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The Effect of Digital Analytics Based Strategic Cost Management on Operational Efficiency and Corporate Financial Performance

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Abstract. *This study aims to examine the effect of digital analytics-based strategic cost management, consisting of digital analytics-based cost driver analysis, digital analytics-based value chain cost management, and digital analytics-based target costing, on corporate financial performance with operational efficiency as a mediating variable. This study employs a quantitative research approach using a survey method involving 100 companies in Ambon City that have implemented digital technologies, accounting information systems, financial dashboards, or analytical platforms to support cost management and operational decision-making. Data were analyzed using Structural Equation Modeling based on Partial Least Squares (SEM-PLS) with SmartPLS. The results indicate that all dimensions of digital analytics-based strategic cost management have positive and significant effects on operational efficiency and corporate financial performance. Operational efficiency also significantly mediates the relationship between digital analytics-based strategic cost management and corporate financial performance. These findings imply that companies can improve financial performance by integrating digital analytics into cost management practices to enhance cost visibility, operational productivity, resource utilization, and strategic decision-making capabilities. This study contributes by developing an integrated framework linking digital analytics, strategic cost management, operational efficiency, and financial performance in the context of digital transformation.*

Keywords*: Corporate Financial Performance; Digital Analytics; Digital Transformation; Operational Efficiency; SEM-PLS.*

1. INTRODUCTION

Corporate financial performance is a key indicator that reflects a firm's ability to generate profits, create economic value, maintain cash flow, and sustain competitiveness through effective strategic decisions (Alkaraan et al., 2022; Cappa et al., 2021). In the digital business environment, corporate financial performance is no longer determined solely by production capacity and conventional cost efficiency, but also by an organization's ability to transform data into strategic information that supports managerial decision-making (Mikalef et al., 2020; Verhoef et al., 2021). Digital transformation enables firms to improve planning accuracy, cost control, and market responsiveness, thereby contributing to more sustainable profitability, asset productivity, and revenue growth (Bresciani et al., 2021; Eller et al., 2020). Corporate financial performance is also increasingly influenced by firms' analytical capabilities because data help reduce uncertainty, accelerate decision-making, and strengthen evidence-based resource allocation (Cappa et al., 2021; Matarazzo et al., 2021). Therefore, the study of corporate financial performance needs to be positioned within a strategic framework that integrates digital analytics, cost management, operational efficiency, and corporate value creation (Knudsen, 2020; Sestino et al., 2020).

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The research phenomenon underlying this study stems from increasing competitive pressure that requires firms to control costs more precisely without compromising quality, flexibility, and customer value (Sjödin et al., 2020; Verhoef et al., 2021). The digitalization of business processes has transformed cost management practices from historical and reactive approaches into predictive, real-time, and analytics-based approaches that enable firms to identify cost patterns more quickly and accurately (Knudsen, 2020; Sestino et al., 2020). Although many firms have adopted digital technologies, the financial benefits of digitalization do not emerge automatically because the success of digital transformation depends greatly on the integration of technology with operational processes and business strategy (Correani et al., 2020; Kraus et al., 2021). The urgency of this study is further strengthened by supply chain disruptions, cost volatility, and changing market demand, which require firms to develop adaptive and data-driven strategic cost management systems (Ivanov, 2020; Ivanov & Dolgui, 2020). Thus, examining the effect of digital analytics-based strategic cost management on operational efficiency and corporate financial performance is relevant to explain how data analytics can be converted into operational efficiency and improved financial outcomes (Belhadi et al., 2021; Mikalef et al., 2020).

Digital analytics-based cost driver analysis refers to a cost analysis approach that uses digital data to identify, measure, and evaluate the main factors that cause costs within corporate activities (Knudsen, 2020; Mikalef et al., 2020). Through digital analytics, firms can trace the relationships among activities, resource consumption, production volume, process complexity, and cost behavior in greater detail than traditional cost analysis methods (Cappa et al., 2021; Sestino et al., 2020). Digital analytics-based cost driver analysis also strengthens managers' ability to distinguish between value-added and non-value-added costs, allowing cost reduction decisions to be made without reducing product or service quality (Bai et al., 2020; Sjödin et al., 2020). From an analytical capability perspective, cost driver analysis functions as an organizational learning mechanism because structured cost data help firms identify sources of inefficiency and opportunities for continuous process improvement (Matarazzo et al., 2021; Papadopoulos et al., 2020). Therefore, digital analytics-based cost driver analysis is expected to enhance operational efficiency and corporate financial performance by improving the accuracy of cost information, the precision of managerial decisions, and the effectiveness of resource control (Alkaraan et al., 2022; Mikalef et al., 2020).

Digital analytics-based value chain cost management refers to cost management across a firm's value chain by using digital data to optimize activities ranging from procurement, production, distribution, and marketing to after-sales services (Bai et al., 2020; Verhoef et al., 2021). This approach is important because corporate costs arise not only from internal activities but also from interactions with suppliers, logistics partners, customers, and digital ecosystems that influence the overall cost structure (Ivanov & Dolgui, 2020; Sestino et al., 2020). Digital analytics enables firms to map value chain activities more transparently, identify bottlenecks, evaluate the contribution of each activity to customer value, and eliminate inefficient processes (Belhadi et al., 2021; Cappa et al., 2021). In the context of data-driven competition, value chain cost management can strengthen cross-functional and interorganizational coordination, enabling firms to reduce transaction costs, accelerate operating cycles, and improve responsiveness to market changes (Matarazzo et al., 2021; Sjödin et al., 2020). Thus, digital analytics-based value chain cost management has the potential to serve as a strategic instrument that links value chain activity efficiency with improved margins, productivity, and corporate financial performance (Alkaraan et al., 2022; Bresciani et al., 2021).

Digital analytics-based target costing is a cost planning approach that uses market data, customer data, product design data, and operational data to determine target costs from the early stages of product or service development (Knudsen, 2020; Verhoef et al., 2021). In the digital environment, target costing becomes more dynamic because firms can use analytics to estimate market prices, customer preferences, material costs, demand variations, and the financial consequences of alternative product designs (Cappa et al., 2021; Matarazzo et al., 2021). This approach helps firms maintain a balance among customer value, product quality, and acceptable cost limits, making cost strategy more proactive than cost control after production has begun (Bai et al., 2020; Sjödin et al., 2020). Digital analytics-based target costing also encourages cross-functional collaboration because cost decisions require the integration of information from marketing, finance, operations, design, and supply chain functions (Correani et al., 2020; Kraus et al., 2021). Therefore, digital analytics-based target costing can strengthen operational efficiency and corporate financial performance by preventing waste from the planning stage, improving cost design accuracy, and aligning products with market needs (Alkaraan et al., 2022; Mikalef et al., 2020).

Operational efficiency refers to a firm's ability to generate optimal output by using minimal input, shorter process time, controlled costs, and lower error rates (Bai et al., 2020; Belhadi et al., 2021). In this study, operational efficiency is positioned as an intervening variable that bridges the relationship between digital analytics-based strategic cost

management and corporate financial performance because operational efficiency represents the main pathway through which cost decisions influence financial outcomes (Mikalef et al., 2020; Papadopoulos et al., 2020). When cost driver analysis, value chain cost management, and target costing are supported by digital analytics, firms can improve processes, reduce waste, increase resource utilization, and accelerate operational responses to changes in the business environment (Ivanov, 2020; Sestino et al., 2020). Improved operational efficiency subsequently contributes to financial performance through lower unit costs, increased productivity, improved margins, and enhanced capability to create customer value (Alkaraan et al., 2022; Cappa et al., 2021). Thus, operational efficiency becomes an important mechanism that explains how digital analytics-based strategic cost management practices can be translated into superior corporate financial performance (Bresciani et al., 2021; Matarazzo et al., 2021).

The development of digital analytics has significantly transformed management accounting practices, particularly in how companies manage costs, interpret operational patterns, and link cost information to financial performance. Previous studies have shown that big data analytics capability can improve firm performance when organizations are able to properly integrate technological resources, human skills, and organizational assets (Gupta & George, 2016; Akter et al., 2016). Wamba et al. (2017) also emphasized that analytics capability influences firm performance through dynamic capabilities, while Côrte-Real et al. (2017) demonstrated that the business value of big data analytics is created through knowledge management, organizational agility, process-level performance, and competitive advantage. Furthermore, Mikalef et al. (2019) found that the effect of big data analytics on performance is not uniform, as it depends on the configuration of resources and organizational context. However, most of these studies still position digital analytics as a general technological capability rather than as a specific component of strategic cost management. Therefore, there remains a research gap regarding how digital analytics is directly used to support strategic cost control, cost driver identification, operational activity efficiency, and the creation of corporate financial value in an integrated manner.

On the other hand, studies on strategic management accounting and strategic cost management have emphasized the importance of strategic fit, market orientation, firm size, and the use of management accounting information in improving organizational performance (Guilding et al., 2000; Cadez & Guilding, 2008; Cinquini & Tenucci, 2010). Nevertheless, these studies have generally not extensively connected strategic cost management practices with digital analytics technology, which can provide real-time data, predictive insights, and more accurate activity-based analysis. Abdelhalim (2023) has begun to highlight the

importance of integrating big data analytics and management accounting, but the focus remains on corporate sustainability rather than operational efficiency and corporate financial performance. Raguseo and Vitari (2018) also examined the impact of big data analytics investment on financial performance, but did not explicitly explain the role of strategic cost management as a mechanism linking digital analytics, operational efficiency, and financial outcomes. Thus, the main research gap of this study lies in the limited development of an empirical model that examines the effect of digital analytics-based strategic cost management on operational efficiency and corporate financial performance within a single integrated framework. The novelty of this study is that it offers a conceptual model that positions digital analytics-based strategic cost management as a new strategic approach that not only functions to control costs, but also enhances operational process efficiency and strengthens corporate financial performance through faster, more accurate, predictive, and data-driven cost decisions.

Based on the preceding discussion, this study aims to analyze the effect of digital analytics-based cost driver analysis, digital analytics-based value chain cost management, and digital analytics-based target costing on corporate financial performance, with operational efficiency as an intervening variable (Knudsen, 2020; Mikalef et al., 2020). Theoretically, this study contributes to the development of strategic cost management and digital analytics literature by explaining that the financial benefits of cost analytics are not only direct but may also operate through improvements in operational efficiency (Cappa et al., 2021; Verhoef et al., 2021). Empirically, this study provides managerial insight into the importance of integrating digital analytics into cost driver analysis, value chain cost management, and target costing so that cost control can support profitability improvement and corporate competitiveness (Alkaraan et al., 2022; Sestino et al., 2020).

2. RESEARCH METHOD(S)

This study employs a quantitative research approach to examine the causal relationships between Digital Analytics-Based Cost Driver Analysis (X1), Digital Analytics-Based Value Chain Cost Management (X2), Digital Analytics-Based Target Costing (X3), Operational Efficiency (Z) as a mediating variable, and Corporate Financial Performance (Y). The research focuses on companies in Ambon City that have implemented accounting information systems, digital analytics, financial dashboards, or other digital technologies to support cost management and operational decision-making processes. A quantitative approach is appropriate because this study aims to empirically test theoretical relationships among latent constructs through statistical hypothesis testing using numerical data obtained from

organizational respondents (Hair et al., 2021). The research population consists of 100 companies operating in Ambon City that have adopted digital technologies in accounting management, cost control, and operational management activities. This population was selected because digital transformation has encouraged organizations to utilize data analytics capabilities to improve strategic cost management practices and enhance organizational competitiveness (Mikalef et al., 2020). The sample is determined using purposive sampling with specific criteria, including companies that have implemented digital-based financial or operational systems and respondents who possess adequate knowledge regarding cost management practices and digital technology utilization, such as financial managers, accounting managers, operational managers, or business owners. Based on the PLS-SEM sampling approach, the study uses 100 respondents/companies as the research sample because this sample size is considered adequate for analyzing structural models with multiple constructs and mediation relationships (Hair et al., 2022). Data analysis is conducted using Structural Equation Modeling based on Partial Least Squares (SEM-PLS) with SmartPLS software. SEM-PLS is selected because it is suitable for predictive research models, complex structural relationships, latent variable analysis, and mediation testing, particularly when the research model involves multiple independent variables and limited sample sizes (Sarstedt et al., 2022). Furthermore, SEM-PLS enables researchers to evaluate both the measurement model through reliability and validity assessments and the structural model through path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and mediation effects of operational efficiency between digital analytics-based cost management practices and corporate financial performance (Hair et al., 2022).

The measurement of research variables is developed based on previous empirical studies related to strategic management accounting, digital transformation, cost management, and organizational performance. Digital Analytics-Based Cost Driver Analysis (X1) is measured through indicators including the capability of organizations to identify cost drivers using digital data, analyze resource consumption patterns, improve cost information accuracy, and support data-driven strategic decisions (Mikalef et al., 2020; Dubey et al., 2021). Digital Analytics-Based Value Chain Cost Management (X2) is measured through the ability of organizations to utilize digital analytics in integrating cost information across value chain activities, identifying cost reduction opportunities, improving cross-functional coordination, and creating strategic value (Rialti et al., 2020; Queiroz et al., 2021). Digital Analytics-Based Target Costing (X3) is measured through the capability of firms to utilize digital analytical tools for determining target costs, evaluating differences between actual and target costs, and optimizing products or

operational processes according to cost and customer value objectives (Cooper & Slagmulder, 2020; Järvenpää et al., 2021). Operational Efficiency (Z) as a mediating variable is measured through improvements in process productivity, resource utilization, operational waste reduction, and faster decision-making processes enabled by digital technologies (Bresciani et al., 2021). Corporate Financial Performance (Y) is measured using indicators related to profitability improvement, cost efficiency, revenue growth, return on investment, and the achievement of strategic financial objectives (Khin & Ho, 2020; Verhoef et al., 2021). All measurement items are assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), following established practices in empirical management and accounting research using survey-based measurement instruments (Hair et al., 2021).

3. RESULT AND DUSCUSSION

This section presents the empirical findings of the study, including respondent characteristics, measurement model evaluation, and structural model testing. The study examined the influence of digital analytics-based strategic cost management practices, consisting of digital analytics-based cost driver analysis (X1), digital analytics-based value chain cost management (X2), and digital analytics-based target costing (X3), on corporate financial performance (Y), with operational efficiency (Z) serving as a mediating variable. The research involved 100 companies operating in Ambon City that have adopted digital technologies such as accounting information systems, financial dashboards, business intelligence applications, or other analytical platforms to support cost management and managerial decision-making.

The characteristics of respondents and companies are presented first to demonstrate the suitability of the research sample with the research objectives. Respondent profiles are essential because the effectiveness of digital analytics implementation depends significantly on organizational experience, managerial involvement, and the extent to which companies utilize digital information in operational and financial decision-making processes.

Table 1. Characteristics of Respondents and Companies

Characteristics	Category	Frequency	Percentage
Business sector	Trading and services	38	38%
	Manufacturing/processing	22	22%
	Hospitality and tourism	18	18%
	Distribution and logistics	12	12%
	Others	10	10%
Respondent position	Finance/accounting manager	34	34%
	Operations manager	27	27%
	Business owner	25	25%
	Administration/finance supervisor	14	14%
Duration of digital technology adoption	1–2 years	30	30%
	3–4 years	46	46%
	More than 4 years	24	24%
Main digital system used	Accounting information system/Basic ERP	41	41%
	Financial dashboard/Business intelligence	27	27%
	Integrated POS/e-commerce system	20	20%
	Cloud accounting/advanced analytics	12	12%

Table 1 indicates that the majority of companies participating in this study operate in the trading and service sectors (38%), followed by manufacturing and processing industries (22%). These results suggest that the sample consists of organizations with relatively high dependence on transaction data, operational information, and cost-related decision-making. Furthermore, most respondents hold strategic positions, particularly finance/accounting managers (34%) and operations managers (27%), indicating that respondents possess sufficient knowledge regarding cost management practices, operational efficiency, and financial performance evaluation.

Regarding digital technology adoption, the findings show that 46% of companies have implemented digital technologies for three to four years, suggesting that most organizations have moved beyond the initial adoption stage and have developed experience in utilizing digital systems. This condition strengthens the validity of the study because the respondents have adequate exposure to digital-based cost management practices. The increasing adoption of digital technologies reflects the growing importance of data-driven management approaches in improving organizational competitiveness and financial outcomes (Verhoef et al., 2021).

The next analysis evaluates the measurement model to determine whether the research constructs meet reliability and validity requirements. Since the study employs latent variables measured through multiple indicators, assessment of the measurement model is necessary before testing structural relationships. The evaluation includes factor loading values, Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE). According to Hair et al. (2022), constructs in PLS-SEM analysis are considered reliable when

Cronbach's Alpha and Composite Reliability values exceed 0.70, while convergent validity is established when AVE values exceed 0.50.

Table 2. Descriptive Statistics and Measurement Model Assessment

Variable	Mean	SD	Loading Factor	Cronbach's Alpha	Composite Reliability	AVE
Digital Analytics-Based Cost Driver Analysis (X1)	4.05	0.57	0.742–0.889	0.873	0.912	0.675
Digital Analytics-Based Value Chain Cost Management (X2)	3.98	0.61	0.756–0.901	0.889	0.923	0.706
Digital Analytics-Based Target Costing (X3)	3.92	0.60	0.731–0.876	0.861	0.906	0.659
Operational Efficiency (Z)	4.01	0.56	0.765–0.894	0.878	0.916	0.686
Corporate Financial Performance (Y)	3.95	0.62	0.748–0.887	0.869	0.909	0.667

The results in Table 2 demonstrate that all constructs achieved satisfactory reliability and validity levels. The mean values of all variables exceeded 3.90, indicating that respondents generally perceived digital analytics-based cost management practices, operational efficiency, and financial performance positively. All indicators obtained loading values above the recommended threshold of 0.70, confirming that each indicator adequately represents its corresponding construct.

The reliability assessment also confirms that all constructs demonstrate strong internal consistency. Cronbach's Alpha values ranged from 0.861 to 0.889, while Composite Reliability values ranged from 0.906 to 0.923. These results indicate that the measurement instruments consistently capture the intended concepts. Furthermore, AVE values ranged from 0.659 to 0.706, exceeding the minimum requirement of 0.50, indicating adequate convergent validity. Therefore, the measurement model satisfies the criteria for further structural model evaluation.

After confirming the reliability and validity of the measurement model, the structural model was examined to evaluate the proposed hypotheses. The structural analysis assessed direct relationships between digital analytics-based cost management practices and operational efficiency, the direct effect of operational efficiency on corporate financial performance, and the mediating role of operational efficiency. The explanatory capability of the model was evaluated using the coefficient of determination (R^2) and predictive relevance (Q^2).

Table 3. Structural Model Testing and Mediation Analysis

Relationship	Path Coefficient	t-statistic	p-value	Decision
X1 → Z	0.269	2.891	0.004	Supported
X2 → Z	0.318	3.407	0.001	Supported
X3 → Z	0.247	2.632	0.009	Supported
X1 → Y	0.176	2.024	0.043	Supported
X2 → Y	0.221	2.512	0.012	Supported
X3 → Y	0.152	1.984	0.047	Supported
Z → Y	0.362	4.118	0.000	Supported
X1 → Z → Y	0.097	2.312	0.021	Partial mediation
X2 → Z → Y	0.115	2.741	0.006	Partial mediation
X3 → Z → Y	0.089	2.107	0.035	Partial mediation

Model indicators:

R^2 Operational Efficiency = 0.571

R^2 Corporate Financial Performance = 0.624

Q^2 Operational Efficiency = 0.374

Q^2 Corporate Financial Performance = 0.421

Table 3 shows that all proposed direct relationships are statistically significant, with p-values below 0.05. Digital analytics-based value chain cost management (X2) demonstrates the strongest effect on operational efficiency, with a path coefficient of 0.318. This finding indicates that integrating digital analytics into value chain cost management provides the greatest contribution to improving operational processes.

Furthermore, operational efficiency significantly influences corporate financial performance with a coefficient of 0.362. This result indicates that companies achieving higher operational efficiency tend to experience better financial outcomes. The mediation analysis confirms that operational efficiency partially mediates the relationship between digital analytics-based cost management practices and corporate financial performance. Therefore, digital analytics contributes to financial improvement not only through direct cost management benefits but also through enhanced operational processes, resource utilization, and productivity improvements.

The R^2 values indicate that the proposed model explains 57.1% of the variance in operational efficiency and 62.4% of the variance in corporate financial performance. These results demonstrate that digital analytics-based strategic cost management practices provide substantial explanatory power in predicting organizational efficiency and financial outcomes.

Discussion

The findings of this study provide empirical evidence that digital analytics-based strategic cost management practices significantly contribute to improving operational efficiency and corporate financial performance. Specifically, digital analytics-based cost driver analysis, digital analytics-based value chain cost management, and digital analytics-based target costing were found to have positive and significant effects on operational efficiency. These results indicate that the integration of analytical technologies into cost management processes enables companies to identify cost sources more accurately, monitor resource utilization, and improve decision-making quality. By utilizing digital data generated from operational activities, companies are able to move beyond traditional cost management approaches that rely mainly on historical information and instead adopt a more predictive and strategic approach. This finding supports previous studies emphasizing that big data analytics capability enhances organizational performance by improving information processing capability, managerial decision quality, and organizational responsiveness (Mikalef et al., 2020). In addition, Verhoef et al. (2021) argued that digital transformation creates value when technology adoption is accompanied by organizational capability development and process transformation. Therefore, the results suggest that digital analytics should not be viewed merely as a technological investment but as a strategic capability that enables firms to redesign cost management systems and achieve sustainable competitive advantages.

Among the independent variables, digital analytics-based value chain cost management demonstrated the strongest influence on operational efficiency. This finding indicates that managing costs through a digitalized value chain perspective provides greater benefits compared with focusing only on internal cost structures. Through analytical tools, companies can evaluate activities across the entire value chain, including procurement, production, distribution, and customer-related processes. Such capability allows organizations to identify non-value-added activities, reduce inefficiencies, improve coordination among business functions, and optimize resource allocation. This result is consistent with Cappa et al. (2021), who explained that the business value of analytics depends on the organization's ability to transform large-scale data into actionable knowledge and operational improvements. The finding also supports the argument that digital transformation strengthens strategic management accounting practices by providing more comprehensive, timely, and accurate information for managerial decisions.

The positive relationship between digital analytics-based cost driver analysis and operational efficiency indicates that companies benefit from understanding the factors that generate costs within their operational processes. Traditional cost allocation methods often provide limited insights because they allocate costs based on simplified assumptions. In contrast, digital analytics allows organizations to identify complex relationships between activities, resources, and cost outcomes. This capability enables managers to implement more accurate cost control strategies and reduce unnecessary expenditures. The findings extend previous research on strategic cost management by demonstrating that digital technologies enhance the effectiveness of cost driver analysis through improved data accessibility, real-time monitoring, and predictive capabilities.

Furthermore, the results confirm that digital analytics-based target costing positively influences operational efficiency and financial performance. Target costing is traditionally recognized as a proactive cost management technique that determines acceptable cost levels before production begins. The integration of digital analytics strengthens this approach by allowing companies to incorporate market information, customer preferences, competitor analysis, and operational data into cost planning decisions. Consequently, firms can design products or services that meet customer expectations while maintaining profitability objectives. Although the effect of target costing was relatively lower than value chain cost management, the findings indicate that digitalized target costing remains an important mechanism for achieving long-term cost competitiveness.

The significant effect of operational efficiency on corporate financial performance demonstrates that efficiency serves as an important pathway through which digital analytics generates financial benefits. The results indicate that digital analytics implementation does not automatically improve financial outcomes unless organizations successfully translate analytical insights into operational improvements. Higher operational efficiency enables companies to reduce operating costs, increase productivity, improve resource utilization, and strengthen profitability. This finding aligns with the perspective of digital transformation research, which suggests that technology adoption produces superior financial outcomes when combined with process optimization and organizational capability development (Alkaraan et al., 2022). Therefore, operational efficiency represents a critical mechanism connecting digital capabilities with financial performance.

The mediation analysis further reveals that operational efficiency partially mediates the relationship between digital analytics-based strategic cost management practices and corporate financial performance. This finding suggests that digital analytics influences financial outcomes through two mechanisms: direct improvement of cost management quality and indirect improvement through operational efficiency enhancement. The partial mediation result indicates that companies can obtain financial benefits from digital analytics implementation through improved cost visibility, better resource allocation, and more effective strategic planning. However, the realization of maximum financial benefits requires companies to develop complementary capabilities, including employee analytical skills, digital infrastructure, and organizational learning capabilities.

From a managerial perspective, these findings provide several important implications. Companies operating in emerging digital environments should prioritize the integration of accounting systems, operational databases, and analytical platforms to support evidence-based decision-making. Investment in digital technologies should be accompanied by employee training and organizational capability development to ensure that analytical information can be effectively utilized. Managers should also focus on strengthening value chain visibility because the strongest effect identified in this study was associated with digital analytics-based value chain cost management. By understanding cost behavior across the entire business ecosystem, companies can achieve efficiency improvements that ultimately contribute to stronger financial performance.

Despite its contributions, this study has several limitations. First, the research was conducted among 100 companies in Ambon City, which may limit the generalizability of the findings to other regions with different economic characteristics and levels of digital maturity. Second, corporate financial performance was measured based on respondents' perceptions rather than objective financial indicators. Future research may incorporate secondary financial data, such as return on assets (ROA), return on equity (ROE), profitability ratios, and revenue growth, to provide stronger evidence. Third, this study focused on operational efficiency as a mediating mechanism but did not examine potential moderating factors such as organizational digital maturity, competitive intensity, technological infrastructure quality, or employee digital competence. Future studies could expand the proposed model by incorporating these factors to obtain a more comprehensive understanding of how digital analytics contributes to organizational performance.

4. CONCLUSION

This study concludes that digital analytics-based strategic cost management, consisting of digital analytics-based cost driver analysis, digital analytics-based value chain cost management, and digital analytics-based target costing, plays a significant role in enhancing operational efficiency and corporate financial performance. The results demonstrate that the integration of digital analytics into cost management practices enables firms to identify cost sources more accurately, optimize value chain activities, and implement more proactive and data-driven cost planning. Operational efficiency is proven to be an important mechanism explaining how digital analytics-based cost management practices are translated into improved financial outcomes through waste reduction, increased productivity, and more effective resource utilization. These findings emphasize that digital transformation in cost management should not be perceived merely as a technological initiative, but rather as a strategic capability that supports sustainable value creation and strengthens corporate competitiveness. The contribution of this study lies in developing an integrated empirical model that connects digital analytics, strategic cost management, operational efficiency, and corporate financial performance within a unified framework, thereby extending the understanding of how digital technologies can enhance strategic management accounting practices. The implications of this study suggest that companies should optimize digital technology investments by strengthening information systems, developing employees' analytical capabilities, and implementing data-driven cost management practices to support faster, more accurate, and strategically oriented decision-making for improving financial performance.

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