THE EFFECT OF THE SYSTEM QUALITY OF MOBILE BANKING APPLICATIONS, INFORMATION QUALITY ON ENTREPRENEURIAL PERFORMANCE (STUDY: MICRO SMALL AND MEDIUM ENTERPRISES IN THE CITY OF MEDAN)

Herti Diana Hutapea[1*], Azhar Maksum[2], Rina Bukit [3], Sambas Ade Kesuma [4]
[1234]Faculty of Economics and Business, Universitas Sumatera Utara, Indonesia
(herti.hutapea@uhn.ac.id)

ABSTRACT

The purpose of this study was to determine the effect of the system quality of mobile banking applications, information quality on entrepreneurial performance of studies in MSMEs in Medan city, data collection techniques using questionnaire distribution through forms with sampling techniques using purposive sampling. The sample obtained was 36 respondents from MSMEs assisted by the North Sumatra Province cooperative and SME office who used the mobile banking application. And in hypothesis testing using Smart PLS 4.0. The results showed that the system quality of mobile banking applications had no effect on entrepreneurial performance while information quality had an effect on entrepreneurial performance in MSMEs in North Sumatra. The research has limitations in terms of the number of samples and subjects or the area is still limited to the city of Medan and the implication of this research is to strengthen the literature, especially the importance of information quality in determining entrepreneurial performance.

Keywords: System quality, information quality, entrepreneurial performance, mobile banking applications.

1. INTRODUCTION

MSMEs have different characteristics from large companies. One of the characteristics of MSMEs where the business owner doubles as an *owner-manager* makes company performance inseparable from entrepreneurial performance because the owner as well as the manager influences every business decision taken (Reijonen & Komppula, 2007; Wu & Mgt, 2009). The characteristics of business actors such as beliefs, preferences, experience and entrepreneurial expertise belong to the business itself so that the entrepreneur's subjective perception of success becomes the starting point for assessing business success (Reijonen & Komppula, 2007). So that entrepreneurial performance needs to be included in measuring the performance of MSMEs. Measurement of entrepreneurial performance refers to the ability of the business to meet the needs of workers, clients and partners and the capacity to achieve planned targets (Wongrassamee et al., 2003). Entrepreneurial performance is determined by examining the capacity of the business to achieve set targets (O'Regan et al., 2007). Therefore, this study considers the importance of including the entrepreneurial dimension in the measurement of MSME performance.

In the effort to develop MSMEs, it cannot be separated from technological developments. One of the technologies that is growing rapidly today is technology in the financial sector. The development of technology, especially mobile banking at this time, encourages people to use digital money. The

development of this payment system leads to services that can meet individual needs and organizational needs (Phonthanukitithaworn et al., 2016). Technological developments, especially mobile banking applications, are one of the sophisticated, reliable and valuable resources (Barney, 1991),, which in the context of the RBV theory that the presence of this digital payment system can provide a framework for understanding how innovative and secure technological developments can provide a competitive advantage for companies. System quality is a very important thing to pay attention to because good system quality will support smooth transactions, data security, transaction speed, service user satisfaction. The quality of the mobile banking application system is the extent to which a *mobile banking* system provides fast, good, safe and reliable services in conducting financial transactions (Teoh et al., 2013).

The UTAUT theory also explains that how what factors influence the adoption of a technology and explains how system quality affects technology acceptance and use and emphasizes that system quality can increase expectations of better performance or how much a person believes that using the system will improve their performance (Venkatesh et al., 2003).

The success of a system is not only measured by the sophistication of a system, but the ability of resources to achieve goals by using accounting information systems within a certain period of time, where the ability to manage accounting information systems effectively in an organization is very important because it is the basis for gaining a competitive advantage (Frisky et al., 2023). The purpose of this study was to determine the effect of the quality of the mobile banking application system and the quality of information in improving entrepreneurial performance in MSMEs in Medan City, North Sumatra, so from the description above, the first hypothesis is that the quality of the mobile banking application system affects entrepreneurial performance in MSMEs in Medan city and the second hypothesis is that the quality of mobile banking application information affects entrepreneurial performance.

2. LITERATURE REVIEW

2.1. Entrepreneurship Performance

According to Yucesoy & Barabási, (2016), performance is the totality of achievements that can be measured objectively in a particular domain of activity stating. . Yıldız et al., (2014), that performance is the extent to which business task targets are achieved compared to the final results at the end of the business period. Entrepreneurial performance is the result of work that can be achieved by a person or group of people in an organization, in accordance with their respective authorities and responsibilities in an effort to achieve organizational goals (Suryana, 2013). And in measuring company performance cannot be separated from entrepreneurial performance because the owner as well as the manager influences every business decision taken diambil (Wu & Mgt, 2009). So that the competence, characteristics, attitudes and motivation of MSME business actors belong to the business

itself (Reijonen & Komppula, 2007). The decision taken is the decision of the business owner or manager adjusted to the characteristics of the owner, both skills and knowledge of the owner. So entrepreneurial performance is an important thing that must be considered in measuring performance. Entrepreneurial performance measurement refers to the ability of the business to meet the needs of workers, clients and partners and the capacity to achieve planned targets (Wongrassamee et al., 2003). Entrepreneurial performance is determined by examining the capacity of the business to achieve predetermined targets (O'Regan et al., 2007). Therefore, this study considers the importance of including entrepreneurial dimensions in measuring financial and non-financial performance in MSMEs.

2.2. Mobile Banking Application

Mobile banking is a mobile application application that focuses on financial banking issues, making it possible to carry out activities such as activities that can be carried out through ATMs by utilizing mobile devices. Through cellphones, banking users, especially MSME actors, can access financial and non-financial services such as account mutations, balance information, transfers between accounts, purchases, bill payments, PIN changes. Mobile banking provides convenience for customers, especially MSME players, in conducting all transactions related to banking. Customers no longer need to come and queue at banking branch offices or ATM machines to carry out various transactions. With mobile banking everything can be done very easily. Mobile banking can also be interpreted as a facility for bank customers to be able to carry out their banking activities more freely, anywhere, anytime, without having to physically visit the bank.

2.3. System quality of mobile banking applications

System quality is how good a system is technically and refers to the quality of information processing including data and software (Jarah et al., 2023). DeLone & McLean, (1992), states that system quality is a characteristic of the information inherent in the system itself where system quality refers to how well the hardware, software and procedural policies of the information system can provide information user needs. the better the quality of the system, the faster the time to access, the easier, more reliable, flexible and secure it is to protect user data and users will be more satisfied. The quality of the *mobile banking* system is the extent to which a system provides fast, good, safe and reliable services in conducting digital financial transactions or *e-payments* (Teoh et al., 2013). According DeLone & McLean, (1992) The first indicator of system quality is ease of use, an information system is said to be of quality if the system is designed to meet user satisfaction through ease of use. The second is access speed, measured through processing speed and response time. Third is System reliability, System reliability is the system's resistance to damage and errors. The fourth is flexibility, namely the ability of the information system to make changes in relation to meeting user needs. And the fifth is security, system security through secure user data stored by a system.

2.4. Information quality

Information quality measures the quality of the output of the information system. According to O'Brie & Marakas, (2010), information quality is part of an information system that aims to process data into information. The first indicator of information quality is relevant, it is said that the quality of information is relevant if the information must provide benefits to users. The relevance of information for each user is different. The second is accurate, said to be accurate if the information is free from errors, and must be clear in its intent. Inaccuracies can occur because the source of information is disturbed or deliberate so that it damages or changes the original data. Third is timely, said to be timely, if the information produced or needed should not be late. Late information does not have good value, so that if it is used as a basis for decision making, it will have fatal consequences in decisions and actions. This condition causes the high value of information, so the speed of obtaining, processing and sending it requires the latest technologies. And the fourth is trustworthy. It can be trusted if the information presented in an information system must be reliable so that it can be used directly by users.

3. METHODOLOGY

3.1. Research Design

This research design is a plan and structure made to obtain various answers to the questions compiled in a study (Sekaran, 2014). This research will use a quantitative approach with a survey method through distributing questionnaires to MSMEs in Medan, North Sumatra.

3.2. Sample

The sampling method in this study was purposive sampling technique. Purposive sampling technique is a sampling technique with certain considerations or purposeful sampling. (Sugiono, 2017). The sample criteria used in this study are MSMEs assisted by the Cooperative and MSME offices in Medan that use mobile banking applications.The samples of this study were 36 samples of MSMEs in Medan City that used mobile banking applications.

3.3. Data Collection

The data collection technique used in this research is through questionnaire media made online through Google Form. The submission of this questionnaire was carried out online by sending a questionnaire link via a social media application, namely whatssap. The scale that will be used in measuring the data from this study is to use a Likert scale. The Likert scale is used to measure a person's attitude about an attitude object(Sugiono, 2017)

3.4. Data Analysis

This research uses data analysis methods using SmartPLS software version 4.0. PLS (Partial Least Square) is a variant-based structural equation analysis (SEM) that can test the measurement model as well as test the structural model. Model testing by evaluating the outer model and it is found that each construct has met the requirements of Convergent Validity, Discriminant Validity,

and Composite Reliability. And after that proceed with the evaluation of the structural model which includes testing the suitability of the *Path Coeffisient model*, *Fit model* and R^2 and hypothesis testing.

4. RESULTS AND DISCUSSION

4.1. Result

A. Measurement Model (Outer Model)

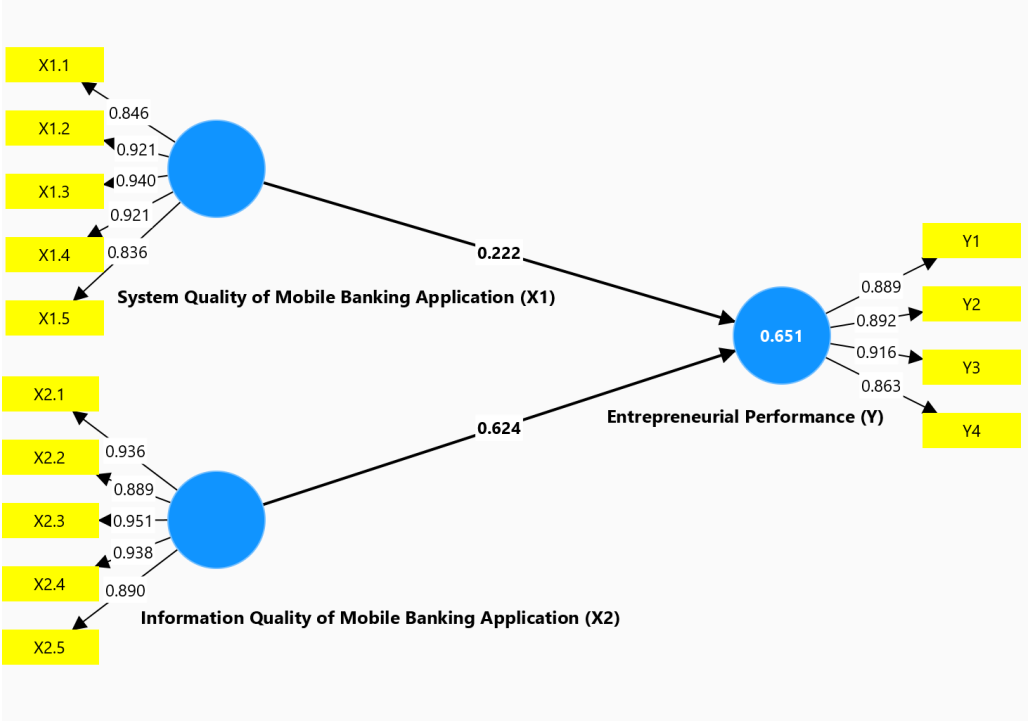
Validity and reliability tests carried out at the outer model stage are as follows:

1. *Validity*

Validity is used to measure whether each construct indicator in the study is valid or not. Testing convergent validity can be seen through the loading factor value for each construct indicator. The rule of thumb for the loading factor commonly used to measure convergent validity is> 0.5 but it is even better if the loading factor is> 0.7 (Jogiyanto dan Willy Abdilah, 2014).

Figure 1.

Loading Factor



Source: Processed data for 2024

So based on the picture above, it shows that all statement items are declared valid. This is evidenced by the *loading factor* value above 0.7.

2. Reability

Tabel 1

Cronbach's alfa dan composite reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Entrepreneurial Performance (Y)	0.913	0.917	0.938	0.792
Information Quality of Mobile Banking Application (X2)	0.955	0.960	0.966	0.849
System Quality of Mobile Banking Application (X1)	0.937	0.938	0.952	0.799

Source: Processed data for 2024

Based on table 1 above, it can be concluded that all variables are declared reliable because the value of *Cronbach's alpha and composite reliability* is above 0.70. The next test carried out is convergent validity testing to determine the extent to which the construct converges to explain the variance of each indicator. This test is based on the Average Variance Extracted (AVE) value, with a qualified value above 0.5. The AVE value seen in Table 1 shows above 0.5, so the X1 and X2 and Y constructs in the model have qualified convergent validity.

B. Measurement Model (Inner Model)

After evaluating the outer model and obtaining that each construct has met the requirements of Convergent Validity, Discriminant Validity, and Composite Reliability, what follows is an evaluation of the structural model which includes testing the suitability of the *Path Coeffisient model, Fit model* and R^2. Model fit testing is used to determine whether a model has a match with the data as follows:

1. Path Coeffisient

Tabel 2.
Pat Coeffisient

	Entrepreneurial Performance(Y)	Information Quality of Mobile Banking Application (X2)	System Quality of Mobile Banking Application (X1)
Entrepreneurial Performance(Y)			
Information Quality of Mobile Banking Application (X2)	0.624		
System Quality of Mobile Banking Application (X1)	0.222		

Based on Table 2 above, all results are valid, the variable system quality of mobile banking application (X1) affects entrepreneurial performance (Y) by 0.222 or 22.2%. The Information

quality of mobile banking application (X2) variable affects entrepreneurial performance (Y) by 0.624 or 62.4%.

2. Model Fit

Tabel 3.

Model Fit

	Saturated Model	Estimated Model
NFI	0,709	0,709

Source: Processed data for 2024

NFI values ranging from 0 - 1 are derived from the comparison between the hypothesized model and a particular independent model. The model has a high fit if the value is close to 1. Based on the table above, the NFI value is 0.709, which means that it has a model fit that can be declared good. (Ghozali, 2016)

3. R-Square

Tabel 4.

R Square

Variabel	R Square
Entrepreneurial Performance (Y)	0,651

Source: Processed data for 2024

The *inner model (inner relation, structural model, and substantive theory)* describes the relationship between latent variables based on substantive theory. The structural model is evaluated using R-square for the dependent construct. The R^2 value can be used to assess the effect of certain endogenous variables and exogenous variables whether they have a substantive effect (Ghozali, 2014). The R^2 results of 0.67, 0.33, and 0.19 indicate that the model is "good", "moderate", and "weak" (Ghozali, 2014). So based on table 3, it shows that the System Quality of Mobile Banking Application (X1) and Information Quality of Mobile Banking Application (X2) variables affect Entrepreneurial Performance (Y) by 65.1% and the remaining 34.9% is explained by other constructs outside those studied in this study.

C. Hypothesis Test

Hypothesis testing is carried out based on the results of testing the Inner Model (structural model) which includes the r-square output, parameter coefficients and t-statistics. To see whether a hypothesis can be accepted or rejected, among others, by paying attention to the significance value between constructs, t-statistics, and p-values. Hypothesis testing in this study was carried out with the help of SmartPLS (Partial Least Square) 4.0 software. These values can be seen from the bootstrapping results. The rules of thumb used in this study are t-statistics> 1.96 with a significance

level p-value of 0.05 (5%) and a positive beta coefficient. The hypothesis testing value of this study can be shown in Table 4 below:

Tabel 5.
Output Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Information Quality of Mobile Banking Application (X2) -> Entrepreneurial Performance (Y)	0.624	0.644	0.241	2.591	0.010
System Quality of Mobile Banking Application (X1) -> Entrepreneurial Performance (Y)	0.222	0.198	0.268	0.831	0.406

Source: Processed data for 2024

4.2 Discussion

1. First Hypothesis: The effect of system quality of mobile banking applications on entrepreneurial performance

The results showed that the system quality of mobile banking applications had no effect on Entrepreneurial Performance (Y) with a calculated t statistic value> t table with a significant level at 5% (T count 0.831 < 1.96) and a P value of 0.406>0.05. Then the decision H1 is rejected so that it can be concluded that the system quality of mobile banking application has no effect on Entrepreneurial Performance (Y) of MSMEs in Medan City. This means that the quality of the mobile banking application system is a manifestation of the hardware and software used in information processing(Jarah et al., 2023). Indicators of system quality are easy to use, access speed, system reliability, flexibility and security. So even if the quality of the mobile banking application system is good, performance problems can arise due to other separate technical factors, such as inadequate servers or network problems or network problems.

2. Second Hypothesis: the effect of information quality of mobile banking applications on entrepreneurial performance

The results show that the information quality of mobile banking applications has a positive and significant effect on entrepreneurial performance (Y) with a calculated t statistic value < t table with a significant level at 5% (T count 2.591> 1.96) and a P value of 0.010 <0.05. Then the decision H2 is accepted. So it can be concluded that the information quality of mobile banking applications has a positive and significant effect on the entrepreneurial performance of MSMEs in Medan city through five indicators, namely relevant, accuracy, timely, and trustworthy. Information that is relevant, accurate, timely, and reliable is very useful for making the right decisions so that it can improve the performance of business actors.

The more the information is relevant or appropriate in the decision-making process, it will improve the business performance of MSME actors, the more the information obtained is accurate or information that is free from errors, precise and reliable so that it can be used in the decision-making process, the right decision will improve performance. MSME actors as owners as well as managers influence every business decision taken (Wu & Mgt, 2009).

5. CONCLUSION

The results showed that system quality of mobile banking applications has no effect on entrepreneurial performance while information quality of mobile banking applications has a positive and significant effect on entrepreneurial performance. This research supports the theory of *Resource Based View* (RBV) theory, resources and organizational capabilities are factors that can affect performance. The development of application information quality is a sophisticated, reliable and valuable resource that can provide a competitive advantage for the company. The results showed that the quality of the mobile banking application system had no effect on entrepreneurial performance, this indicates that the quality of the application system may have an indirect relationship, so it is recommended for further research to create a mediating variable that connects the quality of the mobile banking application system with performance. While the quality of information has an effect on entrepreneurial performance, this shows that information is a very important thing specifically for managers in the decision-making process, MSME owners also act as managers, so the more information obtained, the better the decisions that will be made by MSME actors specifically to improve MSME performance. And it is hoped that further research will increase the research sample and expand the subject or research area.

REFERENCES

Barney, jey. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 19–120.

DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, *3*(1), 60–95. https://doi.org/10.1287/isre.3.1.60

Frisky, N. S., Rahmawati, & Afrizon. (2023). The Effectiveness Of Accounting Information Systems Mediates The Relationship Between The Software Of Information Technology And User Competency Towards The Quality Of Accounting Information. *Berkala Akuntansi Dan Keuangan Indonesia*, *8*(2), 278–292. https://doi.org/10.20473/baki.v8i2.47412

Ghozali. (2016). *Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). Cetakan ke VIII*. Badan Penerbit Universitas Diponegoro.

Jarah, B. A. F., Zaqeeba, N., Al-Jarrah, M. F. M., Al Badarin, A. M., & Almatarneh, Z. (2023). The Mediating Effect of the Internal Control System on the Relationship between the Accounting Information System and Employee Performance in Jordan Islamic Banks. *Economies*, *11*(3). https://doi.org/10.3390/economies11030077

Jogiyanto dan Willy Abdilah. (2014). *Konsep dan Aplikasi PLS (Partial Least Square) Untuk Penelitian Empiris*. BPFE.

O'Brie, J.-A., & Marakas. (2010). *Management-Information-Systems*. *10*.

O'Regan, N., Sims, M. A., & Gallear, D. (2007). Leaders, loungers, laggards: The strategic-planning-environment- performance relationship re-visited in manufacturing SMEs. *Journal of Manufacturing Technology Management*, *19*(1), 6–21. https://doi.org/10.1108/17410380810843426

Phonthanukitithaworn, C., Sellitto, C., & Fong, M. W. L. (2016). An investigation of mobile payment (m-payment) services in Thailand. *Asia-Pacific Journal of Business Administration*, *8*(1), 37–54. https://doi.org/10.1108/APJBA-10-2014-0119

Reijonen, H., & Komppula, R. (2007). Perception of success and its effect on small firm performance. *Journal of Small Business and Enterprise Development*, *14*(4), 689–701. https://doi.org/10.1108/14626000710832776

Sekaran, U. (2014). *Metodologi Penelitian Untuk Bisnis (Research Methods for Business)* (1st ed., Vol. 4). Salemba Empat.

Sugiono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D – MPKK*. Alfabeta.

Suryana. (2013). *Kewirausahaan: Kiat dan Proses Menuju Sukses.* . Salemba Empat.

Teoh, W. M. Y., Chong, S. C., Lin, B., & Chua, J. W. (2013). Factors affecting consumers' perception of electronic payment: An empirical analysis. *Internet Research*, *23*(4), 465–485. https://doi.org/10.1108/IntR-09-2012-0199

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *Quarterly*, *27*(3), 425–478.

Wongrassamee, S., Simmons, J. E. L., & Gardiner, P. D. (2003). Performance measurement tools: the Balanced Scorecard and the EFQM Excellence Model. In *Measuring Business Excellence* (Vol. 7, Issue 1, pp. 14–29). https://doi.org/10.1108/13683040310466690

Wu, D., & Mgt, M. (2009). *Measuring Performance in Small and Medium Enterprises in the Information & Communication Technology Industries*.

Yıldız, S., Baştürk, F., & Boz, İ. T. (2014). The Effect of Leadership and Innovativeness on Business Performance. *Procedia - Social and Behavioral Sciences*, *150*, 785–793. https://doi.org/10.1016/j.sbspro.2014.09.064

Yucesoy, B., & Barabási, A. L. (2016). Untangling performance from success. *EPJ Data Science*, *5*(1). https://doi.org/10.1140/epjds/s13688-016-0079-z