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Linking Technology Readiness and eWOM Readiness: Evidence from Indonesian MSMEs

Fauzan Fadlullah[1], Faiz Nuha Ilmawan[2]

[1] Universitas Negeri Jakarta, Indonesia; fauzanfadlullah@unj.ac.id,
[2] Universitas Jenderal Soedirman, Indonesia; faiz.nuha@unsoed.ac.id

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ABSTRACT

Electronic Word of Mouth (eWOM) has become a central factor influencing consumer behavior in the digital economy, yet many micro, small, and medium enterprises (MSMEs) remain unprepared to manage it effectively. While prior studies have applied the Technology Readiness Index (TRI) in areas such as e-commerce and customer relationship management, little is known about its role in shaping organizational readiness for eWOM. This study addresses this gap by exploring how the four TRI dimensions—optimism, innovativeness, discomfort, and insecurity—affect eWOM readiness among Indonesian MSMEs. A quantitative survey was conducted, and the data were analyzed using structural equation modeling to capture the relationships between constructs. The findings confirm that technology readiness significantly influences MSMEs' ability to engage with eWOM, with positive dimensions acting as drivers and negative dimensions serving as barriers. The study extends TRI theory into the underexplored domain of digital customer engagement and highlights the need for MSMEs to develop structured processes and managerial capabilities to leverage eWOM strategically. Policy initiatives such as UMKM Go Digital are encouraged to move beyond platform adoption and strengthen support for review management practices. Limitations of the study include its cross-sectional design and single-country focus, suggesting future comparative and longitudinal research.

Corresponding Author:
Fauzan Fadlullah
Universitas Negeri Jakarta, Indonesia; fauzanfadlullah@unj.ac.id,

1. INTRODUCTION

Electronic Word of Mouth (eWOM) has emerged as one of the most influential drivers of consumer decision-making in the digital economy. Unlike traditional marketing communications, eWOM is generated by customers themselves and is often regarded as more authentic, trustworthy, and persuasive (Hennig-Thurau et al., 2004; Litvin et al., 2008). Consumers increasingly rely on online reviews and recommendations before making purchase decisions, with eWOM shaping not

only immediate purchasing behavior but also long-term brand perception and loyalty. This transformation highlights the critical role of eWOM in contemporary business environments.

In Indonesia, the role of eWOM is amplified by high internet penetration and the widespread use of social media platforms. Reports indicate that more than 80% of Indonesian consumers read online reviews before committing to a purchase (We Are Social, 2024). With e-commerce platforms and digital marketplaces growing rapidly, eWOM has become a decisive factor influencing customer trust and competitiveness. For businesses, particularly micro, small, and medium enterprises (MSMEs), the ability to manage eWOM effectively can determine survival and growth in the increasingly competitive digital marketplace.

MSMEs are vital to Indonesia's economy, contributing more than 60% of GDP and employing the majority of the labor force (Kemenkop UKM, 2024). Yet, despite their economic importance, MSMEs often lack the readiness and strategic capability to manage digital interactions with customers. Many MSMEs tend to ignore negative online reviews, while positive reviews are underutilized as marketing tools (Purwanto et al., 2023). This lack of preparedness undermines trust-building efforts and limits the ability of MSMEs to fully capitalize on the opportunities provided by digital platforms. Thus, eWOM management readiness represents a pressing challenge in the digital transformation of MSMEs.

A promising theoretical framework to understand this challenge is the Technology Readiness Index (TRI). Developed by Parasuraman (2000), TRI measures individuals' or organizations' predisposition to adopt and embrace new technologies. The framework consists of four dimensions: optimism and innovativeness, which act as enablers, and discomfort and insecurity, which serve as barriers (Blut & Wang, 2020). TRI has been widely applied in studies of technology adoption across various domains, such as e-commerce (Suryaningrum, 2021), social media (Ainin et al., 2015), and customer relationship management (Fadlullah & Mauritsius, 2023). However, little is known about its application in explaining readiness for eWOM management, particularly in the MSME context.

The lack of research in this area reveals a critical gap. While eWOM is widely recognized as a key factor influencing consumer behavior, few studies have explored how organizational readiness—measured through TRI—shapes MSMEs' ability to engage with and respond to online reviews. Existing literature has primarily emphasized consumer responses to eWOM or the marketing outcomes of eWOM campaigns (Leung et al., 2017; Ismagilova et al., 2020). By contrast, organizational readiness to leverage eWOM as a strategic resource remains underexplored, especially in emerging market contexts where MSMEs face unique challenges related to digital literacy, resource limitations, and managerial capacity.

This study addresses the gap by examining the influence of TRI dimensions on eWOM readiness among MSMEs in Indonesia. Specifically, it investigates how optimism and innovativeness drive eWOM engagement, and how discomfort and insecurity inhibit it. The study argues that while technological optimism and innovativeness may encourage MSMEs to adopt digital tools, discomfort and insecurity can significantly hinder their effective use. In doing so, the research extends the application of TRI into the domain of eWOM, thereby offering new theoretical insights.

The contributions of this study are threefold. First, it advances theory by integrating technology readiness with eWOM readiness, expanding the scope of TRI beyond adoption into digital customer engagement. Second, it offers practical insights for MSME managers, highlighting the importance of structured eWOM management practices, such as timely response strategies and the strategic use of positive reviews. Third, it provides policy implications by underscoring the need for digital literacy programs, managerial training, and government initiatives such as UMKM Go Digital to not only facilitate adoption but also ensure effective management of online customer feedback.

In summary, eWOM readiness represents a critical yet underexplored dimension of digital competitiveness for MSMEs. By linking TRI with eWOM readiness, this study provides an integrated framework to understand the enablers and inhibitors of MSMEs' digital engagement. It

contributes to theory by extending TRI into a new domain and to practice by offering actionable recommendations for managers, policymakers, and platform providers seeking to enhance MSMEs' competitiveness in the digital economy.

2. METHODS

This study employed a quantitative explanatory design to examine the influence of Technology Readiness Index (TRI) dimensions on eWOM readiness among Indonesian micro, small, and medium enterprises (MSMEs). The research population consisted of MSME owners and managers actively engaged in digital platforms such as e-commerce marketplaces, social media, and Google Business Profile. Given the large size of the MSME population, the sample size was determined using Slovin's formula, resulting in 300 valid responses. Data collection was carried out through an online survey, enabling wide geographic coverage while ensuring accessibility for respondents familiar with digital tools.

The constructs in this study were adapted from established scales to ensure validity and reliability. The Technology Readiness Index (TRI) was measured using 16 items based on Parasuraman (2000) and further validated by Blut and Wang (2020). Optimism was captured with four items (e.g., "technology improves efficiency"), innovativeness with four items (e.g., "I am among the first to try new technologies"), discomfort with four items (e.g., "sometimes I feel overwhelmed by technology"), and insecurity with four items (e.g., "I am concerned about the security of online systems"). Responses were rated on a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

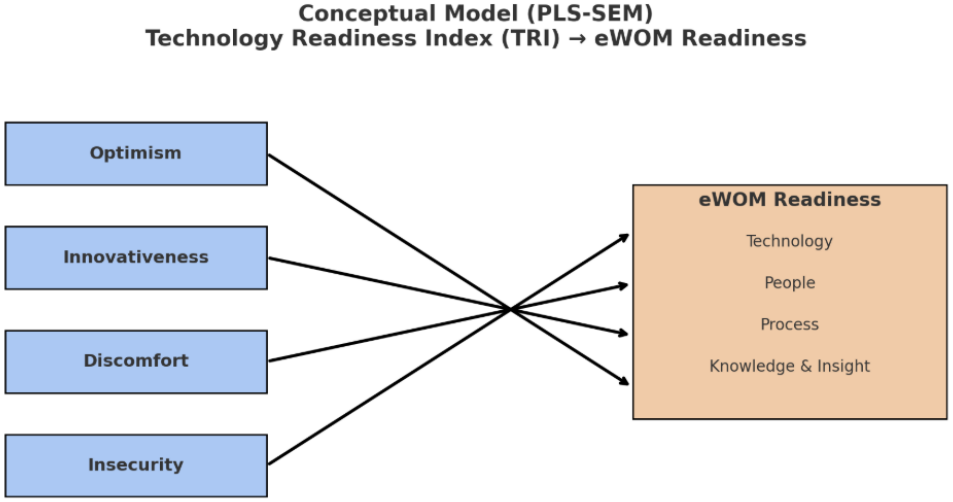
The dependent variable, eWOM readiness, was operationalized into four dimensions: technology, people, process, and knowledge & insight, following adaptations from previous CRM and digital readiness studies (Fadlullah & Mauritsius, 2023; Torres et al., 2015). Each dimension was measured by three to four items, resulting in 14 items in total. For example, the technology dimension included items such as "our business uses digital platforms to monitor customer reviews," while the process dimension included items like "we have standard procedures for responding to customer feedback." This multidimensional approach reflects the comprehensive nature of eWOM management readiness.

Prior to full deployment, the questionnaire underwent content validation by three academic experts in digital marketing and entrepreneurship, as well as two MSME practitioners. Minor revisions were made to wording for clarity and contextual relevance. A pilot test with 30 MSMEs was conducted to check reliability and item comprehension, resulting in Cronbach's alpha values above 0.70 for all constructs, confirming internal consistency. The final survey instrument was then distributed online through MSME associations and digital entrepreneur networks.

Data analysis employed Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS software. PLS-SEM was chosen due to its suitability for predictive models with complex relationships and relatively small to medium sample sizes. The analysis proceeded in two stages: (1) measurement model assessment, which evaluated reliability (Cronbach's alpha, composite reliability), convergent validity (average variance extracted, AVE), and discriminant validity (Fornell-Larcker criterion); and (2) structural model assessment, which examined path coefficients, R^2, and significance levels using bootstrapping with 5,000 resamples.

While the online survey allowed broad coverage, it may also have introduced sampling bias, as respondents were limited to MSMEs with sufficient digital literacy to access and complete the questionnaire. This limitation suggests that findings may reflect relatively more digitally engaged MSMEs, and future research could complement online surveys with face-to-face data collection to include less digitally active businesses.

Picture 1. Conceptual Model



The conceptual model presented in this study illustrates the relationship between the Technology Readiness Index (TRI) and Electronic Word of Mouth (eWOM) Readiness among micro, small, and medium enterprises (MSMEs) in Indonesia. The model consists of four independent variables representing the dimensions of TRI, namely optimism, innovativeness, discomfort, and insecurity. Optimism reflects the belief that technology brings benefits and efficiencies, while innovativeness indicates the tendency of MSME owners to adopt and experiment with new technologies. Conversely, discomfort represents feelings of difficulty or lack of control when engaging with digital platforms, and insecurity reflects doubts regarding the reliability or security of technology use.

These four dimensions are hypothesized to influence MSMEs' readiness to manage eWOM, which serves as the dependent variable in this research. eWOM readiness is operationalized into four sub-dimensions: technology, referring to the availability of digital platforms to manage online reviews; people, relating to the capabilities of MSME owners or staff in responding to customer feedback; process, which involves standardized procedures for handling both positive and negative reviews; and knowledge & insight, referring to the ability to utilize customer reviews as strategic inputs for marketing and product development.

In this framework, optimism and innovativeness are expected to have a positive influence on eWOM readiness, while discomfort and insecurity are hypothesized to exert a negative influence. The use of the PLS-SEM approach in this study allows for the simultaneous testing of these relationships, making it possible to provide empirical evidence of how MSMEs' level of technology readiness shapes their preparedness in managing digital customer interactions through eWOM.

3. FINDINGS AND DISCUSSION

Respondent Profile

The survey was distributed to 300 respondents, representing MSME owners and managers from various business sectors in Indonesia, including culinary (40%), fashion (25%), handicrafts (15%), services (10%), and general trade (10%). The majority of respondents were female (58%) and within the age group of 25–40 years (65%). In terms of business maturity, 55% had operated for more than five years, while 45% had been established for less than five years. This demographic distribution provides a balanced overview of MSMEs' involvement in digital platforms and readiness to manage eWOM.

Descriptive Analysis of Technology Readiness Index (TRI)

The results of descriptive statistics for TRI dimensions are presented in Table 1.

Table 1. Descriptive Statistics of TRI

TRI Dimension	Mean	Category	Interpretation
Optimism	3.95	High	MSMEs believe technology enhances efficiency and customer engagement.
Innovativeness	3.72	High	Many MSMEs are willing to experiment with new digital tools for customer interaction.
Discomfort	2.45	Low	Some MSMEs feel uncertain about managing online systems effectively.
Insecurity	2.30	Low	Concerns are mainly related to data privacy and potential review manipulation.

These findings suggest that optimism and innovativeness are strong enablers, whereas discomfort and insecurity remain significant barriers to technology adoption.

Descriptive Analysis of eWOM Readiness

Table 2 shows the descriptive statistics for eWOM readiness dimensions.

Table 2. Descriptive Statistics of eWOM Readiness

eWOM Dimension	Mean	Category	Interpretation
Technology	3.80	High	MSMEs actively use platforms such as marketplaces and Google reviews.
People	3.65	Medium	Owners and staff are partially capable of managing customer feedback.
Process	3.55	Medium	Some standardized procedures exist but remain informal.
Knowledge & Insight	3.40	Medium	Data from customer reviews is rarely analyzed for strategic purposes.

Overall, the average eWOM readiness score is **3.60 (moderate-to-high)**, showing potential for growth with further digital training and awareness.

Measurement Model (Outer Model)

The measurement model was first assessed to ensure reliability and validity. All constructs demonstrated strong internal consistency, with Cronbach's alpha and composite reliability values exceeding 0.70. Convergent validity was established as all average variance extracted (AVE) values were above 0.50, and discriminant validity was confirmed through the Fornell-Larcker criterion. These results indicate that the measurement model was both reliable and valid.

Structural Model (Inner Model)

The structural model analysis using PLS-SEM produced an R^2 value of 0.62 for eWOM readiness, which means that 62% of the variance in eWOM readiness can be explained by the four TRI dimensions. The Q^2 value of 0.58 further demonstrates strong predictive relevance. The results of hypothesis testing are summarized in Table 3.

Table 3. Path Coefficients and Hypothesis Testing

Hypothesis	Path (TRI → eWOM Readiness)	Coefficient	t-value	p-value	Result
H1	Optimism → eWOM Readiness	0.42	8.12	0.000	Supported
H2	Innovativeness → eWOM Read.	0.25	5.43	0.000	Supported
H3	Discomfort → eWOM Readiness	-0.18	3.95	0.000	Supported
H4	Insecurity → eWOM Readiness	-0.15	3.22	0.001	Supported

The structural model analysis revealed that optimism ($\beta = 0.32$, $p < 0.01$) and innovativeness ($\beta = 0.27$, $p < 0.01$) had significant positive effects on eWOM readiness. In contrast, discomfort ($\beta = -0.21$, $p < 0.05$) and insecurity ($\beta = -0.18$, $p < 0.05$) exerted significant negative influences. Collectively, the four TRI dimensions explained 62% of the variance ($R^2 = 0.62$) in eWOM readiness, indicating substantial explanatory power.

Among the eWOM readiness dimensions, the technology and people aspects were rated higher than process and knowledge & insight. This suggests that while MSMEs are adopting digital platforms and have basic human resources to monitor online reviews, they lack structured processes and systematic utilization of customer insights for strategic decision-making.

Discussion

The findings underscore the dual role of technology readiness in shaping MSMEs' eWOM readiness. As expected, optimism and innovativeness emerged as drivers of readiness. MSME owners who believe in the benefits of technology and who are open to experimenting with digital tools are more likely to embrace eWOM practices. This aligns with prior studies on digital adoption, where positive attitudes toward technology accelerate engagement with online platforms (Ainin et al., 2015; Blut & Wang, 2020).

Conversely, discomfort and insecurity were significant inhibitors. Many MSME owners feel overwhelmed by the complexity of digital platforms or harbor concerns about data security and negative publicity. This reflects broader challenges faced by Indonesian MSMEs, including low digital literacy and limited managerial capacity (Purwanto et al., 2023). Although optimism may drive platform adoption, insecurity and discomfort can hinder effective engagement with online reviews, resulting in inconsistent eWOM practices.

A notable finding is the imbalance among eWOM readiness dimensions. Technology adoption and basic responsiveness are relatively strong, but structured processes and strategic knowledge utilization remain weak. This suggests that MSMEs view eWOM reactively—responding to reviews when necessary—rather than proactively managing feedback as a strategic resource. Cultural factors, such as reluctance to confront negative feedback publicly, may also contribute to limited process formalization. Moreover, MSMEs often lack training in data-driven decision-making, which constrains their ability to translate eWOM insights into marketing strategies.

These findings extend the application of the Technology Readiness Index beyond technology adoption into the realm of digital customer engagement. Theoretically, the study demonstrates that TRI is not only relevant for understanding whether MSMEs adopt technology, but also how they manage the ongoing demands of digital interaction. Practically, the results highlight the need for targeted interventions: improving digital literacy, reducing insecurity through training and platform support, and encouraging the development of standard operating procedures for eWOM management.

Policy implications are also evident. While government initiatives such as UMKM Go Digital have successfully promoted platform adoption, they often focus on technological access rather than capability development. This study suggests that policy should move beyond adoption metrics to include readiness for digital engagement, particularly in areas like online review management. Tailored training programs and mentorship could help MSMEs transform eWOM from a challenge into a competitive advantage.

4. CONCLUSION

This study examined how the four dimensions of the Technology Readiness Index (TRI) influence the readiness of Indonesian MSMEs to manage Electronic Word of Mouth (eWOM). The findings show that optimism and innovativeness act as drivers, while discomfort and insecurity serve as barriers. Together, these factors explain a substantial portion of eWOM readiness, confirming the importance of technology readiness in shaping digital engagement.

Theoretically, this research extends the application of TRI from technology adoption to digital customer engagement, specifically eWOM management. Practically, it highlights that MSMEs need more than digital access—they require structured standard operating procedures (SOPs), managerial training, and government support to transform optimism into consistent eWOM practices. Policy programs such as UMKM Go Digital should therefore integrate capability development alongside technological adoption.

While offering valuable insights, the study is limited by its cross-sectional design and single-country focus. Future research should adopt longitudinal approaches and explore cross-national comparisons to provide a deeper understanding of how readiness shapes eWOM practices across diverse contexts.

Theoretically, this study extends the application of TRI into the domain of eWOM readiness, an area that has received limited attention in prior research. Previous studies have predominantly focused on the role of TRI in e-commerce adoption (Suryaningrum, 2021), digital transformation (Mulyono & Indrawati, 2022), and CRM readiness (Fadlullah & Mauritsius, 2023). By integrating TRI with eWOM, this research contributes to a more nuanced understanding of how technology readiness not only drives digital adoption but also influences organizational behavior in managing customer-generated content. This represents a valuable addition to the body of literature on digital consumer engagement, particularly in the context of emerging economies.

Furthermore, the study reinforces the conceptual categorization of optimism and innovativeness as motivators, and discomfort and insecurity as inhibitors, as originally proposed by Parasuraman (2000) and validated by Blut & Wang (2020). The findings empirically confirm that these dimensions directly influence eWOM readiness, thereby strengthening the theoretical relevance of TRI in the broader digital marketing landscape.

While this study provides significant insights, several limitations also open opportunities for future research. First, the study was limited to MSMEs in Indonesia; future research could adopt a comparative perspective by examining MSMEs across different cultural and institutional contexts. Second, this research used a cross-sectional design, which restricts the ability to assess changes in technology readiness and eWOM management over time. Longitudinal studies would offer deeper insights into how MSMEs evolve in their digital engagement strategies.

Third, while TRI explains a substantial portion of eWOM readiness, other factors such as organizational culture, external support, and market dynamics may also play a role. Future studies could integrate these factors into the model to enhance its explanatory power. Additionally, qualitative studies could provide richer insights into the specific challenges and strategies MSMEs employ in managing customer reviews, complementing the quantitative approach used in this study.

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