RES MILITARIS
REVUE EUROPEENNE D ETUDES EUROPEAN JOURNAL OF MILITARY STUDIES
Social Science Journal

Acceptation of Financial Technology in Small and Medium Enterprises in the Manufacturing Industry

By

Jarin Jarusen
Lecturer, Faculty of Business Administration for Society, Srinakharinwirot University
Email : jarin@g.swu.ac.th

Abstract

The objectives of this research were (1to study the factors affecting the perceived usefulness of using technology in financial transactions. (2To study the factors affecting the perceived ease of use of technology in financial transactions. (3To study the perceived usefulness that affect the use of technology in financial transactions. (4To study the perceived ease of use of technology in financial transactions. The sample group was SMEs entrepreneurs who used technology to conduct financial transactions. There were 400 offices located in Bangkok. The questionnaire was used as a tool. Statistical results were calculated using Multiple Regression. The results showed that the quality of information, services and systems had a statistically significant positive impact on perceived usefulness. The quality of information, services and systems had a statistically significant positive effect on the perceived ease of use. The perceived usefulness and the perceived ease of use had a statistically significant positive impact on the actual service use.

Keywords: quality of information, quality of service, quality of system, perceived usefulness, perceived ease of use, actual use of services

Introduction

SMEs are very important to the economic development of the country. It also helps to alleviate congestion from urbanization, diversify the prosperity to the region and make better use of local resources. Although SMEs have played an active role in Thai business society since the past, they have only just begun to stand out and be recognized by the Thai people after the country faced a severe economic crisis since .1997As a result, many entrepreneurs of all sizes are unable to continue their business. In recent times, the government has released a number of policies and measures to save the economic crisis, and one of them is to promote SMEs' businesses. Therefore, SMEs are recognized as small and medium-sized enterprises and are the largest power group of the business sector that should play a role in the revitalization and development of the national economy.

For Thailand, small and medium-sized enterprises are considered an important part of driving the Thai economy and helping to increase domestic demand for purchases. The more domestic spending increases, the more widespread the domestic economic base is. Thailand's economy is dominated by the private sector, so SMEs are very important and account for %75 of the Gross Domestic Product (GDP). In addition, SMEs have been attracted and valued by the government in terms of economic turnaround, which will be vital to the overall Thai economy. According to the SMEs Promotion Act of 2000, Chapter 4, this plan in Section 37 requires the Office to prepare an action plan to call this the “Action Plan for SMEs Promotion” in order to comply with the policies and plans for the promotion of SMEs under section 11(1), it is proposed to the Executive Committee for approval.

In 2020, the Office of Small and Medium Enterprises Promotion (OSMEP) revealed a new definition of SMEs that entrepreneurship was divided according to the number of employment and income. This was to reflect the characteristics of each group, including micro enterprises, to be used as a basis for the preparation of information. Economic indicators reflected the level of development of SMEs, leading to the establishment of measures and policies to promote them in accordance with the needs of each group and to make government measures accessible to micro enterprises. According to 2018 data, 2.6 million micro enterprises could generate GDP as high as 650 billion baht per year. The Government Gazette announced the Ministerial Regulation by determining the characteristics of SMEs in 2019 on January 7, 2020, resulting in the change of the characteristics of the SMEs of the country from the year 2020 onwards. The new definition of SMEs was determined by the number of employment and income as a basis, which was consistent with the current situation in the sense that the size of the enterprise and the business structure had changed and was in line with the SMEs Promotion Act (No. (2, 2018, for the introduction of "revenue amount" as a basis for determining the size of enterprises. Previously, the definition of SMEs was based on the number of employment and fixed asset value. As developed countries enter the 4.0 economy, SMEs were increasingly adopting technology instead of hiring, causing business models to change, for example, some businesses employ less than 10 people but generate nearly 1 billion baht per year. If considered according to the criteria, this group was unlikely to be SMEs. Therefore, the definition of SMEs was important because it was used in the process of promoting entrepreneurs in many ways, for example, creating a database to issue measures or policies to help the government and used as economic indicators and to monitor situations of SMEs such as finance, exports-imports, etc. The new definition of SME is as follows:

Small enterprises are businesses in the product manufacturing sector that employ not more than 50 people or annual income not more than 100 million baht. Employment of the business (wholesale or retail) and services is not more than 30 people or the annual income is not more than 50 million baht.

Medium-sized enterprises are businesses in the manufacturing sector that employ more than 50-200 people or annual income more than 100-500 million baht. Employment of the business (wholesale or retail) and services is more than 30-100 people or the annual income is more than 50-300 million baht. However, if the employment and income do not match the nature of the enterprise, the income shall be taken into consideration. From the data processing of OSSMEP, it was found that SMEs across the country amounted to 3,070,177, representing 3,029,525 small enterprises and 40,652 medium-sized enterprises, especially in the small enterprise sector, including micro enterprises. According to the new definition, micro enterprises is a group with an annual income of not more than 1.8 million baht and employment of no more than 5 people, which is up to 2,644,561 people and it is the majority of the country's enterprises, accounting for 85.74% of the total number of entrepreneurs in the country. Most of them are private businesses, with 2,253,132 individuals, while only 391,429 are corporate entities.

For the private-sector businesses, %44.58 was the most in the commercial sector. Most of the business was wholesale and retail, repairs of motor vehicles and motorcycles, followed by %35.73 in the service sector. The majority of operations were food and beverage services and manufacturing, accounting for .%19.69A large number of businesses were food production. Entity-based micro enterprises were found to be in the service sector, accounting for .%56.33The largest number of enterprises was building construction, followed by the commercial sector, accounting for .%31.99A large number of businesses were wholesale, except for motor vehicles and motorcycles, and the manufacturing sector accounted for

.%11.68As for the food production business, when considering exports during the first 11 months of) 2019January-November), it was found that micro enterprises and SMEs or MSMEs played a role in exports, totaling 910,089.90 million baht ((%13.36of the country's total exports. Medium-sized enterprises were valued at 549,025.80-million-baht, accounting for 8.06 percent, followed by small enterprises with a value of 258,212.40 million baht, accounting for 3.79 percent, while micro enterprises had a total export value of 102,851.70-million-baht, accounting for .%1.51The main exports were fruits and nuts, plastics and plastic articles and motor vehicles and components. The main markets were China, Vietnam and Lao PDR. “It could be seen that the micro enterprises were essential to driving the country's economy. Therefore, clearly defining the characteristics of each group would enable the government to formulate policies and measures for effective promotion. In particular, it provided microenterprises with greater access to governmental assistance in terms of finance and capacity development in line with their business. At the same time, it would lead to the creation of databases, economic indicators and situations that clearly reflected the level of development of each group of enterprises including systematically and efficiently linking customer data and operating results between departments in the future.”

The report on the confidence index of SMEs entrepreneurs in 2020 found that the confidence index increased from June 2020 at the level of 49.3 to .51.6This was the third consecutive month of increase and above the 50-base level for the first time since the COVID-19 crisis. Therefore, it could reflect the overall business condition of SMEs that most of them had improved from the past month. However, the situation still needs to be closely monitored because the economy was fragile due to future risks, especially the decline in purchasing power and other government aid measures was about to end. The reason for the increase in confidence index was because the volume components of production, trade and service orders, profit, investment and employment were adjusted to 56.7,55.7, .54.5,50.7 and 48.8, respectively.

The cost component dropped to 43.3, mainly due to concerns about the cost of goods and raw materials and utilities. The index of confidence in the manufacturing, trade and services sectors this month rose to 52.9, 51.1 and 51.4, respectively. Most of the sectors saw an increase especially in food and beverage manufacturing and tourism, travel and logistics related sectors. This was a result of government measures to promote tourism, coupled with long holidays and the expansion of domestic flights in major cities that stimulate consumer spending. In addition, the confidence index of SME entrepreneurs had increased in all regions. At present, the Confidence Index in Bangkok and the metropolitan area stood at 48.0, an increase of 46.8 from the previous month as establishments began to operate almost normally and expenditures increased, especially in the category of necessities, but the central economy expanded less than regional economies.

Technology of financial transactions was gaining widespread attention in many countries around the world because it increased the country's added value and competitiveness by bringing innovation to create new types of financial services and improving the efficiency of existing financial services. It was also possible that these financial technologies would be applied to use a wide range of other activities. Therefore, the creation of financial innovations from SMEs is in response to the government's policy that wants to drive Thailand into Thailand .4.0The Thai government and private sectors were very active in doing financial business.

The use of technology in financial transactions had become an important variable in management and financial management as a tool for SMEs entrepreneurs. This research focused on the use of technology in financial transactions that affected the acceptance of small and medium-sized enterprises in the manufacturing industry.

Objectives

1. To study the factors affecting the perceived usefulness of using technology in financial transactions.
2. To study the factors affecting the perceived ease of use of technology in financial transactions.
3. To study the perceived usefulness that affect the use of technology in financial transactions.
4. To study the perceived ease of use that affects the use of technology in financial transactions.

Research scope

Content scope

Content scope was a study of technology in financial transactions that affect the use of small and medium-sized enterprises in the manufacturing industry.

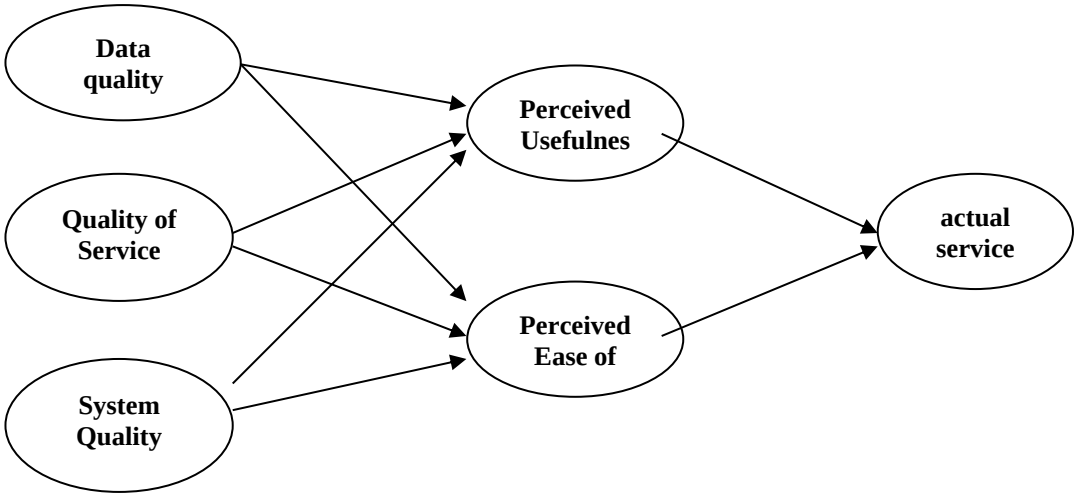
The scope of the population and the sample group

The scope of the population and the sample group were small and medium-sized enterprises in the manufacturing industry in Bangkok.

Hypothesis

Hypothesis 1: Data Quality (IQ) influenced the perceived usefulness (PU).
Hypothesis 2: Data Quality (IQ) Influenced Perceived Ease of Use (PEOU).
Hypothesis 3: Quality of Service (SQ) influenced perceived usefulness (PU).
Hypothesis 4: Quality of Service (SQ) influenced Perceived Ease of Use (PEOU).
Hypothesis 5: System Quality (SQ) influenced perceived usefulness (PU).
Hypothesis 6: System Quality (SQ) Influenced Perceived Ease of Use (PEOU).
Hypothesis 7: Perceived Usefulness (PV) influenced actual service use (AU).
Hypothesis 8: Perceived Ease of Use (PU) influenced actual service use (AU).

Conceptual framework



Definition of term

Information Quality means that the information displayed in the application must be accurate and complete.

Service Quality means that user support services must be able to correct information.

System Quality means that accurate systems must be fast in use and able to connect to applications as soon as they access the service.

Perceived usefulness refers to the belief that the systemic usefulness of technology can increase operational efficiency.

Perceived ease of use refers to the belief that ease of use does not require the complexity of technology.

Literature review

Information Quality

Information Quality is the information factor obtained from the processing of the system, thus resulting in the quality of information in terms of completeness. Information must be complete in all respects and only factual information. This was consistent with research by Mohannad, M. A. (2015) on accuracy that information must be accurate and reliable. This was consistent with the research by Basheer, M. A., Amran, M. R., Rosman, M. Y., & Amena, Y. M. (2015) on the timesliness that information must be kept up-to-date and keep up with the needs of users. It was also consistent with research by Kanokkarn, S. N., Tipparat, L. (2015) on the quality of service.

Service Quality refers to the service provided by the user, including reliability, responsiveness and confidence, which are factors that affect service quality in terms of service reliability, image or trust in the service. This was consistent with research by Junsheng, X., Rui, L. (2014) in terms of assurance and quality control to ensure users meet standards. This was consistent with research by Rejikumar, G. (2015) on responsiveness and availability of willingness to respond to users in a timely manner. It was also consistent with research by Manchanda, A., Saurabh, M. (2014).

System Quality

Flexible system quality factor enables good system communication and responsiveness. The determinants of system quality are quality and reliability, which is a system that provides stability and trust to users. This is consistent with research by Majharul, T., Ali, Quazi., & Milind, S. (2014) that the service system in terms of stability and efficiency must be sufficient for users to conduct financial transactions in the form of M-Banking. Speed refers to the ability to respond to technology that keeps pace with demand. Zhou, T. (2012) combines design, uniqueness or individuality with various elements of art.

Perceived usefulness

Technology in financial transactions affects the belief that the usefulness of technology systems can increase the efficiency of various operations and affect the adoption of financial transaction technology, consistent with research by Viswanath, V., Davis, D. D. (2000).

Perceived ease of use

Technology in financial transactions results in the belief that ease of use without technological complexity will contribute to the perceived usefulness of the technology and affect its adoption, consistent with research by Viswanath, V., et, al. (2003).

Methodology

The population used in the study was small and medium-sized enterprise entrepreneurs who used technology to conduct financial transactions. The office was located in Bangkok. A sample of 400 people was determined using the Rule of Thumb.

Sample size

Case 1: Method for determining the sample size to confirm the model using lower bounds on sample size in structural instruction by Westland (2010, p. 476) had proposed the following sample size calculation formula.

$$n > = \quad 50r^2 - 450r + 1{,}100$$

Where r was the ratio between the manifest variables or indicators variable with latent variables. In this research, Indicators = 40, Latent = 9 and r = 4.44, 200 samples could be calculated from the above formula as the minimum acceptable number of samples.

Case 2, in accordance with Yamane's sample size assurance (1967), therefore

$$\frac{N}{+ 1N)e^2(}$$

n =
n is the sample size
N is the population size.
e is the sample error.
At 95% confidence level, the proportion of error is 0.05.
Substitute the values according to the following formula:

$$\frac{67{,}551}{\frac{1 + 67{,}551(0.05)^2}{19 +1{,}0.05)607^2(}}$$

$$n \ =$$

$$= \ 398$$

It was concluded that the sample size of 400 samples was sufficient to convincing the findings. The samples were used to cover both cases.

Conclusion

The results of the basic statistical analysis of the preliminary data from 400 entrepreneurs were as follows: The respondents were more males than females (63%) and the age group between 31-40 years old (49%). Most of the samples were at the bachelor's degree level (61%). However, the operating period of the business would be between 2-5 years at most (52%). Businesses of small and medium-sized enterprises were the most companies (63%). The largest number of shareholders in the business was 3 people (67%). Annual income of the business did not exceed 100 million baht (82%). The maximum number of employees was not more than 50 people (91%).

Table 1 *The results of the testing of factors affecting the perceived usefulness of technology in financial transactions*

Model		Coefficients[a] Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std .Error	Beta		
1	)Constant(	-4.437	.720		-6.159	.000
	คุณภาพข้อมูล1	.-088	.030	.-094	-2.891	.004
	คุณภาพข้อมูล2	.145	.058	.169	2.510	.012
	คุณภาพข้อมูล3	.-047	.062	.-055	.-766	.444
	คุณภาพบริการ1	.308	.053	.360	5.791	.000
	คุณภาพบริการ2	.251	.051	.318	4.915	.000
	คุณภาพบริการ3	.-179	.041	.-157	-4.334	.000
	คุณภาพบริการ5	.348	.035	.389	9.849	.000
	คุณภาพระบบ1	.175	.041	.194	4.227	.000
	คุณภาพระบบ2	1.073	.148	.463	7.255	.000
	คุณภาพระบบ3	.-200	.075	.-230	-2.680	.008
	คุณภาพระบบ4	.345	.066	.400	5.263	.000

The results of the analysis of factors affecting the perceived usefulness of technology in financial transactions were considered as follows: in terms of data quality, data updates, data precision and data integrity as well as data attribution, the Standardized Coefficients Beta values were 0.094, 0.169 and 0.055, respectively; in terms of quality of service, reliable information delivery, resolving ability and quick response to inquiries, the beta values were 0.360, 0.318, 0.157, and 0.389, respectively and in terms of system quality, transaction display, fast connection, security (code) protection and customer confidentiality, the beta values were 0.194, 0.463, 0.230 and 0.400 respectively.

Table 2 *The results of the test of factors affecting the perceived ease of use of technology in financial transactions*

Model		Coefficients[a] Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std .Error	Beta		
1	)Constant(	.-437	.720		.-607	.544
	คุณภาพข้อมูล1	.-088	.030	.-100	-2.891	.004
	คุณภาพข้อมูล2	.145	.058	.179	2.510	.012
	คุณภาพข้อมูล3	.-047	.062	.-058	.-766	.444
	คุณภาพบริการ1	.308	.053	.381	5.791	.000
	คุณภาพบริการ2	.251	.051	.336	4.915	.000
	คุณภาพบริการ3	.-179	.041	.-166	-4.334	.000
	คุณภาพบริการ5	.348	.035	.412	9.849	.000
	คุณภาพระบบ1	.175	.041	.206	4.227	.000
	คุณภาพระบบ2	.073	.148	.033	.492	.623
	คุณภาพระบบ3	.-200	.075	.-243	-2.680	.008
	คุณภาพระบบ4	.345	.066	.424	5.263	.000

The results of the analysis of factors affecting the perceived ease of use of technology in financial transactions were considered as follows: in terms of data quality, data updates, data precision and data integrity, including data attribution, the Beta values were 0.100, 0.179, and 0.058, respectively; in terms of quality of service, reliable information delivery, resolving ability and quick response to inquiries, the Beta values were 0.381, 0.336, 0.166 and 0.412 respectively and in terms of system quality, transaction display, fast connection, security (code) protection and customer confidentiality, the beta values were 0.206 0.033 0.243 and 0.424 respectively.

Table 3 *The results of perceived usefulness and perceived ease of use affecting the use of technology in financial transactions.*

Model		Coefficients[a] Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std .Error	Beta		
1	)Constant(	.687	.157		4.374	.000
	การรับรู้ประโยชน์2	.863	.081	.759	10.680	.000
	การรับรู้ความง่าย1	.-863	.118	.-717	-7.337	.000
	การรับรู้ความง่าย2	.863	.081	.759	10.680	.000

The results of perceived usefulness affecting the use of technology in financial transactions were considered as follows: in terms of improving efficiency and reducing the time of financial transactions, the beta values were 0.759. The perceived ease of use affecting the use of technology in financial transactions were considered as follows: In terms of learning and self-understanding, along with simple and easy-to-use steps, the beta values were 0.717 and 0.759, respectively.

Discussion

From the study of technology in financial transactions that affect the acceptance of SMEs entrepreneurs in the manufacturing industry, it was found that data quality influenced the use of technology in financial transactions, in line with research by Mohannad, M. A. (2015) on user satisfaction with data quality. Basheer, M. A., Amran, M. R., Rosman, M. Y., & Amena, Y. M. (2015) examined the factors that determine post-implementation satisfaction and intention to use. Kanokkarn, S. N., Tipparat, L. (2015) studied the relationship between quality management, trust, and behavioral intentions in customers' use of Internet banking.

Quality of service influenced the use of technology in financial transactions, in line with research by Junsheng, X., Rui, L. (2014) studying the quality of online payment systems among users. Rejikumar, G. (2015) studies the perceived quality of service in the context of e-banking. Manchanda, A. and Mukherjee, S. (2014) studies information systems in order to provide services quickly to customers and keep them competitive.

The quality of the system influenced the use of technology in financial transactions, consistent with research by Majharul, T., Ali, Q., & Milind, S. (2014) on adoption of technology for the use of mobile banking in financial transactions. Zhou, T. (2012) studies how to build user trust in facilitating banking transactions through their mobile phones.

Perceived usefulness and perceived ease of use influenced the use of technology in financial transactions, consistent with research by Viswanath, V., Davis, DD (2000) & Viswanath., V., et, al. (2003) on perceived usefulness and intentions of use affecting user acceptance. Samuanklang, T. (2016) studied how to measure the success of information systems leading to perceived ease of use and usefulness until finally acceptance. Karaket, W. (2016) studied the adoption of financial technology for mobile payments.

Suggestions

Suggestions for further utilization of research results

Academic benefits: Research on "Technology in financial transactions affecting the acceptance of SMEs entrepreneurs in the manufacturing industry." was conducted to expand the results of the study on financial management planning of SMEs in the manufacturing industry and to know how to operate and control the financial situation as well as how to use the money properly.

Administrative benefits: The research on "Technology in financial transactions affecting the acceptance of SMEs entrepreneurs in the manufacturing industry" was carried out to determine financial management guidelines to meet the appropriateness among SMEs in the manufacturing industry and financial institutions, including using it as information for developing financial strategies

Suggestions for further research

For further research, this kind of study should be conducted with large businesses in order to add to the knowledge that may lead to the fact that "Will it be the same as this study?" or may increase the alternative opportunity of adopting the technology in other related financial transactions. There are also some factors that should be studied further in order to maximize business efficiency.

References

Basheer, M. A., Amran, M. R., Rosman, M. Y., & Amena, Y. M.. (2015). Antecedents of Continuous Usage Intention of Mobile Banking Services from the Perspective of DeLone and McLean Model of Information System Success. International Journal of Economics and Financial Issues, 2015, 5(Special Issue) 13-21.

Junsheng, X., Rui, L. (2014). Understanding the adoption of third-party online payment An empirical study of user acceptance of Alipay in China.

Kanokkarn, S. N., Tipparat, L. (2015). Quality Management And Trust Of Internet Banking In Thailand.International Journal of Scientific & Technology Reserch Volumn 4, Issue 09, September 2015.

Karaket, W. (2016). Fintech adoption in mobile payment startup industry. The degree of master of science technology management college of innovation.Thammasat University.

Majharul, T., Ali, Q., & Milind, S. (2014) Mobile Phone Banking Usage Behaviour: An Australian Perspective. Australasian Accounting, Business and Finance Journal. Volume 8 Issue 4 Special Issue on Financial Planning & Financial Instruments 2014.

Manchanda, A. and Mukherjee, S. (2014). An Empirical Application of Delone and Mclean Model In Evaluating Decision Support System In The Banking Sector of Oman, Journal of International Technology and Information Management: Vol. 23 : Iss. 2 , Article 4.

Mohannad, M. A. (2015). Identifying information quality dimensions that affect customers satisfaction of e-banking service. Journal of Theoretical and Applied Information Technology, 122-130.

Office of Small and Medium Enterprise Promotion, OSMEP. http://www,sme.go.th Rejikumar, G. (2015) An Empirical Study on Antecedents of Perceived Service Recovery Quality in E-banking Context. J Internet Bank Commer 20:130

Samuanklang, T. (2016). The financial technology adoption model of M-Banking. The degree of master of science technology management college of innovation.Thammasat University.

Viswanath, V., Fred, D. D. (2000), A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Fileld Studies. Management Science., Vol.46, No.2.

Venkatesh, V., et, al. (2003). User Acceptance of Information Technology: Toward a Univied View. MIS Quarterly Vol. 27 No. 3, pp. 425-478.

Zhou, T. (2012). Understanding users' initial trust in mobile banking: An elaboration likelihood perspective. Computers in Human Behavior, 28, 1518-1525.