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# Accounting Information Systems, Information Technology, and Culinary MSME Performance: Evidence from Medan Perjuangan, Indonesia

**Valerie[1], Sri Rezeki[2], Franssisco Antonio Lukita[3], Aisyah Sakinah[4]**
Accounting Study Program, Sekolah Tinggi Ilmu Ekonomi Eka Prasetya[1]
Medan, Sumatera Utara, 20212, Indonesia

Management Study Program, Universitas Negeri Medan, Kota Medan, Sumatera[2]
Utara, 20221, Indonesia

Management Study Program, Sekolah Tinggi Ilmu Ekonomi Eka Prasetya[3,4]
Kota Medan, Sumatera Utara, 20212, Indonesia

*Correspondence Email: valeriechai8@gmail.com

## ABSTRACT

This study aims to examine the relationships between Accounting Information Systems (AIS), Information Technology (IT), and the performance of culinary Micro, Small, and Medium Enterprises (MSMEs) in Medan Perjuangan, Indonesia. The study was motivated by persistent challenges faced by culinary MSMEs in monitoring profits, preparing financial reports, and utilizing digital technology effectively. Data were collected from 129 culinary MSME owners or managers selected through purposive sampling and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that AIS has a positive and significant relationship with MSME performance ($\beta = 0.391$; $t = 5.699$; $p < 0.001$), while IT also demonstrates a positive and significant relationship with performance ($\beta = 0.442$; $t = 6.579$; $p < 0.001$). The structural model explains 51.9% of the variance in MSME performance ($R^2 = 0.519$), indicating moderate explanatory power. Furthermore, IT shows a relatively larger contribution than AIS within the estimated model, although the difference was not statistically compared. These findings suggest that improving the quality of accounting information systems and strengthening the use of information technology can support better business performance among culinary MSMEs. The study contributes to the literature by providing empirical evidence from Medan Perjuangan and offers practical insights for MSME owners and policymakers seeking to enhance financial management and digital transformation initiatives.

**Keywords:** Accounting Information Systems; Information Technology; Culinary MSMEs; Business Performance; PLS-SEM

## INTRODUCTION

Shifts in economic structures and consumer behavior over recent decades have compelled micro, small, and medium enterprises (MSMEs) to enhance both operational efficiency and adaptability. Competition at local and national levels further drives MSMEs to strengthen internal governance in order to sustain and grow (Purnamasari & Asharie, 2024). Volatile macroeconomic conditions, limited capital, and administrative demands are real challenges for the sustainability of micro and small businesses (Rezeki et al., 2025).

The growth of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia particularly within Medan Perjuangan District demonstrates a notable role in driving regional economic expansion. MSMEs not only play a role as job providers, but also as the driving force of the community's economy. However, in the face of the era of digitalization and increasingly fierce business competition, MSMEs are required to be able to manage financial information accurately and utilize information technology optimally.

The table below presents data on the number of Micro, Small, and Medium Enterprises (MSMEs) in North Sumatra Province over the past five years, offering an overview of their performance trends.

**Table 1.**
Micro and Small Manufacturing Establishments (IMK) in North Sumatra Province

| Year | North Sumatra (units) | Indonesia (units) | Percentage Proportion |
|---|---|---|---|
| 2019 | 127.152 | 4.380.176 | 2.90% |
| 2020 | 120.163 | 4.209.817 | 2.85% |
| 2021 | 132.382 | 4.162.688 | 3.18% |
| 2022 | 120.914 | 4.339.228 | 2.79% |
| 2023 | 126.907 | 4.500.584 | 2.82% |

Source: Statistics Indonesia (Badan Pusat Statistik), Profile of Micro and Small Manufacturing Industry (IMK) in North Sumatra Province 2023, published December 2024, Table 1. Data years: 2019–2023.

According to IMK data from Statistics Indonesia, the number of micro and small manufacturing establishments in North Sumatra fluctuated between 2019 and 2023. The count declined from 127,152 units in 2019 to 120,163 units in 2020, then rose sharply to 132,382 units in 2021 (+12,219). In 2022, the figure fell to 120,914 units (−11,468), before increasing again to 126,907 units in 2023 (+5,993). These changes highlight the volatility of manufacturing MSMEs, reflecting both recovery and contraction phases within the five-year period.

To provide clearer insight into the concentration of business activities at the Medan City level, the following table presents data on the distribution of MSMEs across its sub-districts.

**Table 2.**
MSMEs per Sub-district in Medan City

| No | Districts | Number of MSMEs (Units) | Percentage |
|---|---|---|---|
| 1 | Medan Tuntungan | 9.705 | 10,76% |
| 2 | Medan Johor | 3.244 | 3,60% |
| 3 | Medan Amplas | 5.692 | 6,31% |
| 4 | Medan Denai | 5.593 | 6,20% |
| 5 | Medan Area | 7.263 | 8,05% |
| 6 | Medan Kota | 4.916 | 5,45% |
| 7 | Medan Maimun | 1.060 | 1,17% |
| 8 | Medan Polonia | 1.004 | 1,11% |
| 9 | Medan Baru | 2.524 | 2,80% |
| 10 | Medan Selayang | 2.991 | 3,32% |
| 11 | Medan Sunggal | 3.333 | 3,69% |
| 12 | Medan Helvetia | 5.272 | 5,84% |
| 13 | Medan Petisah | 3.312 | 3,67% |
| 14 | Medan Barat | 3.803 | 4,21% |
| 15 | Medan Timur | 3.933 | 4,36% |
| 16 | Medan Perjuangan | 4.749 | 5,26% |
| 17 | Medan Tembung | 6.997 | 7,75% |
| 18 | Medan Deli | 2.884 | 3,20% |
| 19 | Medan Labuhan | 2.890 | 3,20% |
| 20 | Medan Marelan | 4.305 | 4,77% |

| | | | |
|---|---|---|---|
| 21 | Medan Belawan | 4.776 | 5,29% |
| **Total** | | **90.246** | **100%** |

Source: Badan Pusat Statistik Kota Medan. (2025). (Medan Municipality in Figures 2025). Medan: BPS Kota Medan.

According to Medan Municipality in Figures 2025, Medan City had 90,246 MSMEs, of which 4,749 units (5.26%) were located in Medan Perjuangan District. While these figures represent MSMEs across all business sectors, this study focuses specifically on 190 culinary MSMEs operating in the district. The distribution of MSMEs across Medan City is relatively balanced, although several districts exhibit higher concentrations than others. Therefore, the present study narrows its scope to culinary MSMEs in Medan Perjuangan to provide a more focused analysis of business performance in the culinary sector.

Digital adoption among Indonesian MSMEs has increased, although the level and forms of adoption vary across business sectors and business functions. Previous studies and institutional reports indicate that MSMEs increasingly utilize digital technologies for transaction processing, marketing, and business operations, while challenges remain in financial management and the preparation of formal financial records (Bank Indonesia, 2023; Badan Pusat Statistik, 2024; OJK, 2023). These conditions highlight the continuing need for digital literacy and managerial support to strengthen the competitiveness and sustainability of culinary MSMEs in Medan Perjuangan District.

Digital adoption has become increasingly important for MSME development in Indonesia. Previous reports indicate that MSMEs have expanded the use of digital technologies to support business operations, marketing activities, and financial management, although the level of adoption varies across business sectors and enterprise characteristics (Affandi et al., 2023; Statistik, 2023). In addition, challenges related to financial governance and the preparation of formal financial records remain important issues for many MSMEs (OJK, 2023). These conditions underline the need for stronger digital literacy and managerial capabilities to support the performance and sustainability of culinary MSMEs in Medan Perjuangan.

MSME performance in Medan Perjuangan District remains constrained by low productivity, unstable cash flow, limited access to formal financing, inadequate financial records, and the absence of systematic customer feedback mechanisms. These challenges hinder business evaluation and decision-making, reduce competitiveness, and threaten the long-term sustainability of MSMEs.

Based on initial interviews with 15 culinary MSME owners in Medan Perjuangan District, 67% reported difficulties in monitoring operating profits, while 53% did not prepare monthly financial reports. These findings indicate weaknesses in financial recording and control practices, highlighting the importance of Accounting Information Systems and Information Technology in supporting MSME performance improvement. Who do manual recording so that financial statements are inconsistent and difficult to use as a basis for decision-making.

MSMEs in Medan Perjuangan District play a strategic role in supporting the local economy; however, they continue to face challenges in managing financial information and adopting technology. One of the main obstacles is the implementation of AIS, as many business owners still rely on manual record-keeping, resulting in inconsistent financial reports that are less reliable for decision-making. The limited adoption of digital accounting applications, constrained by knowledge gaps and cost barriers, poses a challenge that hinders MSMEs from performing financial analyses efficiently and accurately (Simbolon et al., 2025). In addition, the digital storage of transaction essvidence has not become a habit, thus creating the risk of data loss and difficulties in the audit process (Syahputra et al., 2022).

Preliminary interviews conducted in July 2025 with 15 culinary MSME owners in Medan Perjuangan, selected through purposive sampling, identified two main difficulties: monitoring profits and preparing monthly financial statements. These local conditions provide a basis for examining the direct relationships between accounting information systems and information technology with culinary MSME performance in Medan Perjuangan. Previous studies report different findings on the effect of information technology on business performance. (Farina & Opti, 2023) found a nonsignificant IT effect, whereas (Firdhaus & Akbar, 2022) reported a positive and significant effect. This difference motivates further testing of the IT–performance relationship in the Medan Perjuangan context. In addition, this study complements (Risfadillah et al., 2025) in Medan Johor by providing evidence for another district and business setting.

**Table 3.**
Previous Studies Summary

| Author & Year | Variable | Objects | Findings | Research Position |
|---|---|---|---|---|
| (Al-hattami et al, 2021) | Accounting Information System (AIS) Success | MSMEs in Yemen | AIS significantly influences SME performance in Yemen, measured by cash flow, net profit, and ROI. | The present research extends this relationship to culinary MSMEs in Medan Perjuangan, using broader indicators such as sales growth, operational efficiency, and customer satisfaction. |
| (Farina & Opti, 2023) | Information Technology | MSMEs (general) | IT effect on performance is nonsignificant. | Present research tests IT–performance relationship in Medan Perjuangan culinary MSMEs. |
| (Risfadillah et al., 2025) | AIS & IT | Culinary MSMEs in Medan Johor | AIS & IT positively affect performance. | Present research complements this by focusing on culinary MSMEs in Medan Perjuangan. |
| (Firdhaus & Akbar, 2022) | Accounting Information Systems & Information Technology | MSMEs in Surabaya | SIA & IT has a significant positive effect on the performance of MSMEs | This research expands to culinary MSMEs in Medan Perjuangan |
| (Kareem et al., 2021) | AIS & Knowledge Management | MSMEs in Iraq | AIS & KM improve organizational performance | This research adds a culinary perspective in Indonesia |
| Penelitian ini | Accounting Information Systems & Information Technology | A Field of Struggle | Testing the simultaneous influence of SIA & IT on the performance of MSMEs | Providing empirical & theoretical contributions to Medan Perjuangan culinary MSMEs |

Source: Article Journals, 2023 – 2025

Based on Table 1, the number of businesses in North Sumatra increased from 120,163 in 2020 to 132,382 in 2021, declined to 120,914 in 2022, and then increased to 126,907 in 2023. These changes indicate fluctuations, with an increase of 12,219 units in 2021, a decrease of 11,468 units in 2022, and an increase of 5,993 units in 2023.

Previous studies have reported inconsistent findings regarding the relationship between Information Technology and MSME performance. (Farina & Opti, 2023) found that Information Technology did not significantly affect MSME performance, whereas (Firdhaus & Akbar, 2022) reported a positive and significant (Risfadillah et al., 2025).

However, limited evidence is available specifically for culinary MSMEs in Medan Perjuangan. Therefore, this study examines the direct relationships of Accounting Information Systems and Information Technology with MSME performance in the context of culinary MSMEs in Medan Perjuangan.

The contribution of this study is primarily contextual, as it provides empirical evidence on the relationships between Accounting Information Systems, Information Technology, and the performance of culinary MSMEs in Medan Perjuangan. Although these relationships have been examined in other regions and sectors, evidence from culinary MSMEs in Medan Perjuangan remains limited. This study therefore extends the literature by examining these relationships in a different local business context and offers practical implications for improving financial record-keeping and digital technology utilization among MSMEs.

This study adopts the DeLone and McLean Information Systems Success Model and the Technology Acceptance Model (TAM) as its theoretical foundation. The DeLone and McLean model emphasizes the role of Accounting Information System quality in generating useful information for decision-making, while TAM highlights the importance of perceived usefulness and ease of use in technology adoption. Together, these perspectives suggest that effective Accounting Information Systems and Information Technology utilization can improve operational efficiency, support better decision-making, and enhance MSME performance.

## LITERATURE REVIEW

### MSME Performance

MSME performance represents a formal organizational effort to assess the efficiency and effectiveness of activities carried out within a specific period (Farina & Opti, 2023; Maya & Husda, 2024; Rezeki, 2025). SME performance is recognized as a significant construct in strategic management research and is frequently employed as a dependent variable (Mechman et al., 2022). According to (Suharyono, 2020), MSME performance is a measure of the work performance of a business activity which can be seen through financial and non-financial aspects. Based on the three definitions, MSME performance can be understood as a formal evaluation of efficiency, effectiveness, and revenue growth, which reflects the success of a company's strategies and operations within a specific period.

There are several indicators of MSME Performance according to (Lee, 2023) which are as follows:

1. Sales growth
2. Profit growth
3. Operational efficiency
4. Customer Satisfaction

The performance indicators used in this study were adapted from (Lee, 2023) which are as follows: which evaluates business performance through financial and operational outcomes. In the context of culinary MSMEs, the indicators were operationalized into four dimensions: sales growth, profit growth, operational efficiency, and customer satisfaction. While sales growth, profit growth, and operational efficiency are directly aligned with business performance measures discussed by (Lee, 2025) which are as follows: the customer satisfaction dimension was added as an adaptation to reflect service-related outcomes that are particularly relevant to culinary MSMEs. Therefore, the questionnaire items represent an author-adapted measurement framework based on (Lee, 2025) which are as follows: and the characteristics of culinary businesses.

**Accounting Information System**

An Accounting Information System is designed to collect, record, store, maintain, and process data related to routine accounting transactions, with the primary objective of producing reliable accounting and financial information (Maya & Husda, 2024; Risfadillah et al., 2025). AIS is a structured system utilized to collect, process, store, and present financial information related to business activities (Ariana et al., 2021). According to (Shintia & Riduwan, 2021), accounting information system is a combination of human resources and organizational capital that functions to compile financial information derived from the collection and processing of transactions. Based on the definition, an Accounting Information System (AIS) can be described as an integrated system that coordinates human resources and technical processes to collect, record, process, store, and present business transaction data securely and efficiently, transforming it into accounting and financial information that is relevant for decision-making and responsive to stakeholder needs.

There are several indicators of the Accounting Information System according to (Saba et al., 2025) which are as follows:

1. System Quality
2. Information Quality
3. Usefulness

The AIS indicators in our study are based on the DeLone and McLean is success model, which originally introduced six dimensions: System Quality, Information Quality, Service Quality, Use, User Satisfaction, and Net Benefits. In our questionnaire, we operationalized three dimensions such as system quality, information quality, and usefulness, because they are most relevant to the MSME context. The recent article by (Saba et al., 2025, Communications of the AIS, Vol. 57, Article 52) was cited to confirm the continuing applicability of these constructs. The questionnaire items administered in this study were adapted directly from the DeLone–McLean framework and are listed with page references in the revised manuscript. We have corrected the citation to (Saba et al., 2025) and clarified the theoretical basis of the nine items used.

**Information Technology**

According to (Aprianto, 2021; Hastuti et al., 2024), Information technology is a tools utilized for processing data, covering activities such as obtaining, compiling, and storing, so that useful information can be produced for users. According to (Kenny and Rezeki, 2025; Taufik, 2022), information technology is advancements in the information field that support daily tasks, including acquiring and disseminating information. According to (Munti & Syaifuddin, 2020), information Technology refers to information and communication technologies used to acquire, process, store, and utilize data to generate meaningful information. The Technology Acceptance Model (TAM) explains technology adoption through users' perceptions of usefulness and ease of use, highlighting how these perceptions influence individuals' intentions to adopt and use new technologies (Chahua-Huaqui et al., 2025). From these definitions, Information Technology can be concluded as the utilization of digital devices to manage and disseminate information.

Several indicators of Information Technology, as outlined by (Masood & Sonntag, 2020), were developed from the Technology Acceptance Model (TAM), which is relevant for explaining the acceptance and utilization of technology within MSMEs. The indicators are as follows:

1. Perceived usefulness of a technology
2. Perceived ease of use of a technology
3. Intention or attitude towards use
4. Actual Use

Based on TAM, Information Technology is commonly measured through perceived usefulness, perceived ease of use, intention to use, and actual use. While (Masood & Sonntag, 2020) adapted TAM to Industry 4.0 and operationalized IT adoption through benefits, implementation challenges, and attitudes, this study follows , (Sukwadi, 2022) by measuring Information Technology through four dimensions: perceived usefulness, perceived ease of use, intention or attitude toward use, and actual use. These dimensions capture both technology acceptance and its implementation in the daily activities of culinary MSMEs.

**Table 4.**
Measurement Items, Sources, and Adaptations of Research Constructs

| Indicator | Item Code | Question (English) | Source | Adaptation |
|---|---|---|---|---|
| AIS – System Quality | AIS1 | The accounting system runs smoothly without disruption. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to manual/digital bookkeeping in culinary MSMEs. |
| | AIS2 | The accounting system is easily accessible when needed. | (Delone & Mclean 2003,); (Saba, 2025) | Contextualized to POS or notebooks. |
| | AIS3 | The accounting system fits business needs. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME context. |
| AIS – Information Quality | AIS4 | Financial information is accurate and reliable. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to daily reporting. |
| | AIS5 | Reports are complete and meet business needs. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME reporting. |
| | AIS6 | Information is relevant for decision-making. | (Delone & Mclean 2003,); (Saba, 2025) | Localized to owner decisions. |
| AIS – Usefulness | AIS7 | The system helps manage the business effectively. | (Delone & Mclean 2003,); (Saba, 2025) | Linked to efficiency. |
| | AIS8 | The system improves financial control. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to MSME cash flow. |
| | AIS9 | The system facilitates performance evaluation. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME evaluation. |
| IT – Perceived Usefulness | IT1 | Technology increases productivity. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to service speed. |
| | IT2 | Technology provides tangible benefits. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME context. |
| | IT3 | Technology helps serve customers faster. | (Delone & Mclean 2003,); (Saba, 2025) | Linked to customer service. |
| IT – Ease of Use | IT4 | Technology is easy to learn and operate. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to apps. |

| | | | | |
|---|---|---|---|---|
| | IT5 | Digital systems are not complicated. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME adaptation. |
| | IT6 | I feel comfortable using technology. | (Delone & Mclean 2003,); (Saba, 2025) | Linked to daily use. |
| IT – Intention/Attitude | IT7 | I intend to continue using technology. | (Delone & Mclean 2003,); (Saba, 2025) | Intention construct. |
| | IT8 | I have a positive attitude toward technology. | (Delone & Mclean 2003,); (Saba, 2025) | Attitude construct. |
| | IT9 | I actively seek new ways to use technology. | (Delone & Mclean 2003,); (Saba, 2025) | Adapted to culinary MSMEs. |
| IT – Actual Use | IT10 | I routinely use technology for records/transactions. | (Delone & Mclean 2003,); (Saba, 2025) | Linked to POS. |
| | IT11 | Technology is part of daily operations. | (Delone & Mclean 2003,); (Saba, 2025) | Culinary MSME adaptation. |
| | IT12 | I use technology for marketing/communication. | (Delone & Mclean 2003,); (Saba, 2025) | Linked to social media. |
| Performance – Sales Growth | PERF1 | Sales have increased recently. | (Lee, 2023) | Adapted to culinary MSMEs. |
| | PERF2 | Number of customers has grown. | (Lee, 2023) | Localized. |
| | PERF3 | Sales are stable and growing. | (Lee, 2023) | Culinary MSME context. |
| Performance – Profit Growth | PERF4 | Profits have increased recently. | (Lee, 2023) | Linked to MSME profits. |
| | PERF5 | Business generates adequate profit. | (Lee, 2023) | Culinary MSME adaptation. |
| | PERF6 | Profits support business development. | (Lee, 2023) | Localized. |
| Performance – Operational Efficiency | PERF7 | Operational costs are well managed. | (Lee, 2023) | Culinary MSME adaptation. |
| | PERF8 | Production/service runs efficiently. | (Lee, 2023) | Linked to culinary service. |
| | PERF9 | Resources are used optimally. | (Lee, 2023) | MSME adaptation. |
| Performance – Customer Satisfaction | PERF10 | Customers give positive feedback. | (Lee, 2023) | Culinary MSME adaptation. |
| | PERF11 | Customers rate service as good. | (Lee, 2023) | Linked to service quality. |
| | PERF12 | Customers are willing to repurchase. | (Lee, 2023) | Culinary MSME adaptation. |

The questionnaire was administered in Indonesian using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The English items shown in Table 4 are translations of the original administered questionnaire for reporting purposes. In addition, PERF1–PERF12 in the questionnaire mapping correspond directly to P1–P12 in the loading table.

**Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM), originally proposed by (Davis, 1989), is one of the most widely applied frameworks for explaining technology adoption. TAM emphasizes that the success of technology utilization is strongly influenced by users' perceptions of usefulness and ease of use, which in turn shape their intention to adopt and apply technology in daily business activities. In this study, TAM is drawn upon as extended by (Sukwadi et al., 2022), who applied the model to mobile wallet adoption. Consistent with this extension, IT in the context of culinary MSMEs is measured through perceived usefulness, perceived ease of use, and user intention, reflecting acceptance rather than actual use.

Accounting Information Systems (AIS) are theoretically expected to improve MSME performance by providing accurate, reliable, and relevant financial information that supports managerial decision-making. Information Technology (IT) is likewise expected to enhance performance by increasing efficiency in recording, reporting, communication, and customer service. These expectations form the theoretical basis for the research framework.

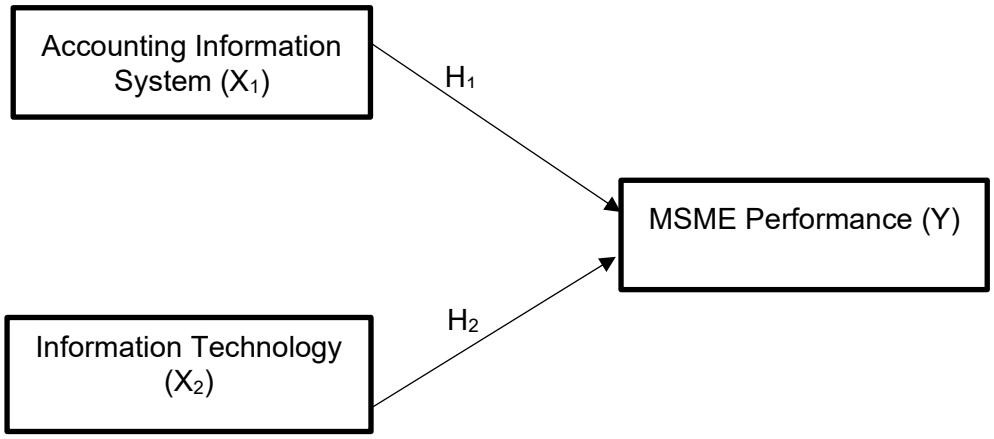



**Figure 1.** Theoretical Framework

Figure 1 presents the theoretical framework of this study. AIS and IT are specified as predictor variables, while MSME performance is the outcome variable. The model contains two direct paths: AIS → Performance and IT → Performance.

Accordingly, the hypotheses are:

$H_1$: Accounting Information Systems have a positive effect on culinary MSME performance in Medan Perjuangan.

$H_2$: Information Technology has a positive effect on culinary MSME performance in Medan Perjuangan.

This study therefore tests the direct contributions of AIS and IT to performance, without assuming conditional or mutual-reinforcement effects between the two predictors.

## RESEARCH METHOD

The population consisted of 190 culinary MSMEs in Medan Perjuangan District. The figure was derived from Medan Perjuangan District in Figures 2025, Table 6.1.2 (Number of Restaurants and Food Stalls by Sub-District in Medan Perjuangan District, 2024), which reports a total of 190 food stalls (warung makan/minum) in Medan Perjuangan District. Referring to Gultom et al. (2025), the sample represents a subset of the population with specific characteristics

The sample size was determined using Slovin's formula based on the population of 190 culinary MSMEs in Medan Perjuangan District, as listed in BPS Medan City, Medan Municipality in Figures 2025. The research records specify a margin of error (e) = 0.05 (5%), yielding:

$$n = \frac{N}{1 + N \cdot e^2}$$

$$n = \frac{190}{1 + 190 \cdot (0.05)^2} = \frac{190}{1 + 190 \cdot 0.0025} = \frac{190}{1 + 0.475} = \frac{190}{1.475} \approx 128.81$$

Respondents were selected through purposive sampling, based on criteria aligned with the research objectives. Sugiyono (2022) defines purposive sampling as a method of selecting respondents based on specific criteria determined by the researcher. Eligibility was checked against the official list of 190 culinary MSMEs in Medan Perjuangan District from BPS Medan City, Medan Municipality in Figures 2025. Each business was contacted through local business associations and direct visits. Respondents were screened to ensure they met the purposive criteria: (1) operating for more than two years, (2) using information technology in operations, and (3) maintaining financial records.

The questionnaires were completed by business owners or managers responsible for financial and operational decisions, ensuring informed responses. Data were collected during July-August 2026, resulting in 129 valid responses. Because respondents were selected purposively based on specific criteria, the findings are primarily applicable to culinary MSMEs with similar characteristics. Data were analyzed using PLS-SEM, and all constructs were modeled as reflective measurement models. MSME Performance, Accounting Information Systems, and Information Technology were measured reflectively because their indicators represent manifestations of the underlying latent constructs rather than forming them.

Evaluation of the reflective measurement model followed the guidelines of (Hair, et al., 2021):

1. Indicator Loadings: Outer loadings were examined, with most items exceeding the recommended threshold of 0.708. Items with lower loadings (e.g., AIS9 = 0.563, IT11 = 0.541) were retained due to theoretical relevance, while overall AVE and reliability remained acceptable (see Table 6).
2. Convergent Validity: Average Variance Extracted (AVE) values for all constructs exceeded 0.50, confirming that each construct explains smore than half of the variance in its indicators (see Table 6).
3. Internal Consistency Reliability: Cronbach's alpha, rho_A, and composite reliability values all exceeded 0.70, indicating satisfactory reliability (see Table 6).
4. Discriminant Validity: The HTMT ratios were below 0.90, confirming that the constructs are empirically distinct (see Table 5).

By linking each evaluation step to the relevant tables, the analysis demonstrates that statistical consistency is not taken as sufficient evidence alone; rather, the items were retained and interpreted based on both their theoretical meaning and methodological standards.

## RESULTS

**Table 5.**
Convergent Validity Test

| Code | Accounting Information System | Information Technology | Performance |
|---|---|---|---|
| AIS1 | 0.751 | | |

| | | | |
|---|---|---|---|
| AIS2 | 0.735 | | |
| AIS3 | 0.820 | | |
| AIS4 | 0.697 | | |
| AIS5 | 0.815 | | |
| AIS6 | 0.802 | | |
| AIS7 | 0.803 | | |
| AIS8 | 0.870 | | |
| AIS9 | 0.563 | | |
| IT1 | | 0.767 | |
| IT2 | | 0.714 | |
| IT3 | | 0.639 | |
| IT4 | | 0.684 | |
| IT5 | | 0.782 | |
| IT6 | | 0.763 | |
| IT7 | | 0.785 | |
| IT8 | | 0.800 | |
| IT9 | | 0.667 | |
| IT10 | | 0.709 | |
| IT11 | | 0.541 | |
| IT12 | | 0.758 | |
| P1 | | | 0.684 |
| P2 | | | 0.757 |
| P3 | | | 0.666 |
| P4 | | | 0.817 |
| P5 | | | 0.746 |
| P6 | | | 0.761 |
| P7 | | | 0.800 |
| P8 | | | 0.801 |
| P9 | | | 0.798 |
| P10 | | | 0.803 |
| P11 | | | 0.685 |
| P12 | | | 0.792 |

Source: Smart PLS, 2026

The results show that AIS is positively and significantly associated with business performance (β = 0.391; t = 5.699; p < 0.001). IT is also positively and significantly associated with business performance (β = 0.442; t = 6.579; p < 0.001). These relationships support H1 and H2. Two items showed loadings below the conventional threshold of 0.708, namely AIS9 (0.563) and IT11 (0.541). These items were retained because they capture essential aspects of transaction recording and user attitudes toward technology that are theoretically relevant to the constructs. Despite the lower loadings, the Average Variance Extracted (AVE) values for AIS and IT remained above 0.50, and Composite Reliability (CR) exceeded 0.70, confirming convergent validity and internal consistency. Retaining these items ensures that the constructs maintain content coverage while meeting reliability and validity requirements.

**Table 6.**
HTMT Test

| Code | Accounting Information System | Information Technology | Performance |
|---|---|---|---|
| Accounting Information System | | | |
| Information Technology | 0.506 | | |
| Performance | 0.648 | 0.653 | |

Source: Smart PLS, 2026

All HTMT values were found to be below the recommended threshold of 0.90, ranging between 0.506 and 0.653. This result confirms that the three constructs are empirically distinct. Consequently, the measurement model satisfies the requirement for discriminant validity.

**Table 7.**
Reliability Test

| Code | Cronbach's alpha | Rho_A | Composite reliability (rho_c) | Average variance extracted (AVE) |
|---|---|---|---|---|
| Accounting Information System | 0.910 | 0.914 | 0.927 | 0.587 |
| Information Technology | 0.917 | 0.926 | 0.928 | 0.520 |
| Performance | 0.933 | 0.937 | 0.943 | 0.579 |

Source: Smart PLS, 2026

All constructs demonstrated adequate internal consistency, with Cronbach's alpha values ranging from 0.910 to 0.933 and composite reliability values between 0.927 and 0.943. These results exceed the recommended threshold of 0.70. In addition, the AVE values ranged from 0.520 to 0.587, surpassing the minimum requirement of 0.50. Thus, the three constructs fulfilled the criteria for reliability and convergent validity.

**Table 8.**
Bootstrapping Test

| Code | Original sample (O) | Sample mean (M) | Standard deviation (STDEV) | T statistics (\|O/STDEV\|) | P values | CI 2,5% | CI 97,5% |
|---|---|---|---|---|---|---|---|
| AIS -> P | 0.391 | 0.394 | 0.069 | 5.699 | <0.001 | 0.259 | 0.527 |
| IT -> P | 0.442 | 0.445 | 0.067 | 6.579 | <0.001 | 0.312 | 0.571 |

Source: Smart PLS, 2026

The explanation of the hypothesis test:

1. Accounting Information Systems had a positive and significant effect on MSME performance (β = 0.391, t = 5.699, p < 0.001, 95% CI [0.259, 0.527]). Therefore, H1 was supported.
2. Information Technology had a positive and significant effect on MSME performance (β = 0.442, t = 6.579, p < 0.001, 95% CI [0.312, 0.571]). Therefore, H2 was supported.

Bootstrapping was performed with 5,000 resamples, following (Hair et al., 2021) recommendations for PLS-SEM. A two-tailed test was applied at a significance level of 0.05. Confidence intervals were generated using the bias-corrected and accelerated (BCa) method, ensuring robust estimation of parameter significance.

**Limitations – Bootstrap Analysis**
The significance tests in this study rely on bootstrapping with 5,000 resamples, two-tailed testing at the 0.05 level, and BCa confidence intervals. While these settings provide robust estimates, results remain dependent on the stability of resampling. Therefore, findings should be interpreted with caution, acknowledging that bootstrap-based inference reflects the sample distribution rather than a proven population effect.

The inner VIF values for Accounting Information Systems and Information Technology were 1.324, which were below the threshold of 5.00. Therefore, no critical collinearity problem was identified in the structural model. The effect size of Accounting Information Systems on MSME performance was 0.239, indicating a medium effect. Information Technology produced an effect size of 0.306, which was also categorized as a medium effect. Numerically, Information Technology had a relatively larger effect size than Accounting Information Systems in the estimated model.

The R-square value of 0.519 shows that the model explains 51.9% of performance variation; 48.1% remains unexplained by the model. The adjusted R-square value of 0.511 further supports this result. These findings suggest that the structural model possesses moderate explanatory power in accounting for MSME performance.

The $Q^2$ predict value for MSME performance was 0.490, which is greater than zero, indicating predictive relevance for the endogenous construct. PLS predict was conducted with 10 folds and 10 repetitions, and the reported row represents a construct-level summary. Nevertheless, the interpretation of out-of-sample predictive strength should be made with caution, as RMSE and MAE values of the PLS model were not compared against those of a linear benchmark model.

## DISCUSSION

**Accounting information system for the performance of culinary MSMEs Medan Perjuangan**
Accounting Information Systems had a positive and significant association with MSME performance ($\beta = 0.391$, $t = 5.699$, $p < 0.001$), supporting H1. This finding indicates that higher system quality, information quality, and system usefulness are associated with better MSME performance. Consistent with the DeLone and McLean Information Systems Success Model, effective accounting systems provide timely and accurate financial information that supports business evaluation and decision-making. This finding is consistent with (Al-hattami et al, 2021), who reported that AIS success was associated with SME performance in Yemen, and (Firdhaus & Akbar, 2022), who found that AIS implementation contributed to MSME performance. However, the present study did not separately test the specific mechanisms through which AIS improves cash-flow management, pricing decisions, or operational efficiency.

**Information technology on the performance of culinary MSMEs Medan Perjuangan**
This IT result differs from (Farina & Opti, 2023), who report a nonsignificant IT effect. Conversely, its direction agrees with (Firdhaus & Akbar, 2022), who report a positive and significant effect. Differences across studies may be attributed to variations in business context, respondent characteristics, measurement approaches, and analytical methods. The model explains 51.9% of business performance variation, while 48.1% is influenced by factors outside the model. However, the findings do not confirm a synergistic relationship between AIS and IT or establish causal effects on actual profits and sales.

**Comparative Contribution of Accounting Information Systems and Information Technology**

Information Technology had a larger path coefficient (β = 0.442) and effect size ($f^2$ = 0.306) than Accounting Information Systems (β = 0.391; $f^2$ = 0.239). This numerical comparison indicates that Information Technology made a relatively larger contribution within the estimated model. However, the difference should not be interpreted as statistically significant because the study did not conduct a direct statistical comparison between the two coefficients. Therefore, the findings support only a relative, rather than definitive, difference in contribution.

## CONCLUSION

AIS and IT have a positive and significant effect on the performance of culinary MSMEs in Medan Perjuangan. The model explains 51.9% of performance variation, while 48.1% is influenced by other factors. However, these findings are based on respondents' perceptions and do not prove actual increases in profit or sales.

### Theoretical Implications

The findings support the application of the DeLone and McLean Information Systems Success Model and the Technology Acceptance Model in explaining culinary MSME performance. Both AIS quality and IT adoption contribute to business performance.

### Practical Implications

MSME owners should improve transaction recording and gradually adopt suitable digital technologies, such as accounting applications, digital payments, and online customer communication. Government and support institutions should strengthen training in digital accounting and technology adoption.

### Limitations

This study focuses on culinary MSMEs in Medan Perjuangan selected through purposive sampling. Data were collected at one point in time using perception-based questionnaires, which may contain common method bias.

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