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Analysis of the Technology Readiness Index in the Use of E-Payment in Regionally Owned Enterprises (BUMD) in North Sumatra Province

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Abstract
This research explores the value of the Technology Readiness and Acceptance Model (TRAM) model by integrating the Technology Readiness Index (TR) into the Technology Acceptance Model (TAM) in the context of measuring the influence of the level of technology readiness and technology acceptance in the use of e-payment in Regional Owned Enterprises (BUMD) North Sumatra Province by distributing questionnaires online. Samples were taken using the total sampling method which resulted in 66 out of 66 respondents who could be used. Data processing for 66 respondents used SmartPLS for descriptive statistical analysis tests and PLS-SEM analysis. Based on the 18 hypotheses that were formulated, 10 hypotheses were accepted and 8 hypotheses were rejected. Thus, the results of this study provide empirical evidence of TRI and TAM support for the 4 independent variables, 2 mediating variables and 1 dependent variable used and all measurement items in the questionnaire statements have been confirmed as valid and reliable. The research findings state that positive TR can partially affect TAM but negative TR has no effect on TAM. TAM has a partial positive effect on behavioral intention. Moreover, TAM can mediate the positive influence of TR on behavioral intention, but TAM is unable to mediate the negative influence of TR on behavioral intention. The practical contribution from the results of this research can provide input for BUMD.
Keywords : Technology Readiness, Technology Acceptance, e-payment, BUMD

1. INTRODUCTION

The digitalization of the economy in the Industrial Era 4.0 has made businesses in the world develop following the pace of development of financial technology (fintech) in financial transactions, so that it has encouraged many businesses to develop in many ways compared to the previous period. One example of information technology innovation in business processes is e-payment. E-payment is a financial transaction carried out by two or more parties using online payments that have internet services, via cellphone or computer (San, et al., 2023, Pu et al., 2024). Payments using e-payment media have grown rapidly in recent years, but this business format has more challenges in developing countries than in developed countries. Previous literature studies show that cash transactions still dominate even though the level of information technology use is

very high, such as in the Philippines (Raon, Leon, & Dui, 2021), in Jordan (Faqih, 2016), in the United Arab Emirates (Salloum, Al -Emran, Khalaf, Habes, &Shaalan, 2019), in India (Vijai, 2021), in Malaysia (Amron, Noh, & Mohamad, 2022), and in Indonesia (Chandra, Handra, Febrianto, &Ridwan, 2024).

The trend of using e-payment technology in Indonesia is still very low, and if you look at statistical data from each province, there is a phenomenon that has occurred in North Sumatra province where the level of use of financial technology is not directly proportional to the population in North Sumatra province. Individuals still choose cash transactions rather than digital ones. Moreover, the level of e-payment usage in several BUMDs in North Sumatra is still below 10%.

Table 1 Comparison of Total Transactions in BUMD Industrial Activities with Total Transactions with e-Payment in Rupiah

No	Name BUMD	Total Transactions	Transactions with e-Payment	Percentage
1	PT. Pembangunan Prasarana Sumatera Utara	14,911,831,090	1,425,611,199	9.56%
2	PT. Dhirga Surya Sumatera Utara	7,975,813,433	699,128,624	8.77%
3	PD. Aneka IndustridanJasa	3,344,711,423	11,278,024	0.34%

Based on the table above, it shows that awareness of the importance of e-payment technology in terms of convenience and transparency is still low which will have an impact on decreasing industrial productivity efficiency levels. The use of e-payment in North Sumatra Provincial Government BUMD is related to readiness to adopt technology. Technology readiness refers to the tendency to accept and use new technologies to achieve business environmental goals. To measure the level of individual readiness in adopting information technology in an organizational context, the method that can be used is the Technology Readiness Index (TRI) (Kim & Chiu, 2018). The Technology Readiness Index is an instrument proposed by Parasuraman (2000) from four dimensions, namely optimism, innovativeness, discomfort and insecurity which can influence behavioral intention in adopting the latest information technology system. In this dimension, optimistic behavior accepts new technology for convenience and usefulness (Parasuraman, 2000, Hasan et al., 2019). Innovativeness is a dimension regarding the tendency to accept and adopt new technology first and be ready to participate in the development of this new technology (Parasuraman, 2000). Discomfort is a dimension regarding the perception of discomfort in facing new technology and its complexity (Parasuraman, 2000, Lisha et al., 2023). Insecurity is a dimension of distrust of technology resulting from perceptions of distrust regarding its functional feasibility and concerns about the negative consequences that arise (Parasuraman, 2000).

This research explores the value of the Technology Readiness and Acceptance Model (TRAM) model by integrating the Technology Readiness Index (TR) into the Technology Acceptance Model (TAM) in the context of employee adoption of electronic payment systems. Technology Acceptance Model. The Technology Acceptance Model (TAM) has two main variables, namely perceived usefulness and perceived ease of use. Perceived usefulness measures a person's argument that innovation helps improve their performance at work. Meanwhile, perceived ease of use describes how someone believes that using a particular system will be simple (Davis, 1989).

The inconsistency of previous research results regarding the variables studied, namely optimism, innovativeness, discomfort and insecurity which can influence behavioral intention with perceived usefulness and perceived ease of use as mediating variables, is also the problem formulation in this research. The main objective of this research is to measure the influence of the Technology Readiness Index (TRI) on the use of e-payment in BUMD of North Sumatra Province.

2. LITERATURE REVIEW

2.1. Intention Behavioral

Behavioral intention is one of the important components in the Technology Acceptance Model (TAM). This component refers to an individual's intention to use the technology that has been adopted. Intention behavioral can be considered as the initial stage in technology adoption, because without the user's intention to use the technology, the technology will not be adopted. Intention behavioral is very important in encouraging the adoption of technology by users. If individuals have the intention to use technology, then they are more likely to use the technology. Therefore, in technology development, it is necessary to consider factors that can influence behavioral intention so that technology is considered useful and ultimately accepted by users. In this study, behavioral intention has been measured with a measurement scale based on the research of Ibrahim et al. (2017).

2.2. Technology Acceptance Model (TRAM)

In this research, the combination model between the Technology Readiness and Acceptance Model (TRAM), is a model that expands the Technology Acceptance Model theory by integrating the Technology Readiness (TR) variable in the acceptance of a new technology (Lin, Shih, & Sher, 2007). Technology Readiness is an individual's belief about the tendency to use a technology-based product or system. With the addition of Technology Readiness in the Technology Readiness and Acceptance Model (TRAM), it is a construct that describes the user's condition in receiving a more specific technology-based product or system. The application of the Technology Readiness and Acceptance Model in research can identify or understand the user's psychological process towards accepting a technology-based product or system (Blut& Wang, 2020; Walczuch, Lemmink, &Streukens, 2007).

TAM is needed because it allows organizations to understand the reasons why technology is accepted or rejected by users. By understanding the factors that influence user adoption of technology, organizations can design better technology and can ensure that the technology is well received by users. Therefore, the integration of the TAM and TRI models into TRAM is expected to explain the behavioral intention of e-payment through perceived ease of use in North Sumatra Province BUMD.

2.3. Technology Readiness Index (TRI)

TRI can be used to understand the overall readiness of an organization's customer base to interact effectively with technology-based products and services, thereby enabling organizations to examine the extent to which technology-based channels can be used in company-customer transactions as well as take decisions on the speed of adoption of technology-based products and services (Parasuraman, 2000).The technology readiness construct consists of four dimensions: two factors supporting or driving technology readiness (positive TR) and two factors inhibiting technology readiness (negative TR). Positive TR consists of 2 dimensions, namely optimism and innovativeness.

Optimism shows someone has a positive view of technology. In research by Acheampong, et al. (2017) stated that individuals in the optimism stage tend to focus on positive comments and the value of technology, they focus on the benefits, usefulness and quality received from technology adoption and will assume that a technology will be easy to understand and learn. The hypothesis that can be formulated is as follows.

H1: Optimism has a positive effect on perceived usefulness

H2: Optimism has a positive effect on perceived ease of use

Innovative people have a strong openness to the adoption of new technologies, they are pioneers of technological transformation. The TAM theory explains that an innovative person will assume that a new technological performance can be useful and increase performance productivity in the workplace (Davis, 1989). Moreover, the more innovative a person is, the less complex a set of beliefs they will have about new technology (Venkatesh & Davis, 2000). The hypothesis that can be formulated is as follows.

H3: Innovativeness has a positive effect on perceived usefulness

H4: Innovativeness has a positive effect on perceived ease of use

Negative TR consists of 2 dimensions, discomfort and insecurity. Discomfort focuses on a person's level of comfort with technology adoption (Anam, Prayogo, Susandri, Efendi, &Nurjayadi, 2023). The TAM theory explains that the dimension of discomfort assumes that a new technological performance cannot be useful and is unable to increase performance productivity in the workplace, and assumes that a new technological performance is complicated and difficult to understand and use in business activities and in the work environment (Davis, 1989).The hypothesis that can be formulated is as follows.

H5: Discomfort has a negative effect on perceived usefulness

H6: Discomfort has a negative effect on perceived ease of use

Insecurity stems from distrust of technology. When someone doubts the superiority of technology, as well as its capabilities and reliability, the level of insecurity increases (Bakırtaş, 2017). The TAM theory explains that the insecurity dimension assumes that a new technological performance cannot be useful and is unable to increase performance productivity in the workplace, and assumes that a new technological performance is complicated and difficult to understand and use in business activities and in the work environment (Davis, 1989). The hypothesis that can be formulated is as follows.

H7: Insecurity has a negative effect on perceived usefulness

H8: Insecurity has a negative effect on perceived ease of use

Perceived usefulness can be interpreted as the degree or level of confidence a person has in using a system that is able to improve the performance of its users. Perceived usefulness can influence behavioral intention, because the more individuals feel that technology is useful and can help them in completing tasks or achieving their goals, the more likely they are to have the intention to use the technology (Balakrishnan & Gan, 2023). A technology that is easier to use will be more accepted by its users. From this definition, if someone believes that the system used is easy to operate then they will use the system, and vice versa. If the system feels difficult to operate then he will not use it.The hypothesis that can be formulated is as follows.

H9: perceived usefulness has a positive effect on behavioral intention of e-payment

H10: perceived ease of use has a positive effect on behavioral intention of e-payment

An individual who is optimistic about the e-payment transformation considers that e-payment has many uses and can help in all worker activities, so they have the ability to motivate other people to adopt e-payment from a more positive perspective which will increase the level of trust inside it (Jin, 2019). The more someone has a positive view of technology, the more they think that the technology is useful and think that the technology is easy to use and easy to learn for them. The hypothesis that can be formulated is as follows.

H11: Perceived usefulness is able to mediate the positive influence of optimism on behavioral intention of e-payment

H12: Perceived ease of use is able to mediate the positive influence of optimism on behavioral intention of e-payment

Individuals who are open to change naturally have an interest in adopting new technology. Innovative people tend to seek additional benefits from technology through exploration and experimentation. The more innovative a person is, the more likely they will see technology as a useful and easy-to-learn tool. They believe that the system can improve their efficiency and performance compared to before, so they are willing to use new technology (Blut& Wang, 2020). The hypothesis that can be formulated is as follows.

H13: Perceived usefulness is able to mediate the positive influence of innovativeness on behavioral intention of e-payment

H14: Perceived ease of use is able to mediate the positive influence of innovativeness on behavioral intention of e-payment

The perception that someone does not master technology can give rise to feelings of lack of confidence in using technology, which in the end will give rise to feelings of discomfort in using technology by consumers, and make them continue to use traditional methods in carrying out daily activities (Xu et al., 2023). This results in a negative response to new technology and considering that the technology is not useful and difficult to adopt, and ultimately has no intention of adopting a technology (Lin, Shih, & Sher, 2007). The hypothesis that can be formulated is as follows.

H15: Perceived usefulness is able to mediate the negative influence of discomfort on the behavioral intention of e-payment

H16: Perceived ease of use is able to mediate the negative influence of discomfort on the behavioral intention of e-payment

Feelings of insecurity regarding technology-based transactions and pessimism regarding technology performance or feelings of disbelief or doubt that a technology can complete a task well result in a negative response to new technology and assuming that the technology is not useful and difficult to adopt, and ultimately has no intention to adopt a technology (Lin, Shih, & Sher, 2007). The hypothesis that can be formulated is as follows.

H17: Perceived usefulness is able to mediate the negative influence of insecurity on behavioral intention of e-payment

H18: Perceived ease of use is able to mediate the negative influence of insecurity on behavioral intention of e-payment

3. METHOD

3.1. Types of research

Based on the level of acquisition, this research uses survey research. The data obtained in this research was through a questionnaire survey. This research was conducted within the BUMD environment belonging to the North Sumatra Provincial Government (PEMPROVSU).

3.2. Research Instruments and Data Collection Techniques

The variable measurement scale in the research uses a Likert scale.Population in this study was 66 respondents, consisting of 6 BUMD Directors, 24 BUMD Heads, 6 BUMD Treasurers, and 30 BUMD financial staff. Data collection techniques in research use questionnaires. The type of research data is primary data. The questionnaire was distributed online via Google Form. The data analysis technique used in this research uses SEM (Structural Equation Modeling) analysis with the help of software SmartPLS 3.

4. RESULTS AND DISCUSSION

The TRI and TAM frameworks are integrated to predict and expand the model for successful behavioral intention of e-payment in North Sumatra Province BUMD. Questionnaires were distributed online via Google Form to collect primary data. Questionnaires were distributed to 66 respondents, consisting of 6 BUMD Directors, 24 BUMD Heads, 6 BUMD Treasurers, and 30 BUMD financial staff for 14 days. The number of questionnaires filled in was 66 respondents, in accordance with the target.

The results of the answers to the questionnaire that have been distributed are used to describe the independent variable (X) against the dependent variable (Y), as well as variable X through the mediating variable (Z) against variable Y. The variable (X3), and insecurity (X4), variable Y is behavioral intention, while variable Z consists of perceived usefulness (Z1) and perceived ease of use (Z2). The following are the results of descriptive statistics in this research.

Table 2 Respondent Demographic Profile

Characteristics	Information	Total	Percentage
Name of BUMD	PT Perkebunan Sumut	9	13,6%
	PD Aneka IndustridanJasa (AlJ)	12	18,2%
	PT Pembangunan PrasaranaSumut	12	18,2%
	PDAM Tirtanadi	12	18,2%
	PT Bank Sumut	10	15,2%
	PT Dhirga Surya Sumut	11	16,7%
	Total	**66**	**100%**
Gender	Male	35	53,0%
	Female	31	47,0%
	Total	**66**	**100%**
Last Education	Doctor	1	1,5%
	Master	12	18,2%
	Bachelor	45	68,2%
	Diploma	4	6,1%
	Senior High School	4	6,1%
	Total	**66**	**100%**
Major	Accounting	18	27,3%
	Economic	10	15,2%
	Management	12	18,2%
	Business Administration	0	0,0%
	Etc.	26	39,4%
	Total	**66**	**100%**
Age	20 until 24 years	3	4,5%
	25 until 35 years	23	34,8%
	36 until 45 years	23	34,8%
	46 until 55 years	15	22,7%
	55 years above	2	3,0%
	Total	**66**	**100%**
Working Experience	1 until 5 years	17	25,8%
	6 until 10 years	19	28,8%
	11 until 15 years	12	18,2%
	More than 15 years	18	27,3%
	Total	**66**	**100%**

Occupation	Director	9	13,6%
	Head of Division	25	37,9%
	Treasurer	4	6,1%
	Financial staff	28	42,4%
	Total	**66**	**100%**

4.1. Descriptive Statistical Analysis of Respondents' Answers

Table 3 Descriptive Statistical Test of Answers to Questionnaire Statements

Variables	Amount	Maximum	Minimum	Mean
Optimism (X1)	3432	5	1	4,381818
Innovativeness (X2)	3432	5	1	4,093074
Discomfort (X3)	3432	5	1	2,09697
Insecurity (X4)	3432	5	1	2,119529
Perceived Usefulness (Z1)	3432	5	1	4,530303
Perceived Ease of Use (Z2)	3432	5	1	4,391414
Intention Behavioral (Y)	3432	5	1	4,359848

4.2. The Outer Model

The second order model is applied in this research because of the integration of 2 theoretical frameworks. The outer model is used to see and analyze whether the respondent's answers are appropriate, valid and reliable. The outer model can be carried out using the PLS algorithm which consists of composite reliability (CR), convergent validity and discriminant validity.

Table 4 Convergent Validity Statistical Test

Instrument	R count	Expected Loading Factor	Conclusion
X2-1	0.423	0.7	Invalid
X2-7	0.500	0.7	Invalid
X3-1	0.543	0.7	Invalid
X3-6	0.698	0.7	Invalid
X3-7	0.496	0.7	Invalid
X4-4	0.656	0.7	Invalid
X4-6	0.684	0.7	Invalid
X4-8	0.293	0.7	Invalid
X4-9	0.220	0.7	Invalid
X3-3	0.358	0.7	Invalid

Based on table 4, it is known that there are research instruments that do not exceed the standard validity level, namely 0.7. Therefore, this study eliminates research instruments that do not exceed the standard level of validity, namely instruments X2-1, X2-7, X3-1, X3-6, X3-7, X4-4, X4-9, and X3-3. After the statement items on the instrument were removed, convergent validity testing was carried out again. Further testing of the outer model and inner model was also carried out without the instrument statement items.

Table 5 Composite Reliability Statistical Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
X1	0.944	0.947	0.952	0.667
X2	0.860	0.870	0.900	0.643
X3	0.914	0.931	0.933	0.700

X4	0.817	0.824	0.871	0.574
Y	0.867	0.880	0.910	0.717
Z1	0.951	0.959	0.962	0.807
Z2	0.952	0.954	0.962	0.808

Table 5 shows that the average variable has a value of more than 0.7 and the average Cronbach alpha also has a value of more than 0.7. This proves that each variable has very good and high reliability because CR is greater than 0.70 and Cronbach alpha is greater than 0.60 (Hair, Matthews, Matthews, &Sarstedt, 2017).

Table 6 Discriminant Validity Statistical Test

	X1	**X2**	**X3**	**X4**	**Y**	**Z1**	**Z2**
X1	0.817						
X2	0.740	0.802					
X3	0.269	0.145	0.837				
X4	0.273	0.177	0.779	0.758			
Y	0.737	0.751	0.302	0.371	0.847		
Z1	0.758	0.742	0.350	0.331	0.766	0.899	
Z2	0.738	0.710	0.260	0.297	0.765	0.851	0.899

In table 6, it can be seen that the square root AVE and cross loading values are greater than all the correlations between other variables. This proves that the discriminant validity is well validated and in accordance with the criteria (Sekaran, 2014).

4.3. The Inner Model

Table 7 Coefficient of Determination R^2

	R Square	**R Square Adjusted**
Y	0.633	0.621
Z1	0.678	0.657
Z2	0.616	0.591

After analyzing the coefficient of determination, the next step is to test the hypothesis with the path coefficient. The following are the results of the path coefficient statistical test.

Tabel8 Path Coefficient

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
X1 -> Z1	0.397	0.396	0.153	2.588	0.005
X1 -> Z2	0.434	0.418	0.168	2.590	0.005
X2 -> Z1	0.421	0.399	0.125	3.364	0.000
X2 -> Z2	0.368	0.358	0.137	2.696	0.004
X3 -> Z1	0.171	0.149	0.125	1.368	0.086
X3 -> Z2	0.003	-0.020	0.118	0.025	0.490
X4 -> Z1	0.014	0.052	0.120	0.120	0.452
X4 -> Z2	0.111	0.141	0.130	0.854	0.197
Z1 -> Y	0.415	0.390	0.157	2.639	0.004
Z2 -> Y	0.412	0.420	0.136	3.038	0.001

Based on table 8, it is known that there is a p value that is greater and smaller than the 5% significance value. The effect of X1 (optimism) on Z1 (perceived usefulness) shows a p value of 0.005, which is smaller than the 5% significance value and the coefficient value shows positive, meaning that optimism has a positive effect on perceived usefulness. The effect of X1 (optimism) on Z2 (perceived ease of use) shows a p value of 0.005, which is smaller than the 5% significance value and the coefficient value shows positive, which means that optimism has a positive effect on perceived ease of use. The effect of X2 (innovativeness) on Z1 (perceived usefulness) shows a p value of 0.000, which is smaller than the 5% significance value and the coefficient value shows positive, meaning that innovativeness has a positive effect on perceived usefulness. The effect of X2 (innovativeness) on Z2 (perceived ease of use) shows a p value of 0.004, which is smaller than the 5% significance value and the coefficient value shows positive, it means that innovativeness has a positive effect on perceived ease of use.

The effect of X3 (discomfort) on Z1 (perceived usefulness) shows a p value of 0.086 which is greater than the 5% significance value and the coefficient value shows positive, meaning that discomfort has no effect on perceived usefulness. The effect of X3 (discomfort) on Z2 (perceived ease of use) shows a p value of 0.490 which is greater than the 5% significance value and the coefficient value shows positive, meaning that discomfort has no effect on perceived ease of use. The effect of X4 (insecurity) on Z1 (perceived usefulness) shows a p value of 0.452 which is greater than the 5% significance value and the coefficient value shows positive, meaning that insecurity has no effect on perceived usefulness. The effect of X4 (insecurity) on Z2 (perceived ease of use) shows a p value of 0.197 which is greater than the 5% significance value and the coefficient value shows positive, meaning that insecurity has no effect on perceived ease of use.

The effect of Z1 (perceived usefulness) on Y (intention behavioral) shows a p value of 0.004, which is smaller than the 5% significance value and the coefficient value shows positive, it means that perceived usefulness has a positive effect on intention behavioral. The effect of Z2 (perceived ease of use) on Y (behavioral intention) shows a p value of 0.001, which is smaller than the 5% significance value and the coefficient value shows positive, it means that perceived ease of use has a positive effect on behavioral intention.

In this study, perceived usefulness and perceived ease of use are used as mediating variables, therefore it is necessary to test the specific indirect effect statistics to determine the effect of the independent variable in influencing the dependent variable through the mediating variable. The following are the results of the specific indirect effect statistical test.

Tabel9 Spesific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1 -> Z1 -> Y	0.165	0.156	0.092	1.783	0.038
X2 -> Z1 -> Y	0.175	0.160	0.087	2.015	0.022
X3 -> Z1 -> Y	0.071	0.056	0.051	1.387	0.083
X4 -> Z1 -> Y	0.006	0.018	0.047	0.127	0.449
X1 -> Z2 -> Y	0.179	0.180	0.100	1.786	0.037
X2 -> Z2 -> Y	0.152	0.149	0.074	2.048	0.021
X3 -> Z2 -> Y	0.001	-0.008	0.052	0.023	0.491
X4 -> Z2 -> Y	0.046	0.059	0.059	0.771	0.221

Based on table 9, it is known that there is a p value that is greater and smaller than the 5% significance value. The effect of X1 (optimism) on Y (behavioral intention) through Z1 (perceived usefulness) shows a p value of 0.038, which is smaller than the 5% significance value, which means that perceived usefulness is able to mediate the effect of optimism on behavioral intention. The effect of X2 (innovativeness) on Y (behavioral intention) through Z1 (perceived usefulness) shows

a p value of 0.022, which is smaller than the 5% significance value, which means that perceived usefulness is able to mediate the effect of innovativeness on behavioral intention. The effect of X3 (discomfort) on Y (behavioral intention) through Z1 (perceived usefulness) shows a p value of 0.083, which is greater than the 5% significance value, which means that perceived usefulness is unable to mediate the effect of discomfort on behavioral intention. The effect of X4 (insecurity) on Y (behavioral intention) through Z1 (perceived usefulness) shows a p value of 0.449, which is greater than the 5% significance value, which means that perceived usefulness is unable to mediate the effect of insecurity on behavioral intention.

The effect of X1 (optimism) on Y (intention behavioral) through Z2 (perceived ease of use) shows a p value of 0.037, which is smaller than the 5% significance value, which means that perceived ease of use is able to mediate the effect of optimism on intention behavioral. The effect of X2 (innovativeness) on Y (behavioral intention) through Z2 (perceived ease of use) shows a p value of 0.021, which is smaller than the 5% significance value, which means that perceived ease of use is able to mediate the effect of innovativeness on behavioral intention. The effect of X3 (discomfort) on Y (behavioral intention) through Z2 (perceived ease of use) shows a p value of 0.491, which is greater than the 5% significance value, which means that perceived ease of use is not able to mediate the effect of discomfort on behavioral intention. The effect of X4 (insecurity) on Y (behavioral intention) through Z2 (perceived ease of use) shows a p value of 0.221, which is greater than the 5% significance value, which means that perceived ease of use is unable to mediate the effect of insecurity on behavioral intention.

Figure 1 presents a model from the results of bootstrapping data processing to analyze the inner model as follows.

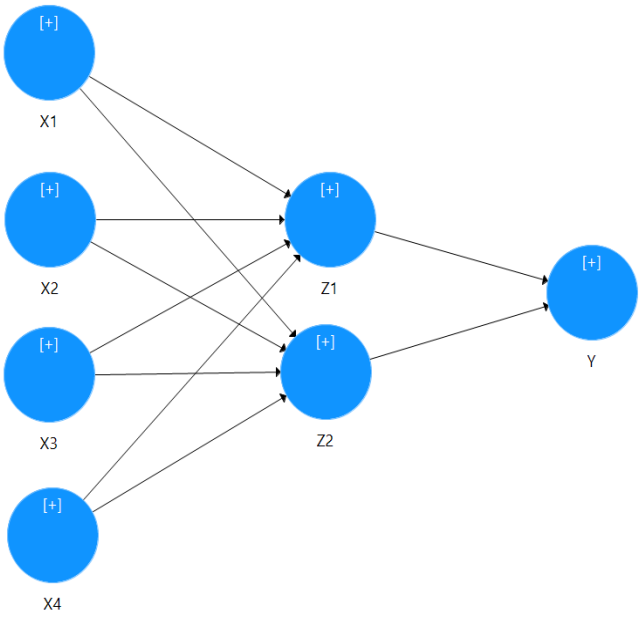

Figure 1 Results of Statistical Bootstrap Analysis of SEM-PLS

5. CONCLUSION

This research integrates the technology readiness construct (TRI) with the technology acceptance model (TAM) into one refined framework and proposes the Technology Readiness and Acceptance Model (TRAM). Technology readiness is theorized as a causal antecedent of perceived usefulness and perceived ease of use, which in turn influence employees' intentions to use electronic services. Perceived usefulness and ease of use together have a complete mediating effect between technology readiness and consumers' intention to use. The integrated model is tested and confirmed

by web-based survey data to explain employees' intentions to use electronic payment systems, and the model contributes to a deeper understanding of people's technology acceptance behavior.

The findings in this study show that positive TR (optimism and innovativeness) positively influences perceived usefulness (PU) and perceived ease of use (PEOU) partially, negative TR (discomfort and insecurity) cannot partially influence PU and PEOU, PU and PEOU positively influence behavioral intention partially, and PEOU and PU can mediate the positive influence of TR on behavioral intention, but cannot mediate the negative influence of TR on behavioral intention in state-owned companies of the North Sumatra Provincial Government.

This research has limitations during the data collection process, such as many respondents who were hesitant to fill out the questionnaire via the link. Distributing and filling out questionnaires offline has also been tried but many are not willing due to time constraints. Apart from that, it is possible that respondents filled out the questionnaire dishonestly and not seriously because of the large number of statement items given, so it cannot be widely generalized. Moreover, the statement item for the discomfort and insecurity variables is a negative statement. Supposedly, many respondents answered "disagree" and "strongly disagree", so that outlier data is inevitable. Based on these limitations, further research can distribute questionnaires as well as conduct short interviews so that honesty in filling out the questionnaire can be ensured and there will be no hesitation among respondents in filling it out. Distribution of questionnaires and short interviews can be carried out with respondents who are in the BUMD area of the North Sumatra Provincial Government. Future research is expected to expand the integration model with different theories and measurements that are easier to understand.

The theoretical implications of these findings provide empirical evidence to support the integration of the TRI, TAM, and behavioral intention models on all the variables used. Where this integration was still very limited by previous researchers. The research findings are in line with previous literature which reveals that seven constructs, namely optimism, innovation, insecurity, discomfort, PEOU, PU, attitude and behavioral intention, which are extracted from TRI and TAM, can contribute to e-payment readiness and acceptance. Therefore, further research can develop this integration model. Research findings also contribute to answering gaps in theory.

The practical implications provided by this research are that it can be input for provincial government BUMDs when planning an e-payment system. Practitioners must be able to predict whether a new system will be accepted by users. This is because implementing new systems and technology requires investment in the form of time and money. Willingness to accept new systems and technologies from the user's side is very important for introducing new information technologies into the organization. In this study, the influence of technology readiness on perceived usefulness and perceived ease of use of e-payment has been investigated. Future research should focus on dimensions of technology acceptance in different organizational and industrial settings using well-designed research models.

It is also hoped that this research can encourage provincial government BUMDs to adopt more technological innovations in digital transaction services. Having an understanding of the factors that can influence the success of e-payment implementation will support the digitalization and integration of information systems being developed by the provincial government BUMD.

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