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Research Article

Managing Digital Presence: A Comparative Cost-Benefit Analysis of Onsite and Remote Operational Models

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ABSTRACT

Organizations face critical decisions regarding work models for digital presence management (DPM) teams, where onsite and remote operations present distinct trade-offs in cost, security, collaboration, and engagement. This study developed and compared scenario-based cost-benefit models for four staffing configurations (30, 60, 90, 150 workers) across onsite and remote DPM operations. We employed a scenario-based comparative analysis using projected operational data for hardware, software, licensing, staffing, and infrastructure costs (denominated in PHP). Social media engagement projections were based on a 3.5% organic reach rate, benchmarked to the dominant Philippine platform, Instagram. Sensitivity analysis was included. Remote operations demonstrated 21–28% monthly cost savings (PHP 669,850–1,337,250 vs. PHP 850,600–1,860,600 onsite). Cost per 1,000 projected reach was lower for remote models (PHP 2.66–3.18) compared to onsite (PHP 3.37–4.43). Onsite models incurred substantial upfront infrastructure costs (PHP 532,428–2,002,256). While remote DPM offers significant cost advantages, achieving equivalent security requires investment in advanced frameworks, which may offset a portion of the savings. The decision framework must therefore prioritize organizational security requirements, governance needs, and budget constraints alongside cost efficiency.

Keywords: *Digital presence management, Remote work, Onsite operations, Cost-benefit analysis, Social media engagement, Scenario modeling, Philippines*

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Introduction

The transformation of global work models, accelerated by the COVID-19 pandemic and the technological imperatives of the Fourth Industrial Revolution, has compelled organizations to fundamentally reconsider their operational structures. Within digital marketing and communications, this shift represents a strategic inflection point. Leaders must now decide whether to maintain traditional onsite environments for their digital teams or leverage distributed remote workforces. This decision carries particular weight for Digital Presence Management (DPM) operations. The work—inherently digital, always-on, and globally connected—theoretically suits remote execution. However, significant operational risks concerning security and collaboration persist.

We define Digital Presence Management (DPM) as the systematic oversight and execution of an organization's digital footprint across owned channels (e.g., websites, blogs), earned media (e.g., social mentions, reviews), and paid advertising. This discipline encompasses content strategy, community engagement, analytics, and reputation management. Unlike conventional IT functions, DPM necessitates continuous, real-time interaction with external audiences, making operational stability and security paramount.

By 2025, hybrid and remote arrangements have transitioned from emergency measures to standard global practice. Organizations increasingly seek to balance cost efficiency with talent access and operational effectiveness. Concurrently, infrastructure strategies are evolving from "cloud-first" to "strategic hybrid" approaches (Deloitte, 2026). These models balance cloud elasticity for scalability, on-premise infrastructure for control, and edge computing for immediacy. This infrastructure evolution parallels the workforce dilemma: how to balance the flexibility of remote operations with the control of onsite environments.

Problem Statement and Research Gap

Despite the proliferation of remote work, organizations—especially in developing economies like the Philippines—lack comprehensive frameworks to evaluate the total cost of ownership (TCO) and operational trade-offs

between onsite and remote DPM models. Existing literature often examines remote work productivity broadly or isolates social media strategy. Few studies integrate detailed cost modeling (encompassing hardware, licensing, utilities), infrastructure requirements, engagement projections, and governance considerations into a unified decision framework. Consequently, IT and marketing leaders often make critical operational decisions based on incomplete cost data or anecdotal evidence regarding engagement efficacy, leaving a significant research gap.

Research Objectives

This study aims to address this gap by developing and comparing scenario-based cost-benefit models for DPM operations across four standardized workforce scales (30, 60, 90, and 150 total workers). The specific research objectives are:

1. To quantify the capital expenditure (CAPEX) and operational expenditure (OPEX) differences between onsite and remote DPM models within a Philippine context.
2. To project social media engagement potential relative to team size and cost investment to determine cost-efficiency ratios.
3. To analyze the qualitative trade-offs concerning security, collaboration, and governance.
4. To provide a data-driven decision framework to assist organizations in selecting optimal DPM operational structures.

Significance and Contribution

This research contributes a practical, replicable cost-modeling methodology for IT and marketing leaders in SMEs and mid-market organizations. The focus on the Philippine context offers valuable insights for emerging markets, where cost sensitivity, infrastructure limitations, and rapid digitalization create unique decision pressures. By employing a scenario-based approach, the study enables organizations to adapt model parameters to their specific contexts. This work is both theoretically grounded in the resource-based view of strategy and directly actionable for operational planning.

Literature Review

Digital Presence Management: Components and Metrics

Effective DPM constitutes a multi-dimensional discipline. Contemporary industry frameworks (Prowly, 2025; Hootsuite, 2026) outline five core pillars: (1) Website optimization, focusing on mobile responsiveness and SEO fundamentals; (2) Social media presence, involving platform-specific strategies and community management; (3) Content and SEO, covering keyword strategy and search visibility; (4) Online reputation monitoring, including sentiment analysis and crisis response; and (5) Analytics, dedicated to tracking engagement and conversion. The role of the social media manager has consequently evolved from a tactical executor to a strategic, cross-functional position requiring data literacy and business acumen.

Crucially, success metrics have shifted. The literature increasingly prioritizes meaningful engagement over vanity metrics. Research identifies "saves," "shares," and "comments" as superior indicators of content value compared to passive "likes" (Hootsuite, 2025; Sprout Social, 2026). Furthermore, "dwell time" has emerged as a strong predictor of brand lift (LinkedIn B2B Institute, 2025). Current benchmarks for 2025–2026 indicate organic reach rates of approximately 3.5% for Instagram and 1.65% for Facebook, with TikTok maintaining higher engagement rates of 2.5–4.9% (Socialinsider, 2025). These benchmarks are essential for realistic scenario modeling.

Remote vs. Onsite Work: Trade-offs and Governance

The dichotomy between remote and onsite work involves distinct cost and security structures. Remote work typically reduces overhead related to physical office space, utilities, and employee commuting. However, it introduces new costs, such as internet subsidies, collaboration software licensing, and specialized monitoring tools.

From a security perspective, onsite operations offer centralized control. Organizations can enforce physical access restrictions, network segmentation, and immediate incident response (Microsoft, 2025). Conversely,

remote operations introduce risks related to personal device vulnerabilities (BYOD), unsecured home networks, and data leakage. To mitigate these, "Zero Trust" security architectures—which mandate continuous verification of every user and device—have become an essential standard for distributed workforces (WatchGuard, 2025).

Social Media Workflows and Tool Ecosystems

Modern DPM relies on integrated tool ecosystems. High-performing teams utilize a stack encompassing project management (e.g., Notion, Asana), content creation (e.g., Adobe Creative Cloud, Canva), scheduling (e.g., Hootsuite, Buffer), and analytics platforms. The integration of Artificial Intelligence (AI) is further reshaping these workflows. AI tools now assist with caption drafting, trend detection, and sentiment analysis (Deloitte Tech Trends, 2026). However, over-reliance on automation carries risks; Gartner (2025) predicts a 40% failure rate for agentic AI projects by 2027 due to unclear business value or governance failures, underscoring the enduring necessity of human oversight.

Infrastructure Strategy

Infrastructure decisions are pivotal for DPM. The trend toward "strategic hybrid" models reflects a need to balance cloud elasticity with the cost predictability and sovereignty of on-premise systems. For DPM, this strategy impacts content hosting, large-file collaboration (e.g., video assets), and data compliance. A hybrid approach allows organizations to optimize for both performance and cost, situating sensitive or resource-intensive workloads where they can be managed most efficiently.

Summary and Theoretical Framework

This study frames the remote versus onsite decision through the dual lenses of Total Cost of Ownership (TCO) and the Resource-Based View (RBV) of the firm. It posits that the choice of operational structure is not merely logistical but a strategic resource allocation that influences organizational capabilities. By integrating detailed cost modeling with engagement projections, this research provides a holistic

view of how operational choices impact competitive advantage.

Methodology

Research Design

This study employs a scenario-based comparative cost-benefit analysis. Rather than relying on empirical field data from a single organization—which may lack generalizability—the research develops four standardized workforce configuration scenarios. It models projected costs, infrastructure requirements, and engagement outcomes for both onsite and remote operational structures. This approach is

appropriate for forward-looking decision frameworks where empirical testing of multiple large-scale configurations is cost-prohibitive.

Scenario Definitions

The study examines four workforce scale options (Table 1). All scenarios assume a 24/7 operation divided into three 8-hour shifts. The staffing composition includes social media advocates, content creators, designers, and management roles, with ratios held consistent across scales.

Table 1: Workforce Configuration Scenarios

Option	Workers per Shift	Number of Shifts	Total Workers
1	10	3	30
2	20	3	60
3	30	3	90
4	50	3	150

Cost Model Components

Onsite Cost Elements

Upfront Capital Expenditures (CAPEX): Includes costs for workstations (AMD Ryzen 3 3100 based), servers/gateways (Intel i7-11700), network switches (D-Link 24-port), cabling, and installation labor.

Recurring Operating Expenditures (OPEX): Monthly costs derived from annualized estimates for electricity (computer usage + 4HP air conditioning units), business fiber internet bandwidth (60Mbps baseline, scaling up), software licensing (Windows 10 Pro + Endpoint Protection), and salaries based on 2024–2025 Philippine labor market rates.

Remote Cost Elements

Upfront Costs: The model assumes a Bring-Your-Own-Device (BYOD) policy to maximize cost savings, resulting in minimal upfront CAPEX.

Recurring Monthly Costs: Include internet and electricity allowances (PHP350 and PHP150 per worker/month, respectively), subscriptions for time-tracking and collaboration software, and salaries. Remote staffing models are leaner, eliminating roles specific to physical facility management (e.g., housekeeping, onsite IT hardware support).

Data Sources and Currency Note

Hardware pricing is based on 2024–2025 quotations from Philippine IT vendors. Bandwidth costs are derived from business plans of major local ISPs (PLDT, Globe, Converge). Salary data aligns with JobStreet and LinkedIn Salary Insights for the region. All USD-denominated software licensing costs were converted to Philippine Pesos (PHP) using the average 2024 exchange rate of **PHP56.00 = USD1.00** to ensure consistency and long-term relevance of the projections.

Engagement Projection Model

Social media engagement is projected using a baseline assumption of a 3.5% organic reach rate. This rate is derived from 2025 industry benchmarks for Instagram (Socialinsider, 2025), the dominant social media platform in the Philippines by user engagement. While platform-specific rates vary, Instagram's widespread use and consistent performance metrics make it a suitable proxy for cross-platform DPM planning in this regional context. The model assumes each social media advocate manages five accounts, posting once per hour during an 8-hour shift. The "Total Daily Activities" metric aggregates shares, likes, and

comments generated by the team's activity to estimate potential reach.

$$\text{*Total Daily Reach} = (\text{Followers} \times 0.035) \times (\text{Activities per Day}) \times (\text{Number of Workers})^*$$

Comparative Metrics and Limitations

The study compares models using Total Cost of Ownership (12-month), Monthly Operational Cost, Cost per 1,000 Projected Reach, and incremental cost analysis. Limitations include the reliance on projected rather than observed performance data, the specificity of

Philippine cost structures, and the simplified linear nature of the engagement model, which does not account for content virality or diminishing returns.

Results

Onsite Infrastructure and Licensing Costs

Table 2 details the initial capital investment required for onsite operations. The infrastructure requirements create a significant barrier to entry, with costs for network switches and bandwidth scaling non-linearly as team sizes increase.

Table 2: Onsite Hardware and Infrastructure Requirements (Initial Setup)

Component	Specification	Unit Cost (PHP)
Workstation	AMD Ryzen 3 3100, 4GB DDR4, 240GB SSD, Monitor	27,600.00
Server/Gateway	Intel i7-11700, 16GB DDR4, 1TB HDD + SSD	54,000.00
Network Switch	D-Link DES-1026G 24-Port	96,000.00
Cabling & Connectors	CAT6 UTP Cable + RJ45 Connectors	5,748.00
Installation	Setup and networking labor	3,500.00
Bandwidth (Annual)	60Mbps Business Fiber	1,116,000.00

Aggregating these costs across workforce options (Table 3) reveals that onsite operations require upfront investments ranging from

approximately PHP2.2 million (Option 1) to over PHP8.5 million (Option 4) when factoring in the first year of bandwidth and electricity.

Table 3: Onsite Total Cost by Workforce Option (12-Month Period)

Item	Option 1 (30 workers)	Option 4 (150 workers)
Hardware & Infrastructure	532,428	2,002,256
Electricity (Annual)	561,600	1,761,600
Bandwidth (Annual)	1,116,000	4,836,000
Total Initial + Annual	2,210,028	8,599,856

Remote Cost Structure

In contrast, the remote model (Table 4) shifts costs almost entirely to OPEX. The per-worker annual technology cost is calculated at

PHP15,360, covering allowances and software. There is zero CAPEX requirement under the BYOD assumption.

Table 4: Remote Work Total Cost by Workforce Option (Annual)

Component	Option 1 (30 workers)	Option 4 (150 workers)
Allowances (Internet/Elec)	180,000	900,000
Software Subscriptions	280,800	1,404,000
Total Annual Cost	460,800	2,304,000

Consolidated Cost Comparison and Scalability Analysis

Table 5 consolidates the monthly operational costs, demonstrating consistent monthly

savings of 21% to 28% for the remote model. A sensitivity analysis reveals that the cost gap between onsite and remote models widens as team size increases. The upfront infrastructure

investment for onsite operations scales non-linearly due to step-function costs in bandwidth and hardware. In contrast, the remote

model maintains a near-linear cost curve, becoming increasingly cost-advantageous at larger scales.

Table 5: Total Monthly Cost Summary (Onsite vs. Remote)

Category	Option 1	Option 2	Option 3	Option 4
Onsite Monthly Total	850,600	1,103,100	1,355,600	1,860,600
Remote Monthly Total	669,850	836,700	1,003,550	1,337,250
Monthly Savings (PHP)	180,750	266,400	352,050	523,350
% Savings	21.2%	24.1%	26.0%	28.1%

Engagement and Cost Efficiency

The study projects significant engagement potential. Under Option 4, with 5,000 followers per account, the team could generate up to 2.1

million daily impressions. When cost is mapped against this reach (Table 6), the remote model proves consistently more efficient, with a lower cost per 1,000 projected reach.

Table 6: Cost Efficiency Metric: Cost per 1,000 Projected Reach

Metric	Option 1	Option 4
Monthly Projected Reach	12,600,000	63,000,000
Onsite Cost per 1K Reach (PHP)	67.5	29.5
Remote Cost per 1K Reach (PHP)	53.2	21.2
Efficiency Advantage	21.2%	28.1%

Discussion

Interpretation of Cost Findings

The financial analysis strongly favors the remote operational model. Achieving monthly savings of up to 28% over half a million PHP per month for large teams presents a compelling argument for organizations prioritizing cost optimization. The absence of upfront CAPEX in the remote model also lowers the barrier to entry, making it attractive for startups or SMEs with limited liquidity.

However, these quantitative savings must be weighed against qualitative factors and potential hidden costs. For industries with strict data residency or security requirements (e.g., finance, healthcare), the savings from remote work may be partially offset by the risk of non-compliance or data breaches.

Security, Governance, and Qualitative Trade-offs

Security remains the primary trade-off. Onsite operations permit "fortress"-style security, with controlled physical access and network environments. Remote operations relying on BYOD and residential internet introduce a broader attack surface. While the model

accounts for basic software protections, achieving "onsite-equivalent" security remotely—via Zero Trust architecture, rigorous Mobile Device Management (MDM), and advanced endpoint detection—would incur additional licensing and implementation costs. Organizations opting for remote models must therefore anticipate reinvesting a portion of their calculated savings into advanced cybersecurity stacks.

Collaboration presents another nuance. While digital tools facilitate routine tasks, literature suggests spontaneous creativity and rapid crisis response can suffer without physical proximity. Hybrid models, where teams operate remotely but convene periodically, may offer a middle ground, capturing most cost savings while mitigating cultural isolation.

The integration of AI tools into DPM workflows particularly for remote teams presents both efficiency opportunities and implementation risks. As Gartner (2025) notes, a significant portion of agentic AI projects may fail due to unclear value or governance gaps. If AI-assisted monitoring and content moderation tools underperform, remote teams may require greater

human oversight, thereby increasing labor costs. Organizations should plan for hybrid human-AI workflows to avoid over-reliance on unproven automation.

Work Model Decision Matrix

Based on the findings, organizations can use the following decision matrix to align their DPM operational structure with primary strategic priorities:

Table 7: DPM Work Model Decision Matrix

Primary Strategic Priority	Recommended Model	Rationale
Cost Efficiency & Scalability	Remote	Higher savings (21–28%), minimal CAPEX, linear scaling.
Data Security & Compliance	Onsite / Hybrid	Centralized control, easier adherence to data residency laws.
Collaboration & Innovation	Hybrid	Balances cost savings with the benefits of periodic in-person interaction.
Speed to Market / Low Liquidity	Remote	No upfront infrastructure, faster team deployment.

Conclusion

This study provides a comprehensive cost-benefit analysis of Digital Presence Management operations, demonstrating that remote work models offer a clear financial advantage in the Philippine context. Remote operations achieved 21–28% monthly cost savings across all scenarios while maintaining superior cost-efficiency ratios per unit of projected reach. Sensitivity analysis confirms that these advantages increase with team scale.

However, the optimal decision cannot be based on cost alone. Qualitative trade-offs regarding security posture, governance complexity, and collaboration effectiveness are critical. The "optimal" model is not necessarily the cheapest but the one that best aligns with the organization's risk tolerance, strategic goals, and industry requirements. For many, a hybrid approach may represent the most sustainable path, balancing the majority of remote cost benefits with the strategic value of controlled, in-person collaboration.

Future research should focus on longitudinal empirical studies to validate these projections against actual performance data and investigate the impact of emerging AI tools and evolving cybersecurity costs on DPM workforce productivity and TCO.

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