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The Influence of Product Quality and Brand Image with the Moderation of Customer Satisfaction on Customer Retention of iPhone Smartphone Users (Case Study in Sukabumi Regency)

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ABSTRACT

The objective of this study is to examine the impact of product quality and brand image on customer retention of iPhone smartphone users in Sukabumi Regency, using customer satisfaction as a moderating factor. The study is motivated by the significance of comprehending the determinants that impact consumer loyalty in the fiercely competitive smartphone sector. This study employs a quantitative research methodology. The study focuses on iPhone smartphone users residing in Sukabumi Regency. A total of 155 individuals were included in the sample, and non-probability sampling was employed to choose the participants. The data utilized in this study is primary data, specifically obtained through the distribution of questionnaires. The Likert scale is employed as the measuring scale. The statistical methodology employed is Partial Least Squares (PLS), and the data analysis is conducted using the SmartPLS version 3.0 software. The study findings indicate that both product quality and brand image exert a favorable and substantial impact on customer retention. Nevertheless, customer satisfaction does not operate as a positive moderator in the connection between product quality and brand image in regard to customer retention. Additional investigation is advised to examine other variables that may influence this correlation.

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1. INTRODUCTION

The current technological advancements have a significant impact on society, particularly in the telecommunications sector. Information and communication technology continues to develop rapidly over time, and the majority of people need it in their daily lives. As technology progresses, it has been proven that many increasingly complex telecommunication devices are emerging. Advanced telecommunications also help people solve various problems quickly, one of which is that smartphones help handle issues more easily and can be resolved quickly, in a

short time. Smartphones are one of the communication tools that are now highly desired by many people because they have high functionality, comparable to computers [1]. Almost all needs can be met by this device, from daily life, studying, to other activities.

According to information sources from the ID mobile news portal (2019) focusing on mobile technology, the demand for smart devices in Indonesia has shown a substantial increase in recent years. As a result, competition in the smartphone industry in Indonesia has now reached a very intense level. Based on statistical data published in 2016 in Indonesia, iPhones dominated about 6.38% of the total market. Meanwhile, Android controlled the majority of the market with a share of around 93.22%. However, it should be noted that this large percentage is distributed among various manufacturers using the operating system.

In an effort to maintain their position in a competitive market, smart device manufacturers often focus their strategies on developing customer loyalty. When user expectations are met or even exceeded, it tends to create a strong bond between consumers and the brand. It is important to note that these expectations do not emerge from a vacuum but are formed from the accumulation of users' experiences with similar products in the past. Leading marketing experts highlight that consumer perceptions formed from previous interactions with a product or service play a crucial role in shaping their expectations for future purchases [2]. The long-term sustainability of a business entity is highly dependent on its ability to maintain a loyal customer base. When consumers show high loyalty, it provides an impetus for companies to continue improving their brand reputation. As a result, organizations are encouraged to produce products that are not only of high quality but also offer value commensurate with their price. The symbiotic relationship between customer loyalty and company efforts creates a positive cycle that benefits both parties. Although the number of iPhones is lower, the trend of growing iPhone users in the future cannot be ignored.

By understanding the factors influencing customer retention now, companies can prepare strategies to retain customers in the future. Competition in the smartphone industry is very tight, especially in smaller markets like Sukabumi Regency. Therefore, companies need to identify and understand the factors that can influence their customer retention to compete effectively.

Customer retention is one of the important aspects that need attention in the business world to ensure products always excel. Without a doubt, the idea of customer retention is a crucial aspect for the sustainability and prosperity of an organization [3]. Maintaining customer retention is one of the main focuses for an entity as it serves as a stable source of revenue. Customers tend to choose products from companies with a good reputation. Organizational management needs to improve their company's reputation to retain or expand the existing customer base. Companies will benefit if they can retain customers [4].

In maintaining customer retention, product quality is also very important to note. According to [5] and [6], product quality refers to the condition of a product based on an evaluation of the extent to which it meets established standards. Product quality is determined by how well the product conforms to the established standards, so the more it meets the standards, the higher its quality is rated. Over time, iPhone consistently launches its latest products that are increasingly high-quality and sophisticated, which is one of the reasons why many iPhone users globally are because the product quality meets consumer needs.

Besides product quality, the brand also helps consumers remember a product to differentiate it from similar products. Additionally, it is important for the brand to be perceived as a superior product so that consumers can evaluate the product based on its characteristics, image, and quality. According to [7] and [8], the attitude towards

a brand image is a mental expression that determines whether the perception of the product is positive or negative, favorable or unfavorable, liked or disliked, thus creating a positive or negative attitude among consumers, which can generate interest in the products and services offered by the brand and can be purchased or consumed by the producer. When iPhones first appeared, there was an image intended to give a luxurious impression to its users.

If product quality and brand image make consumers comfortable with the product, it will result in satisfaction. Customer satisfaction is important for the business's sustainability within a company to attract other consumers to buy the product. According to [9] in [10], Satisfaction may be defined as the disparity between one's expectations and the actual performance or outcome. Customer satisfaction is contingent upon endeavors to minimize or diminish the disparity between anticipated outcomes and actual performance. According to [10], satisfaction is an emotion that arises from the evaluation of emotions related to customer desires and needs for a product or service compared to their expectations.

Sukabumi Regency is an interesting location for research on iPhone users, supported by several interrelated factors. First, the significant economic growth in this area, with a growth rate reaching 4.72% in 2020, far exceeding the national average of 2.07% according to BPS Sukabumi Regency data. This growth indicates an increase in people's purchasing power, including for premium products like iPhones. Second, smartphone penetration in West Java, including Sukabumi Regency, reached 66.9% in 2020 based on data from the Ministry of Communication and Informatics of the Republic of Indonesia, showing the large potential of the smartphone market in the region. The third factor is the aggressive development of digital infrastructure through the "Sukabumi Smart City" program launched by the local government, encouraging increased use of information technology, including smartphones. Finally, Sukabumi Regency's status as a tourist area has the potential to increase exposure to premium products like iPhones, both from domestic and international tourists. The combination of these factors makes iPhone users in Sukabumi Regency an interesting and relevant subject for further study.

2. METHODS

This research design is a causal study. According to [11] in [12], this research falls into the category of causal research, which focuses on research designs that are structured to investigate possible cause-and-effect relationships between variables. The method used in this research should be clearly defined, and the results are presented in numerical form [13]. This study utilizes an explanatory research methodology with the objective of elucidating the causal connections between research variables and testing hypotheses [14].

The population used in this study is an infinite population. The selected research subjects are individuals who use or have used an iPhone as the population. Since this research uses an infinite population, a sample is needed to determine the number. The sample approach employed is non-probability sampling, specifically utilizing the purposive sampling methodology. The sample has 155 respondents. This study use a questionnaire as a means of collecting data. The surveys will be disseminated electronically using Google Forms, utilizing a Likert scale for response measurement.

The research will begin in March 2024, with the selection of the location in Sukabumi Regency and iPhone users as subjects. This location was chosen because Sukabumi Regency has significant economic growth, indicating an increase in the community's purchasing power for smartphones. The data analysis technique used is descriptive statistics to describe the main characteristics of the research variables and the demographic profile of the respondents. Descriptive statistical analysis provides data summaries, including mean values, variance, maximum and minimum

values, total, average, range, kurtosis, and skewness [15].

The data processing in this research uses Partial Least Squares (PLS), applied as a quantitative analysis method and one of the Structural Equation Modeling (SEM) techniques used to meet the dynamic understanding and data scale needs (nominal, interval, and ratio) in this research. The purpose of SEM-PLS is to test and develop models, allowing researchers to model paths between variables and identify indicators related to variables. Another advantage is that this path modeling method does not require normal distribution assumptions and allows for smaller sample sizes [16]. PLS testing is divided into two sub-models, namely the measurement model and the structural model, also known as the outer model and inner model [17].

The Measurement Model or Outer Model is divided into three elements, namely Convergent Validity, which evaluates the closeness of the relationship between constructs and latent variables. When evaluating convergent validity by examining the reliability of each item, it can be identified using standardized factor loadings. The standardized loading coefficient represents the correlation between each measurement item (indicator) and its construct. If the value is 0.7 or higher, it is considered high according to [18], but a range of values from 0.50 to 0.60 is deemed adequate for research in the early stages of scale development [18]. Discriminant validity is considered fulfilled if the square root of the AVE exceeds the value of the correlations between constructs. If the AVE value exceeds the correlation value between constructs, strong discriminant validity is achieved [19], [20]. Discriminant validity testing uses cross-loading values from the smartPLS processing results, where the construct variable values must exceed the values of other variables. Composite reliability measures latent variables with a value that must exceed 0.70. All latent variables meet the criteria for high reliability if the composite reliability value exceeds 0.70. The reliability of latent variable component scores can be measured using AVE, which is more conservative than composite reliability, with AVE values needing to be above 0.50. Internal consistency and Cronbach's Alpha are two types of metrics that can be used to assess composite reliability, measuring a construct [21].

In the Inner Model, the first step is to assess the R-square in order to ascertain the existence of interconnected latent variables. The interpretation approach closely resembles the interpretation used in regression analysis. The R-square values may be utilized to assess the influence of certain independent latent variables on dependent latent variables, in order to ascertain the level of significance of the effect (Adam, 2015). The following is the research framework:

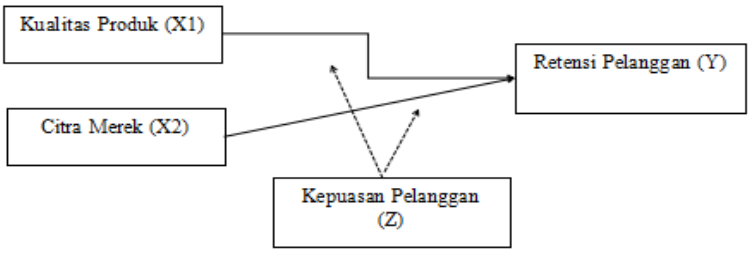

Figure 1. Research Framework
Source: Researcher (2024)

The hypotheses of this research are:

H1: Product quality has a positive effect on customer retention.

H2: Brand image has a positive effect on customer retention.

H3: Customer satisfaction positively moderates the effect of product quality on customer retention.

H4: Customer satisfaction positively moderates the effect of brand image on customer retention.

3. RESULTS AND DISCUSSION

3.1 Outer Model

Convergent validity measures the extent to which constructs and latent variables correlate. Testing the convergent validity of reflective indicators using Smart PLS is assessed from the loading factor value of each of its indicators. According to [18], the loading factor value of each indicator must exceed 0.70 to be considered valid. However, during the scale development stage of the study, loadings between 0.50 and 0.60 are still acceptable. In this study, the indicators on the outer loading values are already > 0.60 even though they are still < 0.70, particularly for the product quality variable with indicators X1.2 and X1.3, and the brand image variable with indicator X2.1 having an outer loading value < 0.70. However, according to [15], the threshold of outer loading values from > 0.50 – 0.60 is still acceptable as long as the construct validity and reliability requirements are met and the model is newly developed. Thus, based on the outer loading validity, it is stated that all items or indicators have been validated through convergent validity.

The findings of the discriminant validity test, which utilized cross-loading values, are also provided in detail. Discriminant validity is employed to ascertain that each notion inside a latent variable is distinct from other latent variables. A reliable indicator has strong discriminant validity when its loading value is the greatest among all loading values for its respective hidden variable. In this study, the correlation values between indicators and their latent variables exhibit the maximum magnitude when compared to other variables. This indicates that the latent variables have a superior ability to predict their corresponding indicators compared to other latent variables. Thus, it may be inferred that all indicators pass the discriminant validity test.

The composite reliability of the indicator block used to measure the construct is also evaluated. The validity and reliability criteria may be assessed by examining the reliability value of a construct and the average variance extracted (AVE) of each construct. An optimal construct is considered to have a reliability value greater than 0.70 and an average variance extracted (AVE) greater than 0.50. In addition, the reliability of construct or latent variables may be evaluated by examining the Cronbach's alpha value of the indicator block that measures the construct. A construct is deemed credible when the Cronbach's alpha value exceeds 0.70.

Variabel	Composite Reliability	AVE	Cronbach's Alpha
Kualitas Produk (X1)	0.906	0.516	0.883
Citra Merek (X2)	0.848	0.528	0.777
Retensi Pelanggan (Y)	0.878	0.546	0.834
Kepuasan Pelanggan (Z)	0.896	0.589	0.861

Figure 2. Composite Reliability

According to Figure 2, the composite reliability values for each variable indicate construct values greater than 0.70. The findings demonstrate that each variable has satisfied the composite reliability requirements, enabling us to infer that all variables possess a substantial level of dependability. In addition, the Average Variance Extracted (AVE) values for each variable, namely product quality, brand image, customer retention, and customer happiness, have construct values more than 0.50, indicating that all constructs are trustworthy. The composite reliability values

for each variable indicate that all variables have satisfied the composite reliability criterion, with construct values over 0.70. Therefore, we can confidently infer that all variables demonstrate a high degree of dependability.

3.2 Inner Model

R-square is a measure that indicates the proportion of variation in the value of an endogenous variable that can be explained by the exogenous variables influencing it. It is useful for assessing the quality of the model, whether it is good or poor [22].

	R-Square	Adjusted R-Square
Retensi Pelanggan	0.680	0.669

Figure 3. R-square

Based on Figure 3, the R-square value for customer satisfaction testing is 0.680, which falls into the moderate category. The R-square value for customer retention is 0.680 or 68%, meaning that the customer retention variable can be influenced by the product quality and brand image variables, with customer satisfaction as a moderating variable.

According to [22], F-square or effect size 2 is an indicator used to measure the magnitude of the influence of independent (exogenous) variables on dependent (endogenous) variables.

	Retensi Pelanggan
Kualitas Produk	0.176
Citra Merek	0.074
Kepuasan Pelanggan * Kualitas Produk	0.000
Kepuasan Pelanggan * Citra Merek	0.001
Kualitas Produk	0.176
Citra Merek	0.074

Figure 4. F-square

According to figure 4, the F-square testing yielded the following results: The F2 value for customer retention in relation to product quality is 0.176. This suggests a moderate impact of the exogenous variable on the endogenous variable. The F2 value for customer retention in relation to brand image is 0.074. This suggests a minimal impact of the external variable on the internal variable. The F2 value for the variable of customer retention, with customer happiness moderating product quality, is 0.000. This suggests a minimal impact of the external factor on the endogenous factor. The F2 value of 0.001 indicates the relationship between customer retention and customer satisfaction, with brand image acting as a moderating factor. This suggests a minimal impact of the exogenous variable on the endogenous variable.

3.3 Hypothesis Testing

Hypothesis testing is performed by examining the path coefficients, which represent the parameter values and statistical significance of t. The significance of the resultant parameter values indicates the magnitude of the correlation between the research variables. A hypothesis is deemed valid if the T-Statistic value exceeds 1.96 and the P-Value is below 0.05.

Path Coefficients	T Statistics	P Values
Kualitas Produk → Retensi Pelanggan	4.620	0.000
Citra Merek → Retensi Pelanggan	3.089	0.002
Kepuasan Pelanggan * Kualitas Produk → Retensi Pelanggan	0.032	0.975
Kepuasan Pelanggan * Citra Merek → Retensi Pelanggan	0.277	0.782

Figure 5. T-Statistic and P-Value

Statistical analysis to test the first hypothesis. The initial hypothesis posits that there exists a favorable and substantial impact of product quality on the retention of customers. The P-Value for the variable "product quality" on customer retention is 0.000, which is lower than the significance level of 0.05, as shown in Table 4.15. Given

that the P-value is less than the significance threshold (0.000 < 0.05), and the T-Statistic value is 4.620, which is greater than the T-table value of 1.96, we may conclude that the T-statistic value is greater than the T-table value (4.620 > 1.96). Therefore, the acceptance of H1 suggests that product quality has a notable and meaningful impact on customer retention.

Conducting hypothesis testing for the second hypothesis. The second hypothesis posits that brand image has a favorable and noteworthy impact on customer retention. The data in Table 4.15 indicates that the P-Value for the variable "brand image" in relation to customer retention is 0.002, which is lower than the significance level of 0.05. Given that the P-value (0.002) is less than the significance threshold (0.05), and the T-Statistic value (3.089) is more than the T-table value (1.96), we may conclude that the T-statistic value is greater than the T-table value (3.089 > 1.96). Therefore, the acceptance of H1 suggests that brand image has a noteworthy and meaningful impact on customer retention.

Statistical analysis to test the validity of the third hypothesis. The third hypothesis posits that the variable of customer satisfaction does not mediate the relationship between product quality and customer retention, so suggesting that there is no positive and substantial influence of product quality on customer retention. The table 4.16 indicates that the P-Value for the variable "product quality" on customer retention, which is moderated by the variable "customer satisfaction", is 0.975, in comparison to the significance level of 0.05. Given that the P-value is more than the significance threshold (0.975 > 0.05), and the T-Statistic value is 0.032 compared to the T-table value of 1.96, we may conclude that the T-statistic value is less than the T-table value (0.032 < 1.96). This implies that H1 is rejected, suggesting that customer happiness does not have a positive moderating influence on the relationship between product quality and customer retention.

Statistical analysis for the fourth hypothesis. The fourth hypothesis posits that the variable of customer satisfaction does not regulate the relationship between brand image and customer retention, and that there is no positive and significant influence of brand image on customer retention. The data shown in Table 4.16 indicates that the P-Value for the variable "brand image" in relation to customer retention, when moderated by the variable "customer satisfaction," is 0.782. This value is compared to the significance threshold of 0.05. Given that the P-value is more than the significance threshold (0.782 > 0.05), and the T-Statistic value is 0.277 compared to the T-table value of 1.96, we may conclude that the T-statistic value is less than the T-table value (0.277 < 1.96). Therefore, the rejection of H1 suggests that customer satisfaction does not play a moderating role in the relationship between brand image and customer retention.

4. CONCLUSION

This study aims to analyze the impact of product quality and brand image on customer retention among iPhone smartphone users in Sukabumi Regency, with customer satisfaction as a moderating variable. From the distribution of questionnaires to 155 respondents, most respondents are women aged between 21-30 years, and the majority are students. The main reason for the high number of iPhone users among students is their interest in the latest technology and innovations, as well as the premium and exclusive brand image offered by the iPhone, which aligns with their aspirations and lifestyle.

The results of the analysis using SmartPLS in this study are:

1. **Product quality has a positive and significant effect on customer retention**.

   This indicates that iPhone users in Sukabumi Regency rate the quality of iPhone products highly. This is evidenced by 50.3% of respondents agreeing

strongly that they are satisfied with the iPhone smartphone due to its attractive design and packaging, which makes them interested in using the device. The variety of products and appealing design of the iPhone can help enhance user satisfaction and motivate them to remain loyal to the product.

2. **Brand image has a positive and significant effect on customer retention.**

   Based on respondents' answers to indicator X2.2, 54.8% of respondents agreed that the iPhone smartphone is very familiar. Users feel that the brand image of the iPhone meets their expectations and desires. This satisfaction stems from the iPhone's ability to present a strong, elegant, and innovative brand image that meets user expectations. Therefore, a positive brand image not only attracts new customers but also helps retain existing ones and increases their loyalty and trust in the iPhone.

3. **Customer satisfaction does not moderate the relationship between product quality and customer retention for iPhone smartphones.**

   Customer satisfaction does not act as a moderating factor to strengthen the relationship between iPhone product quality and customer loyalty. Based on respondent answers, 3.2% felt neutral about purchasing an iPhone in the future. Nonetheless, this finding also indicates that the iPhone fully meets users' needs and expectations. Users are satisfied with the overall experience of using the iPhone, including its product quality. The likelihood of repurchasing an iPhone in the future suggests that customer satisfaction remains an important aspect in maintaining customer loyalty.

4. **Customer satisfaction does not moderate the relationship between brand image and customer retention for iPhone smartphones**.

   This finding is supported by survey responses where 6.5% of respondents disagreed with the statement about recommending iPhone products to non-users and other users. This means that although the iPhone's brand image significantly contributes to maintaining user loyalty, customer satisfaction does not significantly strengthen or weaken the effect of brand image on customer loyalty decisions.

REFERENCES

[1] D. K. Marheni and G. Melani, "Analisis Faktor-Faktor yang Mempengaruhi Niat untuk Menggunakan Mobile Payment pada Masyarakat Kota Batam," *Jesya (Jurnal Ekon. dan Ekon. Syariah)*, vol. 4, no. 2, pp. 804–815, 2021.

[2] P. Kotler and K. L. Keller, "manajemen pemasaran (J. Purba (ed.)." PT. INDEKS, 2018.

[3] D. Darmawan, F. Purwanto, J. Jahroni, and A. Infante, "the Relationship Between Satisfaction and Loyalty of Hotel Service Users in the Tourism City of Batu, Malang," *JESS*, vol. 1, no. 2, pp. 49–56, 2021.

[4] A. Rachmawati, A. A. Kana, and Y. Anggarini, "Pengaruh Harga, Kualitas Produk, dan Gaya Hidup terhadap Proses Keputusan Pembelian Produk Hijab di Nadiraa Hijab Yogyakarta," *Cakrawangsa Bisnis J. Ilm. Mhs.*, vol. 1, no. 2, 2021.

[5] L. P. Handoko, "The effect of product quality and delivery service on online-customer satisfaction in zalora indonesia," *J. EMBA J. Ris. Ekon. Manajemen, Bisnis dan Akunt.*, vol. 4, no. 1, 2016.

[6] D. Ernawati, I. Nugraha, and N. K. Sari, "Designing Supply Chain Resilience with a Quality Function Deployment Approach: A Case Study in a Shipping Line Company," 2023.

[7] H. Assael, "From silos to synergy: A fifty-year review of cross-media research shows synergy has yet to achieve its full potential," *J. Advert. Res.*, vol. 51, no. 1 50th Anniversary Supplement, pp. 42–58, 2011.

[8] P. N. Sari, D. Andrayani, A. Nurhadi, and M. F. Janvierna, "SOSIALISASI STRATEGI PEMASARAN DALAM RANGKA OPTIMALISASI KEUNTUNGAN UMKM KECAMATAN RANCABUNGUR MELALUI PERLUASAN PASAR DI DUNIA DIGITAL," *J. Abdimas Ilm. Citra Bakti*, vol. 4, no. 2, pp. 162–173, 2023.

[9] V. Tjiptono, "Pengaruh Kualitas Produk Dan Harga Terhadap Kepuasan Konsumen Abadi Plastik." Universitas Ciputra Surabaya, 2012.

[10] R. Sahabuddin, H. M. Arif, S. D. Manai, D. Suryani, and A. Sabirin, "Pengaruh citra merek, kualitas produk, dan harga terhadap minat beli konsumen Wizzmie Kota Makassar," *J. Ilm. Manaj. dan Bisnis*, vol. 4, no. 2, pp. 230–237, 2023.

[11] S. Anwar, "What explains our slow economic growth? Causality analysis between economic growth and defense spending in Pakistan," *J. Econ. Stud. Res.*, pp. 1–21, 2017.

[12] S. W. Warman and P. Nuraini, "Body (BAZNAS) Rokan Hilir District Faktor-Faktor Yang Mempengaruhi Motivasi Muzakki Membayar Zakat Di Badan Amil Zakat Nasional (BAZNAS) Kabupaten Rokan Hilir. 3." October, 2022.

[13] P. D. Sugiyono, "Quantitative, qualitative, and R&D research methods," *Bandung(ALFABETA, Ed.)*, 2018.

[14] M. I. Nasution, M. Fahmi, and M. A. Prayogi, "The quality of small and medium enterprises performance using the structural equation model-part least square (SEM-PLS)," in *Journal of Physics: Conference Series*, IOP Publishing, 2020, p. 52052.

[15] I. Ghozali, *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25.* Semarang: Badan Penerbit Universitas Diponegor, 2018.

[16] M. Ashoer, "Pengaruh E-Service Quality Terhadap E-Satisfaction Pada Pelanggan Situs Toko Online Brodo," *JBMI (Jurnal Bisnis, Manajemen, Dan Inform.*, vol. 15, no. 3, pp. 238–251, 2019.

[17] R. Guanabara Calasans and E. P. Barreto Davel, "Gestão de carreiras criativas: passado e futuro da pesquisa acadêmica.," *Políticas Cult. Em Rev.*, vol. 13, no. 1, 2020.

[18] I. Ghozali, "aplikasi analisis multivariate dengan program IBM SPSS 21 Update PLS Regresi. semarang: Badan penerbit Universitas Diponegoro," *Inf. Technol.*, vol. 2, no. 2, 2013.

[19] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *Eur. Bus. Rev.*, vol. 31, no. 1, pp. 2–24, 2019.

[20] D. Purwanto, M. R. Lubis, and S. Sultono, "Vocational Middle-school Internship with Industry During the Covid-19 Pandemic," *JIPTEK J. Ilm. Pendidik. Tek. dan Kejuru.*, vol. 16, no. 2, pp. 116–120.

[21] S. C. Manley, J. F. Hair, R. I. Williams, and W. C. McDowell, "Essential new PLS-SEM analysis methods for your entrepreneurship analytical toolbox," *Int. Entrep. Manag. J.*, vol. 17, pp. 1805–1825, 2021.

[22] A. Juliandi, "Structural Equation Model Partial Least Square (Sem-Pls) Dengan SmartPLS," *Modul Pelatih.*, vol. 1, no. 4, pp. 1–6, 2018.