

FACTORS AFFECTING ACCOUNTING EFFICIENCY IN SMALL AND MEDIUM SIZED TRADING BUSINESSES IN NAKHON RATCHASIMA PROVINCE*

Nunticha Pudjaiyo¹, Jeeranan Teerapaporn² and Kajornatthapol Pongwiritthon³

¹Faculty of Business Administration, Nakhon Ratchasima College, Thailand

²Faculty of Business Administration, Northern College, Thailand

³IQRA Business School, University of Geomatika Malaysia

Corresponding Author's Email: tok2029@gmail.com

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Abstract

This study addresses the limited empirical evidence on accounting efficiency among provincial small and medium-sized enterprises (SMEs) in Thailand, where inconsistent accounting practices and resource constraints often hinder effective financial management. The research aims to: (1) assess the level of accounting efficiency, (2) examine the relationships between key managerial and organizational factors, and (3) determine the predictive influence of these factors on accounting efficiency.

A quantitative cross-sectional survey design was employed, and data were collected from 410 respondents using stratified sampling to ensure representation across trading SMEs in Nakhon Ratchasima Province. The data were analyzed using descriptive statistics, Pearson correlation, and multiple regression analysis.

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The results indicate that: (1) accounting efficiency is at a high level ($M = 3.92$, $SD = 0.51$); (2) accounting knowledge, work experience, internal control systems, and technology utilization are positively and significantly correlated with accounting efficiency ($p < .01$); and (3) the regression model is statistically significant ($R^2 = .36$, $p < .001$), with internal control systems emerging as the strongest predictor ($\beta = .29$), followed by accounting knowledge ($\beta = .24$), technology utilization ($\beta = .20$), and work experience ($\beta = .18$).

The findings suggest that SME owners should prioritize the implementation of structured internal control procedures, invest in continuous accounting training, and adopt digital accounting systems to enhance financial accuracy and reporting efficiency. These practical actions can strengthen financial management capacity and improve the long-term sustainability of SMEs in provincial economic contexts.

Keywords: Accounting Efficiency, SMEs, Trading Businesses, Nakhon Ratchasima Province, Accounting Performance

Introduction

Small and medium-sized enterprises (SMEs) play a critical role in economic development, employment generation, and income distribution in both developed and developing economies. According to the Organisation for Economic Co-operation and Development (OECD, 2017), SMEs constitute the majority of business establishments worldwide and contribute substantially to national gross domestic product (GDP). In emerging economies such as Thailand, SMEs are particularly important in driving regional economic growth and reducing income inequality. Among various sectors, trading businesses especially buy-and-sell enterprises represent a dominant segment due to their relatively low entry barriers and operational flexibility.

Despite their economic significance, SMEs frequently encounter managerial and financial challenges, particularly in maintaining efficient accounting systems. Effective accounting practices provide accurate, timely, and relevant financial information that supports managerial decision-making, regulatory compliance, and performance evaluation (Horngren et al., 2015). Conversely, inefficient accounting processes may result in poor financial control, tax compliance risks, and ineffective cash flow management, ultimately undermining business sustainability. These challenges are often more pronounced in provincial SMEs, where resource constraints, limited access to professional expertise, and institutional differences can adversely affect accounting performance.

Prior research indicates that accounting efficiency is influenced by multiple factors, including accounting knowledge, work experience, internal control systems, and technology utilization (Ismail & King, 2007; Romney & Steinbart, 2018). However, the mechanisms through which these factors operate may vary significantly depending on the organizational and environmental context. In provincial SME settings, where businesses often operate with limited resources and informal management structures, the interaction between human capital and organizational systems becomes particularly critical.

This study adopts human capital theory and contingency theory as complementary theoretical frameworks to explain accounting efficiency in provincial SMEs. Human capital theory posits that individuals' knowledge, skills, and experience enhance productivity and organizational performance (Becker, 1964). In the context of SME accounting, the competence of owners and accounting personnel directly influences the accuracy and reliability of financial reporting. Meanwhile, contingency theory suggests that organizational effectiveness depends on the alignment between internal capabilities and external environmental conditions (Otley, 1980). For trading SMEs operating in provincial areas, variations in regulatory enforcement, market competition, and

resource availability necessitate adaptive accounting systems and internal control mechanisms. Therefore, integrating these two theoretical perspectives provides a more comprehensive explanation of accounting efficiency in context-specific SME environments.

Nakhon Ratchasima Province serves as one of the largest economic centers in Northeastern Thailand, with a high concentration of trading SMEs engaged in wholesale and retail activities. As a strategic economic hub connecting central and northeastern regions, the province experiences increasing business competition and regulatory pressures related to taxation and financial reporting. These conditions make efficient accounting systems essential for sustaining business performance and ensuring compliance. Despite its economic importance, empirical research focusing specifically on accounting efficiency among SMEs in Nakhon Ratchasima remains limited, particularly in terms of identifying key determinants using rigorous statistical approaches.

Existing studies in Thailand have primarily examined SME performance, accounting practices, or financial reporting at a national level, often relying on descriptive analysis or focusing on single-factor relationships. While these studies provide useful insights, they offer limited explanatory power regarding the combined and relative influence of multiple determinants on accounting efficiency. Furthermore, there is a lack of province-specific empirical evidence that captures the unique operational and environmental conditions faced by SMEs in regional economies. This limitation highlights a critical gap in the literature, particularly for trading SMEs that operate under competitive pressures and resource constraints.

Accordingly, this study aims to investigate the factors influencing accounting efficiency among small and medium-sized trading enterprises in Nakhon Ratchasima Province. By employing a quantitative approach and multiple regression analysis, the study seeks to identify the key determinants and assess

their relative importance in predicting accounting efficiency. The findings are expected to contribute to the literature by providing context-specific empirical evidence and to offer practical implications for policymakers, business owners, and accounting professionals seeking to enhance financial management practices and SME sustainability in provincial Thailand.

Objectives

1. To assess the level of accounting efficiency among small and medium-sized trading enterprises in Nakhon Ratchasima Province, Thailand.
2. To examine the relationships between selected managerial and organizational factors namely accounting knowledge, work experience, internal control systems, and technology utilization and accounting efficiency.
3. To determine the relative influence of accounting knowledge, work experience, internal control systems, and technology utilization on accounting efficiency using multiple regression analysis.

Literature Review

Accounting efficiency is widely recognized as a critical determinant of organizational performance, particularly in small and medium-sized enterprises (SMEs) where financial and human resources are often constrained. Efficient accounting systems ensure the provision of timely, accurate, and reliable financial information, which is essential for managerial decision-making, regulatory compliance, and operational control (Romney & Steinbart, 2018). However, in SME contexts, accounting efficiency is shaped not only by technical systems but also by the interaction between human capabilities, organizational structures, and technological resources.

From a theoretical perspective, human capital theory and contingency theory provide complementary explanations for variations in accounting

efficiency. Human capital theory emphasizes that individuals' knowledge, skills, and experience enhance organizational productivity (Becker, 1964), suggesting that accounting knowledge and work experience directly improve the accuracy and reliability of financial reporting. Empirical evidence supports this view, as prior studies have demonstrated that the effectiveness of accounting information systems is strongly influenced by the expertise of owner-managers and accounting personnel (Ismail & King, 2007; Mitchell et al., 2000). However, while human capital is essential, it alone may not guarantee efficiency in the absence of structured organizational systems.

Contingency theory extends this perspective by proposing that organizational effectiveness depends on the alignment between internal capabilities and environmental conditions (Otley, 1980). In SMEs, particularly those operating in provincial contexts, resource limitations and institutional variability necessitate adaptive internal control mechanisms and flexible accounting systems. Internal control systems play a crucial role in this regard by establishing standardized procedures, reducing the risk of errors and fraud, and enhancing the reliability of financial reporting (COSO, 2013). Empirical studies suggest that SMEs with well-developed internal control structures are more likely to achieve consistent and systematic accounting performance.

In addition to human and organizational factors, technological capabilities have become increasingly central to accounting efficiency. While earlier studies emphasized the role of accounting information systems in improving data processing and reporting efficiency (Grande et al., 2011), recent developments in cloud accounting, digital platforms, and AI-driven automation have significantly transformed SME accounting practices. Cloud-based accounting systems enable real-time data access, reduce operational costs, and enhance scalability, while automation tools improve transaction processing speed and minimize human error. These technological advancements suggest that technology utilization is

no longer a supplementary factor but a core driver of accounting efficiency in modern SME environments.

Taken together, the literature indicates that accounting efficiency in SMEs is best understood as a multidimensional construct shaped by the interaction of human capital (knowledge and experience), organizational systems (internal controls), and technological capabilities (digital accounting tools). However, prior research has often examined these factors in isolation or focused on broader financial performance outcomes rather than directly analyzing accounting efficiency. Moreover, limited empirical studies have investigated the combined and relative influence of these determinants within specific provincial contexts in Thailand.

To address these gaps, this study develops the following hypotheses:

H1: Accounting knowledge has a significant positive effect on accounting efficiency.

H2: Work experience has a significant positive effect on accounting efficiency.

H3: Internal control systems have a significant positive effect on accounting efficiency.

H4: Technology utilization has a significant positive effect on accounting efficiency.

mall and medium-sized trading enterprises in Nakhon Ratchasima Province.

Methodology

1. Research Design

This study adopts a quantitative research design using a cross-sectional survey approach to examine the factors influencing accounting efficiency among small and medium-sized trading enterprises (SMEs) in Nakhon Ratchasima

Province, Thailand. The survey method is appropriate for collecting standardized data from a large sample and allows for statistical generalization within a defined population (Creswell & Creswell, 2018). Descriptive statistics were employed to assess the level of accounting efficiency, while multiple regression analysis was used to examine the predictive relationships among variables.

2. Population and Sample

The target population comprises owners, accounting managers, and accounting staff working in small and medium-sized trading businesses (buy-and-sell enterprises) in Nakhon Ratchasima Province. According to data obtained from the Department of Business Development (DBD, 2023), the total population of registered trading SMEs in the province is approximately $N = 3,500$ firms.

The sample size was determined using Yamane's (1973) formula for finite populations with a margin of error of 0.05: $n = N / (1 + N(e^2))$

Based on this calculation, the required sample size was approximately 359 respondents. To enhance statistical power and account for potential non-response bias, a total of 410 valid responses were collected.

A stratified sampling technique was employed to ensure proportional representation across different business sizes and trading sectors within the province. This approach improves the representativeness and generalizability of the findings.

3. Research Instrument

Data were collected using a structured questionnaire consisting of two sections. The first section captured demographic and organizational characteristics, including education level, work experience, business size, and technology utilization. The second section measured accounting efficiency and its determinants using a five-point Likert scale ranging from 1 (very low) to 5 (very high).

Accounting efficiency was operationalized across four dimensions: accuracy, timeliness, compliance, and systematic record-keeping, consistent with accounting information system principles (Romney & Steinbart, 2018). Independent variables included accounting knowledge, work experience, internal control systems, and technology utilization. Measurement items were adapted from established studies and theoretical frameworks (COSO, 2013; Ismail & King, 2007).

4. Validity and Reliability

Content validity was assessed through expert evaluation involving three specialists in accounting and business research. Item-Objective Congruence (IOC) scores ranged from 0.67 to 1.00, indicating acceptable content validity. A pilot test was conducted with 30 respondents to refine the questionnaire. Internal consistency reliability was evaluated using Cronbach's alpha, with coefficients ranging from 0.81 to 0.90, exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994).

5. Common Method Bias

Since data for both independent and dependent variables were collected from the same respondents using a single instrument, common method bias (CMB) was assessed. Harman's single-factor test was conducted, and the results indicated that the first factor accounted for less than 50% of the total variance, suggesting that common method bias was not a significant concern.

6. Data Analysis

Data were analyzed using statistical software. Descriptive statistics (mean and standard deviation) were used to evaluate the level of accounting efficiency. Pearson correlation analysis was employed to examine relationships among variables. Multiple regression analysis was conducted to test the hypotheses and assess the predictive effects of independent variables on accounting efficiency. The regression model is specified as follows:

$$Y = \beta_0 + \beta_1(\text{Knowledge}) + \beta_2(\text{Experience}) + \beta_3(\text{Internal Control}) + \beta_4(\text{Technology}) + \epsilon$$

where Y represents accounting efficiency and ϵ is the error term.

Prior to analysis, assumptions of normality, linearity, homoscedasticity, and multicollinearity were examined. Variance Inflation Factor (VIF) values ranged below 10, indicating no multicollinearity issues (Hair et al., 2019). Statistical significance was evaluated at the 0.05 level.

7. Ethical Considerations

This study was conducted in accordance with established ethical standards for research involving human participants. Prior to data collection, participants were informed about the purpose of the study, the voluntary nature of their participation, and their right to withdraw at any time without any negative consequences. Informed consent was obtained from all respondents before participation.

Confidentiality and anonymity were strictly maintained throughout the research process. No personally identifiable information was collected, and all responses were reported in aggregate form to ensure that individual participants and organizations could not be identified. Data were securely stored and used solely for academic purposes.

In addition, the study ensured that no harm, risk, or discomfort was imposed on participants. The questionnaire was designed to avoid sensitive or intrusive questions. The research process adhered to ethical guidelines for social science research and complied with institutional research standards.

Where applicable, the study protocol was reviewed and approved by the relevant institutional ethics committee.

Results

A total of 410 valid questionnaires were collected from small and medium-sized trading enterprises in Nakhon Ratchasima Province. The majority of respondents were accounting staff (46.3%), followed by business owners (32.0%) and accounting managers (21.7%). Most respondents held a bachelor's degree (72.4%), and over half had more than five years of accounting-related experience (58.1%).

1. Level of Accounting Efficiency

To address Objective 1, descriptive statistics were computed. The overall level of accounting efficiency was high ($M = 3.92$, $SD = 0.51$). Among the dimensions, accuracy ($M = 4.01$, $SD = 0.56$) and timeliness ($M = 3.95$, $SD = 0.59$) exhibited the highest mean scores, whereas compliance ($M = 3.82$, $SD = 0.63$) recorded the lowest.

To further examine whether differences among these dimensions were statistically significant, a repeated-measures analysis of variance (ANOVA) is recommended. Although the present analysis indicates observable variation, the statistical significance of these differences should be interpreted with caution in the absence of formal post hoc comparisons.

2. Reliability Analysis

Cronbach's alpha coefficients ranged from 0.81 to 0.90 across all constructs, indicating strong internal consistency (Nunnally & Bernstein, 1994).

3. Correlation Analysis

Pearson correlation analysis was conducted to examine relationships among variables. As shown in Table 1, all independent variables accounting knowledge, work experience, internal control systems, and technology utilization were positively and significantly correlated with accounting efficiency ($p < .01$), supporting Hypotheses H1–H4 at the bivariate level.

Table 1 Correlation Matrix among Accounting Efficiency and Independent Variables

Variable	1	2	3	4	5
1. Accounting Efficiency	1				
2. Accounting Knowledge	.34**	1			
3. Work Experience	.29**	.41**	1		
4. Internal Control Systems	.38**	.36**	.27**	1	
5. Technology Utilization	.31**	.33**	.22**	.45**	1

Note. $p < .01$. All correlations are significant at the 0.01 level (two-tailed).

4. Multiple Regression Analysis

Multiple regression analysis was conducted to test the proposed hypotheses. Assumption testing confirmed normality, linearity, homoscedasticity, and the absence of multicollinearity.

Table 2 Multiple Regression Analysis of Factors Influencing Accounting Efficiency

Variable	B	SE	β	t	p	VIF	Tolerance
Constant	2.14	0.31	—	6.90	< .001	—	—
Accounting Knowledge	0.21	0.05	.24	4.20	< .001	1.74	0.57
Work Experience	0.17	0.06	.18	2.83	.005	1.68	0.60
Internal Control Systems	0.25	0.05	.29	4.98	< .001	2.11	0.47
Technology Utilization	0.19	0.06	.20	3.17	.002	1.32	0.76

Model Summary: $R^2 = .36$, Adjusted $R^2 = .35$, $F(4, 405) = 57.12$, $p < .001$

Note. Dependent variable: Accounting Efficiency.

Table 2 presents the regression results. Variance Inflation Factor (VIF) values ranged from 1.32 to 2.11, and tolerance values ranged from 0.47 to 0.76, indicating no multicollinearity concerns (Hair et al., 2019).

The regression model was statistically significant ($R^2 = .36$, Adjusted $R^2 = .35$, $F(4, 405) = 57.12$, $p < .001$), explaining 36% of the variance in accounting efficiency. Internal control systems emerged as the strongest predictor ($\beta = .29$, $p < .001$), followed by accounting knowledge ($\beta = .24$, $p < .001$), technology utilization ($\beta = .20$, $p = .002$), and work experience ($\beta = .18$, $p = .005$).

These results support all four hypotheses (H1–H4), indicating that both human capital factors and organizational and technological mechanisms significantly influence accounting efficiency among SMEs.

For improved clarity and interpretability, Figure 1 presents a conceptual path diagram illustrating the standardized regression coefficients (β) for all relationships examined in this study.

Overall, the findings provide robust empirical support for the proposed model and demonstrate the relative importance of internal control systems, accounting knowledge, technology utilization, and work experience in predicting accounting efficiency.

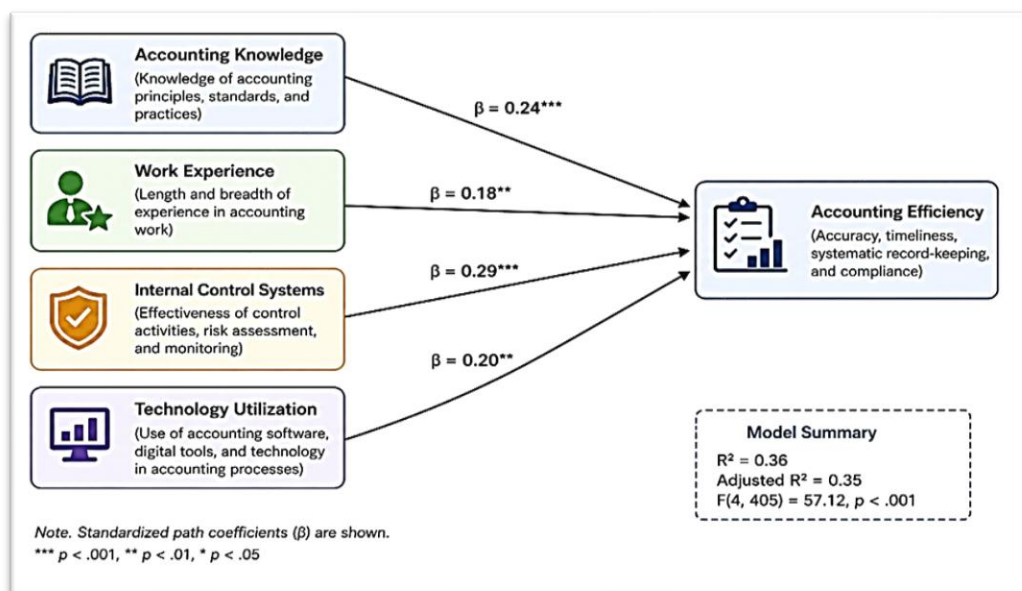


Figure 1 Structural Model of Determinants of Accounting Efficiency in Small and Medium-Sized Trading Enterprises

Discussion

This study provides important insights into accounting efficiency among small and medium-sized trading enterprises in Nakhon Ratchasima Province, offering both theoretical and contextual contributions. The findings extend existing literature by demonstrating how human capital, organizational systems, and technological capabilities interact to influence accounting performance within a provincial SME context.

First, the results indicate a high overall level of accounting efficiency, suggesting that SMEs in Nakhon Ratchasima have developed relatively structured accounting practices despite typical constraints such as limited financial resources and restricted access to professional expertise. This finding is consistent with recent studies in emerging economies, which report increasing adoption of formal accounting practices among SMEs due to regulatory pressures and growing

awareness of financial management importance. However, a closer examination of individual dimensions reveals that compliance with regulatory requirements scored lower than accuracy and timeliness.

This discrepancy can be interpreted through the lens of contingency theory. While SMEs may be capable of maintaining internally efficient processes (e.g., accurate and timely record-keeping), compliance is more strongly influenced by external institutional factors, such as the consistency of regulatory enforcement, accessibility of tax advisory services, and the complexity of reporting requirements. In provincial contexts, where regulatory monitoring may be less stringent or unevenly enforced compared to metropolitan areas, SMEs may prioritize operational efficiency over strict regulatory compliance. This suggests that accounting efficiency is not solely determined by internal capabilities but is contingent upon the external regulatory environment.

Second, the significant relationships between accounting knowledge, work experience, internal control systems, and technology utilization with accounting efficiency reinforce the combined explanatory power of human capital theory and contingency theory. The finding that internal control systems exert the strongest influence aligns with prior research emphasizing the importance of structured processes in ensuring reliable accounting practices. However, compared to studies conducted in more developed SME ecosystems, where technological adoption often emerges as the dominant driver, the relatively stronger role of internal control systems in this study highlights the importance of organizational discipline in resource-constrained environments. This suggests that SMEs in provincial Thailand may rely more heavily on procedural control mechanisms than on advanced technological solutions.

Comparatively, these findings are broadly consistent with evidence from other emerging economies, where SMEs often depend on managerial competence and internal controls to compensate for limited technological infrastructure. However, the relatively moderate effect of technology utilization

in this study indicates that digital transformation among SMEs in Nakhon Ratchasima may still be at a transitional stage. This context-specific insight underscores the importance of considering regional variations when evaluating SME accounting practices, rather than generalizing findings from urban or highly digitalized environments.

Third, while the regression model explains 36% of the variance in accounting efficiency, a substantial proportion (64%) remains unexplained. This indicates that additional factors not included in the model may also play a significant role. Potential determinants may include organizational culture, leadership style, external auditing practices, government support programs, and the influence of professional networks. In particular, cultural attitudes toward compliance, informal business practices, and varying levels of regulatory engagement may significantly affect accounting behavior in SMEs. Therefore, future research should incorporate these latent variables to develop a more comprehensive explanatory model.

Overall, the findings confirm that accounting efficiency in provincial SMEs is a multidimensional construct shaped by the interaction of human, organizational, and technological factors within a specific institutional context. By integrating human capital and contingency perspectives, this study provides a more nuanced understanding of SME accounting practices and highlights the importance of aligning internal capabilities with external environmental conditions to achieve sustainable financial management outcomes.

Recommendation

Based on the findings of this study, several practical and research-oriented recommendations are proposed, categorized by key stakeholder groups.

1. Recommendations for SME Owners

SME owners and managers should prioritize the development of structured internal control systems, as these were identified as the strongest determinant of accounting efficiency. This includes implementing standardized documentation procedures, regular financial monitoring, and internal audit practices. In addition, investment in continuous accounting training and professional development is essential to enhance accounting knowledge and competencies among staff.

Given the significant role of technology utilization, SME owners are encouraged to adopt cloud-based accounting systems and digital financial tools. These technologies can improve real-time data access, reduce human error, and enhance reporting efficiency. Firms should also consider integrating automated accounting functions, such as invoicing and expense tracking, to streamline operations and improve financial accuracy.

1.1 Recommendations for Accounting Professionals

Accounting professionals, including external accountants and consultants, should play a more proactive role in supporting SMEs by providing advisory services beyond routine bookkeeping. This includes offering guidance on internal control system design, financial risk management, and compliance with regulatory standards.

Furthermore, accounting professionals should facilitate the adoption of digital accounting technologies by training SME personnel in the effective use of accounting software and cloud platforms. Enhancing digital literacy among SME staff will be critical in maximizing the benefits of technological adoption and ensuring long-term improvements in accounting efficiency.

1.2 Recommendations for Government and Policymakers

Government agencies and SME development institutions should design targeted policies to strengthen both organizational systems and technological capabilities among SMEs. In particular, policymakers should consider introducing

financial incentives, such as tax deductions or subsidies, to encourage the adoption of accounting software and cloud-based financial systems.

Additionally, the establishment of provincial digital training hubs could support SMEs in developing practical skills related to digital accounting tools, financial reporting, and compliance. Collaboration between public institutions, universities, and professional accounting bodies would further enhance the effectiveness of these initiatives.

2. Recommendations for Future Research

Future research should adopt a longitudinal design to examine how accounting efficiency evolves over time, particularly during periods of economic fluctuation in the Northeastern region of Thailand. Such an approach would provide deeper insights into the stability and adaptability of SME accounting practices under changing economic conditions.

Moreover, future studies should explore additional variables not included in the present model, such as organizational culture, leadership style, external auditing practices, and government support mechanisms, to develop a more comprehensive understanding of the determinants of accounting efficiency in SMEs.

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