

“Trust, financial innovation, and SME performance: Evidence from the continued use of online accounting services in Vietnam”

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# TRUST, FINANCIAL INNOVATION, AND SME PERFORMANCE: EVIDENCE FROM THE CONTINUED USE OF ONLINE ACCOUNTING SERVICES IN VIETNAM

**Abstract**

Online accounting services have become a financial innovation for Vietnamese small and medium-sized enterprises (SMEs) confronting tightening compliance requirements and limited internal accounting capacity. This study examines how perceived benefits, service quality, perceived risk, and technological factors relate to trust and continued use of online accounting services, and whether continued use is associated with non-financial operational performance. We analyzed cross-sectional survey data collected in 2025 from 362 Vietnamese SMEs already using such services using partial least squares structural equation modeling. All constructs met reliability and convergent validity thresholds (Cronbach's  $\alpha = 0.762$ - $0.866$ ; AVE =  $0.616$ - $0.713$ ), and all heterotrait-monotrait ratios remained below 0.90. Perceived benefits showed the strongest positive association with trust ( $\beta = 0.403$ ), followed by service quality ( $\beta = 0.303$ ) and technological factors ( $\beta = 0.141$ ), while perceived risk was negatively associated ( $\beta = -0.232$ ). Trust was positively associated with continued use ( $\beta = 0.185$ ) and transmitted significant specific indirect effects for perceived benefits ( $\beta = 0.074$ ), service quality ( $\beta = 0.056$ ), perceived risk ( $\beta = -0.043$ ), and technological factors ( $\beta = 0.026$ ); variance accounted for ranged from 14.7% to 22.2%, indicating complementary partial rather than full mediation. Continued use was positively associated with non-financial operational performance ( $\beta = 0.745$ ). The model explained 68.1% of the variance in continued use, 66.2% in trust, and 55.5% in performance (all  $p < 0.01$ ). Trust therefore complements rather than replaces direct evaluation in sustaining SMEs' use of these services, although the cross-sectional, single-source design precludes causal inference.

**Keywords**

trust, continued use, online accounting services, SMEs,  
operational performance, perceived risk, Vietnam,  
digitalization

**JEL Classification**

M41, M15, O33

**INTRODUCTION**

Small and medium-sized enterprises form the backbone of Vietnam's economy, accounting for the vast majority of registered firms and a substantial share of employment and value creation. For these firms, the accounting function is simultaneously indispensable and difficult to sustain internally: it is legally mandated, technically demanding, and subject to continuous regulatory change, yet it competes for scarce managerial attention and rarely justifies a specialized in-house team. Online accounting services – cloud-based bookkeeping, remote accounting outsourcing, and digital tax support delivered through a shared platform – have emerged as the dominant institutional response to this asymmetry between obligation and capacity. They are not merely a software upgrade. They relocate a statutorily accountable function outside the firm to a provider whose work the client usually cannot verify directly, and they do so on a continuing rather than transactional basis.

In Vietnam, regulation has accelerated this relocation while the safeguards that would ordinarily govern it remain immature. The Law on Support for Small and Medium-sized Enterprises (No. 04/2017/QH14) (National Assembly of Vietnam, 2017) established accounting and tax assistance as a pillar of SME policy; Decree No. 123/2020/ND-CP (Government of Vietnam, 2020) and Circular No. 78/2021/TT-BTC (Ministry of Finance of Vietnam, 2021) made electronic invoicing compulsory for enterprises from July 2022; and the National Digital Transformation Program to 2025 (Decision No. 749/QĐ-TTg) (Prime Minister of Vietnam, 2020) set explicit targets for the digitalization of business processes. The corresponding assurance framework is younger and less settled. The Law on Cybersecurity (National Assembly of Vietnam, 2018) and Decree No. 13/2023/ND-CP (Government of Vietnam, 2023) on personal data protection in force at the time of data collection and since superseded by the Law on Personal Data Protection (No. 91/2025/QH15) (National Assembly of Vietnam, 2025), effective January 2026, establish baseline obligations, but provider certification standards, enforcement practice, and recourse procedures in the event of service failure are still consolidating. Vietnamese SMEs are therefore compelled toward digital accounting arrangements faster than the institutions that would make those arrangements verifiable have developed.

This configuration defines the scientific problem addressed here. Where a firm delegates an accountable function to a party it cannot monitor, and where the institutional machinery that would ordinarily substitute for monitoring is incomplete, the basis on which the relationship is sustained becomes theoretically indeterminate. Two accounts are available, and they are not equivalent. On one, sustained reliance is a matter of evaluative judgment: the firm continues because the service demonstrably works, and its assessment of benefits, quality, and technical fit is sufficient in itself. On the other, evaluative judgment is insufficient under unverifiable delegation. It must convert into relational confidence in the provider before it issues in behavior, so trust operates as the gateway through which perception reaches action. Whether these mechanisms are substitutes or complements – and if complements, in what proportion – is unresolved, and the ambiguity is consequential: the two accounts imply different remedies for firms, different priorities for providers, and different regulatory levers.

The problem is compounded by where the existing evidence is concentrated. Research on digital accounting has largely treated acquisition as the terminal event, examining why firms adopt and stopping there. However, the economically consequential behavior begins afterward, when a firm decides how much of its accounting function to entrust to the provider and whether to keep doing so. Beliefs formed before use rest on inference and secondhand information; beliefs formed after use rest on accumulated experience of the provider's actual conduct. There is no reason to assume that the mechanism governing an untested expectation also governs a tested relationship, and this study focuses on the second case.

## 1. LITERATURE REVIEW AND HYPOTHESES

Technology use in organizations unfolds across analytically distinct stages, and conflating them has produced persistent ambiguity in the accounting literature (Bhattacharjee, 2001; Karahanna et al., 1999). Adoption intention refers to the pre-adoption willingness of a firm that has not yet acquired a technology; adoption decision refers to the discrete act of acquisition; continued use refers to the post-adoption persistence and intensity of usage among firms that have already acquired it; and post-adoption commitment re-

fers to the depth of organizational reliance on the technology. Karahanna et al. (1999) showed that pre-adoption and post-adoption beliefs differ systematically in both content and antecedents, and Bhattacharjee (2001) established continuance as a distinct decision governed by confirmed expectations rather than by initial ones. This study is situated at the third stage, and the literature is reviewed accordingly.

Online accounting services represent a hybrid organizational and technological innovation that integrates cloud-based accounting systems with outsourced professional services delivered

through digital platforms. Unlike traditional accounting outsourcing, the model relies on cloud infrastructure for real-time data access, scalability, and continuous interaction between provider and client. Research on cloud computing in organizations has established that this configuration is particularly valuable for resource-constrained firms, which gain access to capabilities they could not develop internally (Armbrust et al., 2010; Asatiani et al., 2019; Kamyabi & Devi, 2011; Oosthuizen et al., 2020). Studies of cloud-based accounting in Turkey (Altın & Yılmaz, 2022), Jordan (Lutfi et al., 2022a; A. Rawashdeh & B. Rawashdeh, 2023), Indonesia (Putri et al., 2025), and Vietnam (Nguyen et al., 2025; Vo et al., 2024) converge on the finding that such systems improve information accessibility and operational functioning, especially where firms lack a dedicated internal accounting function. This body of work has established less clearly why firms that have already made the transition sustain it, and how their evaluations of the service translate into continued reliance on an external party.

Three theoretical traditions inform the answer developed here, and their combination is deliberate rather than additive. The Unified Theory of Acceptance and Use of Technology explains usage through performance expectancy, effort expectancy, social influence, and facilitating conditions, and has been applied extensively to organizational cloud adoption (Alshamaila et al., 2013; Golightly et al., 2022; Jayeola et al., 2022; Oliveira et al., 2014; Venkatesh et al., 2003). The Information Systems Success Model shifts attention from user expectations to system and delivery properties, positioning system quality and service quality as antecedents of use and net benefits (DeLone & McLean, 2016). The trust-risk perspective addresses what neither framework fully accommodates: the relational exposure created when a firm places a legally consequential function in the hands of a party it cannot directly supervise (Alalwan et al., 2017; Gefen et al., 2003; Hosmer, 1995; Zand, 1972). The first two traditions explain the evaluative content of a firm's judgment; the third explains why that judgment may need to pass through a relational filter before it produces sustained behavior. Online accounting services sit precisely at this intersection, which is why studies applying any single framework in isolation tend to report determi-

nants without a mechanism (Almaiah et al., 2022; Lutfi, 2022).

Within this integrated view, perceived benefits denote the degree to which a firm believes online accounting services enhance operational efficiency, reduce costs, improve information quality, and support managerial decision-making. In terms of the acceptance literature, they correspond closely to performance expectancy, consistently among the strongest correlates of technology use (Oliveira et al., 2014; Venkatesh et al., 2003); in cloud accounting settings specifically, perceived benefits are associated with favorable attitudes toward the service and with greater confidence in the provider (Dimitriu & Matei, 2015; Jayeola et al., 2022; Saad et al., 2022). The mechanism is informational: benefits that materialize in practice signal provider competence and reduce residual uncertainty, and firms lacking the internal expertise to evaluate provider quality directly rely on such signals as proxies for trustworthiness (Gefen et al., 2003; Gewald, 2010). Service quality operates similarly but through a relational rather than a functional channel. Drawing on the SERVQUAL and E-S-QUAL traditions, service quality in electronic contexts comprises reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988, 2005), and the Information Systems Success Model positions it as a determinant of use and net benefits (DeLone & McLean, 2016). Evidence from digital banking (Arcand et al., 2017), mobile services (Almarashdeh, 2018), and enterprise systems (Hsu et al., 2015) indicates that perceived service quality is associated with trust and with sustained usage. For accounting services, the stakes are higher than in these settings, because errors carry compliance consequences and legal liability rather than mere inconvenience.

Perceived risk represents the countervailing force. Grounded in the conceptualization of consumption as risk-taking (Bauer, 1967), perceived risk in technology contexts has been decomposed into performance, security, financial, and privacy dimensions, each capable of independently dampening usage (Benlian & Hess, 2011; Caldarelli et al., 2017; Yau-Yeung et al., 2020). Cloud computing research identifies data security concerns, service continuity uncertainty, and vendor lock-in as the dominant risk dimensions in organizational set-

tings (Ali et al., 2016). Online accounting services intensify these concerns because they involve transmitting and storing sensitive financial data, compliance documentation, and legally accountable records. The trust-risk perspective holds that risk and trust operate as opposing forces, with risk increasing uncertainty and reducing perceived control (Alalwan et al., 2017; Hosmer, 1995; Zand, 1972) – a dynamic that should be more pronounced where institutional safeguards are still consolidating. Technological factors, encompassing ease of use, compatibility with existing processes, and ease of integration, work in the opposite direction. Both the acceptance and the systems-success traditions position system quality and technological readiness as enablers, on the reasoning that they reduce operational uncertainty and enhance perceived control (Almaiah et al., 2022; DeLone & McLean, 2016; Golightly et al., 2022; Lutfi et al., 2022b; Oliveira et al., 2014; Venkatesh et al., 2003). For SMEs lacking specialized IT capabilities, a stable and workable platform functions less as a feature set than as an observable signal of provider competence.

Trust is the construct through which these evaluations operate. Long recognized as a foundational condition for cooperation under uncertainty and dependence (Hosmer, 1995; Zand, 1972), trust in digital service contexts reflects a client's confidence that a provider will act competently, reliably, and in the client's interest (Gefen et al., 2003; McKnight et al., 2002; Pavlou, 2003). Research in information systems and outsourcing positions trust as a mediating mechanism translating perceptions of benefits, quality, and risk into behavior (Kamyabi & Devi, 2011; Pavlou, 2003). Its role should be especially pronounced in SMEs, where decisions are centralized in a small number of individuals and where continued reliance on an external provider rests on accumulated relational experience rather than formal contractual monitoring. The mediation literature nonetheless distinguishes complementary partial mediation – where a mediated and a direct path coexist and share the same sign – from full mediation. It identifies the former as the more common empirical outcome when the antecedents retain independent functional relevance for the outcome (Zhao et al., 2010). The analysis below takes up this distinction explicitly.

The consequences of sustained use extend beyond the usage decision itself. Operational performance

here refers to non-financial outcomes: process efficiency, productivity, managerial decision quality, and responsiveness. Unlike large enterprises, which may pursue digitalization for strategic positioning, SMEs tend to prioritize improvements that directly enhance day-to-day management capacity (Al-Sharafi et al., 2023; Al-Okaily et al., 2023). Evidence from cloud-based accounting and digital outsourcing research indicates that usage coincides with streamlined workflows, improved information quality, reduced administrative burden, and stronger managerial decision-making capacity (Al-Okaily et al., 2023; Asatiani et al., 2019; Lutfi et al., 2022a; A. Rawashdeh & B. Rawashdeh, 2023; Rawashdeh et al., 2023; Vo et al., 2024).

Taken together, the literature establishes perceived benefits, service quality, perceived risk, and technological factors as well-grounded correlates of digital service use. It identifies trust as the theoretically central relational mechanism linking these evaluations to behavior. It has not resolved whether trust functions as the dominant conduit for these effects or as one channel operating alongside direct evaluative influence, and whether relationships established for pre-adoption intention hold at the post-adoption stage, where beliefs are experience-based. This configuration has also not been examined for accounting services in an emerging market where regulatory pressure toward digitalization has outpaced the institutional assurance mechanisms that would ordinarily substitute for interpersonal trust (Radičić & Petković, 2023).

Accordingly, this study examines how perceived benefits, service quality, perceived risk, and technological factors relate to trust and continued use of online accounting services among Vietnamese SMEs, and whether continued use is associated with non-financial operational performance, with trust specified as a mediator. The following hypotheses are proposed:

- H1: *Perceived benefits of online accounting services are positively associated with trust in the service provider.*
- H2: *Service quality of online accounting services is positively associated with trust in the service provider.*

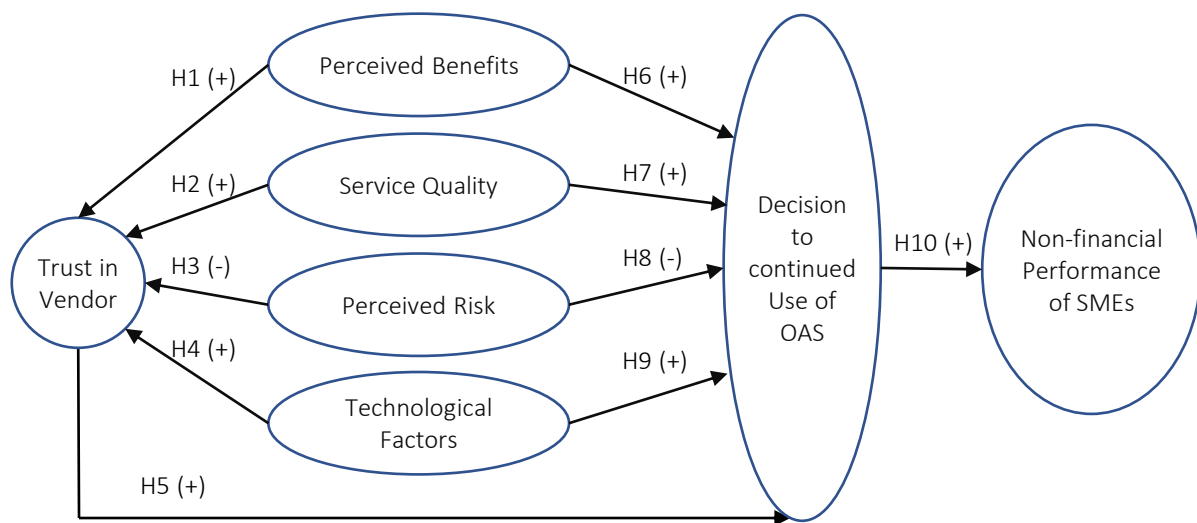


**Figure 1.** Research model

*H3: Perceived risk of online accounting services is negatively associated with trust in the service provider.*

*H4: Technological factors of online accounting services are positively associated with trust in the service provider.*

*H5: Trust is positively associated with SMEs' continued use of online accounting services.*

*H6: Perceived benefits are positively associated with SMEs' continued use of online accounting services.*

*H7: Service quality is positively associated with SMEs' continued use of online accounting services.*

*H8: Perceived risk is negatively associated with SMEs' continued use of online accounting services.*

*H9: Technological factors are positively associated with SMEs' continued use of online accounting services.*

*H10: SMEs' continued use of online accounting services is positively associated with non-financial operational performance.*

Figure 1 depicts the research model.

## 2. METHOD

### 2.1. Research design and sample

This study uses a cross-sectional survey of Vietnamese SMEs that were using online accounting services at the time of data collection. Because all constructs were measured at one point in time from a single informant per firm, the structural paths are interpreted as associations rather than causal effects. Data were collected in 2025 through a structured questionnaire, administered online and in person, to owners, directors, financial managers, and chief accountants involved in accounting-related decisions. Two screening questions confirmed that the firm was currently using an online accounting service and that the respondent was involved in decisions about it. Non-users and firms that had discontinued use were excluded, so the sample supports inference about the post-adoption behavior of current users only. Purposive non-probability sampling yielded 362 usable responses, which exceeds the minimum sample size for PLS-SEM given the maximum number of arrows pointing at any construct (Hair et al., 2019, 2022).

Tables 1 to 3 describe the sample. Most respondents hold university degrees (85.6%; Table 1) and occupy managerial positions, chiefly directors (45.6%) and chief or general accountants (33.7%). Three to five years of experience is the most common band (40.6%; Table 2). At the firm level, small

**Table 1.** Respondent profile by education level

| Education level     | Frequency | Percentage (%) |
|---------------------|-----------|----------------|
| College degree      | 51        | 14.1           |
| University degree   | 310       | 85.6           |
| Postgraduate degree | 1         | 0.3            |
| Total               | 362       | 100.0          |

**Table 2.** Respondent profile by position and years of work experience

| Position                                 | Less than 3 years | From 3 to 5 years | 5 years or more | Total  |
|------------------------------------------|-------------------|-------------------|-----------------|--------|
| Director                                 | 43                | 69                | 53              | 165    |
| Chief Accountant /<br>General Accountant | 37                | 58                | 27              | 122    |
| Accountant                               | 49                | 20                | 6               | 75     |
| Total                                    | 129               | 147               | 86              | 362    |
| Percentage                               | 35.6%             | 40.6%             | 23.8%           | 100.0% |

**Table 3.** Firm-level characteristics and duration of online accounting service use

| Characteristic  | Category          | Frequency (n) | Percentage (%) |
|-----------------|-------------------|---------------|----------------|
| Firm size       | Small             | 195           | 53.9           |
|                 | Medium            | 167           | 46.1           |
| Industry        | Manufacturing     | 37            | 10.2           |
|                 | Services          | 82            | 22.7           |
|                 | Trading           | 243           | 67.1           |
| Duration of use | Less than 1 year  | 0             | 0.0            |
|                 | 1-3 years         | 147           | 40.6           |
|                 | 3-5 years         | 144           | 39.8           |
|                 | More than 5 years | 71            | 19.6           |
| Total           |                   | 362           | 100.0          |

firms (53.9%) and trading enterprises (67.1%) predominate, and every firm had used the service for at least one year (Table 3). The study therefore observes established rather than nascent service relationships.

At the firm level, the sample is weighted toward trading enterprises and firms with an established service relationship. No firm in the sample had used online accounting services for less than one year, which follows from the eligibility rule and matters for interpreting the results: the study observes established rather than nascent usage relationships.

## 2.2. Measures

The instrument comprised 35 items, five per construct, adapted from established scales and contextualized to online accounting services in Vietnamese SMEs. All items were rated on a five-point Likert scale from 1 (“strongly disagree”) to 5 (“strongly agree”). A bilingual accounting academic developed the instrument in Vietnamese

and translated it into English, and the authors reconciled discrepancies before administration. Perceived benefits capture cost reduction, resource reallocation, compliance support, time saving, and access to external expertise (Asatiani et al., 2019; Dimitriu & Matei, 2015; Gewald, 2010; Oosthuizen et al., 2020). Service quality covers reliability, accessibility, responsiveness, professional competence, and understanding of client needs (DeLone & McLean, 2016; Parasuraman et al., 1988, 2005). Perceived risk comprises unauthorized data access, provider error, service interruption, dependence on the provider, and data loss (Benlian & Hess, 2011; Pavlou, 2003; Yau-Yeung et al., 2020). Technological factors cover ease of use, system stability, compatibility, integration effort, and data security mechanisms (Venkatesh et al., 2003). Trust captures the provider’s benevolence, honesty, promise-keeping, predictability, and general trustworthiness (Gefen et al., 2003; McKnight et al., 2002). Non-financial operational performance is measured through process streamlining, productivity, managerial decision quality, responsiveness, and customer service (Al-Okaily et

al., 2023; DeLone & McLean, 2016; Vo et al., 2024). Full item wording and sources are reported in Appendix A.

Continued use is measured behaviorally: the post-adoption intensity with which a firm relies on the service and the degree to which the service has been routinized into its accounting work. Its items ask how regularly the service is used, what share of accounting activity and workload depends on it, and whether it has become part of the firm's accounting processes. None refers to intention, satisfaction, or attitude. The construct therefore corresponds to usage intensity and routinization at the post-adoption stage rather than to continuance intention (Bhattacharjee, 2001; Karahanna et al., 1999). The label ADO is retained in the tables and denotes continued use.

All constructs are specified as reflective, unidimensional first-order constructs (Mode A). Their indicators are interchangeable manifestations of a single underlying perception and are expected to covary, and no sub-dimensions were theorized a priori (Coltman et al., 2008; Jarvis et al., 2003; Sarstedt et al., 2019). Perceived risk is accordingly treated as a single perception of overall exposure to the provider, with items sampling several facets of that exposure, rather than as a formative composite of independent risk types. Eight items whose outer loadings in the initial estimation fell below 0.70 were removed (ADO5, BEN4, PER3, RIS2, SQ2, TEC2, TEC5, and TRU3). Removal improved composite reliability and average variance extracted without compromising content coverage, and the model was re-estimated on the 27 retained items. Retained items and their loadings appear in Table 5, and deleted items are marked in Appendix A.

### 2.3. Data analysis

The model was estimated with partial least squares structural equation modeling in SmartPLS 3, which accommodates complex models with mediating relationships and does not require multivariate normality (Hair et al., 2019, 2022). The measurement model was assessed through Cronbach's alpha, composite reliability, and average variance extracted, and discriminant validity through the heterotrait-monotrait ratio, evaluated against the HTMT.90 criterion and by bootstrap inference

testing whether each ratio differs significantly from one (Henseler et al., 2015). The structural model was assessed through path coefficients,  $R^2$ ,  $f^2$ , the standardized root mean square residual as an approximate fit index, and  $Q^2$  obtained by blindfolding with an omission distance of seven (Hair et al., 2019).  $Q^2$  is a within-sample measure of predictive relevance; out-of-sample prediction through PLSpredict was not performed (Shmueli et al., 2019).

Mediation was assessed following Zhao et al. (2010) rather than the causal-steps approach. Specific indirect effects and their confidence intervals were estimated for each antecedent-trust-continued use path, and the variance accounted for was calculated as the ratio of the specific indirect effect to the total effect. Mediation was classified as complementary partial when the indirect and direct effects were both significant and shared the same sign, and as full when the direct effect was non-significant. All path coefficients and indirect effects were tested by bootstrapping with 5,000 subsamples and bias-corrected and accelerated confidence intervals.

### 2.4. Common method bias

Because a single respondent per firm reported all constructs, common method variance was addressed both procedurally and statistically. Procedurally, respondents were assured of anonymity and told there were no correct answers, predictor and criterion items were placed in separate sections, and item wording was pre-tested (Podsakoff et al., 2003). Statistically, Harman's single-factor test was complemented by the full collinearity assessment of Kock (2015), in which full collinearity VIFs above 3.3 indicate possible contamination by common method variance. These VIFs are distinct from the inner VIFs of the structural model, which are reported in Section 3.2 only as a check on predictor collinearity.

## 3. RESULTS

### 3.1. Measurement model

All constructs demonstrate satisfactory internal consistency, with Cronbach's alpha ranging from 0.762 to 0.866 and composite reliability ( $\rho_c$ )

**Table 4.** Construct reliability and convergent validity

| Variable | Cronbach's alpha | Composite reliability (rho_a) | Composite reliability (rho_c) | Average variance extracted (AVE) |
|----------|------------------|-------------------------------|-------------------------------|----------------------------------|
| ADO      | 0.866            | 0.866                         | 0.909                         | 0.713                            |
| BEN      | 0.822            | 0.824                         | 0.882                         | 0.652                            |
| PER      | 0.834            | 0.836                         | 0.889                         | 0.668                            |
| RIS      | 0.795            | 0.797                         | 0.866                         | 0.619                            |
| SQ       | 0.792            | 0.799                         | 0.865                         | 0.616                            |
| TEC      | 0.762            | 0.769                         | 0.863                         | 0.677                            |
| TRU      | 0.859            | 0.860                         | 0.905                         | 0.703                            |

Note: ADO = continued use of online accounting services; BEN = perceived benefits; PER = non-financial operational performance; RIS = perceived risk; SQ = service quality; TEC = technological factors; TRU = trust.

from 0.863 to 0.909, all above the 0.70 threshold (Table 4). Average variance extracted ranges from 0.616 to 0.713, exceeding 0.50 and confirming convergent validity.

All retained indicator loadings exceed 0.75, and each item loads highest on its intended construct (Table 5). The retained blocks comprise four indicators each for ADO, BEN, PER, RIS, SQ, and TRU, and three for TEC, consistent with the eight deletions reported in Section 2.2.

**Table 5.** Outer loadings

| Variable | ADO   | BEN   | PER   | RIS   | SQ    | TEC   | TRU   |
|----------|-------|-------|-------|-------|-------|-------|-------|
| ADO1     | 0.841 |       |       |       |       |       |       |
| ADO2     | 0.847 |       |       |       |       |       |       |
| ADO3     | 0.853 |       |       |       |       |       |       |
| ADO4     | 0.838 |       |       |       |       |       |       |
| BEN1     |       | 0.813 |       |       |       |       |       |
| BEN2     |       | 0.795 |       |       |       |       |       |
| BEN3     |       | 0.821 |       |       |       |       |       |
| BEN5     |       | 0.799 |       |       |       |       |       |
| PER1     |       |       | 0.808 |       |       |       |       |
| PER2     |       |       | 0.839 |       |       |       |       |
| PER4     |       |       | 0.805 |       |       |       |       |
| PER5     |       |       | 0.816 |       |       |       |       |
| RIS1     |       |       |       | 0.784 |       |       |       |
| RIS3     |       |       |       | 0.762 |       |       |       |
| RIS4     |       |       |       | 0.805 |       |       |       |
| RIS5     |       |       |       | 0.794 |       |       |       |
| SQ1      |       |       |       |       | 0.804 |       |       |
| SQ3      |       |       |       |       | 0.755 |       |       |
| SQ4      |       |       |       |       | 0.751 |       |       |
| SQ5      |       |       |       |       | 0.826 |       |       |
| TEC1     |       |       |       |       |       | 0.822 |       |
| TEC3     |       |       |       |       |       | 0.789 |       |
| TEC4     |       |       |       |       |       | 0.857 |       |
| TRU1     |       |       |       |       |       |       | 0.842 |
| TRU2     |       |       |       |       |       |       | 0.847 |
| TRU4     |       |       |       |       |       |       | 0.836 |
| TRU5     |       |       |       |       |       |       | 0.829 |

Discriminant validity was assessed using the heterotrait-monotrait ratio of correlations (Table 6). Values range from 0.402 to 0.874. All ratios fall below the HTMT.90 threshold recommended by Henseler et al. (2015) for conceptually proximate constructs. One ratio – that between continued use and operational performance (0.874) – exceeds the more conservative 0.85 criterion. Two considerations bear on its interpretation. First, the 0.85 criterion is recommended for conceptually distinct constructs, whereas continued use and the operational outcomes attributed to it are theoretically adjacent: firms that rely heavily on a service are, by construction, those most exposed to whatever operational effects it produces. For construct pairs of this kind, Henseler et al. (2015) identify HTMT.90 as the appropriate benchmark. Second, discriminant validity in the HTMT framework is established by inference rather than by threshold comparison alone: the bootstrap confidence interval for the ratio should exclude one. The upper bound of the 95% bias-corrected and accelerated bootstrap confidence interval for this ratio is 0.920, significantly below one, confirming that the two constructs are empirically distinct. No other ratio in Table 6 exceeds 0.85, and the upper bound lies below one for every construct pair.

**Table 6.** Discriminant validity: Heterotrait-monotrait ratio (HTMT)

|     | ADO   | BEN   | PER   | RIS   | SQ    | TEC   | TRU |
|-----|-------|-------|-------|-------|-------|-------|-----|
| ADO |       |       |       |       |       |       |     |
| BEN | 0.821 |       |       |       |       |       |     |
| PER | 0.874 | 0.618 |       |       |       |       |     |
| RIS | 0.674 | 0.461 | 0.550 |       |       |       |     |
| SQ  | 0.709 | 0.575 | 0.543 | 0.402 |       |       |     |
| TEC | 0.663 | 0.528 | 0.519 | 0.503 | 0.478 |       |     |
| TRU | 0.842 | 0.820 | 0.655 | 0.646 | 0.746 | 0.629 |     |

The Fornell-Larcker criterion is satisfied in parallel: the square root of the AVE for each construct

(ADO 0.845; BEN 0.807; PER 0.817; RIS 0.787; SQ 0.785; TEC 0.823; TRU 0.839) exceeds that construct's correlation with every other construct, the highest such correlation being 0.745 between continued use and operational performance.

### 3.2. Common method bias and collinearity

The data were suitable for factor analysis (Kaiser-Meyer-Olkin = 0.951; Bartlett's test of sphericity  $\chi^2 = 6,056.514$ ,  $df = 595$ ,  $p < 0.001$ ). Harman's single-factor test, using principal components extraction without rotation and a fixed single-factor solution, produced a first factor accounting for 35.80% of total variance, well below the 50% criterion.

We then applied Kock's (2015) full collinearity assessment, regressing each latent variable on a common random variable (Table 7). Six of the seven constructs fall below the 3.3 criterion, with values between 1.49 and 3.07. Continued use does not: its full collinearity variance inflation factor is 4.28, above the threshold.

This result is reported rather than set aside, and it qualifies the conclusion drawn from Harman's test. Taken together, the two diagnostics indicate that the model as a whole is not dominated by a single method factor – the first unrotated factor explains barely a third of total variance, and six of seven constructs show no pathological collinearity – but that shared variance is concentrated on one construct. Continued use overlaps substantially with trust and with operational performance, which is consistent with the heterotrait-monotrait ratio of 0.874 reported in Section 3.1 and with the fact that all three were reported by the same informant in the same instrument. The implication is specific rather than general: the estimates involving continued use, and in particular the continued use-performance coefficient, carry greater method exposure than the remaining paths. Section 3.5 examines that coefficient directly.

**Table 7.** Full collinearity variance inflation factors (Kock, 2015)

| Construct             | ADO   | BEN   | PER   | RIS   | SQ    | TEC   | TRU   |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|
| Full collinearity VIF | 4.276 | 2.287 | 2.257 | 1.591 | 1.758 | 1.488 | 3.069 |

*Note:* Obtained by regressing each latent variable on all others via a common random variable. Values below 3.3 indicate the absence of pathological collinearity and, by extension, of severe common method bias.

Collinearity within the structural model was assessed separately through inner variance inflation factors (Table 8). All values fall below 3.3, the highest being 2.961 for the trust-continued use relationship, indicating that predictor collinearity does not threaten the stability of the path estimates. These values speak to estimation stability rather than to method bias, and are reported here for that purpose only.

**Table 8.** Inner VIF values

| Variable names | ADO   | PER   | TRU   |
|----------------|-------|-------|-------|
| ADO            |       | 1.000 |       |
| BEN            | 1.948 |       | 1.468 |
| RIS            | 1.441 |       | 1.282 |
| SQ             | 1.638 |       | 1.365 |
| TEC            | 1.417 |       | 1.358 |
| TRU            | 2.961 |       |       |

### 3.3. Structural model

The model explains 68.1% of the variance in continued use, 66.2% in trust, and 55.5% in non-financial operational performance (Table 9). The standardized root mean square residual is 0.053 for the estimated model, below the 0.08 threshold and indicating acceptable approximate fit. As is common in applied PLS-SEM studies, the value exceeds the stricter bootstrap-based exact fit criterion ( $HI99 = 0.044$ ), which is widely regarded as overly conservative for models of this complexity; the SRMR is therefore interpreted as an approximate rather than an exact fit measure.

**Table 9.** Coefficient of determination

| Variable names                | R <sup>2</sup> | R <sup>2</sup> adjusted |
|-------------------------------|----------------|-------------------------|
| ADO (continued use)           | 0.681          | 0.677                   |
| PER (operational performance) | 0.555          | 0.554                   |
| TRU (trust)                   | 0.662          | 0.659                   |

Effect sizes and predictive relevance are reported in Table 10. Perceived benefits produce a medium effect on trust ( $f^2 = 0.327$ ) and on continued use ( $f^2 = 0.174$ ), service quality a medium effect on trust

**Table 10.** Effect size ( $f^2$ ) and predictive relevance ( $Q^2$ )

| Path      | $f^2$ | Effect size     | Endogenous construct | $Q^2$ |
|-----------|-------|-----------------|----------------------|-------|
| BEN → TRU | 0.327 | Medium          | TRU                  | 0.460 |
| SQ → TRU  | 0.200 | Medium          | ADO                  | 0.479 |
| RIS → TRU | 0.124 | Small-to-medium | PER                  | 0.367 |
| TEC → TRU | 0.043 | Small           |                      |       |
| TRU → ADO | 0.036 | Small           |                      |       |
| BEN → ADO | 0.174 | Medium          |                      |       |
| SQ → ADO  | 0.074 | Small           |                      |       |
| RIS → ADO | 0.101 | Small           |                      |       |
| TEC → ADO | 0.050 | Small           |                      |       |
| ADO → PER | 1.249 | Large           |                      |       |

Note:  $f^2$  benchmarks of 0.02, 0.15, and 0.35 denote small, medium, and large effects.  $Q^2$  obtained by blindfolding with an omission distance of seven; values between 0.25 and 0.50 indicate moderate predictive relevance.

( $f^2 = 0.200$ ), and perceived risk a small-to-medium effect on trust ( $f^2 = 0.124$ ). The effects of technological factors and of trust itself are small ( $f^2$  between 0.036 and 0.050), which is consistent with the mediation results in Section 3.4: trust contributes significantly but modestly once the direct pathways are accounted for. Continued use has a large effect on operational performance ( $f^2 = 1.249$ ). All three  $Q^2$  values exceed zero and fall within the 0.25-0.50 band, indicating moderate cross-validated predictive relevance.

All ten hypothesized paths are statistically significant in the predicted direction (Table 11). Perceived benefits show the strongest positive association with trust ( $\beta = 0.403$ ,  $t = 11.100$ ,  $p < 0.001$ ), followed by service quality ( $\beta = 0.303$ ,  $t = 9.056$ ,  $p < 0.001$ ) and technological factors ( $\beta = 0.141$ ,  $t = 3.836$ ,  $p < 0.001$ ), supporting H1, H2, and H4. Perceived risk is negatively associated with trust ( $\beta = -0.232$ ,  $t = 6.440$ ,  $p < 0.001$ ), supporting H3.

All four antecedents also exhibit significant direct associations with continued use: perceived benefits ( $\beta = 0.329$ ,  $p < 0.001$ ), service quality ( $\beta = 0.196$ ,  $p < 0.001$ ), and technological factors ( $\beta = 0.151$ ,  $p < 0.001$ ) positively, and perceived risk negatively ( $\beta = -0.216$ ,  $p < 0.001$ ), supporting H6 through H9. Trust is positively associated with continued use ( $\beta = 0.185$ ,  $t = 3.503$ ,  $p < 0.001$ ), supporting H5, and continued use is positively associated with non-financial operational performance ( $\beta = 0.745$ ,  $p < 0.001$ ), supporting H10. The interpretation of this last coefficient is qualified in Sections 3.5 and 4.

### 3.4. Mediation analysis

Mediation was assessed following Zhao et al. (2010). Table 12 reports specific indirect effects, bootstrap confidence intervals, direct effects, total effects, and the variance accounted for by each mediated path.

**Table 11.** Structural model results and hypothesis assessment

| Hypothesis | Path      | Original sample (O) | Sample mean (M) | Standard deviation | T statistic | p-value | Result    |
|------------|-----------|---------------------|-----------------|--------------------|-------------|---------|-----------|
| H1         | BEN → TRU | 0.403               | 0.401           | 0.036              | 11.100      | < 0.001 | Supported |
| H2         | SQ → TRU  | 0.303               | 0.304           | 0.033              | 9.056       | < 0.001 | Supported |
| H3         | RIS → TRU | -0.232              | -0.231          | 0.036              | 6.440       | < 0.001 | Supported |
| H4         | TEC → TRU | 0.141               | 0.141           | 0.037              | 3.836       | < 0.001 | Supported |
| H5         | TRU → ADO | 0.185               | 0.184           | 0.053              | 3.503       | < 0.001 | Supported |
| H6         | BEN → ADO | 0.329               | 0.329           | 0.039              | 8.397       | < 0.001 | Supported |
| H7         | SQ → ADO  | 0.196               | 0.197           | 0.037              | 5.282       | < 0.001 | Supported |
| H8         | RIS → ADO | -0.216              | -0.217          | 0.038              | 5.643       | < 0.001 | Supported |
| H9         | TEC → ADO | 0.151               | 0.150           | 0.035              | 4.341       | < 0.001 | Supported |
| H10        | ADO → PER | 0.745               | 0.746           | 0.024              | 30.587      | < 0.001 | Supported |

Note: ADO denotes continued use. Bootstrapping with 5,000 subsamples and bias-corrected and accelerated confidence intervals. p-values below 0.001 are reported as "< 0.001".

**Table 12.** Mediation analysis: Specific indirect, direct, and total effects

| Panel A: Trust as mediator of the antecedent–continued use relationships |                          |       |             |         |                     |                              |              |         |                       |
|--------------------------------------------------------------------------|--------------------------|-------|-------------|---------|---------------------|------------------------------|--------------|---------|-----------------------|
| Path                                                                     | Specific indirect effect | SE    | T statistic | p-value | 95% BCa CI [LL, UL] | Direct effect                | Total effect | VAF (%) | Mediation type        |
| BEN → TRU → ADO                                                          | 0.074                    | 0.022 | 3.326       | 0.001   | [0.034, 0.123]      | 0.329                        | 0.403        | 18.4    | Complementary partial |
| SQ → TRU → ADO                                                           | 0.056                    | 0.017 | 3.277       | 0.001   | [0.026, 0.094]      | 0.196                        | 0.252        | 22.2    | Complementary partial |
| RIS → TRU → ADO                                                          | −0.043                   | 0.014 | 3.113       | 0.002   | [−0.074, −0.020]    | −0.216                       | −0.259       | 16.6    | Complementary partial |
| TEC → TRU → ADO                                                          | 0.026                    | 0.011 | 2.415       | 0.016   | [0.010, 0.053]      | 0.151                        | 0.177        | 14.7    | Complementary partial |
| Panel B: Serial pathways to non–financial operational performance        |                          |       |             |         |                     |                              |              |         |                       |
| Path                                                                     | Effect                   | SE    | T statistic | p-value | 95% BCa CI [LL, UL] | Total indirect effect on PER |              |         |                       |
| BEN → ADO → PER                                                          | 0.245                    | 0.030 | 8.129       | < 0.001 | [0.188, 0.306]      | 0.301                        |              |         |                       |
| BEN → TRU → ADO → PER                                                    | 0.056                    | 0.017 | 3.306       | 0.001   | [0.025, 0.092]      |                              |              |         |                       |
| SQ → ADO → PER                                                           | 0.146                    | 0.028 | 5.173       | < 0.001 | [0.089, 0.202]      | 0.188                        |              |         |                       |
| SQ → TRU → ADO → PER                                                     | 0.042                    | 0.013 | 3.258       | 0.001   | [0.019, 0.070]      |                              |              |         |                       |
| RIS → ADO → PER                                                          | −0.161                   | 0.029 | 5.539       | < 0.001 | [−0.217, −0.105]    | −0.193                       |              |         |                       |
| RIS → TRU → ADO → PER                                                    | −0.032                   | 0.010 | 3.100       | 0.002   | [−0.056, −0.015]    |                              |              |         |                       |
| TEC → ADO → PER                                                          | 0.112                    | 0.026 | 4.289       | < 0.001 | [0.063, 0.165]      | 0.132                        |              |         |                       |
| TEC → TRU → ADO → PER                                                    | 0.019                    | 0.008 | 2.408       | 0.016   | [0.007, 0.040]      |                              |              |         |                       |
| TRU → ADO → PER                                                          | 0.138                    | 0.040 | 3.482       | < 0.001 | [0.062, 0.218]      | 0.138                        |              |         |                       |

*Note:* VAF = variance accounted for, the ratio of the specific indirect effect to the total effect. All quantities are bootstrap estimates based on 5,000 subsamples with bias-corrected and accelerated intervals. Because the model specifies no direct paths from the four antecedents to operational performance, all effects on PER in Panel B are fully indirect.

Trust carries a significant specific indirect effect for each of the four antecedents, with confidence intervals excluding zero in every case. The magnitude of these mediated effects is nonetheless modest relative to the direct effects. The variance accounted for ranges from 14.7% for technological factors to 22.2% for service quality, meaning that between roughly one seventh and one fifth of each antecedent's total association with continued use operates through trust. Since both the indirect and the direct effect are significant and share the same sign in all four cases, the appropriate classification under Zhao et al. (2010) is complementary partial mediation: trust is one operative channel among several, and the direct evaluative pathway is the larger of the two.

### 3.5. The continued use-performance association: Bias assessment

The coefficient linking continued use to operational performance ( $\beta = 0.745$ ) is the largest in the model and warrants separate scrutiny, because it is also the estimate most exposed to two identifiable threats.

The first is same-source bias. Both constructs were reported by the same informant, in the same instrument, at the same time, and both invite a broadly evaluative response: a manager who reports deep organizational reliance on a service is unlikely to report simultaneously that the firm's processes have not improved. Consistency motives, implicit theories linking usage to benefit, and a common evaluative disposition can each inflate the observed association independently of any operational effect. The diagnostics reported in Section 3.2 bear on this directly and do not dismiss the concern. Harman's test indicates that no single factor dominates the instrument, but the full collinearity assessment locates elevated shared variance precisely on the continued use construct ( $VIF = 4.28$ ), and the heterotrait-monotrait ratio between continued use and performance (0.874) points the same way. The coefficient is therefore best understood as an upper bound on the association between usage intensity and perceived operational improvement, not as an estimate of the operational return to usage.

The second is omitted-variable bias. The structural model as specified contains no control variables,

so firm characteristics that plausibly drive both usage intensity and operational outcomes would be unmodelled. Firm size, industry, and the duration of the service relationship are the most obvious candidates: larger firms and longer-tenured users may both rely more heavily on the service and operate more efficiently for reasons unrelated to the service itself.

The model was therefore re-estimated with firm size, industry, and duration of the service relationship entered as single-indicator constructs with paths to both continued use and operational performance. Firm size was coded small versus medium; industry was dummy-coded with trading as the reference category; duration was dummy-coded with the one-to-three-year band as the reference. Table 13 compares the two specifications.

Control variable coefficients on PER: firm size  $-0.021$  ( $p = 0.583$ ); manufacturing  $-0.014$  ( $p = 0.694$ ); services  $-0.016$  ( $p = 0.687$ ); duration 3–5 years  $-0.083$  ( $p = 0.025$ ); duration over 5 years  $-0.064$  ( $p = 0.121$ ). On ADO: firm size  $0.015$  ( $p = 0.631$ ); manufacturing  $0.014$  ( $p = 0.638$ ); services  $0.024$  ( $p = 0.445$ ); duration 3–5 years  $-0.028$  ( $p = 0.395$ ); duration over 5 years  $-0.055$  ( $p = 0.090$ ). Bootstrapping with 5,000 subsamples; SRMR = 0.048.

The continued use–performance coefficient is unchanged to the second decimal place, and no other structural path moves by more than 0.007. Nine of the ten control paths are statistically indistinguishable from zero. The single exception is informative rather than troubling: firms in the three-to-five-year duration band report marginally lower operational performance than firms in their first three years ( $\beta = -0.083$ ,  $p = 0.025$ ), which is consistent with an early-relationship improve-

ment that flattens as the service becomes routine, and which, if anything, works against the interpretation that longer-tenured users drive the headline association.

Observable firm heterogeneity of the kind most often invoked therefore does not account for the relationship. This does not exhaust the omitted-variable concern, since unobserved characteristics – managerial quality, prior digital maturity, the firm’s general orientation toward process improvement – could still drive both usage intensity and perceived operational gains, and no cross-sectional design can rule them out. What the robustness check establishes is narrower and still worth stating: the association is not an artifact of size, sector, or relationship tenure. Same-source exposure, by contrast, is not addressed by adding controls, and the full collinearity result for continued use reported in Section 3.2 indicates that it is real. Accordingly, the coefficient should be read as an upper bound.

## 4. DISCUSSION

The findings support all ten hypotheses but reframe, in one important respect, the role that trust plays. The specific indirect effects transmitted through trust are statistically robust yet account for only 14.7% to 22.2% of the total association between each antecedent and continued use. This places the present results in a more qualified relationship to the trust-centered literature than a straightforward reading would imply. McKnight et al. (2002) and Pavlou (2003) positioned trust as a central determinant of behavior in e-commerce settings characterized by anonymity and one-off transactions, where a consumer has little else on which to base a decision, and Gefen et al. (2003) likewise found trust to dominate in online shopping contexts. The pres-

**Table 13.** Continued use and operational performance, with and without control variables

| Path                 | Base model         | With controls      | Change |
|----------------------|--------------------|--------------------|--------|
| ADO → PER            | 0.745 (t = 30.587) | 0.747 (t = 30.277) | +0.002 |
| BEN → ADO            | 0.329 (t = 8.397)  | 0.335 (t = 8.372)  | +0.006 |
| SQ → ADO             | 0.196 (t = 5.282)  | 0.202 (t = 5.342)  | +0.006 |
| RIS → ADO            | −0.216 (t = 5.643) | −0.220 (t = 5.635) | −0.004 |
| TEC → ADO            | 0.151 (t = 4.341)  | 0.149 (t = 4.396)  | −0.002 |
| TRU → ADO            | 0.185 (t = 3.503)  | 0.178 (t = 3.269)  | −0.007 |
| R <sup>2</sup> (PER) | 0.555              | 0.563              | +0.008 |
| R <sup>2</sup> (ADO) | 0.681              | 0.684              | +0.003 |

ent setting differs on precisely the dimension that matters: the respondents are organizations in an ongoing service relationship with a provider whose performance they have directly observed, and no firm in the sample had been using the service for less than a year. Under those conditions, firms do not need to rely on trust as a substitute for information, because they possess the information. The functional attributes of the service – its benefits, its reliability, its technical fit – remain directly consequential, and the mediated pathway supplements rather than supersedes them. This is consistent with Karahanna et al. (1999), who found that post-adoption beliefs are grounded in experience and differ systematically from the inferential beliefs governing pre-adoption evaluation, and with the observation of Zhao et al. (2010) that complementary partial mediation is the expected outcome when the antecedent retains independent explanatory relevance for the outcome.

Within the trust equation itself, the relative weight of the antecedents departs from what a technology-centered account would predict. Service quality is associated with trust more than twice as strongly as technological factors ( $\beta = 0.303$  versus  $\beta = 0.141$ ). Almaiah et al. (2022) reported that system quality and service quality jointly shape trust in internet banking without establishing a clear ordering between them; the present results indicate that in the accounting services context the relational and professional dimensions of delivery carry substantially greater weight than the technical infrastructure. A plausible explanation lies in the nature of what is being delegated. A cloud accounting platform is, for most SMEs, functionally interchangeable across providers, whereas the accuracy of a tax filing and the responsiveness of a provider when a compliance question arises are not. This reading is consistent with Kamyabi and Devi (2011), who found that in accounting outsourcing the perceived competence of the service provider, rather than the tooling, drives the persistence of the relationship.

The negative associations of perceived risk with both trust ( $\beta = -0.232$ ) and continued use ( $\beta = -0.216$ ) merit particular comment because they are observed among firms that have already committed to the service. Yau-Yeung et al. (2020) identified data security and regulatory compliance as barriers to cloud accounting adoption in Australia,

and Caldarelli et al. (2017) reported comparable risk-driven resistance among Italian SMEs; in both cases the barrier operated at the point of adoption. The present finding indicates that risk perceptions do not dissipate once a firm has begun using the service – they persist and continue to be negatively associated with the depth of reliance on it. This divergence from the adoption-stage literature is interpretable in institutional terms. Vietnamese SMEs operate in an environment where the regulatory push toward digital accounting has advanced faster than the assurance infrastructure surrounding it: electronic invoicing has been mandatory since 2022, while provider certification standards and enforcement practice under the 2023 personal data protection framework remain in early implementation. In such a setting, using a service and being reassured about it are not the same thing. A firm may continue using an online accounting service under regulatory compulsion while retaining unresolved concerns about data security and provider accountability, and those concerns are reflected in the depth of its engagement. This suggests that risk perceptions in emerging markets are shaped by structural conditions rather than being solely dispositional, which differs from studies conducted where regulatory assurance can be taken as given.

The direct associations of perceived benefits ( $\beta = 0.329$ ), service quality ( $\beta = 0.196$ ), and technological factors ( $\beta = 0.151$ ) with continued use are consistent with Oliveira et al. (2014), Jayeola et al. (2022), and Alshamaila et al. (2013), all of whom identified performance expectancy, service quality, and technological readiness as determinants operating independently of trust. The convergence is notable given the stage difference: those studies examined adoption, whereas the present study examines continuance among users. That the same evaluative constructs remain influential at both stages, and that their relative ordering is preserved, suggests continuity in the decision logic across the adoption and post-adoption stages, at least for organizational buyers of accounting services.

Finally, continued use is strongly associated with non-financial operational performance ( $\beta = 0.745$ ,  $R^2 = 0.555$ ). The direction is consistent with Al-Sharafi et al. (2023), Vo et al. (2024), and A. Rawashdeh and B. Rawashdeh (2023), who reported positive relation-

ships between cloud accounting use and operational outcomes. The magnitude observed here is larger than in most of those studies, and the discussion in Section 3.5 explains why it should not be read at face value. Substantively, resource-constrained firms may have more headroom for operational improvement than the larger organizations examined in prior work, so that the same intervention yields a greater marginal gain. Methodologically, however, the estimate carries both same-source and omitted-variable exposure, and the association is properly regarded as an upper bound awaiting confirmation from designs that measure usage and performance independently and that condition on firm characteristics. No causal claim is made for this or any other coefficient in the model.

Taken together, the results suggest that the sustained digital transformation of accounting in Vietnamese SMEs rests on a combination of demonstrable functional value, professional service delivery, and relational confidence, with the first carrying the greatest weight. Trust matters, but it operates as a reinforcing rather than a gating mechanism once a service relationship is established.

This study has several limitations. First, the cross-sectional design precludes causal inference, and reverse or reciprocal relationships – for example, operational improvement deepening trust and usage – are equally consistent with the data. Second, the sample includes only current users, which introduces survivorship and prevents generalization to initial adoption or discontinuance. Third, a single informant reported all constructs; although Harman's test and six of seven full collinearity VIFs are within accepted bounds, the VIF for continued use exceeds 3.3, so the continued use – performance estimate should be read as an upper bound. Fourth, the controls in Section 3.5 cover only observable firm characteristics, leaving unobserved heterogeneity such as managerial quality or prior digital maturity. Fifth, continued use is measured as current usage intensity rather than as a longitudinal trajectory, and predictive relevance is assessed only within the sample. Future research should use longitudinal designs, adopter-non-adopter comparisons, cross-country samples in Southeast Asia, independently sourced performance measures, and out-of-sample prediction through PLS predict.

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## CONCLUSIONS

This study examined how perceived benefits, service quality, perceived risk, and technological factors relate to trust and continued use of online accounting services among Vietnamese SMEs, and whether continued use is associated with non-financial operational performance.

Three findings emerge. Perceived benefits are the strongest correlate of trust ( $\beta = 0.403$ ), ahead of service quality ( $\beta = 0.303$ ) and technological factors ( $\beta = 0.141$ ), while perceived risk is negatively associated with trust ( $\beta = -0.232$ ) and continues to constrain usage even among firms that have already committed to the service ( $\beta = -0.216$ ). Trust transmits statistically significant but modest indirect effects, accounting for 14.7% to 22.2% of the total association between each antecedent and continued use, indicating that the mediation is complementary and partial rather than full. Continued use is positively associated with non-financial operational performance ( $\beta = 0.745$ ), with the model explaining 68.1% of the variance in continued use, 66.2% in trust, and 55.5% in performance, although the latter association carries same-source and omitted-variable exposure and is interpreted as an upper bound.

Two conclusions follow. First, sustained reliance on online accounting services among Vietnamese SMEs is governed principally by direct evaluation of what the service delivers, with trust operating as a complementary reinforcing channel rather than as the gateway through which evaluative perceptions must pass. Providers seeking to deepen client engagement should therefore treat demonstrable functional value and professional service delivery as primary, and relationship-building as supporting rather than substituting for them. Second, the persistence of risk-related constraints among firms that are already users indicates that the adoption event does not resolve the obstacles to digital accounting in emerging markets. Where regulatory mandates have outpaced assurance mechanisms, firms may com-

ply without being reassured. Strengthening data protection enforcement and establishing certification standards for online accounting providers would address a constraint that this study finds to be active well beyond the point of initial adoption.

## DATA AVAILABILITY STATEMENT

The data presented in this study are available on request from the corresponding author.

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## APPENDIX A. Measurement instrument

All items were measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The instrument comprised 35 items. Items marked † were deleted during measurement model purification because their outer loadings in the initial estimation fell below 0.70; the 27 unmarked items constitute the final measurement model reported in Table 5.

**Table A1.** Measurement items and source scales

| Item code                                     | Measurement item                                                                                                                    | Source scale                                                                                                    |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Perceived benefits (BEN)</b>               |                                                                                                                                     |                                                                                                                 |
| BEN1                                          | Using online accounting services helps our business reduce the costs associated with its accounting function                        | Dimitriu and Matei (2015); Edvardsson et al. (2021); Gewald (2010)                                              |
| BEN2                                          | Using online accounting services enables our business to allocate more resources to its core business activities                    | Edvardsson et al. (2021); Gewald (2010)                                                                         |
| BEN3                                          | Using online accounting services helps our business better meet accounting and tax compliance requirements                          | Duong et al. (2025); Oosthuizen et al. (2020)                                                                   |
| BEN4†                                         | Using online accounting services helps our business reduce the time required to process accounting tasks                            | Asatiani et al. (2019); Ma et al. (2021)                                                                        |
| BEN5                                          | Using online accounting services enables our business to access accounting expertise that is not fully available in-house           | Gewald (2010); Asatiani et al. (2019); Oosthuizen et al. (2020)                                                 |
| <b>Online accounting service quality (SQ)</b> |                                                                                                                                     |                                                                                                                 |
| SQ1                                           | Our online accounting service provider delivers accounting services as promised and within agreed deadlines                         | Parasuraman et al. (1988); Zaman Groff et al. (2015); Azzari et al. (2024)                                      |
| SQ2†                                          | Our online accounting service provider is readily accessible when we need assistance                                                | Parasuraman et al. (2005); Azzari et al. (2024)                                                                 |
| SQ3                                           | Our online accounting service provider responds promptly to our requests and queries                                                | DeLone and McLean (2016); Parasuraman et al. (1988, 2005); Zaman Groff et al. (2015); Azzari et al. (2024)      |
| SQ4                                           | Our online accounting service provider demonstrates professional competence in accounting and tax matters                           | DeLone and McLean (2016); Parasuraman et al. (1988); Zaman Groff et al. (2015); Azzari et al. (2024)            |
| SQ5                                           | Our online accounting service provider understands our firm's specific needs                                                        | DeLone and McLean (2016); Parasuraman et al. (1988); Zaman Groff et al. (2015); Azzari et al. (2024)            |
| <b>Perceived risk (RIS)</b>                   |                                                                                                                                     |                                                                                                                 |
| RIS1                                          | We are concerned that using online accounting services could result in unauthorized access to or use of our firm's financial data   | Featherman and Pavlou (2003); Benlian and Hess (2011); Kaur and Arora (2021); Yau-Yeung et al. (2020)           |
| RIS2†                                         | We are concerned that errors made by the service provider could result in financial losses for our firm                             | Featherman and Pavlou (2003); Gewald & Dibbern (2009); Kaur and Arora (2021)                                    |
| RIS3                                          | We are concerned that the provision of online accounting services could be unexpectedly interrupted or discontinued                 | Benlian and Hess (2011); Kaur and Arora (2021); Ma et al. (2021); Christ et al. (2015); Yau-Yeung et al. (2020) |
| RIS4                                          | We are concerned that continued reliance on online accounting services could make our firm overly dependent on the service provider | Gewald and Dibbern (2009); Benlian and Hess (2011); Yau-Yeung et al. (2020)                                     |
| RIS5                                          | We are concerned that using online accounting services could result in our firm's accounting data being lost or corrupted           | Gangwar et al. (2015); Yau-Yeung et al. (2020)                                                                  |
| <b>Technological factors (TEC)</b>            |                                                                                                                                     |                                                                                                                 |
| TEC1                                          | The system is easy for our staff to use                                                                                             | Venkatesh et al. (2003)                                                                                         |
| TEC2†                                         | The system used by our service provider operates stably and without failures                                                        | Venkatesh et al. (2003)                                                                                         |
| TEC3                                          | The system is compatible with our firm's existing processes and software                                                            | Venkatesh et al. (2003)                                                                                         |
| TEC4                                          | Integrating the system with our existing work did not require substantial effort                                                    | Venkatesh et al. (2003)                                                                                         |
| TEC5†                                         | The system's data security mechanisms are adequate for our firm's needs                                                             | Venkatesh et al. (2003)                                                                                         |
| <b>Trust in the service provider (TRU)</b>    |                                                                                                                                     |                                                                                                                 |
| TRU1                                          | Our service provider keeps our firm's best interests in mind                                                                        | McKnight et al. (2002); Gefen et al. (2003); Chau et al. (2007)                                                 |

**Table A1 (cont.).** Measurement items and source scales

| Item code                                          | Measurement item                                                                                                   | Source scale                                                                                      |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| TRU2                                               | Our service provider is honest in its dealings with our firm                                                       | McKnight et al. (2002); Gefen et al. (2003)                                                       |
| TRU3†                                              | Our service provider keeps the promises and commitments it makes to our firm                                       | McKnight et al. (2002); Chau et al. (2007)                                                        |
| TRU4                                               | Our service provider behaves in ways that are consistent with our firm's expectations                              | Gefen et al. (2003); Chau et al. (2007)                                                           |
| TRU5                                               | Our service provider is trustworthy                                                                                | Gefen et al. (2003); Chau et al. (2007)                                                           |
| <b>Continued use (ADO)</b>                         |                                                                                                                    |                                                                                                   |
| ADO1                                               | Our firm uses the online accounting service regularly in its accounting work                                       | Sundaram et al. (2007); Everaert et al. (2010); Oosthuizen et al. (2020); Al-Okaily et al. (2023) |
| ADO2                                               | Our firm relies on the online accounting service for a substantial part of its accounting activities               | Al-Okaily et al. (2023)                                                                           |
| ADO3                                               | Most of our firm's accounting workload is performed through online accounting services                             | Everaert et al. (2010)                                                                            |
| ADO4                                               | Online accounting services have become part of our firm's accounting work processes                                | Sundaram et al. (2007)                                                                            |
| ADO5†                                              | Our firm has continued to use online accounting services in its accounting operations since their initial adoption | Sundaram et al. (2007)                                                                            |
| <b>Non-financial operational performance (PER)</b> |                                                                                                                    |                                                                                                   |
| PER1                                               | Our firm's operational processes have become more streamlined                                                      | Cleary and Quinn (2016); Van Looy and Shafagatova (2016)                                          |
| PER2                                               | Our firm's overall operational productivity has improved                                                           | Ngoc et al. (2023); Vo et al. (2024)                                                              |
| PER3†                                              | Managers in our firm can make more effective business decisions                                                    | Phornlaphatrachakorn (2019), Hung et al. (2023)                                                   |
| PER4                                               | Our firm's ability to respond to changes and emerging business issues has improved                                 | DeLone and McLean (2003); Prayag et al. (2018)                                                    |
| PER5                                               | Our firm's customer service has improved                                                                           | Monteiro et al. (2024)                                                                            |