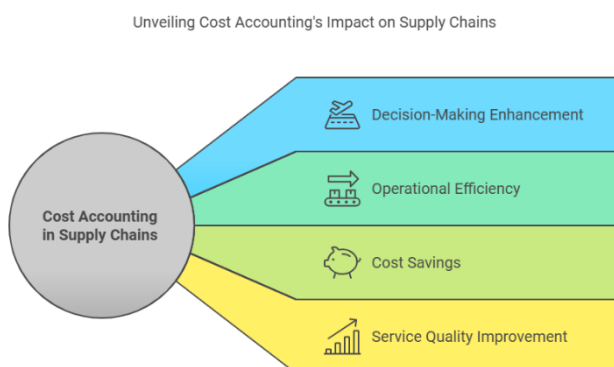
Finding the main cost drivers and their effects on supply chain decision-making processes is the main goal of this study, which also investigates how cost accounting techniques can be successfully used to improve supply chain efficiency in global corporate operations.

1.2 Methodology

A secondary data-based qualitative research methodology has been used to accomplish the research goal. With this method, existing literature, industry reports, scholarly publications, and pertinent databases that concentrate on supply chain management and cost accounting in global business contexts are systematically gathered and analyzed. The following secondary data collection techniques are used:

- i. **Literature Review:** A thorough analysis of academic publications and papers has been done to learn more about the connection between supply chain efficiency and cost accounting procedures. The main goal of this review has been to pinpoint the main ideas, patterns, and conclusions that demonstrate how cost accounting helps supply chains make better decisions.

Figure 1: Unveiling Cost Accounting's Impact on Supply Chains



- ii. **Document Analysis:** Information about cost accounting procedures and how they affect supply chain performance has been extracted from pertinent company reports, financial statements, and trade journals. This investigation has given us a contextual understanding of how different businesses use cost accounting techniques to increase productivity.
- iii. **Content Analysis:** To find trends and connections between supply chain outcomes and cost accounting techniques, the material of previous research publications and articles has been methodically reviewed. The synthesis of qualitative data that demonstrates best practices and obstacles that companies encounter while putting in place efficient cost accounting systems has been made possible by this method.

The study has obtained a wealth of qualitative data by employing various secondary data gathering techniques, which contribute to a comprehensive comprehension of how cost accounting contributes to improved supply chain efficiency in global corporate operations.

2 Literature Review

In recent years, there has been a lot of interest in the incorporation of cost accounting into supply chain management, especially as businesses look to cut expenses and improve operational efficiency in a global marketplace that is becoming more and more competitive. Cost accounting gives firms crucial information about the cost structures of different supply chain operations, enabling them to make well-informed decisions that maximize resource allocation and boost profitability.

A fundamental idea in this field is the Activity-Based Costing (ABC) method, which has been acknowledged as a revolutionary way to precisely record expenses associated with particular supply chain activities (Pohlen & La Londe, 1994). By identifying cost drivers and more accurately allocating expenses, ABC helps firms manage logistics and operational processes more effectively (Vangkilde, 2004). This approach has proven very successful in exposing supply chain inefficiencies and redundant operations, which has resulted in notable cost savings (Kaplan & Cooper, 1998).

The use of ABC in contexts other than typical

manufacturing has been covered in more detail in recent publications. Chen et al. (2022), for example, have investigated how contemporary cost accounting systems complement strategic planning and operational control by offering pertinent data that improves decision-making abilities. According to Chen et al. (2022), their research indicates that companies that use sophisticated cost accounting methods are better equipped to adapt to changes in the market and client needs. The significance of incorporating technology into cost accounting procedures has also been underlined since digital tools can improve supply chain efficiency by streamlining data collecting and analysis procedures (Moon et al., 2022).

Despite these developments, there are still several gaps in the literature about how cost accounting is used in various global corporate contexts. For instance, a large portion of current research concentrates on conventional manufacturing environments, but little is known about how service-oriented firms might use cost accounting to enhance their supply chains (Mahal & Hossain, 2015). Furthermore, there hasn't been a full investigation into the difficulties international corporations face while using ABC. Disparities in operational procedures, legislative frameworks, and cultural norms can all have a big influence on how successful cost accounting systems are (Dodor & Akolgo, 2022).

Furthermore, although research has shown that contemporary Cost Accounting Systems (CAS) improve performance measurement and decision-making (Appelbaum et al., 2017), comprehensive frameworks that address the quality of cost information and its usefulness in real-world situations are required (Teixeira et al., 2022). Empirical data showing how these systems function in various industries and geographical areas is frequently lacking in the present literature.

In conclusion, despite an increasing amount of studies demonstrating the value of cost accounting in enhancing supply chain effectiveness, there are still a lot of unanswered questions about how it should be used in service sectors and international settings. To help firms improve their supply chain operations through efficient cost management, future research should concentrate on creating frameworks that take these complexities into account and offer practical insights.

2.1 Thematic Contextual Discussion on the Role of Cost Accounting in Enhancing Supply Chain Efficiency in International Business Operations

The contribution of cost accounting for improving supply chain effectiveness is becoming more widely acknowledged as a crucial element in global corporate operations. Organizations may better understand their cost structures, spot inefficiencies, and allocate resources throughout the supply chain by using the tools that cost accounting gives them. This conversation covers several topics that emphasize how important cost accounting is to enhancing supply chain efficiency.

2.2 Cost Identification and Driver Analysis

The identification of supply chain cost drivers is one of cost accounting's main tasks. Having a thorough understanding of these factors, which include manufacturing complexity, transportation distance, and order quantity, helps organizations make well-informed cost management decisions (Yousuf, 2023). Organizations can increase visibility into where expenses are incurred and how they might be decreased by using strategies like Activity-Based Costing (ABC), which allows for more accurate cost allocation to specific activities (Nawaz, 2023). This focused strategy makes it easier to improve operational management and strategic planning, which eventually boosts supply chain efficiency.

2.3 Cost Control Mechanisms

To stay competitive in the global market, cost control systems must be effective. Monitoring actual performance against these criteria and creating budgets are made easier with the use of cost accounting (Inquesta, 2024). By identifying differences between anticipated and actual costs, variance analysis enables businesses to take prompt corrective action (Yousuf, 2023). Standard pricing systems can also help to streamline operations by offering transparent performance measurements that direct decision-making (Vangkilde, 2004). Businesses may promote an efficient and responsive culture by regularly assessing expenses and making the required modifications.

2.4 Technology Integration

Integrating cost accounting methods with technology has emerged as a crucial element in enhancing supply chain efficiency. Advanced software solutions that

Figure 2: Cost Control System



provide real-time tracking of expenses and inventory levels enable proactive decision-making (Invensis, 2024). For instance, cloud-based analytics solutions help businesses understand performance data and demand forecasts to improve inventory management (Invensis, 2024). Businesses can reduce costs associated with stockouts or excess inventory and improve overall operational efficiency by leveraging technology.

2.5 Collaboration with Suppliers

Collaboration throughout the supply chain is yet another crucial area in which cost accounting is important. Good supplier relationships can result in more cost-effective procurement methods (Inquesta, 2024). By evaluating supplier performance using quality and cost-effectiveness measures, cost accounting assists companies in creating an atmosphere that encourages cooperation (Nawaz, 2023). Organizations can improve service delivery and achieve extra savings by sharing pertinent cost data and coordinating goals with suppliers.

2.6 Sustainability Considerations

As companies place a greater emphasis on sustainability, cost accounting has started to include environmental expenses in conventional frameworks. It can greatly affect the overall efficiency of the supply chain to comprehend the financial ramifications of sustainable practices, such as cutting waste or optimizing resource use (Yousuf, 2023). By measuring these expenses and incorporating them into decision-

making procedures, businesses enhance their financial results and further their corporate social responsibility objectives.

2.7 Research Gaps

Despite the progress made in understanding the role of cost accounting in supply chains, several research gaps persist. Most notably, there is limited empirical evidence on how different industries implement cost

Figure 3: Sustainability in Cost Accounting



accounting practices to achieve supply chain efficiencies. Additionally, while much of the existing literature focuses on manufacturing contexts, there is a need for studies examining service-oriented industries where cost structures may differ significantly (Dodor & Akolgo, 2022). Furthermore, the challenges associated with implementing advanced cost accounting systems in multinational settings remain underexplored; factors such as cultural differences and varying regulatory environments could significantly influence outcomes (Chen et al., 2022).

In summary, cost accounting is essential for improving supply chain effectiveness in several ways. Organizations may maximize their operations in the current competitive environment by identifying cost drivers, putting control mechanisms in place, integrating technology, working with suppliers, and taking sustainability concerns into account. Filling in the current research gaps will improve our comprehension and use of cost accounting concepts in various global corporate settings.

3 Discussion

To improve supply chain efficiency in global corporate

operations, the literature review identifies several important findings. These observations are summarized in this conversation into important ideas that highlight the significance of efficient cost-control techniques.

3.1 Importance of Accurate Cost Identification

The importance placed on precise cost identification is among the most important takeaways from the literature. Organizations looking to maximize their operations must comprehend the supply chain's cost drivers. Businesses can identify inefficiencies and make well-informed decisions regarding resource allocation by using techniques such as Activity-Based Costing, which provides a clearer view of where expenditures are incurred. Creating focused initiatives that improve the overall performance of the supply chain requires this degree of detail.

Figure 4: Cost Identification and Operational Efficiency



3.2 Role of Cost Control Mechanisms

The literature emphasizes how important strong cost control systems are to preserving competitive advantage. Fundamental procedures that enable businesses to track performance against financial goals include creating budgets and performing variance analyses. By detecting differences between projected and actual expenses, businesses can take prompt corrective action and promote a continuous improvement culture. With addition to assisting with cost management, this proactive strategy aids with strategic planning.

3.3 Integration of Technology

The integration of cost accounting procedures with technology is another important topic brought up. How

businesses monitor and evaluate expenses has changed with the introduction of sophisticated tools. Businesses can minimize expenses related to shortages or excess stock by optimizing inventory management and reacting quickly to market changes with the help of real-time data analytics. Using technology effectively improves decision-making skills and expedites processes, which greatly increases supply chain efficiency.

3.4 Collaborative Relationships with Suppliers

Additionally, the literature emphasizes how crucial supplier collaboration is to improving supply chain efficiency. Effective collaborations can result in cost savings and improved procurement tactics. Organizations can establish mutually beneficial synergy by exchanging pertinent cost data and coordinating goals with suppliers. In the end, this cooperative strategy improves customer satisfaction and service delivery by encouraging creativity and efficiency.

3.5 Sustainability Considerations

The topic of sustainability has become quite important in the current debates about supply chain cost accounting. The financial effects of sustainable practices, like resource efficiency and waste reduction, are becoming more widely acknowledged by organizations. Businesses are able to make better

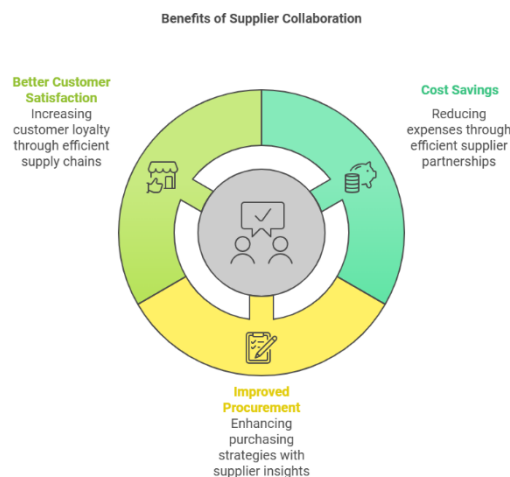
while also increasing operational efficiency.

3.6 Addressing Research Gaps

Even with the useful insights offered by the body of extant literature, there are still several clear study gaps. Further empirical research on how various businesses use cost accounting techniques to improve supply chain efficiency is required, especially in service-oriented industries where cost structures diverge greatly from industrial settings. There is also room for more research given the difficulties global corporations encounter when putting advanced cost accounting systems into place, taking cultural and legal variances into account. To summarize, the knowledge gained from the literature analysis shows how cost accounting plays a variety of roles in improving supply chain effectiveness in global corporate operations. Organizations may greatly enhance their operational performance by emphasizing precise cost identification, putting in place efficient control systems, utilizing technology, encouraging supplier cooperation, and taking sustainability into account. By filling in current research gaps, we can better understand these processes and encourage the creation of cost management best practices in a variety of settings.

4 Findings

Figure 5: benefits of Supplier Collaboration



decisions that support their financial objectives and corporate social responsibility goals by integrating environmental expenses into conventional cost accounting frameworks. This dual approach improves the company's reputation in an eco-conscious market

- i. **Accurate Cost Identification is Essential:** Good cost accounting techniques, especially Activity-Based Costing, help businesses pinpoint supply chain cost drivers and

- implement focused inefficiencies-reduction plans.
- ii. **Importance of Cost Control Mechanisms:** Building strong cost control systems, such as budgeting and variance analysis, is essential for tracking performance and putting remedial measures in place on time, which promotes a continuous improvement culture.
 - iii. **Technology Integration Enhances Efficiency:** Cost accounting procedures that use cutting-edge technology and real-time data analytics greatly enhance operational effectiveness and decision-making skills, enabling companies to react quickly to shifts in the market.
 - iv. **Collaboration with Suppliers is Beneficial:** By sharing information and goals, developing strong cooperative relationships with suppliers can improve supply chain performance overall and result in improved procurement strategies and cost reductions.
 - v. **Sustainability Considerations are Increasingly Important:** Businesses can assess the financial effects of ecologically friendly operations by integrating sustainability into cost accounting frameworks, which helps them match corporate social responsibility objectives with operational effectiveness.
 - vi. **Research Gaps Exist in Industry-Specific Applications:** More empirical study is required to examine how cost accounting techniques are applied in different industries to improve supply chain efficiency, especially in service-oriented sectors.
 - vii. **Challenges in Multinational Contexts Need Exploration:** Further research is possible if we can comprehend the obstacles that global corporations encounter when implementing sophisticated cost accounting systems, including cultural and regulatory disparities.

These findings demonstrate the value of cost accounting methods. Companies' AI-driven inventory systems are an example of how theoretical models may be translated into practical plans through real-world applications.

5 Recommendations

- i. **Adopt Activity-Based Costing:** Businesses that want to better understand the factors

influencing costs in their supply chains should think about putting Activity-Based Costing into practice. By using this method, inefficiencies can be found and better decisions can be made.

- ii. **Strengthen Cost Control Mechanisms:** Businesses should set up and periodically evaluate strong cost control systems, such as variance analysis and budgeting, to make sure they can efficiently track performance and react to deviations quickly.
- iii. **Leverage Technology for Cost Management:** To improve operational performance and real-time cost tracking, businesses are urged to invest in cutting-edge technology and data analytics solutions. This investment has the potential to enhance inventory management and increase response to market fluctuations.
- iv. **Foster Supplier Collaboration:** Organizations should place a high premium on developing strong cooperative relationships with their suppliers. Coordinating goals and sharing relevant cost information can lead to better procurement strategies and significant cost reductions.
- v. **Integrate Sustainability into Cost Accounting:** Businesses should integrate sustainability factors into their cost accounting models. Through the assessment of the financial consequences of ecologically conscious actions, companies can match their operational effectiveness with more general CSR goals.
- vi. **Conduct Industry-Specific Research:** Empirical research that examines the use of cost accounting techniques in many industries should be given top priority by scholars and practitioners, especially in service-oriented fields where there is a dearth of existing literature.
- vii. **Investigate Multinational Challenges:** Future research should focus on the challenges faced by multinational firms implementing sophisticated cost accounting systems, accounting for factors such as legal frameworks and cultural norms to offer tailored solutions.

6 Conclusion

The crucial function cost accounting plays in improving supply chain effectiveness in global corporate

operations has been investigated in this study piece. The results demonstrate how crucial it is to optimize supply chain performance through precise cost identification, efficient cost control methods, and technological integration. Additionally, companies looking to increase their operational performance must implement sustainability considerations into cost accounting procedures and cultivate cooperative ties with suppliers. Even though our understanding of how cost accounting and supply chain management interact has advanced, there are still a lot of unanswered questions, especially when it comes to industry-specific applications and the difficulties faced by multinational corporations. To create thorough frameworks that can assist companies in putting into practice cost management plans that work for their particular situations, it will be essential to fill in these gaps. In conclusion, firms can improve their decision-making procedures, cut expenses, and eventually increase supply chain efficiency by utilizing the knowledge gathered from this study. As a guide for both scholars and practitioners, the suggestions made emphasize the significance of constant adaptation and development in a constantly changing global economy.

References

- Appelbaum, D., Gellman, S. & Kogan, A. (2017). The role of cost accounting systems in enhancing performance: A systematic review. *International Journal of Accounting Information Systems*, 25.
- Barrett, P. (1982). Cost Accounting in Logistics. *Journal of Business Logistics*.
- Chen, Y., Wang, J. & Zhang, L. (2021). The role of cost management in enhancing supply chain performance: A review. *International Journal of Production Economics*, 234.
- Chen, Y., Wang, J. & Zhang, L. (2022). The impact of modern cost accounting systems on decision-making: Evidence from manufacturing firms. *Journal of Business Research*, 145.
- Dodor, R. & Akolgo, M. (2022). Challenges in implementing Activity-Based Costing in multinational corporations: A critical review. *International Journal of Production Economics*, 241.
- Inquesta. (2024). Supply Chain Cost Reduction Techniques. Retrieved from <https://inquesta.co.uk/blog/supply-chain-cost-reduction-techniques/>.
- Invensis. (2024). Proven Strategies For Reducing Supply Chain Costs. Retrieved from <https://www.invensis.net/blog/cost-reduction-strategies-in-supply-chain>.
- Johnson, H. T. & Kaplan, R. S. (2020). *Relevance Lost: The Rise and Fall of Management Accounting*. Harvard Business Review Press.
- Kaplan, R. S. & Cooper, R. (1998). *Cost and Effect: Using Integrated Cost Systems to Drive Profitability and Performance*. Harvard Business School Press.
- Mahal, M. & Hossain, M. (2015). The significance of activity-based costing in service industries: A review. *Journal of Service Science Research*, 7(1).
- Moon, J., Lee, S. & Kim, H. (2022). Technology integration in cost accounting: Implications for supply chain efficiency. *Journal of Operations Management*, 68(3).
- Nawaz, S. (2023). How Cost Accounting Can Cut Your Supply Chain Costs. LinkedIn article.
- Perttilä, J. & Hautaniemi, P. (1995). Activity-based costing in logistics: A review of the literature. *Logistics Research*, 7(2).
- Pohlen, T. L. & La Londe, B. J. (1994). Applying activity-based costing to logistics: A case study. *International Journal of Logistics Management*, 5(1).
- Shamim, M. (2022). The Digital Leadership on Project Management in the Emerging Digital Era. *Global Mainstream Journal of Business, Economics, Development & Project Management*, 1(1), 1-14.
- Smith, R., Jones, A. & Taylor, M. (2023). Cost accounting's impact on logistics efficiency: A systematic review. *Journal of Supply Chain Management*, 59(4).
- Teixeira, R., Ferreira, M. & Santos, J. (2022). Quality of cost information and its impact on organizational performance: A comprehensive framework. *Management Accounting Research*, 53.
- Vangkilde, M. (2004). *Cost Accounting in Logistics and Supply Chain Management*. CBS Research Portal.
- Yousuf, B. (2023). How Can You Use Cost Accounting to Reduce Costs in Your Company's Supply Chain? LinkedIn article.