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DETERMINANTS AND CHALLENGES OF CLOUD ACCOUNTING ADOPTION AMONG MSMES

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Abstract:
Micro, Small, and Medium Enterprises (MSMEs) form the backbone of the Indian economy, yet the adoption of cloud accounting, offering real-time financial visibility, simplified compliance, and reduced dependence on manual bookkeeping, remains uneven across the sector. While institutional and market momentum toward cloud-based accounting solutions continues to grow, empirical evidence on what specifically drives MSME owners to adopt such systems, and what holds others back, remains limited within the Indian context, particularly from an owner-centric perspective. This study examines the key determinants and challenges of cloud accounting adoption among 160 MSME owners in the Ahmedabad and Gandhinagar region, grounded in a Technology-Organization-Environment (TOE) based conceptual framework, and compares perceived determinants and challenges between adopters and non-adopters. Using a structured questionnaire measuring adoption status alongside Likert-scale determinant and challenge items, data was analysed through descriptive statistics and independent samples t-tests. The results reveal a moderate overall level of perceived determinants, with regulatory/GST compliance pressure and technological advantage emerging as the strongest drivers, and a moderate-to-high level of perceived challenges, with high cost and data security concerns as the most significant barriers. A stark and statistically significant divide was found between adopters and non-adopters: adopters reported substantially higher Determinant Scores and substantially lower Challenge Scores than non-adopters. These findings confirm that adoption status is closely tied to how MSME owners perceive both enabling and inhibiting factors, and suggest that bridging the adoption gap requires targeted interventions addressing specific, addressable barriers, cost, security, and skills, rather than generic awareness campaigns promoting benefits owners largely already recognize.
Keywords: Cloud Accounting, MSMEs, Technology Adoption, Determinants, Challenges, TOE Framework.

Introduction

MSMEs form the backbone of many economies, and India's over 63 million enterprises contribute significantly to employment and GDP growth (Elixir Books, 2026). As businesses formalize under frameworks like GST, cloud accounting enabling real-time financial data access, multi-user collaboration, and reduced paper-based processes—has emerged as a critical enabler of compliance and efficiency. Yet adoption remains uneven: roughly 45–50% of Indian MSMEs (about 30 million enterprises) have shifted to digital billing or accounting, while around 35% of micro enterprises still rely on manual or semi-digital methods (PayNearby, 2024, as cited in IMARC Group, 2026). The India accounting software market, valued at $698.87 million in 2025, is projected to grow at 8.83% CAGR to nearly $1.5 billion

by 2034, driven by MSME demand for automated accounting and GST compliance (IMARC Group, 2026; Jadhavar Business Intelligence, 2026). Within this space, legacy systems like Tally retain the largest installed base, particularly among CA-managed setups, while cloud-native platforms like Zoho Books are the fastest-growing segment in 2025–26, driven by GST e-invoicing mandates and demand for real-time, multi-location access (Elixir Books, 2026). This shift is reinforced by strong sentiment—81% of 5,149 surveyed MSMEs planned to increase cloud spending in 2025, allocating up to 50% of IT budgets to cloud solutions (Zoho, 2024) with cloud technology projected to contribute 5–8% of India's GDP by 2026 (DigiconAsia, 2023). Academically, this has been examined through the Technology-Organization-Environment (TOE) framework, highlighting that adoption is shaped jointly by technological readiness, organizational capacity, and environmental pressures (Putri et al., 2025).

Unlike large corporations with structured procurement processes, MSMEs are predominantly owner-driven, making the individual owner's attitudes, priorities, and risk tolerance central to adoption decisions in ways organizational-level studies of larger firms cannot capture. Research grounded in the Technology Acceptance Model and UTAUT found perceived usefulness and social influence to be dominant adoption factors, while resource constraints limited capital, credit access, and technology training shape both adoption capacity and risk evaluation (Kumar et al., 2024). This owner-centric context, combined with the sector's heterogeneity in resources and digital literacy, makes MSME owners a distinct, underexamined population. The TOE literature identifies relative advantage, compatibility, owner support, organizational readiness, and competitive pressure as key adoption predictors, mediated by a shared "cloud computing vision" per one 293-respondent study (Rawashdeh, 2023), with security also acting as a positive driver once trust is established (Putri et al., 2025). However, findings on barriers like cost, complexity, and computer anxiety vary by context—a 250-MSME Indonesian study found such factors could be either positive or negative depending on the business environment (Andanawarih et al., 2026) suggesting determinants and challenges are interconnected rather than separable, a perspective informing this study's conceptual framework.

Literature Review

Concept of Cloud Accounting and Theoretical Frameworks

Cloud accounting refers to the use of internet-based accounting software that allows businesses to record, process, and access financial data remotely, rather than relying on locally installed desktop systems. The academic literature examining its adoption has drawn on several complementary theoretical frameworks, most prominently the Technology-Organization-Environment (TOE) framework, the Diffusion of Innovation (DOI) theory, and the Technology Acceptance Model (TAM). A study integrating all three frameworks identified five key determinant factors shaping cloud accounting adoption intention among SMEs (Ismail et al., 2021), demonstrating that no single framework fully captures the decision independently, and that technological, organizational, environmental, and individual-perception factors interact in shaping adoption outcomes. Similarly, a study examining 172 companies listed on Vietnam's stock exchange combined TAM with the Resource-Based View and Contingency Theory (Nguyen Phu et al., 2025), finding that system integration and security/privacy concerns functioned as significant motivators for adoption, alongside cost-benefit analysis as a pivotal factor influencing both adoption and subsequent financial management performance. These theoretical developments suggest that

cloud accounting adoption is best understood as a multi-dimensional decision rather than one explained by any single determinant or barrier in isolation.

Determinants of Cloud Accounting Adoption

Empirical studies applying the TOE framework specifically to cloud accounting consistently identify relative advantage, technological compatibility, and senior management or owner support as significant positive determinants of adoption. A study surveying SME accountants and internal auditors found that at least four TOE dimensions significantly influenced cloud accounting adoption, with IT-related knowledge found to partially moderate the effect of technological compatibility (Mujalli et al., 2024). A separate study of 293 SME respondents found that these determinants do not operate independently, but are mediated by an organization's broader "cloud computing vision" (Rawashdeh, 2023), with organizational readiness, senior management endorsement, relative advantage, compatibility, and competitive pressure all channelling their influence through this mediating construct. Notably, security has also been identified as a positive determinant rather than purely a barrier: a study applying the TOE framework directly to MSMEs found that security exerted a positive and significant impact on cloud accounting adoption (Putri et al., 2025), suggesting that once organizations trust the security of cloud infrastructure, this trust itself becomes an enabler of adoption rather than solely an inhibiting concern.

Challenges and Barriers to Cloud Accounting Adoption

Despite these positive determinants, a substantial body of literature documents persistent barriers to cloud accounting and cloud computing adoption more broadly. Reviews of the SME cloud accounting literature identify data privacy and security concerns, limited internet connectivity, and unfavourable cost-versus-benefit perceptions as recurring barriers across multiple studies. Within the Indian context specifically, research has found that Indian SMEs often hesitate to adopt cloud services due to fears regarding data security and a perceived loss of control over sensitive financial information (Kumar & Samalia, 2023, as cited in Nguyen Phu et al., 2025). Larger-scale industry surveys reinforce these findings: a global study of organizations found that lack of knowledge was among the largest barriers to cloud adoption, alongside cost concerns, data security, and lack of trust in cloud providers (TechSoup Global, 2012), a pattern consistent across geographies and organizational sizes. Interestingly, research has also found that the same underlying TOE-type factors, such as organizational readiness and complexity, can exert either a positive or a negative influence on adoption depending on context: a study of Indonesian MSMEs found that while senior management support, competitive pressure, and user confidence in IT positively influenced cloud accounting adoption, relative advantage, complexity, organizational readiness, and computer anxiety exerted a negative influence (Andanawarih et al., 2026), illustrating that determinants and barriers are not always cleanly distinguishable but may represent opposing poles of the same organizational or psychological factor.

Cloud Accounting Adoption and MSME Performance

Beyond examining adoption itself, several studies have investigated the downstream impact of cloud accounting adoption on business outcomes. The Vietnam-based study noted above found that active cloud accounting usage significantly enhanced financial management performance (Nguyen Phu et al., 2025), reinforcing the practical value of adoption beyond mere technological modernization. Similarly, the Indonesian TOE-based study of MSMEs in Kendal Regency found that cloud accounting implementation had a favourable and substantial influence on MSME performance overall, even though certain individual

determinants exerted mixed effects on the initial adoption decision (Andanawarih et al., 2026). These findings collectively suggest that the benefits of cloud accounting adoption, once realized, tend to be positive and measurable, reinforcing the practical importance of understanding and addressing the determinants and barriers that shape whether MSMEs reach that point of adoption in the first place.

Research Gap

While the reviewed literature offers valuable insight into cloud accounting adoption, several gaps remain. First, most empirical studies applying the TOE, DOI, and TAM frameworks originate from international contexts—Jordan, Vietnam, Indonesia, and Saudi Arabia with limited research examining India's MSME sector specifically, despite its large and rapidly digitizing base. Second, existing Indian studies tend to focus on general ICT or cloud computing adoption rather than cloud accounting specifically, overlooking the unique compliance, data sensitivity, and regulatory considerations that accounting systems entail. Third, much of the literature examines adoption at the organizational level or through accountants' and auditors' perspectives, with limited attention to MSME owners as primary decision-makers, despite evidence that owner-level perception and resource constraints centrally shape outcomes in owner-driven enterprises. Fourth, since determinants and barriers are not always cleanly separable, few studies examine both dimensions together within a single integrated framework. This study addresses these gaps by empirically examining both the determinants and challenges of cloud accounting adoption among MSME owners in India, offering an integrated, owner-centric perspective that remains underexplored.

Conceptual Framework

Based on the literature reviewed in Section 2, this study adopts a modified Technology-Organization-Environment (TOE) framework as its conceptual foundation. Since the study examines both determinants and challenges as two sides of the adoption decision, the framework is structured to reflect this dual focus, with owner-level perception as a connecting layer, since MSME adoption decisions are predominantly owner-driven (Section 1, Paragraph 3).

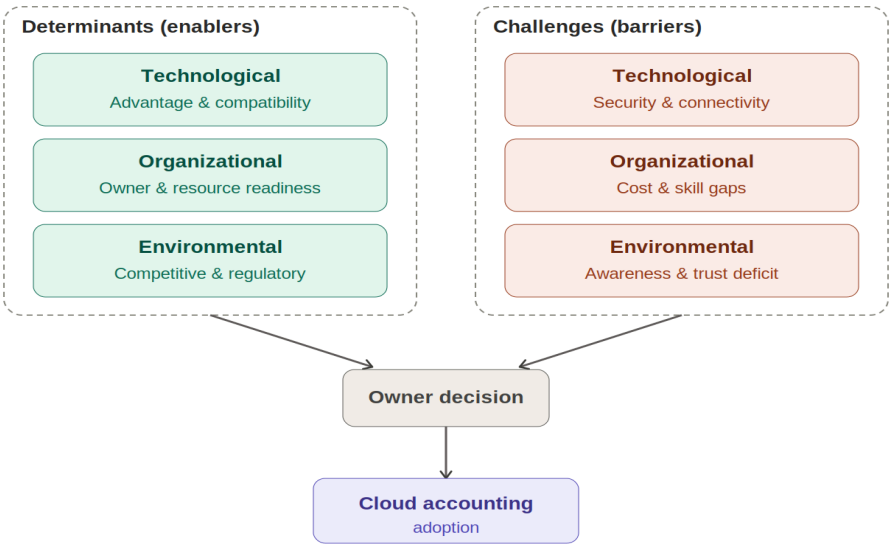


Figure 1: TOE-based conceptual framework for cloud accounting adoption among MSMEs

Table 1: Framework Structure - Determinants and Challenges by TOE Dimension

Dimension	Determinants (Drivers)	Challenges (Barriers)
Technological	Relative advantage; Compatibility with existing processes	Complexity of use; Data security/privacy; Internet connectivity
Organizational	Owner/management support; Financial resources; Employee competence	Cost of subscription/implementation; Lack of skilled staff/training
Environmental	Competitive pressure; Regulatory pressure (GST e-invoicing)	Lack of awareness/knowledge; Limited vendor support; Trust deficit

Objectives and Hypotheses

Objectives

- To identify the key determinants influencing MSME owners' adoption of cloud accounting.
- To identify the key challenges faced by MSME owners in adopting cloud accounting.
- To compare the perceived determinants and challenges of cloud accounting between MSMEs that have adopted it and those that have not.

Hypothesis

- $H0_1$: There is no significant difference in the mean Determinant Score between adopter and non-adopter MSMEs.
- $H0_2$: There is no significant difference in the mean Challenge Score between adopter and non-adopter MSMEs.

Research Methodology

Research Design

The study adopts a descriptive and empirical research design, using a quantitative approach to identify the key determinants and challenges of cloud accounting adoption among MSME owners, and to compare these between adopters and non-adopters.

Population and Sampling

The population comprises MSME owners/proprietors across manufacturing, trading, and services sectors in the Ahmedabad and Gandhinagar region. A non-probability convenience/purposive sampling method was used. The sample size was 160 respondents.

Data Collection

- Primary Data: Structured questionnaire administered to MSME owners via Google Forms, business associations, and direct outreach.

- Secondary Data: Peer-reviewed journal articles, industry reports (NASSCOM, Zoho, IMARC, PayNearby), and government MSME publications, used for the literature review and contextual grounding.

Period of Study

Primary data collection was conducted during September 2026.

Scope of the Study

The study is confined to MSME owners within the Ahmedabad and Gandhinagar region, and findings are intended to offer insights applicable primarily to comparable urban Indian MSME populations rather than being generalized nationally.

Data Analysis and Interpretation

Business/Owner Profile, Adoption Status, and Determinants

Table 2: Business and Owner Profile

Variable	Category	Frequency	Percentage
Owner Gender	Male	102	63.7%
	Female	58	36.2%
Owner Age	Mean = 42.46, SD = 10.98	—	—
Business Sector	Manufacturing	45	28.1%
	Trading	60	37.5%
	Services	55	34.4%
Years in Operation	Mean = 10.06, SD = 6.23	—	—
Number of Employees	1–5	83	51.9%
	6–20	48	30.0%
	21–50	21	13.1%
	Above 50	8	5.0%
Annual Turnover	Below ₹40 Lakh	61	38.1%
	₹40 Lakh–₹1 Crore	50	31.2%
	₹1–₹5 Crore	37	23.1%
	Above ₹5 Crore	12	7.5%

Table 3: Cloud Accounting Adoption Status

Adoption Status	Frequency	Percentage
Adopter	68	42.5%
Non-Adopter	92	57.5%

The sample of 160 MSME owners was predominantly male (63.7%), with an average age of 42 years and average business operational history of about 10 years. The sample was fairly well distributed across sectors, with Trading (37.5%) and Services (34.4%) slightly ahead of

Manufacturing (28.1%). Consistent with the typical structure of India's MSME sector, a majority of businesses (51.9%) employed 1–5 people and reported annual turnover below ₹40 lakh (38.1%), reflecting a predominantly micro-enterprise sample. Just under half of respondents (42.5%) currently use a cloud-based accounting system, indicating substantial room for further adoption within this population.

Table 4: Determinants of Cloud Accounting Adoption

Determinant Item	TOE Dimension	Mean	SD
Regulatory/GST compliance requirements encourage adoption	Environmental	3.34	1.17
Cloud accounting offers clear advantages over manual/desktop systems	Technological	3.12	1.20
Cloud accounting is compatible with existing business processes	Technological	3.09	1.19
Willingness to personally support adoption	Organizational	3.04	1.15
Adequate financial resources to adopt	Organizational	2.94	1.29
Competitors' use of cloud accounting influences decision	Environmental	2.79	1.21
Overall Mean Determinant Score		3.05	0.99

The results indicate a moderate overall level of perceived determinants driving cloud accounting adoption among MSME owners, with an overall mean score of 3.05 out of 5. Regulatory and GST compliance pressure emerged as the single strongest determinant (mean = 3.34), consistent with the introduction's discussion of India's evolving e-invoicing mandates as a key adoption catalyst. Technological factors, perceived advantage (3.12) and compatibility (3.09), ranked next, suggesting owners generally recognize cloud accounting's functional benefits once exposed to it. In contrast, competitive pressure from peers (2.79) was the weakest determinant, indicating that MSME owners in this sample are driven more by regulatory necessity and personal utility assessment than by observing competitors' adoption, a notably different pattern from the “bandwagon effect” emphasized in some international TOE-based studies reviewed in Section 2.2. Financial resource adequacy (2.94) also scored below the midpoint, hinting that resource constraints remain a live concern even among owners who otherwise see value in adoption. These findings address Objective 1, establishing regulatory compliance and technological advantage as the primary drivers of cloud accounting adoption intent among MSME owners in this sample.

Challenges to Cloud Accounting Adoption

Table 5: Challenges to Adoption

Challenge Item	TOE Dimension	Mean	SD
High cost of cloud accounting software	Organizational	3.58	1.15
Data security/privacy concern	Technological	3.43	1.12
Lack of skilled staff/training	Organizational	3.25	1.18

Challenge Item	TOE Dimension	Mean	SD
Lack of awareness about available options	Environmental	3.11	1.14
Internet connectivity issues	Technological	3.08	1.21
Lack of trust in cloud service providers	Environmental	3.00	1.18
Overall Mean Challenge Score		3.24	0.89

The results indicate a moderate-to-high overall level of perceived challenges to cloud accounting adoption among MSME owners, with an overall mean score of 3.24 out of 5, notably higher than the overall Determinant Score (3.05) reported under Objective 1. This suggests that, on balance, barriers are felt somewhat more strongly than enabling factors within this sample. High cost emerged as the single most significant challenge (mean = 3.58), reinforcing the cost-sensitivity characteristic of MSMEs operating with constrained financial resources. Data security/privacy concern ranked second (mean = 3.43), echoing the Indian-specific finding that Indian SMEs often hesitate to adopt cloud services due to fears over data control and security. Notably, lack of trust in cloud service providers was the lowest-rated challenge (mean = 3.00), suggesting that once basic security concerns are addressed, broader institutional distrust of cloud vendors is a comparatively smaller obstacle. These findings address Objective 2, identifying cost and data security as the primary barriers to cloud accounting adoption among MSME owners in this sample.

Comparing Determinants and Challenges Between Adopters and Non-Adopters

$H0_1$: There is no significant difference in the mean Determinant Score between adopter and non-adopter MSMEs.

$H0_2$: There is no significant difference in the mean Challenge Score between adopter and non-adopter MSMEs.

Table 6: Assumption Diagnostics

Test	Variable / Group	Statistic	p-value	Verdict
Shapiro-Wilk	Determinant - Adopters	W = 0.959	0.026	Mild violation
Shapiro-Wilk	Determinant - Non-Adopters	W = 0.974	0.065	Holds
Levene's Test	Determinant Score	0.012	0.912	Holds
Shapiro-Wilk	Challenge - Adopters	W = 0.977	0.248	Holds
Shapiro-Wilk	Challenge - Non Adopters	W = 0.976	0.083	Holds
Levene's Test	Challenge Score	0.753	0.387	Holds
Independence	Durbin-Watson (both models)	1.92 / 2.05	—	Holds

Table 7: Independent Samples t-Test - Determinant Score ($H0_1$)

Group	N	Mean	SD	t	Df	p	Cohen's d
Adopters	68	3.92	0.64	14.533	158	0.000	2.324
Non-Adopters	92	2.41	0.66				

Table 8: Independent Samples t-Test - Challenge Score ($H0_2$)

Group	N	Mean	SD	t	df	p	Cohen's d
Adopters	68	2.46	0.60	−14.191	158	0.000	−2.269
Non-Adopters	92	3.82	0.59				

Both hypotheses show highly significant results, and $H0_1$ and $H0_2$ are both rejected. For Determinant Score, Adopters (M = 3.92, SD = 0.64) scored substantially higher than Non-Adopters (M = 2.41, SD = 0.66), $t(158) = 14.533$, $p < .001$. The effect size is very large (Cohen's d = 2.324), indicating an exceptionally strong practical difference. This confirms that MSME owners who perceive stronger technological, organizational, and environmental determinants are far more likely to have actually adopted cloud accounting, validating the conceptual framework's core logic that determinants drive adoption.

For Challenge Score, the pattern reverses as expected: Non-Adopters (M = 3.82, SD = 0.59) reported substantially higher perceived challenges than Adopters (M = 2.46, SD = 0.60), $t(158) = -14.191$, $p < .001$, again with a very large effect size (Cohen's d = −2.269). This confirms that businesses which have not adopted cloud accounting perceive significantly greater barriers, cost, security, skill gaps, and awareness deficits, than those that have successfully adopted it. Taken together, these results confirm that adoption status is strongly and symmetrically associated with both higher perceived determinants and lower perceived challenges, reinforcing the practical insight that closing the adoption gap likely requires directly addressing the specific challenges that distinguish non-adopters from adopters. This addresses Objective 3 of the study.

Findings

Findings on Determinants of Cloud Accounting Adoption

- MSME owners reported a moderate overall level of perceived determinants for cloud accounting adoption, with a mean Determinant Score of 3.05 out of 5.
- Regulatory/GST compliance pressure (3.34) was the single strongest determinant, followed by technological advantage (3.12) and compatibility (3.09).
- Competitive pressure from peers (2.79) was the weakest determinant, suggesting MSME owners are driven more by regulatory necessity and personal utility assessment than by observing competitors.

Findings on Challenges to Cloud Accounting Adoption

- MSME owners reported a moderate-to-high overall level of perceived challenges, with a mean Challenge Score of 3.24 out of 5, higher than the overall Determinant Score (3.05).

- High cost (3.58) was the most significant barrier, followed by data security/privacy concerns (3.43) and lack of skilled staff/training (3.25).
- Lack of trust in cloud service providers (3.00) was the lowest-rated challenge, suggesting institutional distrust is a comparatively smaller obstacle once basic security and cost concerns are addressed.

Findings on Adopters vs. Non-Adopters

- All t-test assumptions (normality, homogeneity of variance, absence of meaningful outliers, independence) were satisfied or robust via the Central Limit Theorem, confirming the validity of both tests.
- Adopters reported significantly higher Determinant Scores (M = 3.92) than Non-Adopters (M = 2.41), $t(158) = 14.533$, $p < .001$, with a very large effect size (Cohen's $d = 2.324$). $H0_1$ is rejected.
- Non-Adopters reported significantly higher Challenge Scores (M = 3.82) than Adopters (M = 2.46), $t(158) = -14.191$, $p < .001$, with a very large effect size (Cohen's $d = -2.269$). $H0_2$ is rejected.
- Adoption status is strongly and symmetrically associated with both higher perceived determinants and lower perceived challenges, confirming the TOE-based conceptual framework's core logic.

Table 9: Summary of Hypothesis Testing

Hypothesis	Result	Decision
$H0_1$: No difference in Determinant Score (Adopters vs Non-Adopters)	$t(158) = 14.533$, $p < .001$, $d = 2.324$	Rejected
$H0_2$: No difference in Challenge Score (Adopters vs Non-Adopters)	$t(158) = -14.191$, $p < .001$, $d = -2.269$	Rejected

Recommendations

- Tackle cost as the primary barrier: Since high cost is the top-rated challenge and strongly distinguishes non-adopters from adopters, vendors and industry bodies should offer tiered, MSME-friendly pricing, particularly for micro-enterprises with 1–5 employees.
- Build visible security assurance: Given data security/privacy ranks as the second-highest barrier, vendors should prominently communicate security certifications, encryption standards, and data-handling policies in owner-facing marketing.
- Leverage regulatory compliance as an adoption lever: Since regulatory/GST pressure is the strongest determinant, policymakers and software providers should position cloud accounting explicitly as a compliance-simplification tool.
- Close the awareness and skill gap: With lack of awareness and skill/training gaps among top barriers, industry associations and government MSME schemes should run targeted digital-literacy workshops specifically demonstrating cloud accounting.
- De-emphasize peer-pressure messaging: Since competitive pressure is the weakest determinant, marketing and outreach should focus less on “your competitors are

already using this" messaging and more on direct utility, compliance, and cost-benefit framing.

- Design targeted interventions for non-adopters specifically: Given the stark, symmetric gap between adopters and non-adopters on both determinants and challenges, interventions should be designed specifically to address the concrete barriers that non-adopters report, rather than simply re-promoting benefits that owners already largely recognize.

Conclusion

This study examined the determinants and challenges of cloud accounting adoption among 160 MSME owners, alongside a comparison between adopters and non-adopters. The findings reveal that regulatory compliance pressure and technological advantage are the strongest drivers of adoption intent, while cost and data security concerns represent the most significant barriers, with challenges, on average, perceived somewhat more strongly than determinants across the sample. Most importantly, the study establishes a stark and statistically robust divide between adopters and non-adopters: adopters report substantially stronger determinants and substantially weaker challenges than non-adopters, a symmetric pattern that validates the study's TOE-based conceptual framework and confirms that adoption status is closely tied to how owners perceive both the enabling and inhibiting factors surrounding cloud accounting. These results suggest that bridging India's MSME cloud accounting adoption gap requires targeted, barrier-specific interventions, particularly around affordability, security assurance, and skill-building, rather than generic awareness campaigns, since MSME owners in this sample already appear reasonably convinced of the technology's underlying value. As India's MSME sector continues to formalize under evolving regulatory and compliance frameworks, addressing these concrete, addressable barriers will be central to accelerating cloud accounting adoption and, by extension, improving financial transparency and efficiency across the sector.

Limitations and Scope for Future Research

Limitations

- The study is confined to MSME owners within the Ahmedabad/Gujarat region, limiting generalizability to MSMEs in other regions or states.
- Convenience/purposive sampling was used, which may not fully represent the broader population of MSME owners.
- Data relies on self-reported responses regarding determinants, challenges, and adoption status, which are subject to social desirability bias.
- The cross-sectional design cannot establish causality; it is equally plausible that adoption itself shapes subsequent perception rather than perception purely preceding adoption.
- The study treats adoption as a binary status (Yes/No) and does not capture the depth, extent, or duration of cloud accounting usage among adopters.

Scope for Future Research

Future studies could adopt a longitudinal design to examine whether perceived determinants and challenges before adoption actually predict subsequent adoption behaviour. Future research could also extend the sample across multiple states or at a national level for broader

generalizability, examine adoption intensity or depth of usage among adopters rather than treating adoption as binary, and explore moderating factors such as owner digital literacy, prior technology exposure, or access to government MSME digitalization schemes.

References

DigiconAsia. (2023, August 31). SMEs in India to see massive cloud adoption. https://digiconasia.net/features/smes-in-india-to-see-massive-cloud-adoption

Elixir Books. (2026, July 15). Top 10 accounting software in India for MSMEs in 2026. https://elixir-books.com/blog/best-accounting-software-india-msme/

IMARC Group. (2026). India accounting software market size, share analysis, 2034. https://www.imarcgroup.com/india-accounting-software-market

Jadhavar Business Intelligence. (2026). India accounting software market: Market analysis report 2032. https://www.jadhavarbusinessintelligence.com/market-research-report/india-accounting-software-market/1134

Kumar & Samalia (2023). [Indian SME cloud adoption hesitancy due to data security]. [As cited in Humanities and Social Sciences Communications, 2025].

PayNearby. (2024). MSME Digital Index 2024. [As cited in IMARC Group, 2026].

Rawashdeh. (2023). The determinants of cloud computing vision and its impact on cloud accounting adoption in SMBs. Human Behavior and Emerging Technologies. https://doi.org/10.1155/2023/8571227

TechSoup Global. (2012). [NGO cloud adoption benefits, costs, and barriers survey]. [Report details to be added].

Zoho. (2024, June 27). State of digital and customer operations in Indian MSMEs [Survey report]. https://prezohoweb.zoho.com/news/zoho-survey-reveals-that-high-cost-of-software-a-top-hurdle.html

Ismail, Ouaadi & Haddad, Mohammed. (2021). Determinants Of Cloud Accounting Adoption Intention: The T.O.E, D.O.I and T.A.M. Models. Journal of Accounting Research, Organization and Economics. 4. 216-233. 10.24815/jaroe.v4i3.21767.

Kumar, Shailendra & Goel, Utkarsh & Joshi, Parikshit & Johri, Amar. (2024). Factors affecting Information & Communication Technology (ICT) adoption among MSMEs. Journal of Open Innovation: Technology, Market, and Complexity. 10. 100205. 10.1016/j.joitmc.2023.100205.

Mujalli, Abdulwahab & Jibran, Mohammad & Wani, Mohammad & Almgrashi, Ahmed & Khormi, Tahany & Qahtani, Muath. (2024). Investigating the factors affecting the adoption of cloud accounting in Saudi Arabia's small and medium-sized enterprises (SMEs). Journal of Open Innovation Technology Market and Complexity. 10. 100314. 10.1016/j.joitmc.2024.100314.

Nguyen Phu, G., Hoang Thi, T. & Tran Nguyen Bich, H. The impact of cloud computing technology on cloud accounting adoption and financial management of businesses. *Humanit Soc Sci Commun* **12**, 851 (2025). https://doi.org/10.1057/s41599-025-05190-3

Putri, E., Bandi, B., Widarjo, W., & Arifin, T. (2025). The value of cloud accounting for MSMEs: a Technology-Organization-Environment (TOE) framework perspective. *Cogent Business & Management*, *12*(1). https://doi.org/10.1080/23311975.2025.2494712

Andanawarih, P. P., Mila, S., & Novitaningrum, D. (2026). Antecedents of Cloud Accounting Adoption and Its Consequences on SME Performance: A TOE Framework Approach. *Amkop Management Accounting Review (AMAR)*, *6*(1), 463–481. https://doi.org/10.37531/amar.v6i1.3577