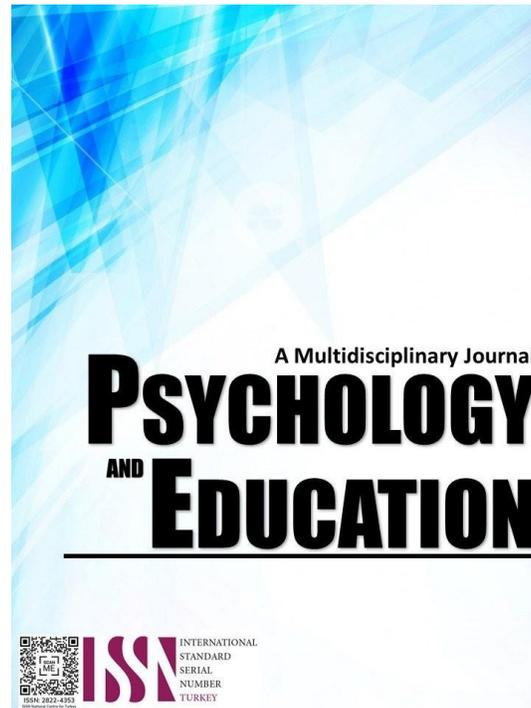


CHALLENGES AND PERCEPTION ON THE ADOPTION OF POINT-OF-SALE SYSTEM AMONG MICRO AND SMALL ENTERPRISES IN TACURONG CITY



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Challenges and Perception on the Adoption of Point-of-Sale System among Micro and Small Enterprises in Tacurong City

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Abstract

This study generally sought to determine the relationship between challenges experienced and perception of micro and small enterprises in Tacurong City on the adoption of point-of-sale system. A quantitative descriptive research method was utilized, employing a non-experimental design and correlational analysis to establish the relationship between challenges and perception. A total of 39 respondents were selected using non-probability sampling, and adapted questionnaires were utilized to collect data. Statistical tools such as frequency and percentage, mean, independent t-test, one-way ANOVA test, Pearson r, and multiple regression were utilized to analyze the data. Adapted questionnaires were constructed and deployed to provide evidence against the null hypothesis. Results indicated that challenges were rarely experienced, and perception was positive. The size of the business affected both challenge level and perception, while the type of POS used and industry type affected challenge and perception levels, respectively. Challenges had a low negative correlation with perception, indicating that perception decreases as challenges increase. Furthermore, the best domain that influences the perception is operational challenges.

Keywords: *challenges, perception, adoption of point-of-sale system, micro and small enterprises*

Introduction

Technology's fast advancement has transformed the way businesses operate, creating new opportunities and impacting entrepreneurship significantly. Additionally, Newman, (2018) predicts that technology's influence will continue to grow in the coming years. A report by Grand View Research, Inc. (2020), which notes that the adoption of POS systems is increasing due to their ability to enhance transaction processing and inventory management efficiency in various industries. Micro and small enterprises, in particular, have become increasingly reliant on POS systems to improve their operations and stay competitive in the market (Mazzarol, 2015). However, not all businesses have fully embraced digital technology, and companies that fail to adapt to these changes are likely to fall behind (McAfee & Brynjolfsson, 2017). And to further that, Olenski (2016) notes that the lower costs associated with digitization and technology-focused operations have led businesses to shift their focus towards these approaches, which means that enterprises that fail to adapt may struggle to sustain long-term viability and competition.

The adoption of POS systems by micro and small enterprises is greatly impacted by their perception of technology. Perception is the process of organizing and interpreting sensory information, enabling us to recognize meaningful objects and events (Yardley, Perskovsky, & Bar 2012). According to the study of Olubunmi and Dahunsi, (2015) state that enterprises' view of POS systems is shaped various various factors, including perceived usefulness, ease of use, image, and subjective norms, which ultimately affect their perception and, in turn, impact the adoption of POS systems.

Despite the potential benefits of POS systems, micro and small enterprises face challenges in their adoption. One of the primary challenges is related to operational issues, such as integrating the system into existing operations, training staff to use the system, and ensuring compatibility with existing hardware and software (Forbes Technology Council, 2021). Financial incentives also play a role, as the initial investment required for purchasing and installing the system can be a significant barrier for micro and small enterprises with limited resources (Rahman & Hossain 2019).

This study addresses a research gap by examining the challenges and perspectives of micro and small enterprises in Tacurong City regarding the adoption of POS systems. However, there is limited literature exploring the specific challenges faced by micro and small enterprises in Tacurong City and their perceptions on the adoption of point-of-sale system. The purpose of this study is to bridge the research gap by investigating the challenges and perceptions of micro and small enterprises in Tacurong City concerning the adoption of POS systems. This research aims to determine the relationship between challenges experienced and perception of micro and small enterprises in Tacurong City on the adoption of point-of-sale system. Finally, this study seeks to investigate the relationship between these variables and the business profile of micro and small enterprises.

Research Questions

This study generally sought to determine the relationship between challenges experienced and perception of micro and small enterprises in Tacurong City on the adoption of point-of-sale system. More specifically, the study aimed to address the following questions:

1. What is the business profile of the respondents in terms of:
 - 1.1. size of the business;
 - 1.2. business organization;
 - 1.3. industry;

- 1.4. types of selling;
- 1.5. POS system; and
- 1.6. year 2022 gross income?
2. What is the level of challenges experienced by micro and small enterprises using POS system in terms of:
 - 2.1. operational challenges; and
 - 2.2. impact of financial incentives?
3. What is the level of perception of micro and small enterprises on the adoption of POS System in terms of:
 - 3.1. subjective norms;
 - 3.2. image;
 - 3.3. perceived usefulness and;
 - 3.4. perceived ease of use
4. Is there a significant difference in the level of challenges experienced using POS system when grouped according to:
 - 4.1. size of business;
 - 4.2. business organization;
 - 4.3. types of industry;
 - 4.4. types of selling;
 - 4.5. types pos system; and
 - 4.6. year 2022 gross income?
5. Is there a significant difference in the level of perception of micro and small enterprises towards the adoption of POS system according to:
 - 5.1. size of business;
 - 5.2. business organization;
 - 5.3. types of industry;
 - 5.4. types of selling;
 - 5.5. types of pos system; and
 - 5.6. year 2022 gross income?
6. Is there a significant relationship between challenges and perception of micro and small enterprises in Tacurong City on the adoption of POS system?
7. Which domain of challenges experienced best influences the perception of micro and small enterprises in Tacurong City on the adoption of POS system?

Methodology

Research Design

The study utilized quantitative descriptive research which is non-experimental design, in order to observe and measure the current occurring phenomenon. Non-experimental research designs emphasize the methods and procedures for collecting data and analyzing the information needed of the study without manipulating conditions about existing phenomena that affect the responses of the subjects and without manipulating the independent variable (Radhakrishnan, 2013). The study used correlational technique that helps to determine in what degree of relationship that challenges experienced and perception of micro and small enterprises in Tacurong City on the adoption of POS system have. Correlated studies examine the relationship between two or more variables to see if they are linked to the same subject (Hernandez, Fernadez & Baptista, 2015). The study used regression analysis to provide evidence against the null hypothesis and determine which domain of challenges best influences the perception of micro and small enterprises in Tacurong City on the adoption of POS system.

Moreover, this study aimed to determine the level of challenges and perception of micro and small sized enterprises towards the adoption of POS system and also aimed to provide the business profile of micro and small enterprises in Tacurong City. Furthermore, the purpose of this study is to determine which profile of the business have significant difference with challenges and perception to provide evidence against the null hypothesis.

Respondents

The study's participants comprise of owners or managers of businesses that utilize POS systems, specifically micro and small-sized enterprises situated in Tacurong City. The Philippine government has established two criteria, which are the size of assets and the number of employees, to distinguish micro and small-sized enterprises. The Licensing Office of the City Government of Tacurong City provided information indicating that there are 2,497 micro and small-sized enterprises, with 2,316 registered micro-enterprises and 181 registered small-sized enterprises.

The sample size of the study cannot be determined solely based on the overall population of small and medium enterprises, as not all of these businesses use POS systems. According to the Revenue District Officer of Revenue District No. 109, only 64 micro and small size enterprises in Tacurong City use POS systems. However, the actual list of these enterprises cannot be revealed due to data confidentiality. To address this, the researchers established inclusion and exclusion criteria for selecting a sample of micro and small

sized enterprises that use POS systems in Tacurong City.

In order to identify the qualified respondents of the study the following inclusion are as follows: the business' name is included in the list of Licensing Office of the City Government as micro or small enterprises; the business location is located at the area of Tacurong City; brick-and-mortar business; and especially the business is a POS user before but not in their current operation or the business is a currently POS user. In order to identify as not qualified respondents of the study the following exclusion are as follows: the business' name is not included in the list of Licensing Office of the City Government as micro or small enterprises; the business location is not in Tacurong City; the enterprise has no physical presence of a business in a building or other structure; and the business does not engage in using POS system.

Due to confidentiality concerns, the sample size for the study was determined based on the qualifications of the respondents, resulting in a qualified sample of 43 participants. Base on the study of Lal (2018), the "Study of Effectiveness of POS Data in Managing Supply Chain", used a sample of 31 respondents from various stores that utilized POS systems.

The study has identified 43 qualified respondents based on the established inclusion and exclusion criteria. To determine the appropriate sample size, the researchers used Slovin's formula with a 5% margin of error, 25% estimated response rate, and 95% confidence level, resulting in a required sample size of 39. Thus, the appropriate sample size for the study is 39.

Table 1. *Sample Size (Respondent of the Study)*

<i>Description</i>	<i>Numerical Value</i>
Population Size	43
Number to Invite	195
Required Sample Size	39

The researchers utilized a non-probability sampling method for the study due to the confidentiality of the actual population of micro and small enterprises that use POS systems. Specifically, the method used for respondent selection was purposive sampling through deliberate choice of the participants due to the qualities they possessed (Alkassim, Etikan & Musa, 2016). The purpose of this type of sampling is to generate a sample size that can be considered representative of the population.

Instrument

To measure the level of challenges and perception towards the adoption of POS system, the researchers utilized a modified questionnaire. It was composed of three sections: the first section covered the basic business profile of the respondents; the second section focused on the level of challenges experience by micro and small enterprises using POS system which composed of two indicators; and the last section pertained on the level of perception towards POS system adoption, which was categorized into four indicators. In addition, the researchers used secondary data that separately obtained from survey questionnaire. Gross income for the year 2022 is the secondary data, it was collected from government reports about MSME's in Tacurong City, Sultan Kudarat.

The researchers used two data gathering instruments. The first instrument was designed to assess the level of challenges using POS system. The challenges have two indicators: operational challenges and impact of financial incentives from Khattab, Ahmed, and Omarabi (2022).

The second tool utilized in the study aims to evaluate the degree of perception among micro and small enterprises in Tacurong City regarding the adoption of point-of-sale systems. The level of perception was measured based on four indicators: subjective norms, image, perceived usefulness, and perceived ease of use. These indicators were derived from the study conducted by Damayanti, Raditya, Mambea, & Putri, (2020).

The researchers pre-tested the questionnaire using Cronbach Alpha Test, which is a method used by academics to examine the validity of multiple-question surveys utilizing the Likert scale and radio frequency scale. Cronbach's alpha was used to determine how closely the group of test items were related (UCLA, 2021). The acceptable value of Cronbach's alpha was 0.70 (Taber, 2017), and the results of the Cronbach Alpha Test from perception of the managers on the adoption of POS system and frequency of the challenges were established to determine if the questionnaire was acceptable to use. The result of the Cronbach Alpha Test with 39 sample respondents was 0.837, which meant the questions were good.

Procedure

The researchers reviewed their questionnaire with their research adviser before it was validated by the research panelist.

The researchers then sent a letter to the City Mayor's Office asking for permission to conduct research in the area and a letter to the Revenue District Officer of Revenue District No. 109 asking for permission to collect data regarding establishments that use point of sale systems, which was duly noted by the research adviser and department chairman. In addition to the letter, a sample survey questionnaire was submitted as a reference for the city mayor and revenue district officer.

The researchers carried out the survey according to the letter's permission. A questionnaire for the survey was created according to the study's goals and a context.

The researchers described the aim and objectives of the study to the respondents while carrying out the investigation.

The researchers tallied and computed the data from the research instruments with the assistance of the research adviser and statistician. The results were used to determine whether or not the variables were significantly correlated.

Data Analysis

The data gathered using the adapted and modified questionnaires were tallied and treated through the following statistical tools:

Frequency and Percentage Distribution were computed through frequency (f) or repeated number of an item divided by the number of cases (N) and multiplied by one hundred. This was utilized to assess the frequency and percentage (%) of respondents based on the profile of their business.

Mean (X) was computed by summation of all scores (Σ) divided by the number of cases (N) to determine the average or central value of each factor and the overall factors. This was utilized to assess the level of challenges using POS system and perception on the adoption of POS.

Independent T-Test were statistical inferences used by the researchers to determine whether there was a significant difference between the means of independent groups. Independent T-Test was utilized to identify if there was a significant difference between the means of two independent variables

One-way ANOVA Test was used to assess if there was a significant difference between the means of three or more independent variables. These tests helped to draw conclusions about the population probability distribution on another variable and enabled the determination of significance if the probability value was lower than the alpha value (Connelly, 2017). The probability value result also provided evidence to conclude if an effect was present or absent (Wanjohi, 2014). Furthermore, the null hypothesis could be rejected when the outcome offered sufficient evidence that not all of the means were equal (Mindrila & Balentyne, 2013).

The researchers applied independent t-test and one-way ANOVA test to assess the probability value of challenges experienced and perception of micro and small enterprises according to the profile of their business.

Pearson's Product Moment Correlation is a statistical measure used to determine the degree of linear relationship between two variables represented by the coefficient r. This correlation analysis involves fitting a best-fit line through the data points of two variables, where r indicates how far the data points are from the line. This statistic measures the strength of the association between two variables in a monotonic association, meaning that as one variable increases, the other variable also increases or decreases (Schober, Boer & Schwarte, 2018). In this study, the Pearson's Product Moment Correlation was used to examine the relationship between the challenges and the perception of micro and small enterprises on the adoption of POS systems.

Multiple Regression is the set of statistical procedures used to evaluate the association between independent variable and a dependent variable of the study. This was utilized to determine which domain of the challenges experienced best influences the perception of micro and small enterprises on the adoption of POS system.

Results and Discussion

In this section, the data gathered was analyzed and discussed to provide answers to the research questions. The results are summarized and presented in tables which include the frequency and percentage distribution of the respondents' business profile, the level of perception on the adoption of POS system, and the frequency of challenges experienced by micro and small enterprises in Tacurong City when using POS systems for their sales.

Frequency and Percentage Distribution of Business Profile of the Respondents

Table 2. *Business Profile of the Respondents in terms of the Size of Business*

<i>Size of the Business</i>	<i>Frequency (n=39)</i>	<i>Percentage (%)</i>
Micro	16	41%
Small	23	59%
Total	39	100%

The table presented provides a summary of the respondents' business profile in relation to their business size. Based on the results, it was found that small sized enterprises had the highest percentage of participants who used POS systems in the study area, accounting for 59% of the total respondents, with 23 qualified participants. On the other hand, micro-sized enterprises had a smaller representation, accounting for 41% of the total sample size, with 16 qualified participants.

It is evident that most of the POS users in Tacurong City are small enterprises. This result suggests that small sized enterprises seen POS as important system. Small enterprises were more likely to adopt and use POS systems because they required the efficiency and accuracy that these systems provided (Hunjra & Asif, 2020).

Table 3. *Business Profile of the Respondents in terms of Business Organization*

Type of Business Organization	Micro		Small		Overall	
	f	%	f	%	f	%
Sole Proprietorship	9	56%	6	26%	15	38%
Partnership	0	0%	2	9%	2	5%
Corporation	7	44%	15	65%	22	57%
Total	16	100%	23	100%	39	100%

The table presented above illustrates the distribution of respondent's business profile based on the type of business organization. The results showed that the highest percentage of micro enterprises that use POS system are under the sole proprietorship category with 56%. On the other hand, partnership has the lowest percentage with 0%. Meanwhile, in the case of small enterprises, corporation has the highest percentage of respondents with 65%, while partnership has the lowest with only 5% or two participants. Overall, the majority of businesses that use POS systems in Tacurong City belong to the corporation category with 57% of 39 respondents, while only 5% of small enterprises are categorized as partnership.

The majority of micro enterprises in the Philippines are sole proprietors, a finding that is consistent with research on micro-enterprises in other countries (Tabuga & Reyes, 2014). Small enterprises in the Philippines, on the other hand, are primarily corporations, particularly in big industry (Philippine Institute for Development Studies, 2015).

Table 4. *Business Profile of the Respondents in terms of Industry*

Type of Business Industry	Micro		Small		Overall	
	f	%	f	%	f	%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	6	38%	8	35%	14	36%
Accommodation and Food Service Activities	9	56%	3	13%	12	31%
Manufacturing	0	0%	0	0%	0	0%
Financial and Insurance Activities	0	0%	4	17%	4	10%
Other Service Activities	0	0%	2	9%	2	5%
Other Industry Sector	1	6%	6	26%	7	18%
Total	16	100%	23	100%	39	100%

The table summarizes the respondents' business profile based on the industry they belong to. As per the table, the majority of the respondents under micro enterprises (56%) belong to the accommodation and food service activities industry, while the manufacturing, financial and insurance activities, and other service activities industries have the lowest percentage of respondents with 0% each. On the other hand, under small enterprises, the wholesale and retail trade; repair of motor vehicles and motorcycles industry have the highest percentage of respondents with 35% of the sample size and manufacturing industry has the lowest percentage with 0% result. Overall, the table shows that the wholesale and retail trade; repair of motor vehicles and motorcycles industry have the highest percentage of qualified participants with 36% of the respondents, while no respondents under micro and small enterprises who are users of POS system are engaged in the manufacturing industry.

The high prevalence of micro sized enterprises in the Philippines' accommodation and food service activities sector may be due to the relatively low capital requirements and regulatory barriers to entry in this sector, which can make it easier for individuals to start a business (Tabuga & Reyes, 2014). Moreover, data from the 2013 Survey of Philippine Business and Industry and discovered that most small business were most prevalent in the wholesale and retail trade sectors in the Philippines. According to the study, 57.5% of small businesses were involved in wholesale and retail trade sector may be attributed to the relatively low start-up costs and regulatory barriers to entry in this sector, which may appeal to individuals looking to start a small business (Aldaba, 2015).

Table 5. *Business Profile of the Respondents in terms of Types of Selling*

Type of Selling	Micro		Small		Overall	
	f	%	f	%	f	%
Online selling	0	0%	0	0%	0	0%
Direct selling	8	50%	16	70%	24	62%
Both online selling and direct selling	8	50%	7	30%	15	38%
Total	16	100%	23	100%	39	100%

The presented table above provides an overview of the respondents' business profile based on the type of selling they offer to their customers or clients. According to the data, in micro enterprises, 50% of the respondents engage in direct selling while the other 50% provide both online and direct selling. On the other hand, there are no micro enterprises that solely provide online selling. Similarly, in small enterprises, there are no respondents solely engaged in online selling, and 70% provide direct selling. The overall result indicates that 62% of the respondents, comprising both micro and small enterprises that use POS system, offer their products or services through direct selling.

It's important to note that businesses without a physical building or structure were excluded based on the study's inclusion and exclusion criteria. Most of the enterprises still rely heavily on direct selling as primary means of reaching customers because it has strong

advantage than online (Klein, 2021). Compare to both direct and online selling of services and products, many enterprises engage only in direct selling because online is something for extension only, selling directly exhibiting substantial growth in customers loyalty (Uzochukwu, 2021).

Table 6. Business Profile of the Respondents in terms of POS System

Type of POS Software	Micro		Small		Overall	
	f	%	f	%	f	%
Legacy POS System	8	50%	21	92%	29	74%
Tablet POS System	2	13%	0	0%	2	5%
Mobile POS System	1	6%	1	4%	2	5%
Cloud-based POS System	5	31%	1	4%	6	16%
Others	0	0%	0	0%	0	0%
Total	16	100%	23	100%	39	100%

The table above presents a clear overview of the business profile of the respondents in terms of the type of POS system they use for their business. Based on the table, 50% of micro enterprises use Legacy POS System, which is the majority with 8 participants, while only 1 participant or 6% uses Mobile POS System. In small enterprises, 92% of the respondents use Legacy POS System and none of them use Tablet POS System, with a 0% result. Overall, the majority of the respondents, equal to 74%, use Legacy POS System, while both Tablet POS System and Mobile POS System have the lowest percentage with 5%.

A study conducted in industry sectors of North America and found out that most of enterprises are users of legacy POS system, compare to other system of POS the legacy is useful specifically on retail industry (IHL Group, 2019).

Table 7. Business Profile of the Respondents in terms of Year 2022

Gross Income of Year 2022 (Mean Range)	Micro		Small		Overall	
	f	%	f	%	f	%
₱100,000 - ₱2,280,000	14	88%	9	39%	23	59%
₱2,280,001 - ₱4,460,000	2	12%	6	26%	8	21%
₱4,460,001 - ₱6,640,000	0	0%	3	13%	3	8%
₱6,640,001 - ₱8,820,000	0	0%	3	13%	3	8%
₱8,820,001 - ₱11,000,000	0	0%	2	9%	2	4%
Total	16	100%	23	100%	39	100%

The table presented above gives an overview of the respondents' business profile based on their gross income for the year 2022. The mean range of gross income was calculated by subtracting the lowest income from the highest income and dividing it by 5. Base on the table, the majority of micro enterprises have a gross income ranging from ₱100,000 to ₱2,280,000, with 88% being the highest percentage and 12% or 2 respondents being the lowest. The result indicates that no micro enterprise has a gross income higher than ₱4,460,000. In small enterprises, ₱100,000 to ₱2,280,000 gross income has the highest percentage with 39%, and the lowest percentage is 9% for gross income ranging from ₱8,820,001 to ₱11,000,000. The overall result shows that the highest percentage of respondents is 59%, which equals 23 respondents with a gross income of more than ₱100,000 to ₱2,280,000. The lowest percentage is 4% from gross income ranges ₱8,820,001 to ₱11,000,000.

The study used the annual gross income of qualified POS users as data since net income is confidential. Micro-enterprises in the Philippines had an average annual gross income of ₱787,505. The study also found that the majority of micro had gross income between ₱100,000 to ₱2,280,000, with 88% falling within this range (Opiniano & Reyes, 2014). Furthermore, small enterprises in the Philippines had an average annual gross income of ₱6.2 million, however, the study found out that majority of small enterprises in Tacurong City had gross income between ₱100,000 to ₱2,280,000, with 59% (Aldaba, 2015).

Level of the Challenges Experienced by Micro and Small Sized Enterprises in Tacurong City Towards the use of POS

Table 8. Level of the Challenges Experienced Using POS System

Indicator	Mean	Descriptive Level
Operational Challenges	2.31	Rarely Experience
Impact of Financial Incentives	2.01	Rarely Experience
Overall	2.16	Rarely Experience

Table 8 presents an overview of the challenges encountered by micro and small enterprises when using POS systems. The findings reveal that the overall mean score is 2.16 and rarely experience as descriptive level, this means that micro and small enterprises in Tacurong City rarely experience the challenges when using POS systems. Operational challenges have the highest mean score of 2.31, with descriptive level of rarely experienced. This means that micro and small enterprises in Tacurong City rarely experience the operational challenges when using POS systems. On the other hand, impact of financial incentives has the lowest mean score of 2.01 and a descriptive level of rarely experience. This means that micro and small enterprises in Tacurong City rarely experience the

challenges using POS system related to financial incentives.

The result suggests that both indicators have descriptive of rarely experienced, however, operational challenges has mean score that higher than impact of financial incentives, which indicates that operational challenges have greater chance to threaten the level of perception of POS users than impact of financial incentives. Firms often face a range of operational challenges when implementing POS systems, including technical difficulties, staff training, and integration with existing systems (Al-Najjar & McElwee, 2013). The research suggests that financial incentives can be effective in promoting the adoption of POS systems (Chen & Chen's, 2012). However, some study found that financial incentives alone were not sufficient to encourage the adoption of POS systems in the retail sector (Kim, Park & Cho, 2018).

Table 9. Frequency of the Challenges Experienced Using POS System in terms of Operational Challenges

No.	Item	Mean	Descriptive Level
1	Network reliability affects the regular use of a POS system.	3.00	Sometimes Experience
2	An irregular supply of electricity interrupts the regular use of the POS system.	3.31	Always Experience
3	The POS system is hard for me to use because the messages I get to confirm the status of the transaction are not always clear.	1.79	Rarely Experience
4	My lack of knowledge and skill about POS and usage problems hinders me from using POS system.	2.18	Rarely Experience
5	In my opinion, POS system transactions are unsafe for both me and the customer.	1.28	Never Experience
Section Mean		2.31	Rarely Experience

The table provides an overview of the frequency of challenges encountered when using a POS system, specifically in terms of operational challenges. The overall mean of operational challenges is 2.31 and rarely experience descriptive level. The data shows that the highest mean is 3.31 with a descriptive level of never experience. This means that micro and small enterprises in Tacurong City always experienced the challenges using a POS system related to irregular electricity supply, which interrupts the use of the POS system in their business. On the other hand, the lowest mean is 1.28 with a descriptive level of never experience. This suggests that micro and small enterprises in Tacurong City never experienced the challenges when using a POS system related to business unsafe transactions, whether for customers or the business.

In terms of operation, the result shows that the function of POS are often rely on electricity where most of the users always experience interruption due to power outages. However, most of the users believe that POS system provides safe transactions. Identified operational challenges such as connectivity issues, power outages, and data security concerns as key barriers to the adoption of POS systems (Singh & Srivastava, 2015).

Table 10. Level of the Challenges Experienced Using POS System in terms of Impact of Financial Incentives

No.	Item	Mean	Descriptive Level
1	The cost of owning POS devices is too high for me as an owner.	2.82	Sometimes Experience
2	From my point of view, the use of POS hinders the speed with which customers get service.	1.44	Never Experience
3	The value of financial transactions in the store is very simple and does not require the use of a POS.	2.10	Rarely Experience
4	The repeated need to use money in my shop is one of the reasons why I don't use POS.	2.08	Rarely Experience
5	The commission account system is unfair and does not encourage me as an owner to use POS.	1.62	Never Experience
Section Mean		2.01	Rarely Experience

The above table provides an overview of the challenges encountered by micro and small enterprises using POS systems, specifically in terms of the impact of financial incentives. The overall mean of impact of financial incentives is 2.01 and deemed to be rare experienced. According to the table, the highest mean of 2.82 with a descriptive level of sometimes experienced, this means that micro and small enterprises in Tacurong City sometimes experienced the challenges using POS systems due to the high cost of owning POS software, including the repair of the equipment and updates in the system. On the other hand, the lowest mean of 1.44 with descriptive level of never experience. This implies that micro and small enterprises in Tacurong City never experienced the challenges in using POS systems in terms of owners or managers perceiving that it hinders the speed of service.

Base on the result, one of the strong advantages of POS is speeding customer service and also owners does not believe that commission account system of POS is unfair to use. Commission account system motivate their employees to become productive. While POS systems provides numerous benefits in the business, the upfront cost can be prohibitive for many enterprises. Cost of system especially traditional POS (Legal POS system) is something expensive for the owners together with updates and repair maintenance of the software. According to other research, average of POS cost is expensive, and ongoing cost such as maintenance and support fees (Simonds, 2016).

Furthermore, many small business owners were unaware of the financial incentives available to them, which led to them not considering POS adoption as a worthwhile investment (Miao, Wu & Zhang, 2016). In other definition, lack of information and guidance on how to access financial incentives as a barrier to adoption (Bamberger & Rieger, 2017).



Level of Perception of Micro and Small Sized Enterprises in Tacurong City on the Adoption of POS System

Table 11. *Level of Perception on the Adoption of POS System*

<i>Indicator</i>	<i>Mean</i>	<i>Descriptive Level</i>
Subjective Norms	2.33	Low
Image	2.63	High
Perceived Usefulness	3.33	Very High
Perceived Ease of Use	3.16	High
Section Mean	2.86	High

Table 11 presents a summary of the perception level of micro and small enterprises in Tacurong City towards the adoption of POS systems. The overall perception of micro and small enterprises shows a mean of 2.86 as high, which means that micro and small enterprises have positive perception on the adoption of POS system. The highest rating among the indicators is perceived usefulness with a mean of 3.33, which is deemed to be very high. This indicates that micro and small enterprises have a very positive perception towards the use of POS systems. Perceived ease of use follows with a mean of 3.16 and described as high. This means that micro and small enterprises have a positive perception towards the use of POS systems. Image is also described as high with a mean of 2.63, indicating that micro and small enterprises have a positive perception towards the use of POS systems in terms of image. On the other hand, subjective norms have the lowest mean among the indicators, with a mean of 2.33 and described as low. This means that micro and small enterprises have a negative perception towards the use of POS systems in terms of subjective norms. The overall perception of micro and small enterprises towards the use of POS systems is positive, with a mean of 2.86.

The result suggests that POS system is helpful for the business due to very positive perception about its usefulness. Micro and small enterprises have positive perception when it comes to the ease of use of POS and enhances the image of the business specifically in the industry and in customers. Meanwhile, owners or managers have negative perception on subjective norms which means the decision on the adoption of POS is not totally influenced by other’s decisions or behaviors. It is due to other factors including the suggestion of Beauru of Internal Revenue to applied POS usually in gasoline station and pharmaceutical industry. The results were interpreted as positive or negative perception based on their descriptive level. Positive perception involves humans evaluating something around them and interpreting it positively. Thus, if a business has a positive perception towards POS systems, they will accept and support their use. Negative perception, on the other hand, describes information negatively or is unsuitable for the object being perceived. If a business has a negative perception towards POS systems, they will reject and resist any efforts towards their adoption (Burton, 2022).

Table 12. *Level of Perception on the Adoption of POS System in terms of Subjective Norms*

<i>No.</i>	<i>Item</i>	<i>Mean</i>	<i>Descriptive Level</i>
1	POS sales person influence my behavior and encourage me to use POS system	2.67	High
2	People who are important to me (friends, family, and relatives) think that I should use a POS system.	2.21	Low
3	Other business owners encourage me to use the POS application system.	2.38	Low
4	People who are in my workplace think that I should use a POS system.	2.59	High
5	IT specialist encourage me to use POS system.	1.79	Low
Section Mean		2.33	Low

The table presents the level of perception of micro and small enterprises in Tacurong City regarding the adoption of POS system in relation to subjective norms. The overall mean is 2.33 and deemed to be low. The results indicate that the highest mean is 2.67 with a high descriptive level. This suggests that micro and small enterprises have a positive perception of using POS systems since the POS seller is the one who influences the behavior and encourages owners or managers to use the POS system. On the other hand, the lowest mean is 1.79 and considered as low. This implies that micro and small enterprises have a negative perception of using POS systems in terms of the idea that IT specialists encourage owners or managers to use the POS system.

The researchers discovered that POS seller and employees encourage business or managers on the adoption of POS system due to positive perception. It is important for a POS sales person to introduce their system to make their product known. Also, people in the workplace encourage owners and managers for their benefits since POS system have fair commission account system and enhance customer service. Meanwhile, important people, other business owners and IT specialists have no contribution on the adoption of POS system. Obviously, other business owners does not encourage their fellow business owners especially if they are competitors. IT specialist did not encouraging other business to avoid biased except for their workplace, their function is support their organization on the use of computers and network during workdays. In terms of important people, the result is low which means a negative perception on the idea that these people encourage the business on the adoption of POS. The subjective norm was found to have a significant effect on the adoption of electronic payment systems. However, the level of perception regarding subjective norm was low among enterprises, indicating that they were not influenced by the opinion of others regarding the adoption of electronic systems (David & Chawla, 2021).

The table 13 presents an overview of the level of perception of micro and small enterprises in Tacurong City regarding the adoption of POS systems, particularly in terms of image. The overall mean is 2.63 with high descriptive level. Based on the results, the highest mean score is 3.13, which indicates a high level of positive perception. This suggests that micro and small enterprises viewed POS systems as a way to establish a good impression of their business identity in their industry, making it well-known. On the other hand,



the lowest mean score is 2.28, which is considered low. This implies that micro and small enterprises have a negative perception of the use of POS systems because they observed that businesses using POS systems have altered their social status within their social setting.

Table 13. *Level of Perception on the Adoption of POS System in terms of Image*

No.	Item	Mean	Descriptive Level
1	I have observed that businesses that uses POS system in my industry are high-profile.	2.51	High
2	I have a good impression of using POS system to make the identity of businesses in my industry well known.	3.13	High
3	I have observed that businesses that uses POS system in my industry have altered their social status for themselves within their social setting.	2.28	Low
4	I have a good impression of how POS can make my business look prestigious to customers.	2.74	High
5	POS system can provide unique services as the best tool to build strong image in customer minds.	2.49	Low
Section Mean		2.63	High

The result suggests that the common purpose of businesses on the adoption of POS is to make their industry become well-known. They have also positive perception that the users of POS in their industry have high-profile and using POS makes their business prestigious to customers. They did not believe that the use of POS altered their social status for themselves within their social setting and POS system is not the factor to build strong image in customers' mind. The concept of "image" pertains to the extent to which the utilization of point of sale (POS) systems can enhance the social status and prestige of its adopters within their society (Omotayo & Dahunsi, 2015). On other hand, the adoption of an innovation, like POS, has the potential to create a certain image in the society, but maintain or not alter the image of the user (Oloveze, Oteh, Nwosu, & Obasi, 2021).

Table 14. *Level of Perception on the Adoption of POS System in terms of Perceived Usefulness*

No.	Item	Mean	Descriptive Level
1	Using POS improves the performance of my business.	3.36	Very High
2	Using POS increases the productivity of my business.	3.26	Very High
3	Using POS increases the efficiency of my business.	3.26	Very High
4	Using POS enhances the effectiveness at work.	3.36	Very High
5	Using POS makes it easier to do my work.	3.41	Very High
Section Mean		3.33	Very High

The table above provides an overview of the level of perception among micro and small enterprises in Tacurong City regarding the adoption of POS system in terms of perceived usefulness. The table shows an overall mean of 3.33 which is deemed to be very high. According to the table, the highest mean score is 3.41, indicating a very high level of perception. This means that the respondents have a very positive perception towards the use of POS system, as they believe that it makes their work easier. On the other hand, the lowest mean score is 3.26. However, these scores were also deemed to be very high, which implies that the micro and small enterprises have a very positive perception towards the use of POS system, specifically in terms of the increase in productivity and efficiency of their business.

The researchers observed that POS systems was implemented to be useful in business. Generally, the result shows very positive perception of micro and small enterprises on the adoption of POS system. This system enhances the performance, productivity and efficiency of the business. It also contributes to the effectiveness at work of people in workplace. The perceived usefulness of these systems is very high, as they allow for streamlined operations and improved decision-making (Chen, 2020).

Table 15. *Level of Perception on the Adoption of POS System in terms of Perceived Ease of Use*

No.	Item	Mean	Descriptive Level
1	I find the POS systems easy to use.	3.44	Very High
2	I find the POS systems easy to learn how to use it.	3.23	High
3	I find the POS systems easy for me to direct to my liking.	3.08	High
4	It is easy for me to become skillful at using the POS system.	3.38	Very High
5	My interaction with POS systems is clear and easy to understand.	2.67	High
Section Mean		3.16	High

The table above provides an overview of the level of perception on the adoption of POS system in terms of perceived ease of use. The overall mean score is 3.16 with high descriptive level. The table shows that the highest mean is 3.44 with very high descriptive level. Therefore, this means that micro and small enterprises have very positive perception among the use of POS system since majority of the respondents find out that POS systems is easy to use. The lowest mean is 2.67 and deemed to be high, this means that micro and small enterprises have positive perception among the use of POS system since they believe that POS system is clear and easy to understand.

The researchers observed that owners and managers believe that POS system is easy to understand and use. Training to become expert in using POS is not recommended as long as the business properly follow the guideline. Businesses are perceiving it increasingly easy

to use or adopt a POS systems thanks to their intuitive design and user-friendly interfaces. The perceived ease of use has greatly reduced training costs and allowed for a more seamless integration into day-to-day operations (Johnson, 2021).

Significant Difference Between Business Profile and Level of Challenges Experienced by Micro and Small Enterprises Towards the Use of POS System

Table 16. *Significance on the Difference Between Level of Challenges Using POS System When Grouped According to Business Profile*

<i>Business Profile</i>	<i>Significance</i>	<i>Level of Challenges Experienced</i>
Size of Business	Sig (1 Tailed)	0.027
Business Organization	Sig (1 Tailed)	0.115
Types Industry	Sig (1 Tailed)	0.115
Types of Selling	Sig (1 Tailed)	0.228
Types of POS System	Sig (1 Tailed)	0.042
Year 2022 Gross Income	Sig (1 Tailed)	0.283

The table above shows the summary of significant difference between level of challenges experienced when grouped according to business profile of qualified respondents. The probability value was computed using independent t-test and one-way ANOVA test. Findings of the study revealed that size of business and types of POS system have significant difference with level of challenges experienced by micro and small enterprises.

The result is statistically significant difference with 0.027 and 0.046 probability value respectively. This means that among the profile of business, size of business and types of POS system influence the level of challenges using POS system. Both size of business and types of POS have moderate evidence against the null hypothesis. On the other hand, business organization, types of industry, types of selling, and gross income have no evidence against the null hypothesis. Therefore, due to influence of size of business and types of POS on the level of challenges, the null hypothesis is rejected.

The findings of the study suggests that the level of challenges can experience by micro and small enterprises in Tacurong City using POS system depends on the size of their business and types of POS they used. This means that when it comes to number of POS, the small enterprises have large number of POS than micro enterprises. The large number of POS used can increase or decrease the level of challenges experienced. Moreover, types of POS have ability to increase the level of challenges due to different functions.

The function of POS system depends on the type of its software that give different challenges to the users such as not reliable network, lack of electricity supply, expensive maintenance or updates, and security communication via other transactions, he insists that challenges was examined to the efficient use of POS system (Adeoti, 2013).

Significant Difference Between Business Profile and Level of Perception of Micro and Small Enterprises Towards the Adoption of POS System

Table 17. *Significance on the Difference Between Level of Perception on the Adoption of POS System According to Business Profile*

<i>Business Profile</i>	<i>Significance</i>	<i>Level of Perception Towards POS System</i>
Size of Business	Sig (1 Tailed)	0.027
Business Organization	Sig (1 Tailed)	0.148
Types of Industry	Sig (1 Tailed)	0.022
Types of Selling	Sig (1 Tailed)	0.757
Types of POS System	Sig (1 Tailed)	0.530
Year 2022 Gross Income	Sig (1 Tailed)	0.283

The table above shows the summary of significant difference between level of perception on the adoption of POS system when grouped according to business profile using independent t-test and one-way ANOVA test. Findings of the study revealed that among business profile, size of business and industry have significant difference with perception of micro and small enterprises.

The result is statistically significant difference with 0.027 and 0.22 probability value respectively. This means that among the profile of business, size of business and industry influence the perception of micro and small enterprises on the adoption of POS system. Size of business and types of industry have moderate evidence against the null hypothesis. Meanwhile, business organization, types of selling, types of POS system, and gross income have no evidence against the null hypothesis. Generally, the finding of the study shows significant difference, which means the null hypothesis is rejected.

The result of the study suggests that size of business have ability to influence the level of perception of POS users. The same with level of challenges, number of POS system vary on size of business. The large number of POS have ability to give positive or negative perception. Furthermore, types of industry influence the perception of owners and managers. Types of industry have ability to give positive or negative perception on the adoption of POS.

Size of enterprise whether the organization is large, small, medium or micro has ability to influence the perception, likewise on the



adoption of POS system (Vladova, Ullrich, Grum & Marquart, 2018). Retails and wholesalers, restaurants, hospitality industry, pharmaceutical industry, and gasoline station are required to use POS here in the Philippines. Different types of industry are considered as factors that influence the implementation and use of POS system, this means that the perceived acceptance of POS system in any kinds of industry (Ojeda, 2017). Perceived acceptance is somewhat related to perceptions that acknowledge the use of POS in the businesses (Gorronzona, Gordon, Lengers & Roberson, 2017).

Significance on the Relationship Between Challenges and Perception of on the Adoption of POS System

Table 18. *Significance on the Relationship Between Challenges and Perception on the Adoption of POS System*

<i>Micro and Small Enterprises Category</i>	<i>Significance</i>	<i>R</i>	<i>Interpretation</i>
Challenges vs. Perception on the Adoption of POS System	.020	-.329	Low Negative Correlation

This study aims to determine whether the challenges experienced while using a POS system is associated with the perception of micro and small enterprises towards adopting the system. The table above presents the combined values of 'r' for the challenges experienced and the perception of micro and small enterprises in Tacurong City. The computed 'r' value of -.329 denotes a low negative correlation, and given the probability value (p-value) of .020 which is less than 0.05. Therefore, the null hypothesis is rejected. The result is negative correlation due to inverse relationship. In that case, the challenges experienced using a POS system has a significant relationship with the perception of micro and small enterprises.

The increase of the values of operational challenges and impact of financial incentives have an effect on the owners' and managers' perception of the POS system, in other words, the increase in level of challenges their experience using POS system will lower their perception towards POS system.

Experiences can serve as sources of either negative or positive perceptions. This idea emphasizes the relationship between the challenges experienced and the perception of micro and small enterprises. Positive perception occurs when a person evaluates something from a positive perspective, in accordance with positive expectations for the POS system or in accordance with predetermined rules of use. Positive perceptions are caused by contentment with the POS system on which the perceptions are based, as well as experiences with the POS system (Jabu, Lindawati & Baa, 2022).

Significance on the Influence of Challenges Experienced and Perception of Micro and Small Enterprises Towards the Adoption of POS system

Table 19. *Significance on the Influence of Challenges and Perception on the Adoption of POS System*
Perception On The Adoption Of Pos System

<i>Challenges Experienced (Indicators)</i>	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>		
	<i>Beta</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>Sig.</i>
Operational Challenges	-.534	.237	-.410	-2.258	.030
Impact of Financial Incentives	.003	.147	.004	.023	.982
R	.408				
R2	.166				
F	3.593				
P	.038				

Presented in the table above are the results of the regression analysis made on the level of challenges experienced and the level of perception of micro and small enterprises towards the adoption of a POS system. The findings of the study reveal that challenges have an influence on the perception of micro and small enterprises with an F value of 3.593 and .038 probability value. The R2 value of 0.166 suggests that 16.60% of the challenges using the POS system can be explained by the perception of micro and small enterprises. The remaining 83.40% can be explained by other factors not covered in this study. As shown in the table, the probability value was interpreted as very low level of influence but the F value is greater than 2.5, which means the regression model as a whole is useful (Riffenburgh, 2012).

Moreover, on a singular capacity of each indicator, the data revealed that between the two indicators, only operational challenges have a probability value which is less than 0.05. Therefore, the null hypothesis is rejected.

The regression coefficient of operational challenges is negative, which means the increase in level of operational challenges experienced by micro and small enterprises using POS system will decrease the level of perception of owners and managers towards the adoption of the system. Generally, the findings reveal that operational challenges is the best domain that influences the perception on the adoption of POS system.

The result of the study suggests that impact of financial incentives has no influence on perception while operational challenges influence the perception since the main function of POS system is to provide operational efficiency.

Conclusions

Based on the overall result of the study, majority of the respondents according to their business profile is small enterprises, the form of their business is corporation under wholesale and retail trade, repair of motor vehicles and motorcycles industry. Most of POS users engage in direct selling only of products and services. The type of the POS they commonly used is traditional or also known as legacy POS system for the reason that this type of POS is popular for being reliable and durable. For the year 2022 gross income of qualified respondents, users of POS have gross income between ₱100,000 to ₱2,280,000.

The level of challenges using POS system is generally rarely experienced by micro and small enterprises in Tacurong City. The result revealed that users of POS never experience the system as hindrance to their customers service and unsafe transaction between customer and the business. In fact, POS system enhance customer service and provides safe transaction. However, the main disadvantage of the software is the irregular supply of electricity which interrupts the regular use of POS system, these challenges was always experienced according to owners and managers. In addition, network reliability issues is sometimes experienced by mobile POS, tablet POS, and especially by cloud-based POS users since the data was stored through online servers. Furthermore, the cost of owning the system is sometimes experienced. Majority of the respondents are legacy POS users, this means that the business consumes electricity every time it is used and the cost of maintenance and updates is expensive.

The level of perception of micro and small enterprises in Tacurong City towards the adoption of POS systems is generally high, with the exception of subjective norms, which received a negative interpretation. This means that most respondents do not believe that IT specialists, other business owners, and important people such as friends, family, and relatives have contributed to or encouraged the adoption of POS systems. Among the indicators, perceived usefulness deemed to be very high, this means that micro and small enterprises have very positive perception on the adoption of POS system. As the matter of fact, owners and managers believed that POS system is extremely useful, it improves business performance, increase productivity and efficiency of employee, effectiveness at work, and easy to do task. In addition, micro and small enterprises have positive perception on the adoption of POS in terms of image and perceived ease of use. They believed that a POS user is a high-profile business, well known in the industry, and the business looks prestigious to customers. POS system is easy to use and understand as well. However, majority of the respondents believe that using POS will not alter their social status and its services is not the best tool to provides strong image in customer minds.

The study found that size of business and the types of POS system used influence the level of challenges experienced by users. Therefore, business profile plays a vital role in determining the relationship between challenges and perception of micro and small enterprises in Tacurong City. Establishments or firms that use POS believe that their choice of POS system can either increase or decrease the level of challenges. Owners can use more POS system depends on the size of their business. More POS system is too much costly, however, POS helps speeding up customer service especially when business engage in wholesale and retail trade.

The size of the business and types of industry affect the level perception of micro and small enterprises towards the adoption of POS systems. These business profile affect the awareness of owners and managers towards the adoption of POS systems, including their influence, strong image in the industry, usefulness at work, and ease of use of the POS.

Generally, there is a low negative correlation between the challenges experienced and perception on the adoption of POS systems. This means that if the level of challenges experienced using POS system will increase (decrease), the perception of owners and managers towards the adoption of POS system will decrease (increase) until it become negative (positive).

As on their relationship, challenges influence the perception on the adoption of POS system. Specifically, POS systems are important tools that help the business improve their operation for their customers, as a result, the best domain that influences the perception of owners and managers is operational challenges.

According to the findings of the study, only a few of the thousands of micro-enterprises in Tacurong City are POS users. The researchers recommend these micro-enterprises to adopt POS systems to strengthen their operational efficiency. Additionally, the local government is recommended to encourage business owners or other business-minded residents of Tacurong City to form partnership-based organizations. The startup costs are low since both partners contribute 50% of the costs as well as the profit. This approach can stimulate job creation, boost economic activity, and promote the overall growth and development of the local economy. Moreover, the results show that no manufacturing industry in Tacurong City uses POS systems. Typically, this type of industry utilizes Enterprise Resource Planning (ERP) and Cash Register Machine (CRM) software. Manufacturers are also recommended to use manufacturing and distribution POS software to manage inventory inquiries, transactions, returns, etc.

In addition, the majority of POS users are engaged in direct selling only. One advantage of POS systems over other systems is their ability to serve orders and accept online payments. Therefore, the researchers strongly encourage POS users, especially those in the food and accommodation services sector, to apply online selling in their businesses. The lack of engagement in online selling by most POS users may be attributed to the type of POS they use. Most of them are users of legacy POS, which is costly and does not require internet connectivity since it stores information locally, unlike modern cloud-based POS systems. In this case, businesses are recommended to adopt cloud-based POS systems to facilitate online transactions with customers. If business owners desire the advantages of online selling but have the same software as legacy POS, the researchers encourage them to adopt hybrid POS systems,

although this type is relatively expensive and more suitable for medium and large enterprises. Micro and small enterprises are not recommended to adopt this type of POS. Engaging in both direct and online selling helps businesses boost their sales and increase their net income. For future researchers, it is recommended to use annual or monthly net income instead of gross income to enhance the reliability of the study's findings.

Software companies, inventors, and POS users are recommended to identify existing challenges and provide alternative courses of action. Based on the results, micro and small enterprises in Tacurong City, especially those using cloud-based POS, sometimes experience network reliability issues. POS suppliers are advised to test the system's network performance before making it available to the public. POS users are encouraged to leverage technology at their location to use multiple connections simultaneously. Additionally, they frequently face irregular electricity supply. The local government is recommended to explore emerging natural energy resources to support businesses and promote economic development. Future researchers are also encouraged to explore natural resources that can be converted into electricity for societal and economic benefits. Micro and small enterprises are advised to use power generators to maintain sales transactions during power outages. Furthermore, inventors should focus on developing innovative power generators that consume less fuel or alternative resources. Moreover, the expensive cost of owning POS systems, primarily due to maintenance and updates, is a challenge. In this regard, the researchers suggest that businesses, whether POS users or not, adopt lower-cost software with useful features, durable hardware, and ample data storage. Software companies and inventors are also recommended to provide POS systems with durable hardware at an affordable price.

The study findings revealed that owners and managers have a negative perception regarding subjective norms associated with POS adoption. The researchers recommend the local government to encourage business owners in Tacurong City to adopt POS systems, assuring them of the benefits and minimizing perceived risks. Businesses interested in becoming POS users should seek advice from experienced owners (non-competitors) and consult IT specialists before system adoption. Overall, owners and managers acknowledge the positive contribution of POS to their business image but are uncertain about its impact on their social status and customer perception. In response, software companies and inventors are strongly advised to make the system more attractive to customers.

The size of the business influences the level of challenges and perception among micro and small enterprises regarding POS adoption. Therefore, software companies and inventors should offer POS solutions that are suitable for different business sizes, minimizing challenges and enhancing positive perceptions among owners and managers. Similarly, owners and managers should select a POS type that aligns with their products and services to reduce challenges. The type of industry also impacts the perception level, prompting the researchers to recommend the local government to mandate small industries to use POS systems and provide seminars on the benefits of adoption.

In general, there is an inverse relationship between challenges and perception. Hence, software companies and inventors are strongly encouraged to enhance their systems to elicit positive feedback from customers. Future researchers should consider adopting this study and explore alternative courses of action to minimize challenges. They should focus on reducing operational challenges or investigate other factors that strongly influence the perception of micro and small enterprises, such as the impact of system security on POS adoption.

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