The Influence of Cost per Mille and Cost per View on Profitability: A Management Accounting Study in Digital Advertising

Nurita Elfani Prasetyaningrum[1*], Ramadhian Agus Triono Sudalyo[2]

AFFILIATION:
[1]Universitas Surakarta, Faculty of Economics, Accounting Department, Central Java, Indonesia
[2]Universitas Surakarta, Faculty of Electrical Engineering and Informatics, Informatics Engineering Department, Central Java, Indonesia

***CORRESPONDENCE:**
elfaniprasetya@gmail.com

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Abstract
This research examines the extent to which digital advertising payment models—specifically Cost per Mille (CPM) and Cost per View (CPV)—influence firm profitability from a management accounting perspective. Adopting a quantitative research design, the study analyses panel data drawn from 100 companies operating in Central Java Province, Indonesia, across three key sectors—e-commerce, financial services, and retail—over the period 2022 to 2024. The empirical analysis employs a dynamic panel data framework estimated using the Generalized Method of Moments (GMM). The findings indicate that CPM is more effective in enhancing short-term contribution margins, while CPV exhibits a stronger association with customer lifetime value. Firms that adopt a more balanced allocation between CPM- and CPV-based advertising tend to report higher net profit margins than those relying predominantly on a single payment model. Moreover, the effectiveness of each advertising model varies across industry sectors and firm size, with the intensity of market competition moderating the relationship between CPV and profitability. This study contributes to the management accounting literature by offering a profitability-oriented framework for evaluating digital advertising payment models and by demonstrating how alternative advertising cost structures shape firm performance.

Keywords: digital advertising, cost per mille, cost per view, profitability, management accounting

Introduction
In the rapidly evolving digital environment, online advertising has become a central component of firms' marketing strategies, often requiring substantial financial commitments and increasingly systematic approaches to cost management. Among the most widely adopted digital advertising payment models are Cost per Mille (CPM) and Cost per View (CPV), which differ fundamentally in their pricing mechanisms, risk characteristics, and underlying cost behaviours (Malthouse et al., 2018; Dinner et al., 2014).

This study focuses on CPM and CPV as alternative digital advertising payment models and examines how these models operate as distinct advertising cost structures that shape corporate profitability. The significance of this issue arises from the growing managerial challenge of allocating digital advertising budgets efficiently while safeguarding profitability, particularly as firms increasingly rely on CPM- and CPV-based campaigns that exhibit different cost dynamics and performance implications.

Prior research has provided valuable insights into the effectiveness of digital advertising payment models. For example, Bayer et al. (2020) demonstrate that the choice of payment model can enhance marketing budget efficiency, while Fulgoni & Lipsman (2017) document the influence of CPM on return on advertising spend. Similarly, Brettel and Spilker (2010) highlight the role of CPV in strengthening brand awareness. However, much of this literature evaluates advertising performance primarily through marketing-oriented indicators and offers limited examination of how CPM and CPV affect profitability when assessed from a management accounting perspective.

Despite the rapid expansion of global digital advertising expenditure—reaching USD 455.3 billion in 2023 (Statista, 2025)—many firms continue to allocate advertising budgets without a clear accounting-based understanding of how alternative payment models influence profitability. The increasing complexity of digital advertising platforms, volatile pricing structures, and intensifying competitive pressures heighten the risk of inefficient cost allocation and misaligned performance evaluation. In the absence of systematic accounting-based assessment, managers may rely excessively on short-term marketing metrics that fail to capture the longer-term financial consequences of advertising investments.

The urgency of this study is further underscored by growing managerial pressure to justify discretionary marketing expenditures within formal budgeting and performance measurement systems. As digital advertising represents a significant and expanding proportion of operating costs, inappropriate allocation between CPM- and CPV-based campaigns may lead to unfavourable cost variances, distorted profitability measurement, and suboptimal strategic decisions. Without empirical evidence linking advertising payment models to accounting-based profitability metrics, both managers and accountants face considerable uncertainty when evaluating advertising effectiveness.

To address this gap, the study integrates insights from digital advertising research with key management accounting concepts, including cost behaviour analysis, advertising cost drivers, and profitability-oriented performance measurement. Within this framework, CPM and CPV are conceptualised as alternative advertising cost drivers that influence firms' cost structures and, in turn, affect contribution margins, customer lifetime value, return on marketing investment, and net profit margins. The contribution of this integration lies in extending digital advertising research beyond effectiveness measures toward a systematic evaluation of how different payment models generate distinct cost behaviours and profitability outcomes. Drawing on perspectives from activity-based costing, strategic management accounting, and management control systems (Kaplan & Atkinson, 1998; Bromwich, 1990; Cadez & Guilding, 2008; Otley, 1999; Malmi & Brown, 2008), digital advertising expenditures are positioned as discretionary strategic costs that require disciplined budgeting, cost control, and performance evaluation.

Accordingly, this research contributes to the management accounting literature by providing empirical evidence on how alternative digital advertising payment models influence organisational profitability across industries. To clarify the underlying analytical logic, the study develops a conceptual framework illustrating how CPM and CPV function as alternative advertising cost drivers within a management accounting context. The framework explains how budget allocation decisions between CPM and CPV shape advertising cost structures and profitability outcomes, while also incorporating managerial advertising orientation as a behavioural factor influencing discretionary cost allocation decisions.

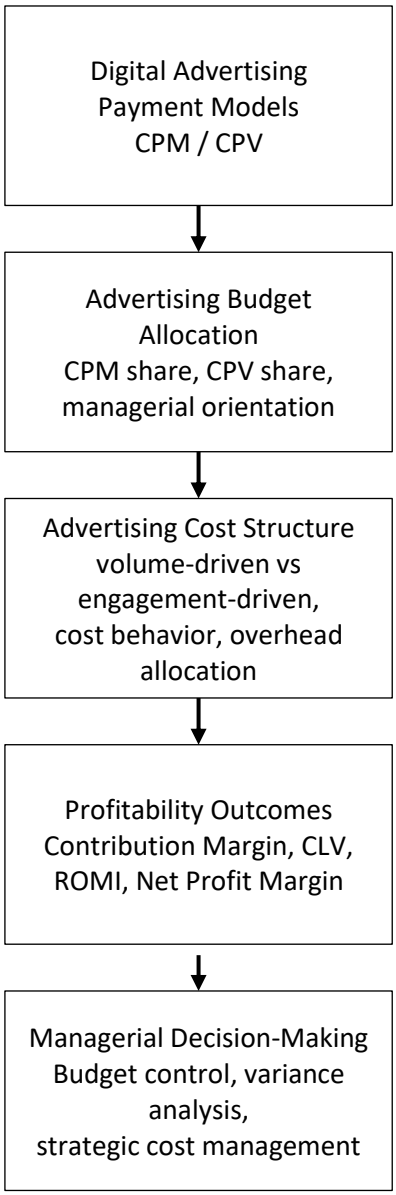

Figure 1. Conceptual Framework

Research Method

This research adopts a quantitative approach with an explanatory design to examine the influence of digital advertising payment models—Cost per Mille (CPM) and Cost per View (CPV)—on firm profitability. The study draws on data from 100 companies operating in Central Java Province, Indonesia, across three principal sectors: e-commerce (n = 50), financial services (n = 30), and retail (n = 20), over the period from January 2022 to December 2024.

The inclusion criteria required that firms had implemented digital advertising campaigns using a combination of CPM and CPV models for a minimum of six consecutive months, possessed complete and accessible financial reports, and expressed willingness to participate in the study. A purposive sampling technique was employed to ensure representation across different business scales—small, medium, and large—based on classifications issued by the Ministry of Cooperatives and Small and Medium Enterprises. This approach allowed the sample to reflect variation in organisational size while remaining aligned with the study's analytical objectives.

Primary data were collected through structured questionnaires administered to digital marketing managers and financial managers within the participating firms. Of the 100 companies initially included, 78 provided complete and usable questionnaire responses. Financial and advertising performance data were available for all firms throughout the observation period; however, survey-based variables were fully observed only for these 78 firms. Consequently, the empirical analysis was conducted using an unbalanced panel structure, enabling the inclusion of all available firm-year observations while appropriately accommodating missing survey data. The questionnaire instrument was subjected to validity testing using the Pearson Product–Moment correlation method and reliability testing using Cronbach's Alpha, with all constructs exceeding the recommended threshold of 0.7 (Tabachnick and Fidell, 2019). Secondary data comprised firm financial reports, digital advertising performance metrics—including impressions, view rates, and click-through rates—and cost-per-acquisition figures obtained from the advertising platforms utilised by each firm.

The independent variables include CPM budget allocation and CPV budget allocation, each measured as a percentage of total digital advertising expenditure, as well as the effectiveness of CPM- and CPV-based campaigns measured through Return on Advertising Spend (ROAS). The dependent variables consist of four profitability measures: contribution margin of advertised products, customer lifetime value, return on marketing investment, and net profit margin. Control variables include firm size, measured as the natural logarithm of total assets, industry sector, and market competition intensity, operationalised using the Herfindahl–Hirschman Index.

All variables are measured in accordance with established practices in the management accounting and digital advertising literature to ensure construct validity and consistency with prior empirical studies. CPM and CPV budget allocations follow measurement approaches used in Bayer et al. (2020), Dinner et al. (2014), De Haan et al. (2016) and Kireyev et al. (2016). Campaign effectiveness is captured using ROAS, calculated as advertising-attributed revenue divided by advertising expenditure for each payment model. Contribution margin is measured as the ratio of contribution profit to sales revenue of advertised products, consistent with activity-based costing principles (Kaplan & Cooper, 1998). Customer lifetime value is calculated as the discounted net

present value of expected future cash flows generated by customers acquired through digital advertising campaigns (Gupta & Zeithaml, 2006). Return on marketing investment is measured as incremental profit attributable to advertising expenditure divided by total marketing costs (Rust et al., 2004), while net profit margin is defined as net income divided by total sales revenue.

In addition to economic and structural factors, digital advertising budget allocation reflects managerial judgment and strategic orientation. From a behavioural management accounting perspective, such decisions are influenced by managers' risk preferences, performance evaluation pressures, and strategic priorities (Otley, 1999; Merchant & der Stede, 2017). To capture this behavioural dimension, the study incorporates a managerial advertising orientation dummy variable, coded as 1 if a firm consistently prioritises a dominant advertising payment model—either CPM or CPV—throughout the observation period, and 0 if the firm adopts a relatively balanced allocation between the two models. This variable serves as a proxy for managerial discretion in advertising cost allocation and enables the empirical model to partially account for behavioural influences in discretionary cost management decisions.

Data analysis was conducted using a dynamic panel data regression approach to capture variation across firms and over time while controlling for unobserved firm-specific heterogeneity. The empirical model is grounded in the conceptual framework developed in this study, which integrates management accounting and digital marketing perspectives and accommodates longitudinal firm-level variation consistent with hierarchical data structures (Hox et al., 2017). To address potential endogeneity arising from reverse causality and unobserved heterogeneity, estimation was performed using the Generalized Method of Moments (GMM), following methodological guidance provided by Wintoki et al. (2012), Semadeni et al. (2014), and Abdallah et al. (2015). Hypothesis testing was conducted at a 5 per cent significance level, with standard errors adjusted for heteroscedasticity.

Several diagnostic tests were undertaken to ensure the internal validity and robustness of the empirical model. Instrument validity was assessed using the Sargan test of overidentifying restrictions, with results indicating that the null hypothesis of valid instruments could not be rejected. Serial correlation was examined using the Arellano–Bond test, which revealed significant first-order autocorrelation and no evidence of second-order autocorrelation, confirming the suitability of the dynamic panel specification. Multicollinearity was evaluated using the Variance Inflation Factor, with all values below commonly accepted thresholds. Additional sensitivity analyses, including alternative model specifications and the exclusion of influential observations, were conducted and are reported in Appendix 1, with results indicating that the main findings remain qualitatively unchanged.

As a further robustness check, a two-stage least squares estimation was employed to address potential endogeneity concerns related to simultaneity between advertising investment and profitability outcomes. This approach isolates exogenous variation in advertising payment model allocation, following established econometric procedures (O'brien, 2007; Greene, 2018; Baltagi, 2021). All statistical analyses were conducted using Stata version 17.0.

All company data were obtained with written consent during the data collection period and were reported in aggregated form to preserve confidentiality. The research

design complied with personal data protection requirements under Government Regulation of the Republic of Indonesia Number 71 of 2019 concerning the Operation of Electronic Systems and Transactions.

Result and Discussion

The empirical analysis is based on an unbalanced panel, reflecting variations in data availability across firms and over time. This section reports the empirical findings on the relationship between digital advertising payment models—Cost per Mille (CPM) and Cost per View (CPV)—and firm profitability. The results are interpreted within a management accounting framework to explain how alternative advertising cost structures shape budgeting outcomes, cost behaviour, and profitability-oriented performance evaluation. In particular, the analysis highlights CPM and CPV as controllable advertising costs whose financial implications can be assessed using contribution margin analysis, variance analysis, and profitability-based performance measurement systems.

An examination of data from 100 companies operating in Central Java Province, Indonesia, over the period 2022 to 2024 yields several key insights into the profitability effects of CPM- and CPV-based digital advertising. The regression results reveal statistically significant relationships between advertising budget allocation by payment model and core profitability measures, including contribution margin, customer lifetime value, and net profit margin. However, both the magnitude and direction of these effects vary across industry sectors and firm size categories, indicating heterogeneity in how advertising cost structures translate into financial outcomes.

The findings can be interpreted through the lens of management accounting, particularly activity-based costing and performance measurement systems. The positive association between CPM and short-term contribution margin suggests that CPM-based advertising operates as a volume-driven cost driver, whereby increased exposure generates immediate sales responses and enhances contribution margins. This result is consistent with the argument advanced by Kaplan & Cooper (1998) that cost drivers linked to transaction volume tend to support short-term financial performance. Within this context, contribution margin emerges as a critical indicator for evaluating the efficiency of advertising expenditure.

Table 1. Descriptive Statistics of Research Variables

Variable	Mean	Std. Dev.	Min	Max
CPM Budget Allocation (%)	58.7	18.4	15.3	92.6
CPV Budget Allocation (%)	41.3	18.4	7.4	84.7
Contribution Margin (%)	32.5	11.3	8.2	64.7
Customer Lifetime Value (Rp million)	5.64	3.21	0.87	18.45
Return on Marketing Investment (%)	142.3	65.8	34.6	356.2
Net Profit Margin (%)	18.7	9.4	-5.2	42.3
Total Digital Advertising Spending (Rp million/month)	187.5	215.3	12.8	1,250.6
Brand Awareness Score (0-100)	68.4	14.2	32.5	94.8
Customer Engagement Rate (%)	4.8	2.3	0.9	12.5
Market Competition Intensity (HHI)	0.18	0.11	0.05	0.47

By contrast, the stronger influence of CPV on customer lifetime value indicates that CPV functions as a strategic cost driver associated with customer-related activities

such as engagement and retention. From a strategic management accounting perspective, this finding supports the view that investments in customer-focused initiatives should be assessed in terms of their long-term economic value rather than short-term profitability alone. Moreover, the synergistic effects observed under a combined CPM–CPV allocation strategy reflect the integration of operational efficiency and strategic value creation, which represents a central objective of contemporary management accounting and performance control systems.

Table 1 reports the descriptive statistics for the principal management accounting variables examined in this study, reflecting firms' allocation of digital advertising expenditures between CPM- and CPV-based campaigns. On average, CPM accounts for 58.7 per cent of total digital advertising expenditure, while CPV represents the remaining 41.3 per cent. The relatively large standard deviations observed for both payment models (18.4 per cent for CPM and 18.4 per cent for CPV) indicate considerable heterogeneity in advertising budget allocation practices across firms, underscoring differences in managerial judgment and approaches to advertising cost structure optimisation.

Moreover, the predominance of CPM in relation to short-term contribution margins suggests lower exposure to unfavourable spending variances in volume-driven campaigns. This finding reinforces the role of CPM-based advertising as a relatively controllable cost component within short-term budgeting, variance analysis, and cost control systems commonly employed in management accounting.

Table 2. Multi-level Regression Analysis Results: Influence of Digital Advertising Payment Models on Profitability Metrics

Independent Variable	Contribution Margin	Customer Lifetime Value	ROMI	Net Profit Margin
CPM Allocation	0.42*** (0.08)	0.21** (0.07)	0.38*** (0.09)	0.29** (0.10)
CPV Allocation	0.18* (0.09)	0.37*** (0.08)	0.25** (0.09)	0.33*** (0.09)
CPM*CPV Interaction	0.15* (0.07)	0.23** (0.08)	0.19* (0.09)	0.28** (0.10)
Company Size	0.26** (0.08)	0.31*** (0.07)	0.22** (0.08)	0.35*** (0.07)
Competition Intensity	-0.19** (0.07)	-0.24** (0.08)	-0.28** (0.10)	-0.32*** (0.09)
Constant	0.14* (0.06)	0.11 (0.07)	0.16* (0.08)	0.09 (0.08)
R^2	0.38	0.42	0.36	0.40
N	100	100	100	100

*Note: Standard errors in parentheses. * p < 0.05; ** p < 0.01; *** p < 0.001*

The results of the multi-level regression analysis indicate that the CPM model has a positive and statistically significant effect on short-term contribution margin (β = 0.42, p < 0.01), as reported in Table 2. This finding is consistent with Brettel & Spilker-Attig (2010), who suggest that CPM-based advertising is particularly effective in driving volume-related outcomes. From a management accounting perspective, this result implies that CPM-based advertising operates as a volume-driven cost driver within the firm's activity-based costing framework, thereby supporting the optimisation of short-term contribution margins.

By contrast, when profitability is assessed in terms of customer lifetime value (CLV), the CPV model exhibits a stronger effect ($\beta = 0.37$, $p < 0.01$) than the CPM model ($\beta = 0.21$, $p < 0.05$). These results indicate that CPV-based advertising contributes more substantially to long-term value creation through enhanced customer engagement and retention. Within a management accounting performance measurement framework, contribution margin and customer lifetime value can therefore be viewed as complementary short-term and long-term indicators for evaluating both the efficiency and effectiveness of advertising expenditure.

Table 3. Correlation of Advertising Payment Models with Profitability Metrics by Industry Sector

Model	Sector	Contribution Margin	Customer Lifetime Value	ROMI	Net Profit Margin
CPM	E-Commerce	0.45***	0.28**	0.39**	0.32*
	Financial Services	0.52***	0.31**	0.56***	0.41**
	Retail	0.38**	0.22*	0.43**	0.35**
CPV	E-Commerce	0.31**	0.51***	0.36**	0.48**
	Financial Services	0.27*	0.42**	0.33**	0.39**
	Retail	0.24*	0.46***	0.29*	0.37**

*Note: * p < 0.05; ** p < 0.01; *** p < 0.001*

The industry-specific analysis reported in Table 3 reveals marked differences in the effects of digital advertising payment models on profitability measures across sectors. In the e-commerce industry, the CPV model exhibits a stronger association with net profit margin ($r = 0.48$, $p < 0.01$) than the CPM model ($r = 0.32$, $p < 0.05$), underscoring the importance of customer engagement–oriented advertising in supporting longer-term profitability. By contrast, in the financial services sector, the CPM model demonstrates a stronger relationship with return on marketing investment ($r = 0.56$, $p < 0.001$), suggesting that exposure-driven advertising is more effective in enhancing short-term revenue efficiency in this context.

These findings are consistent with prior research by Li & Kannan (2014), Kireyev et al. (2016), and De Haan et al. (2016), which highlights that the effectiveness of advertising payment models is highly contingent on industry-specific characteristics and consumer behaviour patterns. From a strategic management accounting perspective, the observed variation reflects differences in cost behaviour, value creation mechanisms, and performance measurement priorities across industries. Accordingly, optimal advertising cost allocation decisions should be aligned with industry-specific profitability structures and strategic performance objectives.

Table 4. GMM Analysis Results: Influence of Combined Advertising Payment Models on Net Profit Margin

Allocation Strategy	Δ Net Profit Margin	Std. Error	p-value	95% CI
100% CPM	2.1	0.8	0.018	[0.5, 3.7]
100% CPV	2.8	0.9	0.007	[1.0, 4.6]
70% CPM, 30% CPV	3.5	1.0	0.003	[1.5, 5.5]
50% CPM, 50% CPV	4.2	1.1	0.001	[2.0, 6.4]
30% CPM, 70% CPV	3.8	1.0	0.002	[1.8, 5.8]

Note: Δ Net Profit Margin indicates change in percentage points compared to baseline (not using digital advertising). CI = Confidence Interval.

The GMM estimation results reported in Table 4 indicate that an optimal allocation between CPM- and CPV-based advertising expenditure is associated with a significant improvement in firm profitability. Firms adopting an integrated allocation strategy across CPM and CPV experience an average increase in net profit margin of up to 4.2 percentage points ($p < 0.01$) relative to firms that rely predominantly on a single advertising payment model. The interaction term between CPM and CPV is positive and statistically significant ($\beta = 0.28$, $p < 0.01$), providing evidence of a synergistic effect arising from the complementary roles of volume-driven and value-driven advertising cost structures.

From a management accounting perspective, these findings suggest that combining CPM and CPV constitutes a strategic cost management decision that supports both short-term efficiency and long-term value creation. Within an activity-based costing framework, CPM operates as a transaction-volume cost driver, while CPV functions as a customer-related cost driver. The joint application of these models enhances the effectiveness of the firm's performance measurement system by balancing contribution margin optimisation with the growth of customer lifetime value.

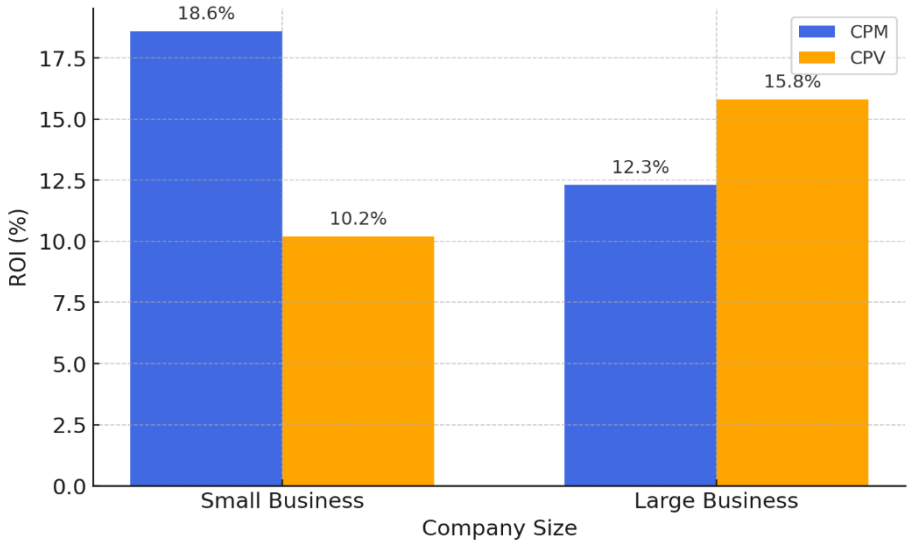

Figure 2. Influence of Advertising Payment Models on ROI Based on Company Size

Figure 2 further illustrates heterogeneity in profitability outcomes across firm size categories. Small-scale firms exhibit greater profitability improvements when emphasising CPM-based advertising, as reflected in an average increase in return on investment of 18.6 per cent. This pattern suggests a managerial emphasis on short-term contribution margin enhancement and cash flow efficiency. By contrast, larger firms achieve superior profitability outcomes through a more balanced allocation between CPM and CPV, reflecting more advanced strategic management accounting practices that prioritise long-term value creation and multi-dimensional performance measurement. Taken together, these results highlight the importance of aligning advertising cost allocation decisions with firm size–specific cost structures, strategic priorities, and management accounting control systems.

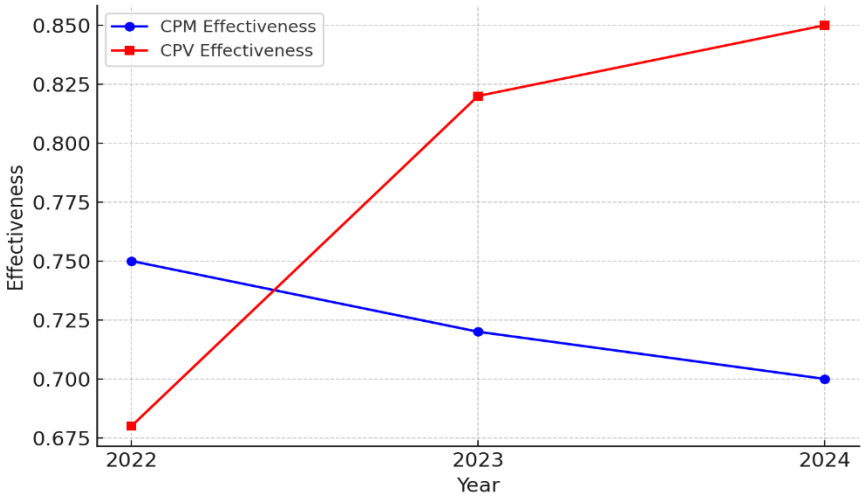

Figure 3. Trends in CPM and CPV Effectiveness (2022-2024)

Figure 3 presents a time-series analysis illustrating changes in the profitability effects of CPM- and CPV-based advertising expenditure over the observation period. The results show a statistically significant increase in the impact of CPV on long-term profitability measures in 2024 relative to 2022 ($\Delta\beta = +0.14$, $p < 0.05$). From a management accounting perspective, this trend reflects a dynamic shift in the effectiveness of customer-related cost drivers, indicating that CPV-based expenditure increasingly contributes to long-term value creation as captured by profitability-oriented performance measures. Rather than merely reflecting changes in consumer behaviour, this finding highlights the growing relevance of performance measurement systems that emphasise customer lifetime value in digitally intensive business environments.

Table 5. Mediation Analysis: Mechanisms of Influence of Advertising Payment Models on Profitability

Path	Direct Effect	Indirect Effect	Total Effect	Proportion Mediated
CPM → Brand Awareness → Profit	0.24**	0.18**	0.42***	42.9%
CPV → Customer Engagement → Profit	0.19*	0.24**	0.43***	55.8%
CPM → Acquisition Cost → Profit	0.27**	0.13*	0.40***	32.5%
CPV → Retention Rate → Profit	0.15*	0.21**	0.36**	58.3%

*Note: * p < 0.05; ** p < 0.01; *** p < 0.001*

The mediation analysis reported in Table 5 provides further insight into the mechanisms through which advertising cost structures influence profitability outcomes. The results indicate that the relationship between CPM-based advertising expenditure and profitability is partially mediated by brand awareness (mediation effect = 0.18, $p < 0.01$), while the effect of CPV-based advertising is mediated by customer engagement (mediation effect = 0.24, $p < 0.01$). Within a management accounting framework, brand awareness and customer engagement can be viewed as non-financial performance drivers that precede and shape financial outcomes. Accordingly, these variables operate as intermediate control indicators within the firm's performance measurement and management control systems, linking advertising cost allocation decisions to contribution margin and customer lifetime value.

From a strategic management accounting perspective, the mediation effects observed in Table 5 demonstrate that advertising expenditure affects profitability through both operational efficiency mechanisms and customer value creation processes. This finding supports the integration of financial and non-financial performance indicators in evaluating the effectiveness of digital advertising investments, consistent with contemporary management accounting control frameworks that emphasise alignment between cost structures, performance measures, and strategic objectives.

Table 6. Moderation Analysis: The Influence of Competition Intensity on the Effectiveness of Advertisement Payment Models

Variable	Model 1	Model 2	Model 3
CPM	0.35*** (0.09)	0.33*** (0.08)	0.34*** (0.09)
CPV	0.28** (0.08)	0.29** (0.09)	0.30** (0.10)
Competition Intensity	-0.25** (0.08)	-0.27** (0.09)	-0.26** (0.08)
CPM × Competition Intensity	—	-0.14 (0.11)	-0.13 (0.12)
CPV × Competition Intensity	—	—	-0.31* (0.13)
Other Controls	Yes	Yes	Yes
R^2	0.39	0.40	0.44
ΔR^2	—	0.01	0.04*
N	100	100	100

Note: Standard errors in parentheses. $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$*

The moderation test results reported in Table 6 indicate that market competition intensity significantly moderates the relationship between CPV-based advertising expenditure and profitability (interaction $\beta = -0.31$, $p < 0.05$). This negative moderating effect suggests that, under conditions of intense market competition, the effectiveness of CPV as a customer-related cost driver is reduced. From a management accounting perspective, this finding reflects heightened uncertainty in translating long-term, customer-oriented advertising expenditure into measurable profitability outcomes, thereby increasing the risk associated with CPV-based cost allocation decisions.

By contrast, no statistically significant moderating effect is observed for the relationship between CPM-based advertising expenditure and profitability, indicating that volume-driven cost structures display more stable cost behaviour across varying competitive environments. These results are consistent with prior research (Gielens et al., 2018; Morgan et al., 2019; Palmatier et al., 2018) and underscore the importance of incorporating market competition intensity into strategic cost management and profitability analysis. From a management accounting control perspective, competition intensity functions as a contextual factor within performance measurement systems, enabling managers to anticipate shifts in financial outcomes and adjust advertising budgets accordingly.

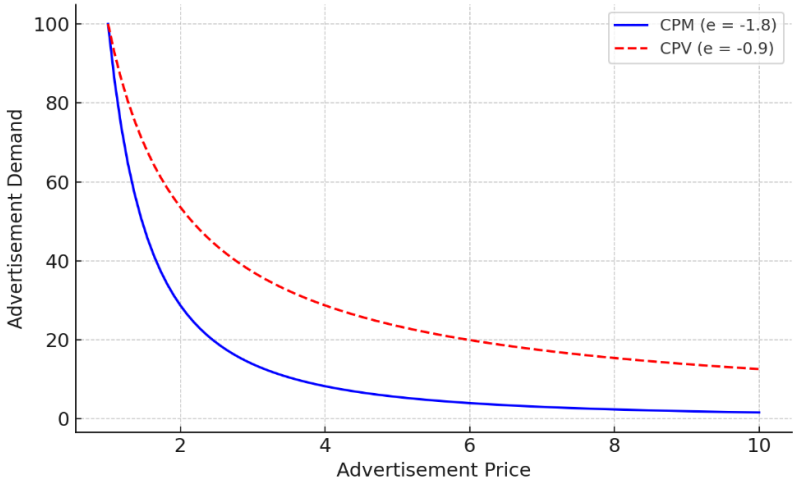

Figure 4. Price Elasticity Curve for CPM and CPV

Additional analysis of advertising price elasticity, as illustrated in Figure 4, indicates that CPM-based advertising exhibits higher price elasticity (e = −1.8) than CPV-based advertising (e = −0.9). This finding suggests that demand for CPM-based advertising is more sensitive to price changes, whereas CPV-based expenditure demonstrates comparatively greater price stability. These differences in price responsiveness point to distinct cost behaviours associated with CPM and CPV, which are examined further in the subsequent discussion.

Overall, the findings of this study are broadly consistent with prior research in the digital advertising literature, while extending its implications into a management accounting context. Previous studies, such as Brettel & Spilker-Attig (2010) and Dinner et al. (2014), document that CPM-based advertising is effective in generating short-term performance outcomes due to its exposure-driven nature. The higher price elasticity of CPM observed in this study reinforces these findings, indicating that CPM-based expenditure is more sensitive to price fluctuations and therefore requires closer short-term cost control. The robustness checks reported in Appendix 1 further confirm that the estimated effects of CPM- and CPV-based advertising on profitability remain stable across alternative model specifications and data subsets, supporting the reliability of the main results.

By contrast, the lower price elasticity associated with CPV-based advertising aligns with the engagement-oriented perspective advanced by De Haan et al. (2016) and Kireyev et al. (2016), who emphasise the role of engagement-focused advertising in fostering more stable long-term customer relationships. This study extends prior research by explicitly linking CPV-based advertising to accounting-based cost behaviour and profitability measures, rather than confining the analysis to conventional marketing performance indicators.

Furthermore, while earlier studies typically examine CPM and CPV in isolation, the present findings demonstrate that an integrated CPM–CPV strategy yields superior profitability outcomes. This result complements the strategic management accounting literature (Bromwich, 1990; Cadez & Guilding, 2008) by providing empirical evidence that combining alternative cost drivers can enhance both short-term efficiency and long-term value creation. By embedding advertising payment models within a management

accounting framework, this study advances existing research by explaining not only whether digital advertising is effective, but also how different advertising cost structures influence profitability through distinct cost behaviours.

A key contribution of this study lies in its explicit emphasis on accounting-based performance indicators rather than reliance on marketing metrics alone. Whereas prior digital advertising studies predominantly focus on indicators such as impressions, click-through rates, and engagement levels, the present findings demonstrate that such metrics are insufficient to explain profitability outcomes in isolation. By incorporating accounting-based measures—including contribution margin, customer lifetime value, return on marketing investment, and net profit margin—this study underscores the importance of evaluating digital advertising effectiveness within a comprehensive management accounting framework.

From a management accounting perspective, the findings have important implications for cost control and budgeting decisions. The higher price elasticity associated with CPM suggests greater volatility in cost efficiency when advertising prices fluctuate, necessitating closer monitoring within budgeting and performance evaluation systems. Conversely, the lower elasticity of CPV implies more predictable cost behaviour, which may support longer-term budgeting and strategic planning under relatively stable market conditions.

The results further indicate that firms exhibiting a dominant advertising orientation experience more pronounced profitability effects from their preferred payment model. This finding highlights the role of managerial judgment and strategic commitment in shaping the effectiveness of advertising cost structures. From a behavioural management accounting perspective, discretionary cost allocation decisions—such as digital advertising budgets—are influenced not only by economic considerations but also by managerial preferences, performance evaluation pressures, and strategic orientation. Accordingly, the effectiveness of CPM- and CPV-based advertising depends not only on their technical characteristics, but also on the consistency and strategic intent with which they are implemented. While these findings support the effectiveness of integrated CPM–CPV strategies, further examination is required to assess their implications within formal management control systems.

Despite evidence that a combined CPM–CPV strategy yields superior profitability outcomes, this result should be interpreted with caution from a management accounting standpoint. Integrating multiple advertising payment models may introduce trade-offs related to cost control, performance attribution, and resource allocation. For example, simultaneous investment in CPM- and CPV-based campaigns may generate cannibalisation effects, whereby incremental exposure from one model partially substitutes for the impact of the other, potentially overstating the effectiveness of combined strategies if not adequately controlled within the cost accounting system.

Moreover, from a strategic cost management perspective, allocating advertising budgets across multiple payment models involves opportunity costs. Resources committed to CPV-based engagement initiatives may constrain the firm's ability to exploit scale efficiencies associated with CPM-driven exposure. In addition, the allocation of indirect advertising-related overheads—such as content production costs, campaign management expenses, and platform fees—poses challenges for accurate profitability measurement. Without an appropriate activity-based costing framework, firms risk

misallocating overheads across advertising models, leading to biased assessments of contribution margins and return on marketing investment.

These considerations highlight the importance of integrating digital advertising decisions into formal management control systems. Performance measurement frameworks should incorporate both financial indicators, such as contribution margin and customer lifetime value, and non-financial measures, such as engagement intensity and brand awareness, while explicitly recognising the cost behaviour and risk profiles associated with each advertising model. Consequently, the choice between CPM, CPV, or a combination of both should be viewed not merely as a tactical marketing decision, but as a strategic cost management issue requiring continuous monitoring, variance analysis, and alignment with organisational performance objectives.

Overall, the results and discussion demonstrate that digital advertising payment models can be systematically evaluated within a management accounting framework, providing a foundation for the concluding implications and recommendations developed in the following section. The empirical evidence indicates that CPM and CPV represent distinct advertising cost drivers with different cost behaviours, risk profiles, and contributions to short-term and long-term profitability. The findings further underscore the importance of aligning advertising cost allocation decisions with firm-specific characteristics, market conditions, and strategic objectives. By incorporating competition intensity, price elasticity, and non-financial performance drivers into profitability analysis, this study highlights the critical role of management accounting systems in supporting informed managerial decision-making and effective strategic cost management in digital advertising contexts. Accordingly, CPM and CPV should be treated not merely as marketing metrics, but as alternative advertising cost structures requiring systematic control through budgeting, variance analysis, and integrated management accounting systems.

Although this study primarily employs a quantitative approach, the interpretation of the results is informed by managerial practices documented in prior management accounting and digital marketing research. Future studies may complement this analysis with in-depth qualitative investigations to further explore managerial cognition and decision-making processes in digital advertising budget allocation.

This study is subject to several limitations that warrant consideration. First, the empirical data are drawn exclusively from firms operating in Central Java Province, Indonesia. While this region encompasses a diverse mix of industries and firm sizes, the geographic concentration may limit the generalisability of the findings. Digital advertising effectiveness is shaped by regional market characteristics, including consumer digital maturity, income levels, media consumption patterns, and competitive intensity, which may vary substantially across locations.

In particular, metropolitan regions such as Jabodetabek are characterised by higher advertising saturation, more intense competition, and more digitally sophisticated consumers. Under such conditions, the cost behaviour and profitability effects of CPM- and CPV-based advertising may differ from those observed in non-metropolitan areas. For example, CPV-based strategies may generate stronger long-term value in highly competitive urban markets, while CPM-based strategies may exhibit greater cost volatility due to heightened price sensitivity and platform-level competition.

Future research is therefore encouraged to extend the analysis to multiple geographic contexts, including metropolitan and cross-regional settings, to further examine how regional and market characteristics moderate the relationship between digital advertising cost structures and profitability. Such extensions would enhance the external validity of the findings and provide deeper insights into regional variation in management accounting practices related to digital advertising expenditure.

Conclusion

This study examines the impact of digital advertising payment models—Cost per Mille (CPM) and Cost per View (CPV)—on corporate profitability from a management accounting perspective. By integrating management accounting principles into the analysis, the study provides empirical evidence on how alternative digital advertising payment models influence firm profitability. Drawing on data from 100 companies operating in Central Java Province, Indonesia, over the period 2022–2024, the findings indicate that CPM and CPV exert distinct yet complementary effects across multiple profitability measures. Specifically, CPM is more effective in enhancing short-term contribution margins, whereas CPV has a stronger influence on customer lifetime value. Firms that adopt a balanced allocation between the two models achieve higher net profit margins than those relying exclusively on either CPM or CPV.

The profitability effects of advertising payment models also vary by industry sector and firm size. Small firms tend to benefit more from CPM-based advertising, reflecting a greater emphasis on short-term cash flow and contribution margin optimisation, while larger firms achieve superior outcomes through an integrated CPM–CPV approach. Notably, the effectiveness of CPV in enhancing long-term profitability increases over the study period, suggesting shifts in digital consumer preferences and engagement patterns. In addition, market competition intensity moderates the relationship between CPV and profitability, with the effectiveness of CPV-based advertising diminishing in highly competitive environments.

Based on these findings, several implications emerge for management accounting practitioners and digital marketing decision-makers. First, firms should adopt a dynamic approach to digital advertising budget allocation that reflects their strategic orientation—whether focused on short-term performance or long-term value creation—as well as industry-specific characteristics. Second, financial and marketing managers are encouraged to develop comprehensive performance measurement frameworks that extend beyond traditional marketing indicators to incorporate profitability-based metrics. Third, firms with limited resources may improve advertising efficiency by tailoring budget allocation strategies to their size and stage of development.

Despite its contributions, this study is subject to several limitations. The empirical analysis is confined to firms operating in Central Java Province, Indonesia, which may limit the generalisability of the findings to other regional or national contexts with different market structures and levels of digital advertising maturity. In addition, although the study employs panel data over a three-year period, this timeframe may be insufficient to fully capture the long-term financial effects of digital advertising investments, particularly with respect to customer lifetime value. Finally, the analysis focuses exclusively on CPM and CPV payment models, whereas other emerging digital advertising models may exhibit different cost behaviours and profitability implications.

Future research may extend this analysis by examining digital advertising payment models across broader geographic regions and longer time horizons to enhance external validity. Further studies could also incorporate alternative payment models, such as Cost per Action (CPA) and Cost per Engagement (CPE), which differ fundamentally from CPM and CPV in terms of cost behaviour and performance attribution. Whereas CPM and CPV reflect exposure- and engagement-based cost structures, CPA and CPE directly link advertising expenditure to observable user actions and interactive behaviours, thereby functioning as outcome-oriented cost drivers.

From a management accounting perspective, incorporating CPA and CPE into future analyses may provide additional insights into advertising profitability by enabling a closer alignment between advertising costs and revenue-generating activities. CPA-based models facilitate the evaluation of advertising expenditure in terms of conversion efficiency and customer acquisition outcomes, potentially reducing uncertainty in cost–benefit attribution. Similarly, CPE emphasises the depth of user interaction, offering more granular insight into customer engagement dynamics and their contribution to long-term value creation. The inclusion of these alternative payment models would therefore further enhance understanding of how different advertising cost structures affect profitability, risk allocation, and performance measurement within strategic cost management systems.

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Appendix

Appendix 1. Summary of Model Diagnostic Tests

Diagnostic Test	Statistic / Value	Criterion	Conclusion
Sargan test	p-value > 0.05	Instruments valid	Assumption satisfied
Arellano–Bond AR(1)	p-value < 0.05	Expected in first difference	Assumption satisfied
Arellano–Bond AR(2)	p-value > 0.05	No second-order correlation	Assumption satisfied
VIF (maximum)	< 10	No multicollinearity	Assumption satisfied