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# EXPLORING PERSONAL INNOVATIVENESS AS A DRIVING FACTOR IN THE TECHNOLOGY ACCEPTANCE MODEL FOR MYTELKOMSEL IMPROVING

# EKSPLORASI PERAN PERSONAL INNOVATIVENESS SEBAGAI FAKTOR PENGUNGKIT DALAM MODEL TECHNOLOGY ACCEPTANCE UNTUK PENINGKATAN APLIKASI MYTELKOMSEL

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**Abstract**

This study aims to analyze the role of Personal Innovativeness in influencing the actual use of the MyTelkomsel application through an extended Technology Acceptance Model (TAM). In this model, Personal Innovativeness is positioned as a core construct that influences three key user perceptions: Perceived Ease of Use, Perceived Usefulness, and Perceived Enjoyment. A total of 355 respondents participated in the study, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that seven out of eight hypothesized paths between constructs in the model demonstrate statistically significant effects. The only non-significant relationship is found between Perceived Ease of Use and Attitude Toward Use, suggesting that ease of use is no longer a major determinant of user attitudes toward digital applications, possibly because it is now perceived as a basic standard in technology usage. Conversely, Personal Innovativeness consistently exerts a significant influence on all three key perceptions, which in turn affect users' attitudes, intentions, and actual behaviors. These results underscore the strategic role of innovative personal characteristics in driving adoption and active engagement with digital applications. The practical implications highlight the importance of user segmentation based on innovation levels, the development of enjoyable features, and the refinement of user experience to promote sustained engagement within digital ecosystems such as MyTelkomsel.

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**Keywords :** MyTelkomsel;Technology Acceptance Model (TAM);Personal Innovativeness;PLS-SEM;Customer Acceptance

**Abstrak**

Penelitian ini bertujuan untuk menganalisis peran *Personal Innovativeness* dalam memengaruhi penggunaan aktual aplikasi MyTelkomsel melalui pendekatan Technology Acceptance Model (TAM) yang diperluas. Dalam model ini, *Personal Innovativeness* diposisikan sebagai konstruk utama yang memengaruhi tiga persepsi kunci pengguna, yaitu *Perceived Ease of Use*, *Perceived Usefulness*, dan *Perceived Enjoyment*. Sebanyak 355 responden dilibatkan dalam penelitian ini, dan analisis dilakukan menggunakan metode Partial Least Squares Structural Equation Modeling (PLS-SEM). Hasil penelitian menunjukkan bahwa tujuh dari delapan jalur hubungan antar konstruk dalam model memiliki pengaruh yang signifikan secara statistik. Satu-satunya hubungan yang tidak signifikan ditemukan pada jalur antara *Perceived Ease of Use* dan *Attitude Toward Use*, yang menunjukkan bahwa persepsi kemudahan penggunaan tidak lagi menjadi faktor penentu utama sikap pengguna terhadap aplikasi digital, kemungkinan karena kemudahan telah dianggap sebagai standar minimum dalam penggunaan teknologi saat ini. Hasil penelitian juga menunjukan bahwa *Personal Innovativeness* terbukti secara konsisten berpengaruh signifikan terhadap ketiga persepsi utama yang kemudian memengaruhi sikap, niat, dan perilaku aktual pengguna. Temuan ini menegaskan bahwa karakteristik individu yang inovatif memainkan peran strategis dalam mendorong adopsi dan keterlibatan aktif terhadap aplikasi digital. Implikasi praktis dari hasil ini menyoroti pentingnya segmentasi pengguna berdasarkan tingkat inovasi, pengembangan fitur yang menyenangkan, serta penyempurnaan pengalaman pengguna guna mendorong keterlibatan berkelanjutan dalam ekosistem aplikasi seperti MyTelkomsel.
**Kata Kunci :** *MyTelkomsel,Technology Acceptance Model (TAM),Personal Innovativeness,PLS-SEM,Penerimaan Konsumen*

## 1. INTRODUCTION

Telkomsel is recognized as one of the largest telecommunications service providers in Indonesia, offering a wide array of digital solutions to meet the evolving communication needs of society(Telkomsel, 2022). As part of its national expansion strategy, Telkomsel's central management has set a target of acquiring 15 million new customers in the upcoming year (Telkomsel, 2022). In alignment with this objective, regional units including Telkomsel Area Samarinda, which oversees the regions of Samarinda, Kutai Kartanegara (Kukar), East Kutai (Kutim), and Bontang are encouraged to contribute through localized customer acquisition initiatives (Ryan, 2023). Within this strategic framework, the continuous development and optimization of relevant and innovative digital products are critical to enhancing customer engagement and service attractiveness.

Empirical studies underscore that consumer engagement can be significantly influenced by the provision of innovative and need-responsive services(Panggabean & Fadhilah, 2022; Xiao, 2015). Accordingly, evaluating the acceptance and utilization of Telkomsel's existing digital solutions becomes imperative. One such innovation is the MyTelkomsel application, launched in 2013 as a digital self-service platform aimed at facilitating customer transactions and access to Telkomsel services (Telkomsel, 2022). The application offers various key features, including credit and data package purchases, real-time usage monitoring, the

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Telkomsel POIN loyalty program, and access to digital entertainment such as Langit Musik and MyTelkomsel Games.

Despite its potential, MyTelkomsel adoption in certain regions remains suboptimal. In Samarinda, for instance, utilization stands at merely 20.1% of the total Telkomsel customer base, with the city contributing only 0.34% to the national user total of 32 million (Arumanto, 2024; Telkomsel, 2022). This indicates a significant gap between market potential and actual adoption. Contributing factors may include insufficient dissemination of application benefits, limited internet access, and persistent user preference for conventional services such as SMS or USSD. Additionally, user reviews from the Google Play Store in November 2024 reflect dissatisfaction with various technical aspects, including system errors, malfunctioning purchase functions, and poor responsiveness, all of which negatively affect perceived application quality.

To investigate the underlying causes of this low adoption rate, the Technology Acceptance Model (TAM) offers a robust theoretical framework. TAM has been widely utilized to assess user acceptance of information systems, focusing on two primary constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Andy et al., 2021; Crystanto et al., n.d.; Mugo et al., 2017; Pardede & Hartiwi, 2024; Tasrif et al., 2023). Extensions of the model include additional variables such as Perceived Enjoyment (PE), Attitude toward Use (ATT), and Behavioral Intention (BI), which offer deeper insights into psychological and affective dimensions of technology use (Al-Adwan et al., 2023; Andy et al., 2021).

Nevertheless, prior research has seldom examined the enabling or leveraging factors that influence PU, PEOU, and PE, particularly from the standpoint of individual psychological characteristics (Andy et al., 2021; Maulana et al., 2023; Pardede & Hartiwi, 2024). One critical construct in this context is Personal Innovativeness (PI), defined as an individual's propensity to embrace and experiment with new technologies (Agarwal & Prasad, 1998; Al-Adwan et al., 2023). PI plays a pivotal role in mitigating psychological and behavioral resistance to technology adoption. Individuals with high levels of PI are generally more tolerant of uncertainty, more adaptive to change, and more inclined to engage with digital innovations (Ode et al., 2022).

Integrating PI into the TAM framework enables a more comprehensive understanding of technology adoption behavior, as PI influences not only PU and PEOU but also PE, ATT, and BI (Al-Adwan et al., 2023). This study therefore proposes an enhanced TAM model by incorporating PI as a key external factor in analyzing MyTelkomsel user acceptance. To empirically validate this model, the study employs Partial Least Squares Structural Equation Modeling (PLS-SEM), a robust multivariate analysis technique capable of addressing non-normal data distributions and complex model structures (Rahadi, 2023). Within this framework, the study examines causal relationships among PI, PU, PEOU, PE, ATT, BI, and Actual System Use (AS).

Based on the aforementioned theoretical and empirical considerations, this study aims to examine the role of Personal Innovativeness as a driving factor within the Technology Acceptance Model (TAM) in assessing user acceptance of the MyTelkomsel application in Samarinda City. The research offers a clear element of novelty, as prior studies have not comprehensively explored the impact of PI on key TAM constructs within the context of Telkomsel's digital service ecosystem. The findings are expected to generate valuable empirical insights and strategic recommendations for enhancing digital service adoption at both

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regional and national levels, thereby supporting Telkomsel's broader customer growth objectives.

## 2. RESEARCH METHOD

This study employed a quantitative approach with an explanatory research design, aiming to examine causal relationships among variables within the Technology Acceptance Model (TAM), extended by incorporating an external variable, Personal Innovativeness (PI). The proposed model was utilized to analyze factors influencing user acceptance of the MyTelkomsel application in the city of Samarinda. The population in this study consisted of all Telkomsel users in Samarinda, although the exact number of users was unknown. Nevertheless, this population was considered relevant, as it comprised individuals who have direct interaction with Telkomsel's digital services.

The sample was determined using a non-probability sampling method, specifically convenience sampling, which involves selecting respondents based on ease of access and availability. This technique was chosen due to its practicality in reaching users of the MyTelkomsel application within time and resource constraints. The sample criteria included individuals who were active Telkomsel customers and had prior experience using the MyTelkomsel application. The minimum required sample size was calculated using Cochran's formula (1977) for an unknown population size, with a conservative proportion assumption ($p = 0.5$), a confidence level of 95% ($z = 1.96$), and a margin of error of 5% ($e = 0.05$). The result indicated a minimum sample size of 384.16, which was rounded up to 385 respondents. This number also aligns with Hair et al., (2014) recommendation for ideal sample sizes in multivariate analysis, which range from 100 to 500 respondents.

Data were collected using an online questionnaire with a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The research instrument was developed based on indicators adapted from previous literature, including Andy et al. (2023), and Al-Adwan et al. (2023), and adjusted to the local context of Samarinda. The variables employed in this study include Personal Innovativeness (PI), Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Enjoyment (PE), Attitude Toward Use (ATT), Behavioral Intention (BI), and Actual System Use (ASU). PI reflects an individual's willingness to try new innovations; PU and PEOU measure the perceived benefits and ease of use of the application; PE captures the enjoyment experienced during usage. Meanwhile, ATT represents the user's overall attitude toward the application, BI indicates the user's intention to use it, and ASU reflects the actual frequency and consistency of application use.

To examine the relationships among these variables, the study applied Partial Least Squares Structural Equation Modeling (PLS-SEM). This method was selected for its ability to handle complex structural models, non-normal data, and moderate sample sizes (Rahadi, 2023). The analysis was conducted using SmartPLS software, including procedures for assessing construct validity, indicator reliability, and the significance of path relationships. The results are expected to empirically reveal the role of Personal Innovativeness in enhancing the acceptance of the MyTelkomsel application in Samarinda. Figure 1 and Table 1 illustrate the PLS-SEM model structure and definition of variable used in this study .

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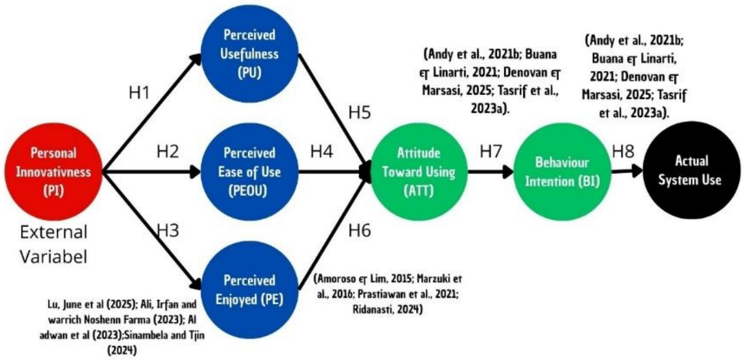


**Figure 1. Construction of Model TAM**

Based on the conceptual framework illustrated in Figure 1, this study formulates eight main hypotheses to examine the relationships among variables within the proposed model. First, H1 posits that Personal Innovativeness (PI) has a significant effect on Perceived Usefulness (PU), suggesting that individuals with a higher tendency to explore new technologies are more likely to perceive applications like MyTelkomsel as beneficial in their daily lives. Second, H2 states that PI also significantly influences Perceived Ease of Use (PEOU); the more innovative an individual is, the more likely they are to perceive new technologies as easy to use due to their openness to change.

Next, H3 proposes that PI has a significant effect on Perceived Enjoyment (PE), indicating that highly innovative individuals tend to feel more entertained and enthusiastic when using new technologies, including the MyTelkomsel application. H4 suggests that PU significantly influences Attitude Toward Using (ATT), implying that the more useful users perceive the application to be, the more favorable their attitudes will be toward using it. H5 posits that PEOU also significantly affects ATT, where the perception of ease of use contributes to a more positive user attitude.

H6 proposes that PE has a significant influence on ATT; users who experience enjoyment while using the application are likely to develop a more positive attitude toward its usage. H7 states that ATT significantly affects Behavioral Intention (BI), meaning that a positive attitude toward using the application increases the users' intention to continue using it. Lastly, H8 posits that BI significantly affects Actual System Use (AS), indicating that a strong behavioral intention to use the application leads to more consistent and sustained actual usage. These hypotheses collectively form the foundation of the empirical analysis in this study.

**Table 1. Definition of Variable**

| Varible | Dimension | No.Item | Scale |
|---|---|---|---|
| Personal Innovativness (PI) | Trying Out New Technology | PIK1 | Ordinal |
| | | PIK2 | Ordinal |
| | Social Inovator | PII1 | Ordinal |
| | | PII2 | Ordinal |
| | Preference for adopting new | PIT1 | Ordinal |

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| | | | |
|---|---|---|---|
| | technology | | |
| Perceived ease of use (PEOU) | Sistem Control | PEOK1 | Ordinal |
| | | PEOK2 | Ordinal |
| | Ease of use perspective | PEOP1 | Ordinal |
| | | PEOP2 | Ordinal |
| | Ease of System Interaction | PEOI1 | Ordinal |
| | Ease of System Interaction | PEOI2 | Ordinal |
| Perceived Usefulness (PU) | Supporting Employment | PUP1 | Ordinal |
| | | PUP2 | Ordinal |
| | Providing up to date information | PUPI1 | Ordinal |
| | | PUPI2 | Ordinal |
| | Improving User Experience | PUN1 | Ordinal |
| | | PUN2 | Ordinal |
| Perceived Enjoyment (PE) | Technology Service Satisfaction | PE1 | Ordinal |
| | | PE2 | Ordinal |
| | The Joy of Using Technology | PES1 | Ordinal |
| | | PES2 | Ordinal |
| Behaviour Intention (BI) | Future Intention Use | BIF1 | Ordinal |
| | | BIF2 | Ordinal |
| | Perceived Likelihood of Use | BIP1 | Ordinal |
| | | BIP2 | Ordinal |
| | Frequency of Planned Use | BIFU1 | Ordinal |
| | | BIFU2 | Ordinal |
| *Actual System Use* (AS) | Frequency of Use | AS1 | Ordinal |
| | Duration of Use | AS2 | Ordinal |
| | Consistency of Use | AS3 | Ordinal |
| | Intensity of Use | AS4 | Ordinal |

# 3. RESULTS AND DISCUSSION

## 3.1 Data Collection

The sample size in this study was determined using a non-probability sampling method, with the calculation based on the Cochran formula, resulting in a total of 385 respondents. This number is considered adequate to meet the requirements of statistical analysis in social research. From the total sample, 30 respondents were assigned for the instrument's validity and reliability testing, while the remaining 355 respondents participated in hypothesis testing.

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These respondents provided data through a structured questionnaire designed to capture user perceptions related to the acceptance and use of the MyTelkomsel application.

The questionnaire was developed using a closed-ended format and employed a four-point Likert scale to measure the intensity of respondent agreement with each statement. A score of 1 represented strong disagreement, while a score of 4 indicated strong agreement. This scale was chosen for its simplicity and consistency, facilitating clearer interpretation and reducing ambiguity in responses. To optimize the data collection process, a structured strategy was implemented.

Data were collected between January and June 2025 through a hybrid approach, combining direct (personal) distribution and collaboration with student activity units (UKM) from several universities in the Samarinda area. Additionally, Google Forms was used as a digital instrument to facilitate wider reach and convenience. This approach ensured that the questionnaire was distributed to respondents who met the study's criteria, thereby enhancing the validity and relevance of the collected data.

All responses obtained from the 355 respondents formed the empirical basis for model testing and hypothesis evaluation. To provide an overview of respondent demographics, detailed characteristics such as age and gender distributions are presented in Table 2.

**Table 2. Demographic Data**

| Profil | Category | Total | Persentase (%) |
|---|---|---|---|
| Age | 10-15 years | 35 | 9.0% |
| | 15-65 years | 343 | 89.1% |
| | >65 years | 8 | 1.2% |
| | Total | 385 | 100% |
| Gender | Man | 174 | 45.3% |
| | Woman | 210 | 54.7% |
| | Total | 385 | 100% |

This study incorporates two demographic categories age and gender as general classifications to describe the basic characteristics of respondents. Although these demographic variables are not the primary focus of the analysis, their inclusion provides contextual background for understanding the user profile involved in evaluating the MyTelkomsel application. Age classification serves as a reference point for potential future analysis on service usage patterns across different age groups, while gender classification offers supporting insights into behavioral tendencies among male and female users. Nonetheless, the main objective of the study is to assess the overall effectiveness of the MyTelkomsel service without emphasizing demographic distinctions. The demographic data are presented to enrich the descriptive section and illustrate the diversity and representativeness of the sample, with the distribution of respondents by age and gender visualized in Figure 2.

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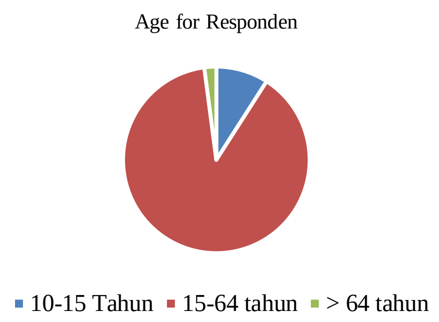


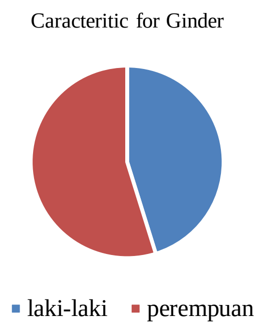


**Figure 2 Characteristic of Respondents**

### 3.2 Validity and Reliability Test

#### 3.2.1 Reliability Test

**a. Internal consistency (Cronbach's alpha, composite reliability)**

Internal consistency reliability refers to the measurement that determines how well the indicators explain their corresponding latent constructs or variables (Memon et al., 2017). This analysis uses composite reliability and Cronbach's alpha as assessment tools. According to established guidelines, a model is considered to have good reliability if both the composite reliability and Cronbach's alpha values exceed 0.70 (Sarstedt et al., 2020; Ghozali & Latan, 2015). In this study, the results of the composite reliability and Cronbach's alpha calculations are presented in Table 3.

**Table 3 Result of Composite reliability and Cronbach's Alpha.**

| Latent variable | Cronbach's alpha | Composite reliability (rho_c) |
|---|---|---|
| Personal Innovativeness | 0.923 | 0.942 |
| Perceived ease of use | 0.932 | 0.946 |
| Perceived Usefulness | 0.948 | 0.959 |
| Perceived Enjoyment | 0.922 | 0.939 |
| Attitude Toward Use | 0.938 | 0.951 |
| Behaviour Intention | 0.928 | 0.944 |
| Actual System Use | 0.829 | 0.897 |

**b. Indicator Reliability**

The indicator reliability test aims to assess the extent to which an indicator can be trusted to represent the latent variable it measures. This evaluation is based on the outer loading values of each indicator. According to Sarstedt et al. (2020) and Zhang et al. (2013), an outer loading value exceeding 0.70 indicates that the indicator explains more than 50% of the variance of the construct it represents, thereby meeting the reliability criteria. In the initial testing stage using the PLS-SEM algorithm (first iteration), it was found that indicator AS4 of the latent variable Actual System Use had an outer loading value below

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0.70. This result suggests that AS4 is not sufficiently reliable in representing the construct and therefore does not meet the reliability threshold. As a result, AS4 was eliminated from the model in the second iteration.

In the second iteration, the remaining indicators were re-evaluated. The analysis revealed that all remaining indicators had outer loading values above 0.70. Thus, it can be concluded that all indicators in the model met the reliability requirements and can consistently represent their respective latent variables. The complete results of this indicator reliability test are presented in Appendix 1.

**c. The Average Variance Extracted (AVE)**

The Average Variance Extracted (AVE) value must be equal to or greater than 0.50, indicating that the construct explains at least 50% of the variance of its associated items or indicators (Sarstedt et al., 2020; Zhang et al., 2013). Table 4 presents the AVE values for each construct in the model.

**Table 4. Value of AVE**

| Latent variable | Average Variance Extracted |
|---|---|
| Personal Innovativeness | 0.765 |
| Perceived ease of use | 0.746 |
| Perceived Usefulness | 0.795 |
| Perceived Enjoyment | 0.719 |
| Attitude Toward Use | 0.764 |
| Behaviour Intention | 0.737 |
| Actual System Use | 0.747 |

### 3.2.2 Validation Test

**a. Discriminant Validation Test**

Discriminant validity is used to determine how well the reflection of each indicator correlates with its respective latent variable. In this study, the Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT) were employed to evaluate discriminant validity, as presented in Table 5 and Table 6 (Henseler et al., 2015).

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**Table 5. Fornell-Larcker Criterion**

| Latent variable | PI | PEOUP | PEUS | PE | ATU | BI | AS |
|---|---|---|---|---|---|---|---|
| PI | 0.875 | | | | | | |
| PEOU | 0.887 | 0.864 | | | | | |
| PEUS | 0.911 | 0.895 | 0.892 | | | | |
| PE | 0.906 | 0.900 | 0.943 | 0.848 | | | |
| ATU | 0.895 | 0.889 | 0.943 | 0.932 | 0.874 | | |
| BI | 0.901 | 0.877 | 0.927 | 0.926 | 0.913 | 0.858 | |
| AS | 0.847 | 0.826 | 0.907 | 0.889 | 0.857 | 0.895 | 0.864 |

**Table 6. Heterotrait-Monotrait Ratio (HTMT)**

| Latent variable | PI | PEOUP | PEUS | PE | ATU | BI | AS |
|---|---|---|---|---|---|---|---|
| PI | | | | | | | |
| PEOU | 0.953 | | | | | | |
| PEUS | 0.973 | 0.954 | | | | | |
| PE | 0.979 | 0.970 | 1.005 | | | | |
| ATU | 0.959 | 0.949 | 0.998 | 0.997 | | | |
| BI | 0.972 | 0.944 | 0.987 | 0.998 | 0.974 | | |
| AS | 0.946 | 0.925 | 1.001 | 0.995 | 0.953 | 0.995 | |

The results of the construct reliability test indicate that all latent variables in the model exhibit a high level of internal consistency. This is evidenced by the Cronbach's Alpha and Composite Reliability values for all constructs, which exceed the recommended minimum threshold of 0.70 as suggested by Sarstedt et al. (2020) and Ghozali & Latan (2015).

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Specifically, Cronbach's Alpha values range from 0.829 to 0.948, while Composite Reliability scores fall between 0.897 and 0.959. These findings suggest that each construct is measured by homogeneous indicators that consistently reflect the intended variable, thereby affirming the model's strong internal reliability.

In addition to construct reliability, indicator reliability was also assessed to determine the extent to which individual indicators accurately represent their respective constructs. Based on the outer loading analysis, nearly all indicators achieved values above the 0.70 threshold, indicating a strong contribution to their corresponding constructs. However, during the initial iteration, the AS4 indicator under the Actual System Use variable displayed an outer loading below the acceptable limit, leading to its exclusion in the second iteration. After this adjustment, all remaining indicators demonstrated acceptable outer loading values, confirming that each indicator reliably measures its respective construct.

Construct validity testing continued with the evaluation of Average Variance Extracted (AVE), which assesses how well a latent variable explains the variance in its indicators. All AVE values in the model exceeded the 0.50 benchmark, ranging from 0.719 to 0.795. This indicates that more than 50% of the variance in each set of indicators is explained by their corresponding constructs, thereby confirming that the model meets the criteria for convergent validity (Sarstedt et al., 2014; Zhang et al., 2020).

### 3.3 Structure Model Test (Hypothesis Test)

In this study, hypothesis testing was conducted by referring to the p-values and t-values obtained from the PLS-SEM analysis. Generally, a hypothesis is accepted if the p-value is less than 0.05 or if the t-value exceeds the critical t-value corresponding to the degrees of freedom and the selected level of significance. In the context of this research, seven variables were tested, with an estimated degree of freedom of 6. At a 5% significance level ($\alpha = 0.05$) for a two-tailed test, the critical t-value used was 2.447 (based on the t-distribution with df = 6 and $\alpha = 0.05$, two-tailed).

Therefore, a hypothesis is considered statistically significant if the t-value > 2.447 or the p-value < 0.05. These thresholds served as the basis for determining the significance of the relationships among latent variables in the proposed research model. The results of the hypothesis testing are presented in Table 7.

**Table 7. Result of Hypothesis Test**

| Latent variable | Original sample (O) | T statistics (\|O/STDEV\|) | P values |
|---|---|---|---|
| Personal Innovativeness > Perceived ease of use | 0.887 | 34.941 | 0.000 |
| Personal Innovativeness > Perceived Usefulness | 0.911 | 31.931 | 0.000 |
| Personal Innovativeness > Perceived Enjoyment | 0.906 | 36.540 | 0.000 |
| Perceived ease of use >Attitude Toward Use | 0.133 | 1.843 | 0.066 |
| Perceived Usefulness >Attitude Toward Use | 0.528 | 4.688 | 0.000 |

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| Perceived Enjoyment >Attitude Toward Use | 0.314 | 2.679 | 0.008 |
| Attitude Toward Use >Behaviour Intention | 0.913 | 44.987 | 0.000 |
| Behaviour Intention > Actual System Use | 0.895 | 43.204 | 0.000 |

The results of the hypothesis testing and structural validity analysis provide strong evidence of the robustness of the proposed research model. Table 6 presents the structural validity test results, reflecting the strength of the relationships among the latent variables (constructs) within the model. Out of the eight hypothesized relationships, seven were found to be statistically significant, each with a p-value less than 0.05 and a t-value exceeding the critical threshold of 2.447 (at $\alpha = 0.05$, df = 6, two-tailed). This confirms that the majority of the constructs within the model are significantly associated with one another, thereby supporting the validity of the model structure and the hypotheses proposed.

One particularly notable finding is the consistent and significant influence of *Personal Innovativeness* on the three key perception-related constructs: *Perceived Ease of Use*, *Perceived Usefulness*, and *Perceived Enjoyment*. These results suggest that individuals with higher levels of personal innovativeness are more inclined to perceive the system as easier to use, more beneficial, and more enjoyable. This highlights the importance of innovativeness as a cognitive and affective foundation in shaping users' initial perceptions and reinforces prior studies that have extended the Technology Acceptance Model (TAM) by incorporating individual difference variables.

However, one relationship between *Perceived Ease of Use* and *Attitude Toward Use* did not reach statistical significance, with a p-value of 0.066 and a t-value of 1.8433. These values fall short of the required thresholds, and as such, the null hypothesis ($H_0$) for this path cannot be rejected. This finding implies that ease of use does not significantly influence the formation of a positive attitude toward the system in the context of this study. A possible explanation is that ease of use has become a baseline expectation (a hygiene factor) in digital applications, and therefore, it may no longer serve as a key differentiator in shaping user attitudes. Instead, the results show that both *Perceived Usefulness* and *Perceived Enjoyment* play a more prominent role in influencing user attitudes, underlining the importance of both functional utility and emotional satisfaction.

Moreover, *Attitude Toward Use* demonstrated a strong and significant effect on *Behavioral Intention*, with a coefficient of 0.913 and a t-value of 44.987. This confirms that users with a positive attitude toward the system are highly likely to develop a strong intention to use it. In turn, *Behavioral Intention* was found to be a powerful predictor of *Actual System Use*, as evidenced by a coefficient of 0.895 and a t-value of 43.204. This result supports foundational behavioral theories that position intention as a key mediator between attitude and actual behavior, reinforcing the model's explanatory power in predicting system usage outcomes. Overall, these integrated findings validate the model's structure and provide valuable insights into the factors driving the acceptance and usage of the MyTelkomsel application.

### 3.3 Role of Personal Innovativeness

In this study, Personal Innovativeness was found to have a highly significant impact on

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the three key perception constructs within the adapted Technology Acceptance Model (TAM): Perceived Ease of Use, Perceived Usefulness, and Perceived Enjoyment. This indicates that individuals who are open and enthusiastic about adopting new technologies form the core foundation for developing positive perceptions of digital applications such as MyTelkomsel in the context of Samarinda.

The analysis of outer loading values for the Personal Innovativeness construct confirms that all indicators exceeded the threshold of 0.70, suggesting that each item reliably and validly represents the underlying construct. The highest outer loading was observed in indicator PIK1 (0.908), which measures a person's interest in trying unfamiliar or untested technologies. This is followed by PII1 (0.876), which reflects the tendency to be an early adopter or "social innovator." Additionally, PIK2 (0.872), which assesses the inclination to seek opportunities for adopting new technologies, and PIT1 (0.860), which evaluates the willingness to embrace technological innovation, also contributed significantly to the latent variable.

These findings suggest that the dominant traits shaping Personal Innovativeness are a strong enthusiasm for experimenting with new systems and the desire to be among the first to adopt emerging technologies. Therefore, strategies to increase the usage of the MyTelkomsel application in Samarinda should emphasize strengthening these two attitudes, particularly among passive users or those who only utilize basic features. Telkomsel could implement educational campaigns, gamification-based approaches, and early access schemes for new features to encourage users to explore advanced functionalities more actively.

Furthermore, enhancing Personal Innovativeness is likely to strengthen user perceptions that the MyTelkomsel app is easy to use (*Perceived Ease of Use*), functionally valuable (*Perceived Usefulness*), and enjoyable (*Perceived Enjoyment*). Practically, this would result in increased frequency and diversity of app usage, including features such as subscription package management, Telkomsel Poin redemption, roaming services, and digital lifestyle offerings such as streaming, game vouchers, and other entertainment content. Users with high levels of innovativeness are not limited to basic transactions like top-ups but are more likely to explore and fully engage with the entire digital ecosystem offered by the app.

To further support and cultivate innovative behavior, service providers are encouraged to design user experiences that foster curiosity-driven exploration. This can include interactive interfaces, personalized feature recommendations based on usage history, and adaptive notifications that regularly introduce new features. Such strategies are expected to activate deeper user engagement, leading to more comprehensive and sustained utilization of the MyTelkomsel application.

## 4. CONCLUSION

The findings of this study highlight the critical role of Personal Innovativeness (PI) in influencing user perceptions and behaviors toward the MyTelkomsel application. PI demonstrated a highly significant influence on three key perception constructs: Perceived Usefulness (PU) ($t = 31.931$; $p = 0.000$), Perceived Ease of Use (PEOU) ($t = 34.941$; $p = 0.000$), and Perceived Enjoyment (PE) ($t = 36.540$; $p = 0.000$). These results indicate that individuals who are open to innovation are more likely to perceive the app as beneficial, easy to use, and emotionally engaging. Furthermore, PU significantly influenced Attitude Toward Use (ATT) ($t = 4.688$; $p = 0.000$), as did PE ($t = 2.679$; $p = 0.008$), showing that both functional and emotional benefits shape positive user attitudes. However, the relationship between PEOU and

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ATT was found to be statistically insignificant (t = 1.843; p = 0.066), suggesting that ease of use is now seen as a basic requirement rather than a differentiating factor.

In the subsequent behavioral pathway, ATT had a very strong impact on Behavioral Intention (BI) (t = 44.987; p = 0.000), which in turn significantly predicted Actual System Use (AS) (t = 43.204; p = 0.000). These results confirm that user attitudes and intentions are decisive in determining real-world usage behavior. Notably, PI emerged as a foundational factor that indirectly shapes actual system use by influencing the entire chain of perceptions, attitudes, and intentions. The strongest indicators of PI were PIK1 (0.908), which reflects enthusiasm for trying unfamiliar technologies, and PII1 (0.876), representing a tendency to be an early adopter. Therefore, strategic efforts to increase MyTelkomsel usage should focus on fostering exploratory behavior and early-user interest such as through exclusive features, gamified experiences, and educational initiatives for advanced app functionalities.

## 5. REFERENCES

Agarwal, R., & Prasad, J. (1998). A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology. *Information Systems Research*, *9*(2), 204–215. https://doi.org/10.1287/isre.9.2.204

Al-Adwan, A. S., Li, N., Al-Adwan, A., Abbasi, G. A., Albelbisi, N. A., & Habibi, A. (2023). "Extending the Technology Acceptance Model (TAM) to Predict University Students' Intentions to Use Metaverse-Based Learning Platforms". *Education and Information Technologies*, *28*(11), 15381–15413. https://doi.org/10.1007/s10639-023-11816-3

Andy, R., Dewi, A. C., & As'adi, M. (2021). An Empirical Study to Validate The Technology Acceptance Model (TAM) In Evaluating "Desa Digital" Applications. *IOP Conference Series: Materials Science and Engineering*, *1125*(1), 012055. https://doi.org/10.1088/1757-899x/1125/1/012055

Arumanto. (2024). *Tingkat penetrasi internet di Kaltim capai 80,63 persen*. AntaraKaltim.

Crystanto, C., Munir, A. S., Surasa, H., Informatika, T., & Kharisma Makassar, S. (n.d.). *ANALISIS KEPUASAN PENGGUNA APLIKASI MYTELKOMSEL MENGGUNAKAN PIECES FRAMEWORK Oleh*. https://jurnal.kharisma.ac.id/kharismatech

Hair, J. F. ., Black, W. C. ., Babin, B. J. ., & Anderson, R. E. . (2014). *Multivariate data analysis*. Pearson Education Limited.

Maulana, M. P., Eka, &, Sari, P., & Kom, M. (2023). Analisa Kepuasan Pengguna Terhadap Aplikasi My Telkomsel Dengan Menerapkan Metode TAM (Technology Acceptance Model). In *Syntax: Jurnal Informatika* (Vol. 12, Issue 02).

Mugo, D., Njagi, K., Chemwei, B., & Motanya, J. (2017). The Technology Acceptance Model (TAM) and its Application to the Utilization of Mobile Learning Technologies. *British Journal of Mathematics & Computer Science*, *20*(4), 1–8. https://doi.org/10.9734/bjmcs/2017/29015

Ode, W., Ratnaningsih, W., Murwani, E., & Rusdianto Berto, A. (2022). Proses Pengambilan Keputusan Adopsi Inovasi Aplikasi Gramedia Digital. *Jurnal Komunikasi Profesional*, *6*(6). https://doi.org/http://ejournal.unitomo.ac.id/index.php/jkp

Panggabean, A. D. P., & Fadhilah, M. F. (2022). Service Analysis on Consumer Interest and Satisfaction. Study on street food in Sudirman Area, Bandung, Indonesia. *International Journal Administration, Business & Organization*, *3*(3).

Multidisciplinary Indonesian Center Journal (MICJO)
Journal page is available to
https://e-jurnal.jurnalcenter.com/index.php/micjo
Email: admin@jurnalcenter.com

Pardede, E., & Hartiwi, Y. (2024). Analisis Usability Pada Aplikasi Mytelkomsel Menggunakan Metode Importance Performance Analysis Terhadap Kepuasan Pengguna. *Jurnal Manajemen Teknologi Dan Sistem Informasi (JMS)*, *4*(1). https://doi.org/10.33998/jms.v4i1

Rahadi, D. R. (2023). *Pengatar Partial Least Square Strctural Equation Model PLS-SEM* (Wijornato, Ed.). Lentera Ilmu Madani.

Ryan. (2023). *Telkomsel dan Penantian Penetrasi 5G di Samarinda*. Busam.Id.

Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, *5*(1), 105–115. https://doi.org/10.1016/j.jfbs.2014.01.002

Tasrif, M., Agus Setiawan, A., Purwo Saputro, E., & Kussudyarsana, K. (2023). Application of The Technology Acceptance Model in Measuring Customer Satisfaction and Loyalty. *International Journal of Management Science and Information Technology*, *3*(1), 84–92. https://doi.org/10.35870/ijmsit.v3i1.1049

Telkomsel. (2022). *Annual Report Telkomsel 2022*.

Xiao, J. J. (2015). *Consumer Interests and Economic Wellbeing* (pp. 23–44). https://doi.org/10.1007/978-1-4939-2821-7_2

Zhang, J., Qian, X., & Feng, J. (2020). Review of carbon footprint assessment in textile industry. *Ecofeminism and Climate Change*, *1*(1), 51–56. https://doi.org/10.1108/efcc-03-2020-0006