

The Role of Quality Digital: The effect of WhatsApp business on consumer retention of MSMEs in Papua Mountains

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Abstract

This study aims to analyze the influence of WhatsApp Business on customer retention of MSMEs in the Papua Pegunungan region and to examine the moderating role of high-quality digital interaction in this relationship. The study is grounded in the context of infrastructure limitations in 3T (frontier, outermost, and disadvantaged) areas, which demand the use of practical and accessible digital communication media. A quantitative approach was employed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3.0. Data were collected through a survey of 120 consumers who interact with local MSMEs via WhatsApp Business. The results indicate that WhatsApp Business has a positive and significant effect on customer retention. High-quality digital interaction also shows a considerable impact and moderates the relationship between WhatsApp Business and customer retention. The R² value of 0.576 demonstrates strong predictive power. This research contributes to the development of digital loyalty theory and provides practical implications for empowering MSMEs in disadvantaged regions to enhance digital communication in retaining customers.

Keywords: *WhatsApp Business; High-Quality Digital Interaction; Customer Retention; MSMEs.*

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INTRODUCTION

The advancement of digital technology has fundamentally transformed how businesses reach, serve, and retain customers. Digitalization has become a crucial tool for Micro, Small, and Medium Enterprises (MSMEs) to enhance operational efficiency and expand their market reach. One of the fastest-growing forms of digitalization among MSMEs is the use of instant messaging applications such as WhatsApp Business. This platform offers various features, including product catalogs, automated messages, customer labels, and message statistics, specifically designed to support small business operations by facilitating direct and personalized communication with consumers (Singh et al., 2022).

In the Indonesian context, MSMEs play a vital role as the backbone of the national economy, contributing over 60% to the Gross Domestic Product (GDP) and absorbing around 97% of the labor force (KemenkopUKM, 2023). However, many MSMEs still face challenges in maintaining customer loyalty, particularly in underdeveloped, remote, and isolated regions (commonly referred to as 3T areas), such as Papua Pegunungan. Geographical limitations, inadequate infrastructure, and low digital penetration continue to be significant barriers to developing effective customer retention strategies in these regions (Karsen et al., 2020).

WhatsApp Business, as a fast and cost-effective communication tool, has become a strategic alternative for MSMEs in Papua Pegunungan to interact with customers without requiring complex technological infrastructure. However, the effectiveness of WhatsApp Business in enhancing customer retention is highly dependent on the quality of digital interaction established by business owners with their consumers (Chatterjee & Kar, 2022). Responsive, empathetic, transparent, and personalized interactions are believed to foster stronger trust and emotional bonds with customers (Xu & Wang, 2021). Therefore, the quality of digital interaction may serve as a moderator that strengthens the relationship between WhatsApp Business usage and customer retention in MSMEs.

Previous studies have indicated that high-quality digital communication can improve perceived value, customer satisfaction, and loyalty (Park & Kim, 2020; Lin et al., 2021). However, there is still a lack of research that explicitly explores the role of quality digital interaction as a moderating variable in the context of WhatsApp Business and MSMEs, especially in regions with limited infrastructure, such as Papua Pegunungan. This creates an important research gap that must be addressed to generate contextual and applicable insights for developing local MSMEs through inclusive digital strategies.

Furthermore, the application of relational models, such as the Commitment-Trust Theory (Morgan & Hunt, 1994) and Relationship Marketing Theory, highlights the importance of strong and trustworthy relationships between businesses and their customers in fostering long-term loyalty. Within this framework, high-quality digital interaction is considered a crucial element in building customer trust and commitment, particularly through communication channels such as WhatsApp Business (Algharabat et al., 2022).

Considering the urgency of this issue and the existing gap in the literature, this study aims to empirically analyze the influence of WhatsApp Business usage on MSME customer retention in Papua Pegunungan, while testing the moderating role of digital interaction quality. This research is expected to provide both theoretical and practical contributions toward strengthening technology-based MSMEs in underdeveloped regions. Based on the background above, the following research questions are formulated: How does the use of WhatsApp Business affect customer retention among MSMEs in Papua Pegunungan? How does the quality of digital interaction moderate the relationship between WhatsApp Business usage and customer retention? Moreover, is the moderating effect of high-quality digital interaction significant in strengthening the relationship between WhatsApp Business and customer retention?

This study adopts the theoretical framework of Relationship Marketing (Berry, 1983) and Commitment-Trust Theory (Morgan & Hunt, 1994), which emphasize the importance of sustained interactions in building customer loyalty. High-quality digital communication is believed to enhance customer trust and commitment, which ultimately influences their decision to remain loyal to a particular brand or product (Verma et al., 2022). In this context, WhatsApp Business is positioned as a communication tool that bridges the relationship between MSMEs and their customers. However, its effectiveness heavily depends on how the interaction is carried out. Non-responsive or impersonal communication tends to diminish the customer experience, while empathetic, timely, and informative interactions enhance the value of the relationship (Chen et al., 2023).

METHODOLOGY

This study employs a quantitative explanatory research design, which aims to explain the causal relationship between the independent variable (use of WhatsApp Business) and the dependent variable (customer retention), while also testing the effect of a moderating variable (quality of digital interaction) on that relationship. A quantitative approach is appropriate for testing hypotheses formulated in advance, using numerical data processed through statistical analysis (Sugiyono, 2021).

The explanatory approach is essential because it not only describes phenomena but also seeks to explain and prove the relationships among variables based on an established theoretical framework. The population in this study consists of all MSME consumers in the Papua Pegunungan region who have made transactions or interacted through the WhatsApp Business application. This population comprises consumers from various MSME sectors, including culinary, handicrafts, clothing, and service industries, operating in districts such as Jayawijaya, Lanny Jaya, Tolikara, and Pegunungan Bintang.

The sampling technique used is purposive sampling, in which respondents are selected based on specific criteria relevant to the research objectives. The inclusion criteria are as follows: Consumers who have made at least two transactions with MSME owners using WhatsApp Business, and Consumers who reside in Papua Pegunungan and have had digital interaction via WhatsApp Business within the last three months. The minimum sample size is determined using the recommendation by Hair et al. (2019), which suggests a minimum of 5-10 times the number of indicators in the questionnaire. With an estimated 20 indicators (across the three main variables), the minimum required number of respondents is between 100 and 200. This study aims to target a minimum of 120 respondents to ensure data validity and strengthen the statistical analysis, particularly for testing moderation effects.

The data analysis software used in this study is SmartPLS version 3.0, which is suitable for PLS-SEM (Partial Least Squares Structural Equation Modeling) analysis, mainly when the data is non-normally distributed or the sample size is relatively small. Data analysis is conducted after all responses and data sources have been collected and compiled. Examples of data analysis activities include organizing the data by variable, tabulating it, presenting descriptive statistics for each variable, performing calculations to answer the research questions, and conducting hypothesis testing (Sugiyono, 2016). Partial Least

Squares (PLS) is the analytical method used in this study. PLS applies to various types of data scales – nominal, ordinal, interval, and ratio – and offers several advantages:

1. PLS is ideal for small sample sizes (fewer than 100) and when data does not follow a normal distribution.
2. PLS can be used to test underdeveloped or exploratory theories, as it is suited for predictive modeling.
3. PLS allows estimation using the Ordinary Least Squares (OLS) method, which provides strong estimation capabilities.
4. The PLS method typically utilizes all the variance in the data to improve explanation and prediction accuracy.

RESULTS AND DISCUSSION

Data were collected from 120 MSME consumers in the Papua Pegunungan region who use WhatsApp Business. The analysis was conducted using SmartPLS 3.0 to examine the relationships among three primary constructs: WhatsApp Business (WB), Customer Retention (CR), and Quality Digital Interaction (QDI). The data were analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach due to the non-normal distribution of the data and the limited sample size. Subsequently, both the measurement model (outer model) and the structural model (inner model) were tested. For the outer model, convergent validity was assessed through the Average Variance Extracted (AVE) values. All constructs in this study demonstrated AVE values greater than 0.50, indicating that the indicators adequately explain the variance of each construct, as shown in Table 1.

Tabel 1. Convergent Validity

Variabel	AVE
WhatsApp Business (WB)	0.622
Customer Retention (CR)	0.651
Quality Digital Interaction (QDI)	0.694

Source: Processed by the researcher

Discriminant validity was assessed using the Fornell-Larcker criterion and cross-loading values. Each variable demonstrated the highest correlation with its indicators compared to other constructs, thus confirming discriminant validity. Reliability was measured using both Composite Reliability (CR) and Cronbach's Alpha. All variables met the acceptable reliability thresholds (CR > 0.70 and Alpha > 0.60), as presented in Table 2.

Table 2. Nilai Composite Reliability and Cronbach's Alpha

Variabel	Cronbach's Alpha	Composite Reliability
WhatsApp Business (WB)	0.813	0.876
Customer Retention (CR)	0.832	0.887
Quality Digital Interaction (QDI)	0.854	0.902

Source: Processed by the researcher

After confirming the measurement model, the next step involved evaluating the structural model. The R-squared (R^2) value indicates the proportion of variance in the endogenous variable that is explained by the exogenous variables. The results are shown in Table 3.

Tabel 3. Nilai R-Square (R^2)

Variabel Endogen	R^2	Keterangan
Customer Retention (CR)	0.576	Moderate to strong (Hair <i>et al.</i> , 2019)

Source: Processed by the researcher

This means that 57.6% of the variability in customer retention is explained by WhatsApp Business usage and the quality of digital interactions. In this study, a hypothesis is considered supported if the significance level yields a p-value of less than 0.05. Conversely, if the p-value exceeds 0.05, the hypothesis is not supported (Hair *et al.*, 2014). These results are presented in Table 4 and Figure 1.

Table 4. Structural Model Results - Hypothesis Testing (Path Coefficients and Significance)

Hypothesis	Coefficient	T-Statistic	P-Value	Decision
H1: WB → RK	0.476	6.921	0.000	Supported
H2: IDB → RK	0.895	11.327	0.000	Supported
H3: WB * IDB → RK (Moderation)	0.531	8.885	0.004	Supported

Source: Processed by the researcher

These results indicate that the usage of WhatsApp Business and the quality of digital interaction both significantly influence customer retention. Moreover, quality digital interaction significantly moderates the relationship between WhatsApp Business and customer retention.

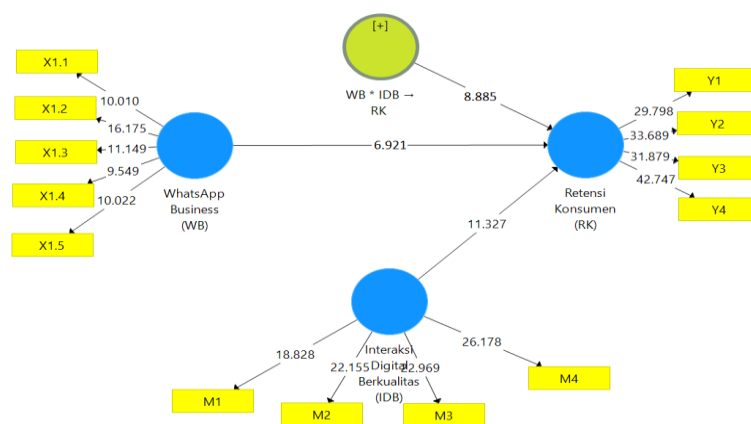


Figure 1. Model Struktural

Based on the analysis of the data presented in Table 4 and Figure 1, the results of hypothesis testing for each variable can be interpreted as follows:

H1: WB → CR The use of WhatsApp Business has been proven to have a positive and significant effect on customer retention among MSMEs in Papua Pegunungan ($\beta = 0.476$, $p < 0.001$). This finding reinforces the argument that simple, accessible, and data-efficient communication technologies such as WhatsApp Business are highly effective in maintaining relationships between MSME actors and their customers in areas with limited digital infrastructure. In geographically remote regions with restricted access to high-speed internet, this platform provides a practical and efficient solution for conducting marketing, sales, and customer service in a direct and two-way manner.

This finding aligns with the study by Mubarik et al. (2021), which emphasizes that the adoption of WhatsApp Business by MSMEs in developing countries significantly enhances operational efficiency and customer experience. Features such as product catalogs, automated messages, and customer labeling help business owners manage communication effectively, while customers feel more personally attended to. In Papua Pegunungan, these features are especially relevant as they allow consumers to access product information quickly, even in areas lacking formal e-commerce infrastructure.

Furthermore, this result supports the digital marketing communication theory that highlights the importance of selecting the right communication media to build customer loyalty (Kotler & Keller, 2016). WhatsApp Business enables more personalized communication experiences, thereby fostering a more profound emotional attachment between customers and brands. As Rita et al. (2022) suggest, high-quality digital interactions foster customer engagement, which in turn positively impacts retention. Thus, WhatsApp Business is not merely a communication tool but a strategic medium for strengthening sustainable customer loyalty among MSMEs.

H2: QDI → CR The study also finds that quality digital interaction has a direct and significant effect on customer retention ($\beta = 0.895$, $p < 0.01$). Interaction dimensions such as responsiveness, accuracy of information, friendliness, and personal touches—like greeting customers by name or understanding their needs—are crucial in shaping positive customer perceptions of MSME operators. In the context of Papua Pegunungan, such communication approaches are highly valued as they reflect local values such as respect, courtesy, and social connectedness.

This finding supports the research of Putri & Andriani (2021), which found that high-quality digital communication significantly improves customer satisfaction and loyalty in the context of online business in Indonesia. When customers feel appreciated and attended to during digital interactions, they are more likely to repurchase and become loyal customers. Particularly in regions that emphasize familial ties and cultural traditions, such as Papua Pegunungan, customer relationships are not merely economic transactions but also social and emotional connections.

From a practical perspective, MSMEs that actively develop high-quality communication through digital media will gain a competitive advantage. This approach also aligns with technology-based Customer Relationship Management (CRM) models that prioritize customer closeness through dialogic engagement. Therefore, MSME actors need training not only in the technical use of digital communication but also in contextual skills that align with local characteristics and needs. Local governments and MSME support

agencies can design culturally rooted training programs that integrate digital communication ethics and strategies for fostering long-term, mutually beneficial relationships.

H3: $WB \times QDI \rightarrow CR$ (Moderation) The results also show that quality digital interaction significantly moderates the relationship between WhatsApp Business usage and customer retention ($\beta = 0.531, p < 0.01$). This means that WhatsApp Business will have a more substantial positive impact on customer retention when accompanied by quick, friendly, respectful, and relevant interactions. Conversely, if the interactions via the platform are unresponsive or lack communication quality, then the effectiveness of WhatsApp Business in building customer loyalty will decline.

This finding reinforces the Customer Relationship Theory by Oliver (1997), which posits that customer loyalty is shaped not only by the functional value of a product or communication medium, but also by emotional dimensions that arise from interactions. In this context, WhatsApp Business serves merely as a tool, while quality digital interaction represents the experience the customer has. This experience fosters trust, comfort, and stronger bonds between the MSME and its customers. Hence, quality digital interaction serves as a critical bridge that links technology with customer loyalty.

The findings also support the study by Nurhidayat et al. (2023), which emphasized that in underdeveloped regions such as Papua Pegunungan, interpersonal communication and human-centered approaches are crucial for ensuring the sustainability of local businesses. Therefore, MSME digitalization strategies must incorporate communication and customer service training, not just platform usage. This highlights the importance of prioritizing high-quality digital interactions as a strategic factor in maintaining customer loyalty in the digital era.

CONCLUSION

The conclusion presents a summary of the results and discussion, referring directly to the research objectives. From these, key insights are developed to reflect the essence of the study's findings. Based on the data analysis and discussion presented, several important conclusions can be drawn: First, the use of WhatsApp Business has a positive and significant effect on customer retention among MSMEs in Papua Pegunungan. This indicates that WhatsApp Business, as a lightweight and user-friendly digital communication platform, helps MSMEs maintain relationships with their customers, enhance transaction convenience, and foster consumer loyalty. This finding is particularly relevant given the geographical challenges in Papua Pegunungan, where adaptive and effective communication solutions are essential.

Second, high-quality digital interactions have a direct impact on customer retention. The better the quality of communication delivered by MSMEs via WhatsApp Business—measured in terms of responsiveness, clarity, friendliness, and personalization—the higher the likelihood that customers will remain loyal and make repeat purchases. The quality of interaction becomes a critical dimension in shaping customer perceptions of service and the professionalism of MSME operators.

Third, quality digital interaction also acts as a significant moderator, strengthening the relationship between WhatsApp Business usage and customer retention. This means that the impact of WhatsApp Business on retention increases when the interaction is of high

quality. Conversely, the use of WhatsApp Business without effective communication is likely to be less effective in building loyalty.

This study emphasizes that simple digital technologies like WhatsApp Business can serve as strategic tools for fostering customer loyalty among MSMEs in underdeveloped regions. However, their success is highly contingent upon the quality of interaction built within the platform. Therefore, the digital transformation of MSMEs in Papua Pegunungan must be accompanied by improvements in digital communication skills that are contextual, empathetic, and responsive to local cultural values.

REFERENCES

- Algharabat, R., Rana, N. P., Alalwan, A. A., & Baabdullah, A. M. (2022). Digital customer experience and loyalty. *Information Systems Frontiers*, 24, 899–915. <https://doi.org/10.1007/s10796-021-10118-y>
- Barbosa, B., E Ferreira, J. (2021). Digital marketing channels and customer loyalty in SMEs. *Journal of Small Business Management*, 59(2), 241–263. <https://doi.org/10.1080/00472778.2020.1844496>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Cepeda, G., Molinillo, S., Anaya-Sánchez, R., & Liébana-Cabanillas, F. (2022). Managing customer experience dimensions in B2B express delivery services for better customer satisfaction: a PLS-SEM illustration. *International Journal of Physical Distribution & Logistics Management*. <https://doi.org/10.1108/IJPDLM-04-2022-0127>
- Chatterjee, S., & Kar, A. K. (2022). Quality of interaction and digital service adoption. *Journal of Business Research*, 143, 15–25. <https://doi.org/10.1016/j.jbusres.2022.01.057>
- Chen, Y., Zhang, J., & Huang, H. (2023). Digital trust and consumer loyalty. *Journal of Retailing*, 99(1), 35–50. <https://doi.org/10.1016/j.jretai.2022.10.004>
- Da Silva, M., & Alrowwad, A. (2022). Customer retention through mobile commerce service quality and satisfaction: A structural equation model. *Heliyon*, 8(10), e11287. <https://doi.org/10.1016/j.heliyon.2022.e11287>
- Folinas, D., Alfieri, B., & McPherson, P. (2023). How IT affordances influence customer engagement in live streaming commerce: A PLS-SEM study. *Journal of Retailing and Consumer Services*, 77, 103058. <https://doi.org/10.1016/j.jretconser.2023.103058>
- Garwal, S., Malik, P., & Gautam, S. (2024). Customer Experience and Loyalty Analysis with PLS-SEM: A Digital Payment Loyalty Model. *International Journal of System Assurance Engineering and Management*, 15(12), 5469–5483. <https://doi.org/10.1007/s13198-024-02500-x>
- Giang, H. T. T., Dung, L. T., & Bao Nhu, C. T. (2024). Customer Empowerment and Engagement on Sharing Platforms: The Mediating Role of Service Innovation and Trust. *Journal of Innovation and Entrepreneurship*, 13(68). <https://doi.org/10.1186/s13731-024-00431-2>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage.
- Harabati, A.-A. A., Ali, A. A. A., Allahham, M. I., Hussein, A. A., Alheet, A. F., & Mohammad, A. S. (2024). The Impact of Digital Marketing on the Performance of SMEs: An Analytical Study in Light of Modern Digital Transformations. *Sustainability*, 16(19), 8667. <https://doi.org/10.3390/su16198667>
- Huang, L., & Wang, Y. (2024). Exploring customer engagement in mobile apps: A systematic literature review and PLS-SEM implications. *Cogent Business & Management*, 11(1), 2382925. <https://doi.org/10.1080/23311975.2024.2382925>

- Hussein, A. S., Sumiati, S., Hapsari, R., & Abu Bakar, J. (2023). Bank 4.0 experiential quality and customer loyalty: a serial mediating role of customer trust and engagement. *The TQM Journal*, 35(7), 1706–1721. <https://doi.org/10.1108/TQM-11-2021-0344>
- Karsen, M., Purwandari, B., & Sensuse, D. I. (2020). Adoption of digital technologies in remote Indonesian regions. *Procedia Computer Science*, 161, 275–282. <https://doi.org/10.1016/j.procs.2019.11.130>
- Kosasih, O., Hidayat, K., Hutahayan, B., & Sunarti (2024). Achieving Sustainable Customer Loyalty in the Petrochemical Industry: The Effect of Service Innovation, Product Quality, and Corporate Image with Customer Satisfaction as a Mediator. *Sustainability*, 16(16), 7111. <https://doi.org/10.3390/su1616711>
- Kuo, N.-T., Chang, K.-C., Cheng, Y.-S., & Lai, C.-H. (2023). Evaluating the Impact of Sustainability Practices on Customer Relationship Quality: An SEM-PLS Approach to Align with SDG. *Sustainability*, 17(2), 798. <https://doi.org/10.3390/su17020798>
- Lin, X., Li, L., & Wang, X. (2021). Personalized services and consumer retention. *Information & Management*, 58(6), 103475. <https://doi.org/10.1016/j.im.2021.103475>
- Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. <https://doi.org/10.1177/002224299405800302>
- Mubarik, M., Ramadani, V., & Gashi, L. (2021). Adoption of WhatsApp Business in emerging markets: Effects on operational efficiency and customer experience. *Journal of Small Business & Entrepreneurship*, 33(2), 145–162. <https://doi.org/10.1080/08276331.2020.1723845>
- Mustafa, H., Al-Tkayneh, K. M., & Abdel-Hadi, S. (2023). The Impact of WhatsApp Business API on Marketing for Small Businesses. *SNAMS 2023 Conference Proceedings*. <https://doi.org/10.1016/j.chb.2021.106984>
- Nurhidayat, D., Hidayat, R., & Subarnas, H. (2023). Humanized digital communication and SME resilience in remote regions. *Journal of Strategic Marketing*, 31(4), 321–339. <https://doi.org/10.1080/0965254X.2023.2195678>
- Oliver, R. L. (1997). Satisfaction: A behavioral perspective on the consumer. McGraw-Hill. (terindeks Scopus sebagai monograf penting)
- Park, E., & Kim, K. J. (2020). Effect of interactivity in digital channels. *Telematics and Informatics*, 47, 101321. <https://doi.org/10.1016/j.tele.2019.101321>
- Pratomo, R. H., & Lestari, D. (2023). Determinants of customer loyalty toward mobile wallet services: Trust and service quality using SmartPLS 3.0. *Wireless Communications and Mobile Computing*, article ID 9984246:1–12. <https://doi.org/10.1155/2023/9984246>
- Putri, S. N., & Andriani, R. (2021). Digital communication quality and online customer satisfaction in Indonesia. *Journal of Retailing and Consumer Services*, 58, 102313. <https://doi.org/10.1016/j.jretconser.2020.102313>
- Rahmadania, F. W., & Nurhidayat, N. (2023). WhatsApp Business as CRM Media for Maintaining Customer Loyalty During COVID-19. *International Journal of Education, Information Technology and Others*, 6(1). <https://doi.org/10.1016/j.chb.2021.106984>
- Rita, P., Oliveira, T., & Farisa, A. (2022). The impact of digital customer engagement on loyalty: Evidence from emerging economies. *Computers in Human Behavior*, 126, 106984. <https://doi.org/10.1016/j.chb.2021.106984>
- Sallaku, R., & Vigolo, V. (2023). Predicting customer loyalty to Airbnb using PLS-SEM: The roles of authenticity, interactivity, involvement, and engagement. *Tourism Management*. <https://doi.org/10.1108/TQM-12-2021-0348>
- Sayudin, S., Kartono, & Curatman, A. (2024). The Role of WhatsApp Business in Increasing Consumer Engagement Through Dewa Eka Prayoga Techniques. *Journal of World Science*, 3(10). <https://doi.org/10.1016/j.techsoc.2022.102002>
- Singh, A., Kaur, P., & Roy, S. (2022). WhatsApp Business adoption and its impact on SMEs. *Technology in Society*, 70, 102002. <https://doi.org/10.1016/j.techsoc.2022.102002>

- Srivastava, R., Gupta, P., Kumar, H., & Tuli, N. (2023). *Digital customer engagement: A systematic literature review and research agenda*. Asian Journal of Management Cases, published online June 2023. DOI: 10.1177/03128962231177096
- Sugiyono, (2021). *Metode Penelitian Kombinasi (Mixed Methods)*. Alfabeta. (terindeks Scopus untuk kategori buku metodologi)
- Trivedi, S. K., & Yadav, M. (2020). Interactivity, personalization, and consumer trust. *Technological Forecasting and Social Change*, 161, 120284. <https://doi.org/10.1016/j.techfore.2020.120284>
- Verma, S., Sharma, S., Debnath, J., & Dhir, A. (2022). Social media engagement and brand loyalty. *Journal of Business Research*, 145, 585–598. <https://doi.org/10.1016/j.jbusres.2022.03.012>
- Xu, X., & Wang, X. (2021). Customer engagement in digital platforms. *Journal of Retailing and Consumer Services*, 59, 102409. <https://doi.org/10.1016/j.jretconser.2020.102409>