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TEMATIK

Jurnal Teknologi Informasi Komunikasi (e-Journal)

Vol. 12 No. 2 (2025) 9 - 22 ISSN Media Elektronik: 2443-3640

Drivers and Inhibitors Determining Government-Enabled Digital Platform Adoption for MSMEs in West Papua Province: PLS-SEM and IPMA Analysis

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Abstract

Digital transformation plays a vital role in enhancing the competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in developing regions. A case in point is Rumahekraf in West Papua Province, which faces infrastructure challenges such as limited internet access, inadequate technological devices, and insufficient digital training for MSME actors. In addition to infrastructure challenges, external factors such as economic conditions, local culture, and the digital divide also influence the adoption rate of this platform. This study aims to investigate the factors that drive and hinder its adoption. By combining the Technology Acceptance Model (TAM), Technology Readiness Index (TRI), and Performance Importance Map Analysis (IPMA). Particularly, this study examines the role of optimism, innovativeness, discomfort, and insecurity in shaping behavioral intention (BI) that might lead to usage behavior (UB). With a total of 157 respondents, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), the results showed that perceived ease of use (PEOU) and perceived usefulness (PU) have a significant effect on BI (R^2=56.3%), while BI influenced UB (R^2=58%). Optimism affects PEOU but not PU, this can be explained by the nature of optimism, which tends to reinforce confidence in one's ability to master technology rather than directly evaluating the platform's perceived benefits. While Innovativeness positively affects both. The findings emphasize that in areas with limited infrastructure, such as West Papua, prioritizing easy-to-use design and useful features is key to effective platform adoption. This research provides insights for policymakers and developers to improve strategies in promoting digital platform adoption among MSMEs.

Keywords: *MSMEs, Rumahekraf, Government-supported digital platform, Technology Readiness Index, PLS-SEM*

Abstrak

Transformasi digital memainkan peran penting dalam meningkatkan daya saing Usaha Mikro, Kecil, dan Menengah (UMKM) di wilayah berkembang. Salah satu contohnya adalah Rumahekraf di Provinsi Papua Barat, yang menghadapi tantangan infrastruktur seperti keterbatasan akses internet, kurangnya perangkat teknologi yang memadai, dan minimnya pelatihan digital bagi pelaku UMKM. Selain tantangan infrastruktur, faktor eksternal seperti kondisi ekonomi, budaya lokal, dan kesenjangan digital juga memengaruhi tingkat adopsi platform ini. Penelitian ini bertujuan untuk menyelidiki faktor-faktor yang mendorong dan menghambat adopsi platform ini dengan menggabungkan Model Penerimaan Teknologi (TAM), Indeks Kesiapan Teknologi (TRI), dan Analisis Peta Pentingnya Kinerja (IPMA). Secara khusus, penelitian ini mengkaji peran optimisme, inovasi, ketidaknyamanan, dan ketidakamanan dalam membentuk niat perilaku (Behavioral Intention/BI) yang dapat mengarah pada perilaku penggunaan (Usage Behavior/UB). Dengan melibatkan 157 responden dan dianalisis menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM), hasil penelitian menunjukkan bahwa persepsi kemudahan penggunaan (PEOU) dan persepsi kegunaan (PU) memiliki pengaruh signifikan terhadap BI (R^2=56,3%), sementara BI memengaruhi UB (R^2=58%). Optimisme memengaruhi PEOU tetapi tidak memengaruhi PU, yang dapat dijelaskan oleh sifat optimisme yang lebih mendorong keyakinan terhadap kemampuan diri dalam menguasai teknologi dibandingkan dengan penilaian manfaat langsung platform tersebut. Sedangkan inovasi berpengaruh positif terhadap keduanya. Temuan ini menekankan bahwa di wilayah dengan infrastruktur terbatas seperti Papua Barat, prioritas pada desain yang mudah digunakan dan fitur yang bermanfaat menjadi kunci untuk adopsi platform yang efektif. Penelitian ini memberikan wawasan bagi pembuat kebijakan dan pengembang untuk meningkatkan strategi dalam mendorong adopsi platform digital di kalangan UMKM.

Kata kunci: *UMKM, Rumahekraf, platform digital yang didukung pemerintah, Technology Readiness Index, PLS-SEM*

1. Introduction

The development of digital technology has significantly changed the global economic landscape, Including the The development of digital technology has significantly transformed the global economic landscape, including how Micro, Small, and Medium Enterprises (MSMEs) operate and grow their businesses [1], [2]. In Indonesia,

Diterima Redaksi: 29-04-2025 | Selesai Revisi: 12-05-2024 | Diterbitkan Online: 26-05-2025

MSMEs play a central role in the national economy, especially as the main driver of the informal sector and the largest labor absorber. The role of MSMEs in Indonesia's economy is becoming increasingly important in the context of digital transformation, where digitalization provides opportunities to improve efficiency, expand markets, and enhance competitiveness. MSMEs that adopt digital technology can access broader markets, simplify product promotion, and accelerate transaction and payment processes. Therefore, in the digital era, MSMEs are not only the driving force of the local economy but also have significant potential to grow and transform into an important part of a more modern digital economy. Seeing this strategic role, the Indonesian government has launched various digital initiatives to support the strengthening of MSMEs, both in terms of human resource capacity, product promotion, and access to financing and markets [3], [4].

As part of this effort, the West Papua regional government through the Culture and Tourism Office developed a digital platform called Rumahekraf. Rumahekraf is a digital platform designed to support MSMEs and local creative economy players in expanding their business reach through training, collaboration, promotion, and strengthening West Papua's cultural identity. The presence of Rumahekraf is one of the important strategies in integrating local potential with the national digital ecosystem, as well as a concrete effort by the local government in encouraging inclusive and local wisdom-based digital transformation [5].

However, even though this platform has been launched and socialized, its adoption rate by MSME players in West Papua remains relatively low, reflecting a gap between the platform's development goals and its actual usability. This low adoption may be attributed to several contextual challenges, such as limited digital literacy among local entrepreneurs, inadequate internet infrastructure in remote areas, a lack of ongoing technical assistance, and insufficient direct incentives or perceived benefits. Additionally, infrastructure limitations also affect access to training, technical assistance, and other support services that are typically provided digitally. As a result, even though some business owners are eager to learn and grow digitally, they remain hindered by the technical conditions on the ground. This gap becomes even more critical considering that no research has specifically analyzed technology acceptance within the context of infrastructure challenges, such as those in West Papua, particularly regarding the Rumahekraf platform. Therefore, it is necessary to gain a deeper understanding of the dynamics of local factors that influence technology adoption in regions with limited infrastructure.

In addition, the low adoption rate of Rumahekraf not only reflects technological challenges but also hinders the potential of local MSMEs to grow in the digital era. This low adoption rate is often closely linked to local economic challenges, such as limited access to capital, low purchasing power of the community, and reliance on traditional markets. An unfavorable local economic environment can slow down the digitalization process of MSMEs, as business owners struggle to allocate resources for adopting new technologies. Thus, local economic factors serve as an additional barrier that amplifies technological challenges in driving the digital transformation of MSMEs. This could negatively impact the regional economy and reduce the effectiveness of government strategies in supporting digital inclusivity. Therefore, it is essential to identify the drivers and inhibitors within the local context to enhance the effectiveness of this digital platform's implementation.

To analyze this phenomenon in more depth, this study combines two main theoretical models, namely the Technology Acceptance Model (TAM) and the Technology Readiness Index (TRI). TAM is a framework that is widely used to analyze the factors that influence technology acceptance, emphasizing two main factors, namely Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), which serve as the main determinants in technology acceptance [6]. Meanwhile, TRI complements TAM by assessing individual readiness to adopt technology, based on four main dimensions: optimism, innovativeness, discomfort, and insecurity [7]. The combination of these two models has been widely used in previous research to understand how psychological and technical factors influence technology acceptance in various contexts [8]. In addition, this study also applies Importance-Performance Map Analysis (IPMA), which serves to identify the most significant factors in influencing the adoption of this digital platform, as well as to assess the relative effectiveness of these factors. By using IPMA, this research can identify critical aspects that need to be improved, so that policy makers and platform developers can formulate more appropriate strategies to increase the benefits and usability of the platform for MSMEs [6].

This research is based on various previous studies that have analyzed technology acceptance in different contexts. Research [9] analyzed how furniture MSMEs in Indonesia use information technology by utilizing TAM and TRI. This study examines the technical readiness of MSMEs and how TRI factors affect technology adoption. The results showed that TRI factors such as optimism, Innovativeness, insecurity, and discomfort affect both PEOU and PU. Research [9] examining user acceptance of smartwatches during the pandemic also analyzed how optimism, innovativeness, insecurity, and discomfort affect PEOU and PU

DOI: https://doi.org/10.38204/tematik.v12i1.2291

according to TAM. The findings showed that optimism and innovativeness had a significant influence on technology adoption, while insecurity and discomfort had no effect.

Research by [10] combined TRI and TAM in the TRAM model to explore the acceptance of e-Government systems. TRI variables were used to assess technology readiness, while TAM was used to measure users' perceptions of the ease and benefits of the system. The results showed that technology readiness, as measured through optimism and innovativeness variables, influenced technology acceptance. In addition, user personality also affects the perceived ease and benefits of the technology. Research [11] used TAM and TRI to study the acceptance of ERP systems by MSMEs in Yogyakarta. The focus of this study is on the technology readiness of MSMEs. TAM was used to evaluate the ease of use and benefits of technology. The results showed that optimism and Innovativeness facilitate technology acceptance, while discomfort and insecurity reduce interest in using it.

However, this study differs from previous research in that it not only explores the factors of ease of use and technology benefits, but also considers Behavioral Intention (BI) and Use Behavior (UB) to gain a deeper understanding of technology adoption. Previous research focused more on the technical aspects in areas with strong infrastructure and did not investigate how user intentions turn into actual use. This study examines the drivers and barriers that influence user intentions, as well as how those intentions transform into actual behavior, with a focus on the Rumahekraf digital platform that supports MSMEs in West Papua. This research provides a new perspective on technology acceptance from the user's perspective, particularly in an infrastructure-challenged region such as West Papua, and provides strategic recommendations for the government to improve the acceptance and effectiveness of the Rumahekraf platform. The use of IPMA in this study enriches the understanding of critical factors and their performance.

2. Research Methods

2.1. Technology Readiness Index (TRI)

The Technology Readiness Index (TRI) is an important framework for evaluating users' readiness to adopt technology by examining four key dimensions. Innovativeness reflects one's propensity to be an early adopter of new technological advancements. These factors collectively foster openness and enthusiasm in adopting digital solutions. Conversely, discomfort and insecurity can hinder adoption; discomfort arises from the perceived complexity or difficulty in using the technology, while insecurity relates to concerns over privacy and data security. Understanding the interaction between these drivers and inhibitors provides deeper insights into user behavior and the likelihood of adopting technology platforms such as Rumahekraf, a government-backed digital platform designed to support MSMEs in West Papua Province.

In addition, Innovativeness was shown to have a broader impact, indicating that users who are more open to technological advancements not only find the platform easier to navigate but also realize its practical benefits in supporting their needs. These findings establish a positive technology mindset and encourage Innovativeness to increase user adoption and engagement with the Rumahekraf platform. However, discomfort and insecurity were not found to have a significant influence, which suggests that users' concerns over technological risks do not really deter them from using the platform. This can be explained by the fact that some MSME actors prioritize the practical benefits of using technology over their concerns about security. Therefore, for policy makers and platform developers, leveraging insights from TRI can improve user experience and drive engagement, ensuring the success of digital transformation initiatives aimed at supporting MSMEs [7], [12].

2.2. Technology Acceptance Theory

TAM, introduced by Davis in 1989, assesses technology adoption through two main factors: perceived usefulness (PU) and perceived ease of use (PEOU). Taken together, these factors determine users' behavioral intentions and actual use of technology, thus providing a framework for understanding how individuals accept and integrate new digital devices into their daily activities. For example, the Rumahekraf platform supports local MSMEs by making West Papua's unique products and services more accessible [13], [14]. The model also incorporates the variables of Behavioral Intention (BI), which indicates users' desire to adopt the technology, and Usage Behavior (UB), which reflects the actual adoption and utilization of the technology. According to the correlation between these factors, people tend to have the intention to utilize technology and eventually adopt it if they believe the technology is practical and easy to use. As applied to Rumahekraf, this model highlights the importance of ensuring usability and tangible benefits to encourage widespread adoption among creative economy actors in West Papua. By understanding the dynamics of technology acceptance through TAM, developers and policymakers can implement strategic improvements that increase user engagement, drive digital transformation, and strengthen the local economy by integrating technology into business operations [8].

2.3. Importance Performance Matrix Analysis

Importance and Performance Matrix Analysis (IPMA) is an advanced approach in Structural Equation Modeling (SEM) that enriches the interpretation of

DOI: https://doi.org/10.38204/tematik.v12i1.2291

research results by identifying factors that are very important but have low performance. This technique allows researchers to evaluate the relative importance of different variables while measuring their impact on outcomes, providing valuable insights for optimizing strategies and improvements. By highlighting critical areas that require improvement, IPMA helps prioritize strategic interventions to improve overall performance. In the context of technology adoption, IPMA is particularly useful for identifying key factors that influence user engagement and satisfaction, ensuring that resources are efficiently allocated to address performance gaps and optimize the effectiveness of digital transformation initiatives. This method allows researchers to examine the relationships between variables while assessing their contribution and performance based on their importance and mean scores. Using IPMA, researchers can identify dependent variables that have high importance but low performance and formulate effective strategies to improve their outcomes [6]. In the context of digital platform adoption, IPMA can be leveraged to identify key factors that influence adoption and user engagement, especially in areas with infrastructure challenges and limited digital literacy. For example, in analyzing the adoption of the Rumahekraf platform among MSMEs in West Papua, IPMA helped highlight areas that require improvement to increase adoption rates. This analysis identified performance gaps that enabled more focused interventions to optimize the adoption and use of the platform. By focusing on the most critical yet low-performing factors, decision-makers can effectively allocate resources to address weaknesses and improve the overall effectiveness of digital transformation initiatives [15].

2.4. Use Behavior (UB)

Usage Behavior (UB) in TAM represents the actual adoption and utilization of the Rumahekraf platform, a digital tool encouraged by the government to improve the business operations of MSMEs in West Papua Province. UB is directly influenced by Behavioral Intention (BI), which reflects users' willingness and readiness to interact with the platform. When users realize that the Rumahekraf platform can provide significant benefits to their business, such as expanding market reach, improving operational efficiency, and providing easier access to business resources, they develop stronger intentions to integrate the platform in their business activities. Likewise, when platforms are perceived to be user-friendly, requiring less effort to navigate and understand, users tend to adopt them more easily, strengthening the relationship between ease of use and adoption [8]. However, in regions like West Papua, where digital infrastructure and technological literacy are still significant challenges, external factors also play an important role in determining UB. Limited internet access, lack of digital training, and insufficient government support can create barriers that prevent users from fully utilizing the platform, despite their initial intention to do so. Many MSMEs in the region face difficulties in adopting digital solutions due to lack of reliable internet connectivity, limited knowledge of digital tools, and general discomfort with technology, which can depress actual usage rates. Overcoming these barriers requires a comprehensive approach with targeted government interventions to support MSMEs in their digital transformation journey. Through an in-depth analysis of these drivers and barriers, strategic measures can be proposed to increase the adoption and sustainable utilization of the Rumahekraf platform, ultimately empowering MSMEs and driving creative economic growth in West Papua

2.5 Research Model and Hypothesis Development

This research framework combines TRI and TAM, by integrating these two models it provides a more comprehensive understanding of technology adoption by combining both psychological and behavioral aspects of users. TRI explains an individual's readiness for technology through factors such as optimism, innovativeness, insecurity, and discomfort. Meanwhile, TAM emphasizes perceived usefulness and perceived ease of use, which influence the intention to use the technology. Behavioral Intention and Usage Behavior are used as dependent variables to measures the extent to which users intend or are willing to use the Rumahekraf platform in the future, reflecting their attitudes and initial acceptance of the technology and measures the actual actions of users in utilizing the platform, reflecting real engagement, usage frequency, and the integration of the platform into their business activities.

Based on the conceptual framework, each variable is interconnected. Users who have optimism about digital technology tend to feel the ease of use and benefits obtained from the technology [7]. They believe that technology can simplify tasks, increase efficiency, and provide long-term benefits, which makes them more likely to adopt it. Optimism is defined as the fundamental belief that technology and Innovativeness have a beneficial impact [9]. Therefore, we suspect that the Optimism variable has an influence on the Perceived Ease of Use and Perceived Usefulness variables in using the Rumahekraf platform, so we propose hypotheses one and three, namely:

H1: Optimism has a significant effect on the perceived ease of use of the Rumahekraf platform.

H3: Optimism has a significant effect on the perceived usefulness of the Rumahekraf platform.

Users with a high level of innovativeness affect the perceived ease of use and benefits of technology [16]. Innovative users are able to adapt to changes, identify new opportunities, and use technology as a means to

DOI: https://doi.org/10.38204/tematik.v12i1.2291

introduce new products or services. Innovative users are more open to change, willing to test new technologies, and actively seek knowledge about emerging advances. This indicates that the relationship between innovation and perceived usefulness is measured through the direct influence of the level of innovation on users' evaluation of the benefits provided by the technology. This can accelerate the adoption of Rumahekraf through innovative users. Therefore, the second and fourth hypotheses in this study are:

H2: Innovativeness has a significant influence on the perceived ease of use of the Rumahekraf platform.

H4: Innovativeness has a significant influence on the perceived usefulness of the Rumahekraf platform.

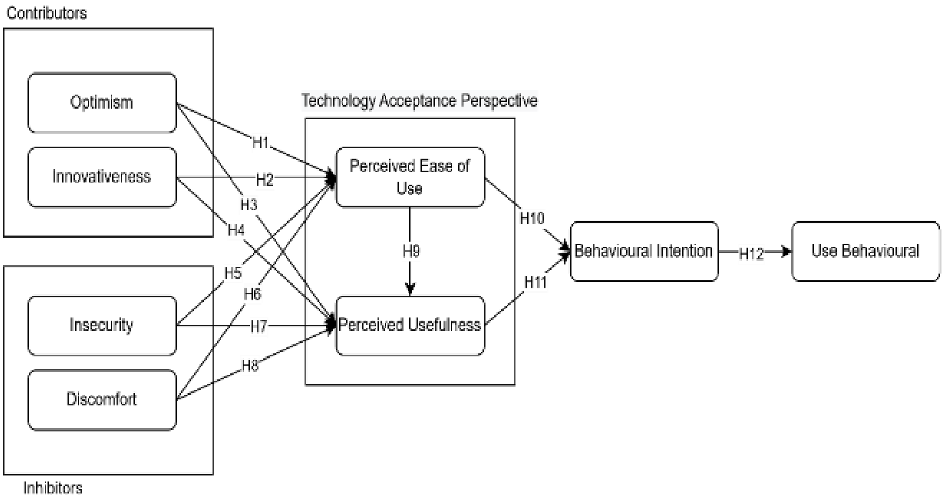

Figure 1. Research Model

Users may avoid Rumahekraf due to feelings of insecurity. Concerns about privacy and data security when using this platform may affect users' perspectives on its ease of use and benefits. Insecurity affects users' views of technology [17]. Insecurity can reduce ease of use and benefits for users. The lower the assessment of Rumahekraf's ease of use and benefits, the less likely consumers are to use it. Therefore, hypotheses five and seven of this study are:

H5: Insecurity has a significant effect on the perceived ease of use of the Rumahekraf platform.

H7: Insecurity has a significant effect on the perceived usefulness of the Rumahekraf platform.

Discomfort in using technology, such as anxiety or lack of confidence, can affect users' perceptions of ease of use and perceived benefits. According to [18], discomfort plays an important role in inhibiting technology adoption. Discomfort lowers perceived ease of use, as users find the technology difficult to understand and use. In addition, discomfort also affects the perceived benefits of technology, because users may not know the potential benefits of the technology when they feel uncomfortable when using it. The higher the level of discomfort users feel when using the Rumahekraf platform, the lower their likelihood of adopting or using this platform. Therefore, hypotheses six and eight are:

H6: Discomfort has a significant effect on the perceived ease of use of the Rumahekraf platform.

H8: Discomfort has a significant effect on the perceived usefulness of the Rumahekraf platform.

According to [14], there is a clear correlation between perceived ease of use and perceived usefulness. The easier the Rumahekraf platform is to use, the more users feel that the platform is useful to them. Therefore, hypothesis nine is:

H9: Perceived ease of use has a significant effect on the perceived usefulness of the Rumahekraf platform.

According to [19] in the Technology Acceptance Model the relationship between PEOU, PU and BI provides a strong framework for understanding technology adoption. When users find the Rumahekraf platform easy to use, their perception of the platform's benefits tends to increase. Positive perception of benefits can increase users' intention to adopt or use the Rumahekraf platform. Therefore, hypotheses ten and eleven are:

H10: Perceived ease of use has a significant influence on behavioral intention the Rumahekraf platform.

H11: Perceived usefulness has a significant influence on behavioral intention the Rumahekraf platform.

According to [20], behavioral intentions predict actual behavior well. Behavioral intention can predict technology use because it shows the user's willingness and readiness to engage with the system. Strong user intentions influence actual usage behavior. Rumahekraf adoption is possible when individuals have a strong desire to utilize it. Therefore, hypothesis twelve is:

DOI: https://doi.org/10.38204/tematik.v12i1.2291

H12: Behavioral intention has a significant influence on the use behavior of using the Rumahekraf platform.

2.6 Research Methodology

This study uses a quantitative research approach, which is a systematic method for collecting and analyzing numerical data to obtain objective measurements. By using structured data collection techniques, such as surveys or experiments, this approach ensures consistency and reliability in the research process. The collected data is then analyzed using statistical methods to identify patterns, relationships, and trends, allowing for sound conclusions based on measurable evidence. By using statistical techniques, this approach allows researchers to analyze the relationship between variables with precision. Data collection was done through structured questionnaires, which ensured consistency and reliability in responses. The use of this survey method is considered strong enough to ensure that the research results truly reflect the validity and reliability, as each respondent is provided with the same questions in a standardized format, thereby reducing differences in interpretation [21]. The collected data is then processed using statistical methods to generate accurate insights into the phenomenon under study. This systematic methodology facilitates a deep understanding of variable interactions, leading to well-founded conclusions based on measurable and valid data [22].

The population sample for this study consists of individuals who use the Rumahekraf platform in West Papua. In this study using data collection methods by distributing questionnaires. The questionnaire was created to explore users' perceptions of the ease and usefulness of using the Rumahekraf platform [7], [14]. Power analysis helps us assess the sample size needed to achieve power in research planning. Sample size can be estimated using Cohen's effect-based statistical power analysis for robust results [23]. G*Power can help assess power analysis, as well as setting an effect size of 0.15, 5% alpha significance, 95% power analysis [24], with seven predictor variables, a sufficient sample size is 74 respondents. In this study, a total of 157 respondents participated. A larger sample size strengthens the research findings to better represent a broader population, improves the accuracy of estimates, and enhances the power of analysis. With an adequate number of respondents, the research findings have a greater potential to be generalized to various groups or sectors of MSMEs, as well as providing more relevant insights for policy-making or the implementation of digital platforms like Rumahekraf.

As part of the data collection procedure, West Papuans received an online questionnaire via Google Forms, using a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"). Before distribution, the questionnaire underwent a pilot testing phase, during which it was refined by the author, several students, and a professor from the Faculty of Engineering, University of Papua, to ensure clarity and reliability. During the pilot testing phase, challenges encountered included difficulties in understanding some technical terminology by the respondents, and varying feedback regarding the wording and formulation of the statements. The finalized questionnaire was then distributed through various digital platforms, including Telegram, Facebook, Instagram, and WhatsApp, containing demographic information, instructions for completion, and statements related to the research variables [25]. To assess the model, SmartPLS 3 was used, a very useful tool for explanatory research, predicting variable relationships, and exploring under-researched concepts. PLS-SEM is a very effective method of analysis in this study, as it excels at managing small sample sizes and is well suited for analyzing complex relationships between variables. This approach offers a deeper Rumahekraf platform, making it a valuable tool for understanding complex interactions in data sets [26].

The research and data collection process was conducted over 3 months, from October to December 2024, in West Papua Province. Based on the data collected, there were 157 valid respondents. The demographic data collected includes information on the gender, age, and education level of the respondents. All demographic data details can be seen in Table 1:

Table 1. Demographic Description of Respondents

Category	Item	Total	Percentage
Gender	Male	70	44.6%
	Female	87	55.4%
Age	< 17 Years	19	12.1%
	17 - 35	129	82.2%
	36 - 55	9	5.7%
Education level	SMA/SMK	72	45.9%
	D3	7	4.5%
	S1	70	44.6%
	S2	2	1.2%
	More	6	3.8%

This study uses PLS-SEM as an analytical method, it aligns with the exploratory nature of this study, which focuses on understanding the factors that influence technology adoption among MSME actors, particularly in the context of digital platforms such as Rumahekraf. PLS-SEM is particularly beneficial for research that aims to understand variable correlations or predict outcomes, as it increases the explanatory power of the dependent variable. This method is particularly useful in scenarios involving small sample sizes, allowing robust analysis despite limited data availability, as it allows the assessment of models that incorporate latent variables and constructs affected by those latent variables, ensuring a comprehensive evaluation of complex relationships in research [6], [26], [27]. This study used PLS-SEM to assess the measurement and structural models. The measurement model is examined to verify the validity and reliability of the indicators, ensuring that the constructs accurately represent the intended variables. Meanwhile, the structural model analyzes the relationships between variables based on the proposed hypotheses, offering an in-depth exploration of how various factors interact within the research framework. By integrating these assessments, this research provides a thorough understanding of the key determinants influencing the adoption of the Rumahekraf platform.

2.7 Data Analysis

This study evaluated the outer model using the three criteria of composite reliability, discriminant validity, and convergent validity [28]. Convergent validity was evaluated by analyzing factor loadings (outer loadings) and Average Variance Extracted (AVE), which assesses the degree of strong correlation of multiple indicators related to the same construct [6]. Factor loadings greater than 0.7 are usually considered satisfactory, signifying that the construct explains more than 50% of the variance in the indicators, thus indicating strong reliability [26]. The standardized AVE value of each variable should be more than 0.5 to indicate convergent validity [6]. In addition, for convergent validity to be established, the standardized AVE value of each variable must exceed 0.5. CA is considered acceptable if its value is >0.7. Nonetheless, in studies that focus on analyzing the relationship between variables, a CA value of about 0.6 is acceptable [29]. [6] pointed out that CR and AVE provide a more accurate evaluation of construct reliability than CA, especially in PLS-SEM-based analysis, due to the sensitivity of CA to the number of items in the construct, which often yields lower results. In addition, [30] stated that even if Cronbach's Alpha is low, if CR > 0.7 and AVE > 0.5, the construct can still be considered reliable. Thus, for the INN variable, which shows a low Cronbach's Alpha value, but has CR (0.853) and AVE (0.744) values that meet the criteria, the construct can be considered reliable. Table 2 lists the factors that were part of the confirmatory analysis of this study.

From the research results in Table 2, the authors decided to eliminate the OPT1, INN3, PEOU3, PU3, and BI2 indicators. This is done because the Heterotrait-Monotrait Ratio (HTMT) value for these indicators has a high correlation exceeding the specified limit of 0.90. If not removed, it can interfere with the discriminant validate test, although it does not affect the validity of the previous test. Therefore, the removal of these indicators is done to ensure a more valid and reliable measurement model.

Table 2. Confirmatory Variable Results

Construction	Statement	Code	LF
Optimism (OPT) [7] CA, CR, AVE =0.817, 0.916, 0.845	I feel confident that Rumahekraf will help promote local culture in West Papua.	OPT2	0.918
	I feel confident that the products at Rumahekraf are of good quality.	OPT3	0.921
Innovativeness (INN) [7] CA, CR, AVE = 0.657, 0.853, 0.744	I am interested in trying out the new features offered by Rumahekraf in the future.	INN1	0.842
	I was interested to see the products at Rumahekraf.	INN2	0.883
Insecurity (INS) [7] CA, CR, AVE = 0.880, 0.926, 0.806	I feel worried about the security of my personal data when using Rumahekraf.	INS1	0.930
	I am worried if my internet connection is not stable when using Rumahekraf.	INS2	0.884
	I hesitate to use the product catalog feature in Rumahekraf because I am worried that the information is not accurate.	INS3	0.879
Discomfort (DIS) [7] CA, CR, AVE =0.888, 0.927, 0.809	I feel uncomfortable when using Rumahekraf.	DIS1	0.883
	I often experience difficulties when using some features in Rumahekraf.	DIS2	0.872
	The technical support available at Rumahekraf is not always sufficient to help me resolve usage issues in the app.	DIS3	0.942
Perceived Ease of Use (PEOU) [14] CA, CR, AVE = 0.808, 0.912, 0.839	I find Rumahekraf easy to understand and use.	PEOU1	0.912
	I feel that learning the features in Rumahekraf takes a short time.	PEOU2	0.920
Perceived Usefulness (PU) [14] CA, CR, AVE = 0.781, 0.901, 0.820	Rumahekraf really helped me find the products I needed.	PU1	0.896
	Rumahekraf provides useful information for my daily needs, such as in the culinary and craft features.	PU2	0.915
Behavioral Intention (BI) [14] CA, CR, AVE = 0.816, 0.916, 0.845	I intend to continue using Rumahekraf in the future.	BI1	0.921
	I plan to attend further training regarding the use of new features in Rumahekraf.	BI3	0.917
Use Behavior (UB) [14] CA, CR, AVE =	I often use Rumahekraf to find recommendations for culinary, crafts,	UB1	0.890

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Construction	Statement	Code	LF
0.888, 0.930, 0.816	fashion, fine arts and more in my daily activities.		
	I use Rumahekraf more and more every month.	UB2	0.907
	Using Rumahekraf has become an important part of how I interact with public services.	UB3	0.913

Discriminant validation measures how different one concept or latent variable is from another in the research model [31], [32]. If the discriminant validation is not met, there is too much similarity between the two constructs that they may actually measure the same thing or be very similar [6].

By using the HTMT (Heterotrait Ratio of Correlations) test. Discriminant validation is evaluated by contrasting the average correlation of indicators in separate variables with those in the same variable [6]. The results of the HTMT test in this study can be seen in Table 3:

Table 3. HTMT Discriminant Validity Test Results

	BI	DIS	INN	INS	OPT	PEOU	PU	UB
BI								
DIS	0.132							
INN	0.888	0.172						
INS	0.113	0.888	0.243					
OPT	0.875	0.145	0.892	0.116				
PEOU	0.861	0.155	0.727	0.074	0.739			
PU	0.837	0.138	0.838	0.182	0.764	0.844		
UB	0.891	0.213	0.704	0.123	0.621	0.823	0.845	

This test uses VIF and R-Square to evaluate hypotheses to assess how much one variable affects another [6]. The VIF test detects multicollinearity and eliminates strongly correlated independent variables that may interfere with predictions. VIF values > 5 or < 0.2 indicate multicollinearity between variables [33], [34]. Table 4 shows that each variable in this study meets the criteria, which indicates excellent collinearity. Hypotheses are considered valid when the T-Statistic surpasses the specified threshold, usually 1.96, and the P-value is below 0.05, which signifies statistical significance. This approach ensures rigorous evaluation of research hypotheses and facilitates reasoned conclusions regarding the factors influencing the adoption of the Rumahekraf platform [35], [36].

A hypothesis is considered significant and accepted if it meets at least one of the following conditions: First, the P-value must be below 0.5, which indicates statistical relevance; Second, the T-Statistic must exceed 1.96, which indicates that the observed effect is unlikely to be random. If either criterion is met, the hypothesis is validated and supported by the data analysis [6]. Based on the hypothesis testing results presented in Table 5, seven of the twelve hypotheses examined were confirmed. These hypotheses showed statistical significance, as their T-Statistic values exceeded 1.96 and their P-values were below 0.5. On the other hand, the remaining five hypotheses were not supported, as their T-Statistic values fell below 1.96 and their P-values exceeded 0.5, indicating that their effects were not statistically significant. These findings, outlined in Table 5 as part of the structural model assessment, clearly distinguish between the supported and unsupported hypotheses in the study.

Table 4. Multicollinearity Test Results Variance Inflation Factor (VIF)

	BI	DIS	INN	INS	OPT	PEOU	PU	UB
BI								
DIS						2.598	2.659	
INN						1.810	1.928	
INS						2.628	2.682	
OPT						1.777	2.081	
PEOU	1.814						1.699	1.814
PU	1.814							1.814
UB								

Table 5. Hypothesis Test Results

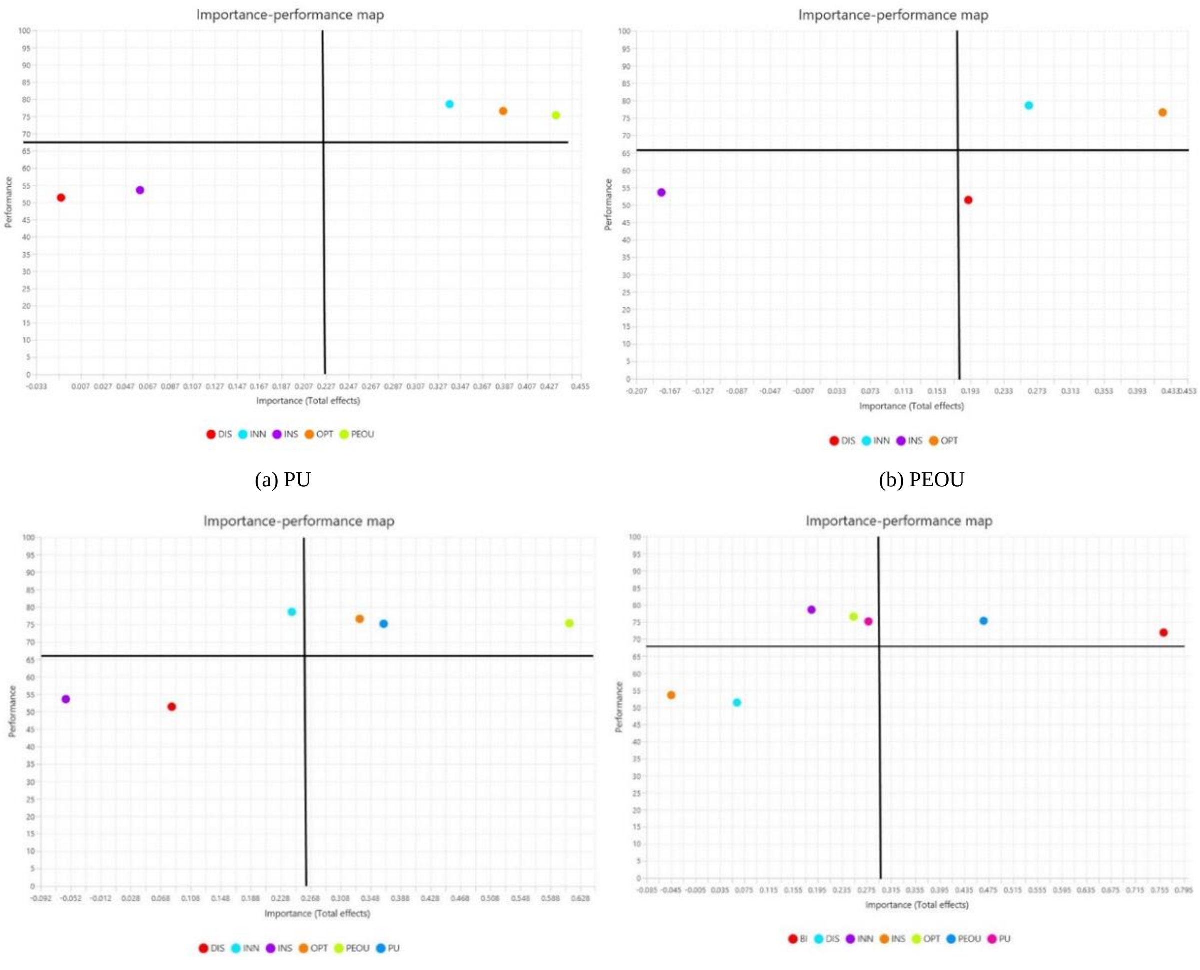
Hypothesis	Variables	Statistic T	P-value	Description
H1	OPT → PEOU	5.224	0.000	Accepted
H2	INN → PEOU	2.905	0.004	Accepted
H3	OPT → PU	1.868	0.062	Rejected
H4	INN → PU	2.228	0.026	Accepted
H5	INS → PEOU	1.509	0.132	Rejected
H6	DIS → PEOU	1.640	0.102	Rejected
H7	INS → PU	1.202	0.230	Rejected
H8	DIS → PU	0.816	0.415	Rejected
H9	PEOU → PU	3.941	0.000	Accepted
H10	PEOU → BI	3.997	0.000	Accepted
H11	PU → BI	2.865	0.004	Accepted
H12	BI → UB	22.189	0.000	Accepted

The R-Square value, also referred to as the coefficient of determination, indicates the proportion of variation in the dependent variable that can be attributed to the independent variables [37]. This metric acts as a benchmark to assess the quality of the model, where an R-Square value of 0.75 indicates a strong model, 0.50 indicates a moderate model, and 0.25 is considered weak. A higher R-Square value indicates better explanatory power, indicating that the independent variables effectively explain the variation in the dependent variable [6], [26]. As illustrated in Table 6, the analysis assesses the robustness of this relationship within the research framework:

Table 6. R-Square Test Results

Variables	R Square	Description
BI	0.563	Medium
PEOU	0.411	Weak
PU	0.557	Medium
UB	0.580	Medium

Based on Table 6, the BI variable has an R^2 value of 0.563, which indicates that 56.3% of its variance is explained by the PU and PEOU variables, while the remaining 43.7% is influenced by other unmeasured factors. This indicates a moderate level of predictive ability, which suggests that users' behavioral intention to adopt the Rumahekraf platform is significantly influenced. A higher R^2 value would indicate a stronger predictive ability, while a lower value would indicate that additional factors, such as user experience, trust, or external environmental influences, may also play a role in determining user adoption behavior. Although the predictive power is still low, the R^2 value for PEOU is 0.411, which indicates that optimism, innovativeness, insecurity, and discomfort together explain 41.1% of the variance in PEOU. A significant level of predictive power is shown by the R^2 value for PU, which is 0.557, indicating that these factors influence PU by 55.7%. Furthermore, the R^2 value for the UB variable is 0.580, which means that BI has a 58% impact on UB and shows moderate predictive power.



(a) PU
(b) PEOU
(c) BI
(d) UB

Figure 2. IPMA for (a) Perceived Use (PU), (b) Perceived Ease of Use (PEOU), (c) Behavioural Intention (BI), and (d) Use Behaviour.

In the Importance Matrix Analysis (IPMA) analysis as shown in Figure 2, Graph (a) illustrates the relationship between Perceived Usefulness (PU) and several factors that influence it, including Discomfort (DIS), Innovativeness (INN), Insecurity (INS), Optimism (OPT), and Perceived Ease of Use (PEOU). This graph helps identify which factors significantly influence PU, while also highlighting areas that require improvement to increase the user-perceived benefits of the Rumahekraf platform. By analyzing these relationships, policymakers and developers can prioritize strategies that strengthen the perceived usability of the platform, ensuring a more effective and user-friendly digital experience for MSMEs in West Papua.

The graph also helps to identify factors that have a high level of importance but low performance, indicating the need for improvement to enhance the user-perceived benefits of the Rumahekraf platform. The graph reveals that OPT and PEOU have a high level of importance but suboptimal performance, which suggests that users' trust in the platform's technology still requires improvement to maximize the benefits experienced by users. Meanwhile, Graph (b) shows the relationship between PEOU and the same factors, but with a focus on how these factors affect the ease of use of the platform. It indicates that OPT and INN have a high level of importance but still underperform, which

DOI: https://doi.org/10.38204/tematik.v12i1.2291

suggests the need to strengthen trust in the use of technology and Innovativeness in services.

Graph (c) shows the relationship between Behavioral Intention (BI) with these factors and reveals that PEOU and OPT have a high level of importance but their performance is not maximized, so efforts to increase users' trust in technology are essential to increase users' intention to use the platform. Finally, Graph (d) displays the relationship between Use Behavior (UB) and the same factors, focusing on how these factors affect users' actual behavior in using the Rumahekraf platform. From this graph, it can be seen that OPT and PEOU have a high level of importance but their performance is not optimal, which indicates that users' trust in the benefits of technology as well as experience in using the platform need to be optimized so that users are more active in using this service.

Based on the four graphs, the strategic steps that can be taken are to increase PEOU and OPT to increase PU and BI. In addition, to increase UB, INN and INS also need to be considered so that users feel more comfortable and interested in continuing to use the Rumahekraf platform.

Table 7. IPMA for all Dependent Variables

	BI		UB		PU		PEOU	
	Performance	Total Securities	Performance	Total Securiies	Performance	Total Securities	Performance	Total Securities
BI			71.891	0.762				
DIS	51.383	0.083	51.383	0.063	51.383	-0.011	51.383	0.191
INN	78.573	0.024	78.573	0.185	78.573	0.338	78.573	0.263
INS	53.561	-0.059	53.561	-0.045	53.561	0.06	53.561	-0.177
OPT	76.559	0.333	76.559	0.254	76.559	0.386	76.559	0.423
PEOU	75.322	0.613	75.322	0.467	75.322	0.433		
PU	75.159	0.365	75.159	0.278				

The findings of the IPMA analysis as illustrated in Table 7 emphasize that Perceived Effectiveness (PU) and Perceived Ease of Use (PEOU) are the most significant factors influencing Behavioral Intention (BI) in adopting the Rumahekraf platform. Perceived Effectiveness with a performance score of 75.159 and a total effect of 0.365 plays an important role in shaping users' desire to engage with the platform, in line with the core principles of technology acceptance theory [14]. Meanwhile, Perceived Ease of Use which includes the ease of navigation and overall usability of the platform has a performance score of 75.322 and a total effect of 0.613, signaling a great impact in increasing user intentions [19]. In addition, Optimism (OPT) contributes with a total effect of 0.333 to BI, indicating that users' positive attitude towards the platform can drive adoption. In contrast, Insecurity (INS) and Discomfort (DIS) have low or negative total effects, 0.059 and 0.083, respectively, making them less significant or even hindering users' intention to adopt the platform.

3. Result and Discussions

The hypothesis test results presented in Table 5 show that optimism (H1) and innovativeness (H2, H4) have a significant impact on the perceived benefits and ease of use of the Rumahekraf platform. This is confirmed by the P-value which is below 0.05 (T-Statistic H1 = 5.224; H2 = 2.905; H4 = 2.228), which is in line with research [38]. These findings suggest that individuals with a positive view of technology tend to see Rumahekraf as useful and easy to use.

However, optimism (H3) does not have a significant impact on perceived usefulness as its P-value is greater than 0.05 (T-Statistic = 1.868). This finding contradicts previous research [9]. In addition, insecurity (H5, H7) and discomfort (H6, H8) did not affect ease of use or perceived usefulness, as their P-Values were also above 0.05 (T-Statistic H5 = 1.509; H7 = 1.202; H6 = 1.640; H8 = 0.816). These results are consistent with the findings of [11], but different from those of [10]. For example, insecurity does not directly affect perceived usefulness, which suggests that concerns about security do not necessarily lower people's perceptions of technology usefulness.

The findings of this study indicate that ease of use has a significant impact on perceived usefulness (H9), user intention to adopt Rumahekraf (H10), and actual usage behavior (H12). This finding is supported by statistical evidence, with a T-Statistic of more than 1.96 and a P-Value below 0.05. These results are in line with previous research [38], indicating that the easier Rumahekraf is to use, the higher the perceived benefits perceived by users, which in turn increases their continued use of the platform. In addition, users' intention to adopt Rumahekraf is strongly influenced by perceived usefulness (H11, T-Statistic = 2.865, P-Value = 0.004), this finding is in line with research [4], which shows that when users perceive benefits from Rumahekraf, they are more likely to use it and integrate it into their routine activities.

With an R^2 value of 0.563 for predictive power, the BI variable shows that PEOU and PU explain 56.3% of users' intention to use the Rumahekraf platform, with other factors not measured in this model likely influencing the remaining 43.7%. The Rumahekraf platform is perceived as useful and more likely to be used if users find it easy to use.

With an R^2 value of 0.411, the PEOU variable shows that optimism, innovativeness, insecurity, and discomfort collectively explain 41.1% of ease of use, while the remaining 58.9% is influenced by other factors not covered in this model. This suggests that these four elements alone do not fully explain PEOU. Similarly, the PU variable, with an R^2 value of 0.557, indicates that 55.7% of perceived usefulness is influenced by optimism, innovativeness, discomfort,

DOI: https://doi.org/10.38204/tematik.v12i1.2291

and insecurity, while the remaining 44.3% is likely influenced by unmeasured variables. This finding reinforces the idea that increasing ease of use increases the perceived usefulness of a platform. Finally, the UB variable, with an R^2 value of 0.580, shows that 58% of user behavior is driven by the intention to use the Rumahekraf platform, with the remaining 42% likely explained by other external factors, indicating that a stronger intention to adopt the platform increases the likelihood of actual use.

The IPMA analysis revealed that ease of use (PEOU) and perceived usefulness (PU) play an important role in shaping user intentions and behavior, with a high level of significance in both their importance and performance. In addition, optimism (OPT) and innovativeness (INN) contribute significantly to increasing PEOU and PU, which support user adoption of the platform. In contrast, discomfort (DIS) and insecurity (INS) were considered less significant and performed at a lower level, indicating that although these factors are not major issues, they still need to be considered in the development of the platform. These findings are in line with the hypothesis test results, which reinforce the importance of prioritizing ease of use and perceived benefits to increase user adoption and engagement.

This study examines the factors that support and hinder the adoption of the Rumahekraf platform in supporting MSMEs in West Papua Province. Innovativeness and positive attitudes towards technology play a key role in facilitating adoption. Individuals who embrace new ideas and maintain an optimistic outlook towards technology are more likely to see the platform as useful and easy to navigate, which in turn increases their desire to use it. Moreover, ease of use significantly shapes users' perceptions of the platform's usefulness and their intentions to interact with it, indicating the need for simple and user-friendly designs to increase engagement and drive adoption. Conversely, users value ease of use and benefits more than concerns about security or discomfort, so limiting factors such as insecurity and discomfort have little impact. Based on the R^2 value, most of the adoption behavior can be explained by driving variables such as optimism, innovativeness, and ease of use. These results highlight how important intuitive design and clear benefits are in increasing the adoption and use of the Rumahekraf platform among MSMEs in West Papua.

3.1 Theoretical Implications

This research makes an important theoretical contribution to the understanding of digital technology adoption, particularly in the context of government platforms in developing regions. By integrating the three main approaches of Technology Acceptance Model (TAM), Technology Readiness Index (TRI), and Importance-Performance Map Analysis (IPMA) this study presents a more comprehensive conceptual framework to explain technology adoption behavior.

The integration of TAM and TRI allows for a deeper exploration of how users' psychological characteristics, such as optimism and innovativeness, interact with perceptions of the system, namely ease of use (PEOU) and usability (PU). The results show that optimism has a significant effect on PEOU but not PU, indicating that optimistic users prioritize the ease of using the platform over the value of its long-term benefits. These findings highlight the importance of user-friendly interface design as a key element in driving early adoption, and reaffirm previous findings that emphasize the importance of positive perceptions in technology adoption.

Meanwhile, innovativeness was found to have a significant effect on both PEOU and PU. This confirms that individuals who are open to new technologies are quicker to see the practical benefits of digital systems such as Rumahekraf. Therefore, this study strengthens the argument that early innovators play an important role in the technology diffusion process, and adoption strategies should prioritize this group of users as agents of change.

Interestingly, variables that are often considered as barriers to adoption such as insecurity and discomfort did not show a significant effect in the context of Rumahekraf. This opens up new insights that trust in government institutions can act as a buffer against psychological barriers, thereby lowering users' sensitivity to risk and discomfort in technology use. This finding indicates that in the context of public services, institutional trust is an important variable worth integrating in future technology adoption models.

By applying the combined framework of TRI and TAM to government digital services supporting MSMEs in infrastructure-limited areas, this research extends the theoretical applicability of both models. This opens up room for further studies on contextual factors such as digital literacy, trust in technology, policy support, and socioeconomic conditions, which can enrich adoption models that are more sensitive to realities in developing countries.

Overall, the findings of this study strengthen the theoretical foundations in the study of digital technology adoption, especially in the creative economy and public service sectors. By bringing together psychological predisposition, system perception, and external context, the model offered is able to provide a thorough understanding of the dynamics of user adoption decisions.

3.2. Practical Implications

This research provides practical recommendations to increase the adoption and utilization of the Rumahekraf platform among MSMEs in West Papua. Hypothesis testing results confirm that PEOU (Perceived Ease of Use) and PU (Perceived Usefulness) have a significant effect on BI (Behavioral Intention) and UB (Use Behavior). To increase PEOU, the Rumahekraf platform needs to be designed with a simple, easy-to-use, and responsive interface. Given the different levels of digital literacy in society, the creation of usage guides, such as video tutorials or step-by-step instructions, is essential to help users understand the platform better. These guides should be easily accessible and tailored to users' needs, especially for those with limited digital skills.

OPT (Optimism) and INN (Innovativeness) have a significant influence on PEOU, which suggests that users with optimistic and innovative attitudes are more likely to adopt the platform due to its user-friendly nature. Their positive attitude and openness to new technologies make it easier for them to engage with the platform. However, optimism does not affect PU directly, which suggests that although optimistic users find the platform easy to use, they do not necessarily find it useful. Therefore, to increase user adoption, the platform should provide more tangible benefits that clearly demonstrate its value, ensuring that even optimistic users recognize its usefulness beyond just ease of access.

To increase Perceived Usefulness (PU), the Rumahekraf platform should provide tangible benefits to MSMEs, such as insights into market opportunities, business training, and recommendations for products and services tailored to their needs. In addition, innovativeness (INN) also has a significant effect on PU, indicating that innovative users are quicker to recognize the benefits of the platform. Therefore, features that support collaboration among MSMEs or connections with potential buyers can increase the value of the platform. INS (Insecurity) and DIS (Discomfort) have no significant effect on PEOU or PU, indicating that users tend to trust government platforms. However, to maintain this trust, the platform must guarantee data security and provide responsive service support.

Furthermore, improving digital infrastructure in West Papua, such as expanding internet access and developing offline features, is crucial to support optimal use of the Rumahekraf platform, especially in areas with limited connectivity. Finally, the IPMA analysis shows that PEOU and Optimism (OPT) have significant importance but low performance. This suggests that the Rumahekraf platform needs to strengthen users' trust in the technology. Strategic steps that can be taken include simplifying the interface design, creating practical usage guides, and educating users about the benefits of the technology. By improving the performance of these two factors, it is expected that users will increasingly feel the benefits of the platform and be motivated to use it sustainably.

4. Conclusions

Based on the research findings, discomfort and insecurity do not have a significant influence on user perceptions of the Rumahekraf platform, a government-based digital platform designed to support MSMEs in West Papua Province. The R^2 value of 41.1% on PEOU indicates that the variables Optimism, innovativeness, Insecurity, and Discomfort are only able to explain 41.1% of PEOU variability, so the resulting prediction is relatively weak. This shows that these variables cannot fully explain the PEOU variable. In addition, another limitation lies in the sample coverage which only focuses on users of the Rumahekraf platform in the West Papua region.

Future research could expand the scope of the study area, including areas with more developed infrastructure, to better understand variations in technology adoption based on the level of infrastructure readiness. Future research is advised to consider other elements such as user trust in technology and digital literacy, as these factors could have a greater impact on the adoption rate of the Rumahekraf platform. In addition, future research can also explore the impact of government policies and infrastructure support as external factors that influence technology adoption. By including variables such as digital literacy or technology readiness, future research is expected to provide more comprehensive insights into the key determinants of the success of the Rumahekraf platform from the perspective of both users and developers. This in turn can increase the effectiveness of the platform in facilitating digital transformation and driving the growth of the creative economy.

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