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Do Owner Characteristics, Technology Usage, and Product Competence Affect Small Business Performance?

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ABSTRACT

Objective – The purpose of the research is to evaluate the factors of owner characteristics, technology usage, and product competence toward small business performance.
Methodology – The research model was tested using a survey of 64 small business shoppers in Jakarta.
Findings – The research findings indicate that owner characteristics, technology usage, and product competence affect small business performance.
Novelty – The results point to the importance of owner characteristics, technology usage, and product competence factors in understanding small business performance.
Keywords: *small business performance, owner characteristics, product competence*

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I. INTRODUCTION

Indonesia has a big number of entrepreneurs involved in micro and medium enterprises. Currently there are over 62 million SMEs (Small and Medium-sized Enterprises) in the country, which is one SME for every five Indonesians (Tirta & Sarli, 2021). However, with the dynamic economic conditions, most of the small business trap into the problems. As a business, small-medium entrepreneurs also face the business stage development which start from gestation, roll out, rapid growth, expansion and finally achieve the maturity. These is requiring a long period of time until the specific business who start from zero will achieve minimum the expansion. In fact, there are many of small business stop run the business in the very beginning of the business stage (Alsaaty & Makhlouf, 2020).

Academic research suggests that a number of factors that contribute to performance of SMEs in both developing as well as developed countries. For instance, a study conducted by Kraus et al. (2012) suggests entrepreneurial orientation of owner contributes to performance of an SME. Similarly, Al-Ansari et al. (2013) indicated innovation characteristics of the firm predicts business performance of SMEs. However, there is lack of research on whether personal characteristics of entrepreneur like education, experience, and inner circle of advisors contribute to business performance of an SME.

It is impossible to overlook how important technology is for lowering costs and enhancing business process effectiveness (Bakotic & Krnic, 2017). In practically every sector of the global economy,

technology cannot be undervalued. In order to increase productivity, competitiveness, and economic growth, it is increasingly important to use modern, cutting-edge technological solutions based on information and communication technology (ICT) (Kahrovi & Avdovi, 2021).

We are able to comprehend not just the distinctive drivers of each particular knowledge resource but also whether manufacturers may improve their own performance by examining knowledge capabilities in detail (Griffith et al., 2021). Product competency can be categorized into value-added, competitiveness, and lack of competitiveness (Chen & Liaw, 2001). The ability to be creative and entrepreneurial is in the competent group, and the ability to be creative and entrepreneurial has a significant impact on whether students have a high or low interest in entrepreneurship (Purwanto et al., 2022).

This study aims to evaluate factors that may give significant affect to the small business performance, especially the owner characteristics, technology usage, and product competence. Small business performance is the main focus in this research because the performance will be the measurement of small business to be able to continue or stop the business.

The main research question for this study is: Do owner characteristics, technology usage, and product competence affect the small business performance? The purpose of the research is to evaluate the factors of owner characteristics, technology usage, and product competence toward small business performance. This research is expected to answer the main questions in this research by using the independent variables in the research problem with the influential factor regression method. Finally, the findings of this study are expected to provide an overview and understanding of the extent to which the factors that affect the small business performance.

II. LITERATURE REVIEW

Small Business in Indonesia

Each nation has different definition regarding to micro and medium business (Sato, 2015). In Indonesia, the original explanation is cited from the National Law (Undang-Undang) No 9, year 1995 concerning small enterprises, which categories some qualify for categorizing as a micro-small-medium business: the owner is Indonesian citizen, achieve a yearly sales income for about IDR 1,000,000.000 (one billion Indonesian rupiahs) at most, have a net wealth for about IDR 200,000,000 (two hundred million Indonesian rupiahs) at most, not include the building and land that necessary used for the business, independent, not directly or indirectly subsidiary, controlled, or affiliated with large enterprises, and individual business entity, include the co-operation.

Owner Characteristics

Owner characteristics are the greatest factors that affect the business performance. According to Indarti (2004), the characteristics of business owner could be classifying inform age and education. This is proven by Reynolds et al. (2001), the individual with aged 25-44 were the most active as a business owner. A study by Kristiansen (2003) asserted that Internet café entrepreneurs in Indonesia found a positive correlation between age of the business growth. In addition, research by Charney and Libecap (2000) found that the education of business owner produces self-sufficient as a business individual. Moreover, the education increases the eager of developing new product and manage the self-employed. Since the owner characteristics plays a significant role in small business growth, therefore it can be hypothesized that:

H1: There is a positive relationship between owner characteristics and the small business performance.

IT Technology Usage

Information technology is providing a great strategy and operational value to small business. According to Chen et al. (2010), the technology has helped the small business achieve greater collaboration and

coordination in every process of activity. Moreover, the technology usage and the implementation is the solution to support the small business to able track the revenue and expense also can be cost reduction due to clear data summary provided. Furthermore, the effective communication will improve the marketing strategy in the small business enterprise (Pickernell et al., 2013). Therefore, the second hypothesis of this study is:

H2: There is a positive relationship between IT Technology and the small business performance.

Product Competences

The product competence is the degree to which performance supports the objectives of the firm. The list of credibility that the product is valuable and importance. The list of items such as competitive pricing, broad range of products, brand identification, developing existing products. According to Vickery et al. (1993), the production competence produces the best performance results. Based on the discussion, we can hypothesize:

H3: There is a positive relationship between product competence and the small business performance.

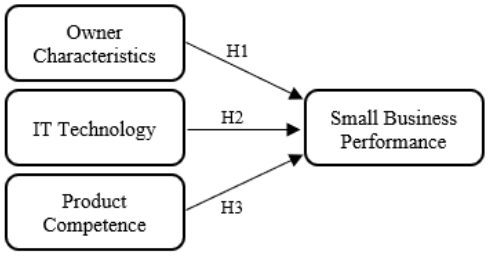

Figure 1. Framework Model

III. METHODOLOGY

This study uses a quantitative method to test and prove the hypotheses that have been made through analysis of numerical data processed by statistical methods. A quantitative method is used in an associative study, which is research that aims to determine the relationship or influence between two or more variables (Sujarweni, 2015). The purpose of this study is to evaluate several factors that may affect the small business performance. In this research, there is three independent variables: owner characteristics, technology usage, and product competence, and one dependent variable that is small business performance (see the framework model in Figure 1). Therefore, this research uses a quantitative method, this is an accordance with the opinion of Creswell (2014) which states that quantitative research is a method of testing objective hypothesis by studying the relationship between variables. The nature of the link between variables is studied utilizing an objective theory in a quantitative way. This variable, in turn, can be measured with tools, allowing statistical processes to be applied to the overall data. It is also in accordance with Sujarweni (2015) that states quantitative research is a form of study that produces results that can be measured (quantified) using statistical procedures or other methods (measurement). Thus, by using this method, the result produced from this study will be described in a systematic and structured way and more into the relation between the owner characteristic, technology usage, product competence and small business performance.

All respondents for this study were students and alumni from Sampoerna University who are equal or more than 25 years old and with at least having experience shopping at small business either online or offline store. In the questionnaire, the researcher provides several components criteria for the respondents.

The researcher sets an age limit of at least 35 years because the student or alumni who actively shopping in varieties of store are given significant and up-to-date information. The data was collected through an online survey. The online survey was chosen to reach the target respondents who would be difficult to access via other channels (Wright, 2005), especially via offline surveys due to the pandemic.

In this study, primary data collection approaches were used to acquire data. A questionnaire was utilized to collect data for this study and respondents were given instruments with statements on them. This questionnaire was distributed online via Google Forms in order to prevent the possibility spreading of coronavirus/COVID-19. The survey was distributed to small business owners and who had done an online purchase in some small business enterprises, with target 100 respondents. After then, all of the owners were given the questionnaire that had been deposited. The researcher would monitor every day to verify that the necessary target sample was met. The questionnaire questions were derived from a number of prior studies pertaining to the variables in this study. The survey is divided into five sections which are the respondent's profile, owner characteristics, technology usage, product competence and determination to report errors. In order to support the respondent's comprehension, this questionnaire's questions were translated into Indonesian. Respondents are given closed questions in which they can only pick one choice out of all the available options. This aim to produce more streamline questionnaire-answering and reduce the number of unconnected responses from respondents. In the respondent's profile the questions will use several choices, while in others part will use a five-point scale. Measurement items in this part have been used and validated in prior research. Every section applies a five Likert scale such as 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree).

The data analysis technique is an analysis technique used to analyze data by interpreting and drawing conclusions from several data collected. Testing the research hypothesis was carried out by using the Structural Equation Model (SEM) approach based on Partial Least Square (PLS). Because PLS is a useful software that does not require many assumptions such as data normality or high number of samples, the researcher choose PLS evaluate the data in this study (Fitriani & Otok, 2013). Furthermore, PLS has several advantages including PLS has fewer restrictions in terms of scale of assumptions and PLS is also very suitable for use in measuring a sample with a relatively small amount (Yuliansyah et al., 2017). Santoso (2014) defines SEM as a multivariate analytical methodology that combines factor analysis and regression analysis to analyze the relationship between variables in a model. The PLS is more predictive model, whereas covariance-based SEM evaluates causation or theory. However, there is a difference between covariance-based SEM and component based PLS in the use of structural equation models to test theory or theory development for predictive purpose. The PLS technique was used in this study, and it was done in two stages; measurement model, which test construct validity and reliability of each indicator, and structural model which aims to determine whether there is an influence between variables or correlations between constructs as measured by the t-test.

IV. RESULTS AND DISCUSSION

Based on Table 1, the age of the respondents was classified into two groups; 15-25 years old and 26-35 years old. It is known that the majority of the respondents is from 15-25 years old group with a total 59 respondents and followed by 5 respondents aged between 26-35 years old. Moreover, the female respondents are the majority respondent with total 34 out of 64 respondents; while there are 30 male respondents out of 64. The frequency of doing shopping at small business is majority doing shopping usually; 35% and the sometimes is 29%.

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Profiles of the Respondents

The factor loading and average variance extracted tests are two types of convergent validity tests (AVE). To begin, convergent validity is determined by examining item reliability (a validity indication given by the loading factor value). The loading factor is a number that represents the link between the score of a question item and the score of the indicator construct that evaluates the construct. The loading factor is more than 0.7, suggesting that it is valid (see Table 2). The following is the outer loading value of each indicator in the research variable.

Table 1. Profiles of the Samples

Category	Frequency	Percentage
Gender		
Male	30	47%
Female	34	53%
Age		
15-25	59	92%
26-35	5	8%
Small Business Shopping Frequency		
Often	35	55%
Sometimes	29	45%

From the results of data processing with PLS shown in table, the majority of indicators on each variable in this study have a loading factor value greater than 0.70 and are said to be valid. In addition, there are three indicators that have a loading factors value less than 0.70 which are OC5 (0.637), IT6 (0.681), and PC4 (0.624). This shows that the variable indicator which has a loading factor value greater than 0.70 has a high level of validity, therefore it meets the convergent validity. Meanwhile, variable indicators that have a loading value smaller than 0.70 have a low level of validity so that these variable indicators need to be eliminated or removed from the model. In conclusion, construct for all indicator for each variable except OC5, IT6, PC4 can be used to test the hypothesis.

The next convergent validity test is average variance extracted (AVE). When a set of indicators represents one latent variable and the underlying latent variable, it is said to have convergent validity. This can be proven using a unidimensional representation, which may be stated using the average variance extracted (AVE). The AVE value is at least 0.5 (see Table 3). This score indicates sufficient convergent validity, which means that on average, one latent variable can explain more than half of the variation of its indicators. The following are the AVE values in this study.

According to table, all variables exhibit an AVE value more than 0.50. The smallest value is 0.581 for Product Competence variable and the largest AVE value is 0.724 for Technology Usage variable. AVE results have met the specified minimum AVE value limit which is 0.50.

Discriminant Validity Test

Discriminant validity is determined using the concept measurement's cross-loading value. The amount of correlation between each construct's indicator and indicators from other block constructions is represented by the cross-loading value. A measurement model has excellent discriminant validity if the association between the construct and its indicator is greater than the correlation with indicators from other block constructs. Table 4 shows the cross-loading results after using PLS to process the data.

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Table 2. Convergent Validity (Factor Loadings)

Item	Factor Loadings
Owner Characteristics (OC)	
OC1 = Owner characteristic affect the business decision making	0.763
OC2 = Good characteristic of business owner is in age between 10-30 years	0.707
OC3 = Owner characteristic affect the business branding	0.723
OC4 = Owner characteristic affect the relationship with the partnership	0.802
OC5 = Owner characteristic affect the growth of the market	0.637
OC6 = Owner characteristic affect the effectiveness of marketing strategy	0.733
Technology Usage (IT)	
IT1 =Technology usage improve the effectiveness of saving data administration	0.772
IT2 = Technology usage improve the effectiveness of analysis data and evaluation of business	0.735
IT3 = Technology usage (e-commerce) will broad the market segmentation	0.792
IT4 = Technology usage (e-commerce) will increase the brand awareness	0.834
IT5 = Technology usage (e-commerce) will increase the potential consumer to buy	0.782
IT6 = Technology usage will increase the probability of doing a collaboration in business	0.681
Product Competence (PC)	
PC1 = Product competence will affect the desire of consumer	0.729
PC2 = Great product competence will increase the consumer retention	0.761
PC3 = Product competence is the uniqueness to be differentiation with others	0.723
PC4 = Product competence will be easier to attract the new consumer	0.624
PC5 = Good product competence will follow by the great product extension	0.782

Reliability Test

The outer model is not only assessed by evaluating the convergent validity and discriminant validity of construction or latent variables, but also by looking at the reliability of the composite reliability value. If the composite reliability is more than 0.70, the construct is declared trustworthy. With the Cronbach's Alpha, where the recommended value is over 0.70, reliability tests can also be enhanced. The PLS output results for the composite reliability and Cronbach's Alpha value can be shown in Table 5.

Table 3. Convergent Validity (Average Variance Extracted)

Item	AVE
Owner characteristics	0.623
Technology Usage	0.724
Product Competence	0.581
Small Business Performance	0.676

Hypothesis Test

The PLS software was used to conduct the hypothesis testing for this study. The findings of the inner model (structural model) test, which comprises the output *r* square, parameter coefficients, and t-statistics, are used to test the hypotheses. The researcher looks at the significance value between the constructs, t-statistics, and *p* values to evaluate if a hypothesis can be accepted or rejected. The bootstrapping findings

provide these figures. The t-statistics > 1.96 was utilized in this study, with a significance level of *p* value < 0.05 and a positive beta coefficient. Table 6 shows the value of testing this study's hypothesis.

Table 4. Reliability and Validity of Variables

Item	Owner Characteristics	Technology Usage	Product Competence
OC1	0.405	0.503	0.218
OC2	0.531	0.190	0.182
OC3	0.871	0.370	0.677
OC4	0.496	0.184	0.480
OC5	0.615	0.211	0.190
OC6	0.249	0.206	0.418
IT1	0.110	0.395	0.826
IT2	0.201	0.725	0.229
IT3	0.182	0.727	0.290
IT4	0.503	0.823	0.266
IT5	0.218	0.192	0.310
IT6	0.319	0.679	0.277
PC1	0.270	0.412	0.480
PC2	0.321	0.201	0.533
PC3	0.229	0.154	0.769
PI4	0.123	0.281	0.524
PI5	0.224	0.325	0.120

The three hypotheses in this study were tested by using bootstrapping test from PLS analysis. Based on the table above, it shows that of the three hypotheses proposed in this study are fully accepted. The first hypothesis tests whether owner characteristic affect the small business performance. The test results show that the owner characteristic's beta coefficient on small business performance is 0.277, the t-statistic is 3.047 > 1.96 and *p* value is 0.002 < 0.05. This proves that there is a significant positive effect of owner characteristic on small business performance. Thus, the first hypothesis is accepted. The second hypothesis test whether technology usage affects the small business performance. The test results show that the technology usage's beta coefficient on small business performance is 0.469, the t-statistic is 5.427 > 1.96 and *p* value is 0.000 < 0.05. This proves that there is a significant positive effect of technology usage on small business performance so that the second hypothesis is accepted. Then, the third hypothesis product competences positively affect the small business performance is accepted because the beta coefficient is 0.202 with t-statistic is 3.193 > 1.96 and *p* value 0.003 < 0.05. The results mean that there is a significant positive effect of product competences on small business performance. After conducting the testing with the PLS, the results of direct effect between owner characteristic, technology usage and product competence on the small business performance.

Table 5. Collinearity Statistics (VIF)

Variable	Composite Reliability	Cronbach's Alpha
Owner Characteristics	0.723	0.703
Technology Usage	0.758	0.719
Product Competence	0.778	0.724
Small Business Performance	0.765	0.752

The effect of owner characteristic on small business performance in Indonesia was explored in this study. The findings support the first hypothesis, which state that owner characteristic affects the small business performance positively and significantly. This study result is aligned with previous studies

conducted by Indarti (2004). It stated that he human resource and the owner characteristic will be the top of the key in growing a business. The owner is the independent resource who directly maintain and run the business. The good characteristic will show the significant growth in the business such as in an awareness, interest and revenue. The owner as a human resource at the business should be able to managing and use technology properly which can boost the business performance. The efficient use of resource ultimately affects the performance holistically. Also, the growth and sustain of the business is depends on how the owner drafting the strategies and implement to their business.

Table 6. Path Coefficient

Path	Beta	T Stat	P Value
Owner Characteristics → Small Business Performance	0.277	3.047	0.002
Technology Usage → Small Business Performance	0.469	5.427	0.000
Product Competence → Small Business Performance	0.202	3.193	0.003

In a business the growth is the number one problem to be solve. The potential growth will increase the business productivities up to 50% and high – technology usage is the point for the small business might be survive in the business sector (Westhead, 2018). As a result, higher usage of technology leads to higher probability the small business will growth rather than not using any technology tools. Based on the result above, it can be seen that the second hypothesis which is technology usage effect on small business performance is also accepted. High product competence will affect the performance of the business. The result of this study is aligned with previous study by Hitt and Duane (2017), that the key to small business to be a growth business is the product characteristic, which found a strong positive correlation of production competence toward increasing the business growth. The product should have a strong vision and characteristic. This aim to attract the customer attention and grab the persona of the business. This means that product competences are able to create a strong correlation with the small business growth at perform the business. Based on the result of the hypothesis test above, it can be seen that the third hypothesis which is product competence effect on small business performance is accepted.

V. CONCLUSION

This study aims to examine the effect of owner characteristic, technology usage, and product competence will affect the small business performance. In this paper, the results show that the small business performance significantly affected by the owner characteristic, technology usage and product competence. This illustrates that small business who have good characteristic of the owner, have use the technology efficiently, and develop the product briefly are able to increase the level of business performance. It means that those factors have a strong relationship with the small business performance.

For the limitations, future researcher is advisable to add other independent variables that are not included in this research. The addition of the independent variables will be useful to explain other factors that influence small business performance that cannot be explained in this study. Also, the number of samples in this study was not too large, and the survey was only distributed to Sampoerna University students and alumni. So, it is suggested to have more samples from other institutions so that the results of the conclusions can be generalized, and the results are even more valid.

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