The Effect of Perceived Risk on Customer's Behavioral Intention of Digital Gold Platform: The Moderating Role of Trust

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Abstract. Investing money into gold has been a popular option for investors as it has a history of maintaining its value even during uncertainty. In recent years, platforms that facilitate financial services have emerged, including digital gold platforms. This study aims to examine the role of perceived risk and trust as moderator towards customer's behavioral intention in digital gold platforms. The study applies a Unified Theory of Acceptance and Use Technology 2 (UTAUT2) and its relationship with trust. One hundred ninety-two digital gold platform user data were collected by questionnaire and analyzed using structural equation modeling technique. The result showed that there are direct and indirect impact of perceived risk on behavioral intention with trust as moderator. This study suggest that to increase consumers' confidence in using digital gold platform, digital gold provider must gain trust from consumer by adopting some risk management strategy.

Keyword: Digital Gold, Perceived Risk, Trust, UTAUT2, Behavioral Intention

1 Introduction

Emerging technology and innovation have made significant changes in the business world, including in financial sector [1]. Recently many investment platforms launched as an alternative channel for customers to easily invest in mutual fund, stocks, insurance, or gold [2]. Digital gold platform, for example, allows consumer to purchase only as small as purchasing 0.01 gram of gold.

Gold purchases through digital platforms is contributing up to 10% from national gold sales in Indonesia and Covid-19 is one of the factors that accelerate this [3]. During this uncertainty in economics, investors in Indonesia are shifting to gold investment because its price is relatively more stable than other instruments [4][3]. In more recent history where financial crisis happened in 2018, gold performed well and its price reach over $1.100 by January 2009 [4].

Although digital gold platform offers various advantages yet it cause some dangers and trust issue such as account hacking, malware, hidden charges to customer, complicated information provided [5][6][7]. The theory of perceived risk has been studied in many literatures [1][8][6][9][10], but throughout our search not many study have been done on the specific background of digital gold platforms.

Many previous studies in online services have determined the effect of perceived risk and trust, but the literature does not clearly describe the relationship between perceived risk and

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trust [6]. Therefore, this research aims to examine the effect of perceived risk in the digital gold platform, and analyze whether trust acts as moderating variables between perceived risk and behavioral intention relationship.

2 Literature Review

Some studies have shown that perceived risk has a negative impact on consumers' behavioral intentions [11][12][13][6][7][9][10]. The negative correlation between perceived risk and behavioral intention can be explained by the following example: If consumers' perception of risk decreases, they tend to trade online. On the contrary, consumers who feel riskier to the technology they use will not tend to use it.

H1. Perceived risk has a significant and negative influence on behavioral intention to use digital platform.

Some researchers (e.g Nik Hashim et al. [14] and Venkatesh et al. [15]) emphasized the need to consider and combine different background factors to understand consumer behavior in accepting technology. The research carried out by Kaur and Arora [8] studied the direct impact of the relationship between perceived risk in the UTAUT2 structure on behavioral intentions, but the habit structure is not included in the model. This is because only when consumers have a good experience using this technology can they study the role of habits in influencing behavioral intentions.

Performance expectations are the extent to which consumers believe technology will help improve their job performance. According to previous research, if people believe that the use of technology will improve their performance, they will tend to use and adopt it [16][17][15]. Therefore, this research proposes the following hypothesis for the background of the digital platform gold:

H2. Performance expectancy will have a significant and positive influence on behavioral intention to use digital gold platform.

Consumers perceive risks when evaluating the online products they will use [13]. Research has also found that risk affects consumers' perceptions of the usefulness of products or services [18]. The higher the consumer's perception of risk, the more likely it is that consumers will think that the technology is less useful, and vice versa [9]. Therefore, this research proposes the following hypotheses based on the background of the digital gold platform:

H.3a. Perceived risk has a significant and negative effect on performance expectancy in the use of the digital gold platform

H.3b. Performance acts as a mediation in the relationship between perceived risk and behavioral intention

Effort expectancy is the degree to which consumers perceive technology to provide convenience. Perceived ease of use (PEOU) that is similar to effort expectancy from previous study confirm that it is not the most impactful variable but it effect behavioral intention.

Therefore, in this research the following hypotheses are proposed based on the background of the digital gold technology / platform:

H.4a. Perceived risk has a significant and negative effect on effort expectancy in the use of the digital gold platform.
H.4b. Effort expectancy acts as a mediation in the relationship between perceived risk and behavioral intention.

Social influence is social pressure generated by the external environment that can affect the cognition of social groups. If their friends or colleagues or relatives recommend the use of digital technologies, consumers will tend to use them to improve their social status in the group [5], so this research proposes the following hypotheses/digital gold based on the technical background platform:

H6. Social influence has a significant and positive influence on the behavioral intention of a digital gold platform

When consumers assess risk, consumers will remember the opinions of knowledgeable and credible references [19]. More detailed explanation by Lee [6] in his study saying that risks is related to technology adoption increase, consumers tend to believe that people in their social groups will be less likely to agree with them to use the technology/platform. Therefore, this research proposes a hypothesis for the context of digital gold technology/platform as follows:

H.7a. Perceived risk has a significant and negative effect on social influence in the use of the digital gold platform.
H.7b. Social influence acts as a mediation in the relationship between perceived risk and behavioral intention.

Facilitating conditions is the degree of consumers trust in the organization and technical infrastructure in which they can support the existence of the system. Online banking involves fees that users must bear during transactions [20][21]. The digital gold platform should also have the same conditions as online banking, and it can only be used by consumers with some financial, operational capabilities, and technical foundations. Therefore, this research proposes the following hypotheses based on the background of the digital gold platform:

H8. Facilitating conditions have a significant and positive influence on the behavioral intention of the digital gold platform.

Consumers also consider that using the technology requires resource allocation [19]. Therefore, consumers who perceive risk in technology will not worry about the capabilities, infrastructure and other resources to use the technology and do not try hard to get used to using the technology. Therefore, this research proposes a hypothesis for the context of digital gold technology/platform as follows:

H.9a. Perceived risk has a significant and negative effect on facilitating condition in the use of the digital gold platform
H.9b. Facilitating condition acts as a mediation in the relationship between perceived risk and behavioral intention.

Hedonic motivation is the degree of consumer pleasure in using technology. In the context of this research, if consumers feel happy when using the digital gold platform, they will be more likely to use it. Therefore, this research proposes the following hypotheses based on the background of the digital gold platform:

H10. Hedonic motivation has significant and positive influence on behavioral intention of the digital gold platform.

The effect of Hedonic Motivation (HM) decreases as a function of perceived risk [22]. Consumers who consider online banking to be very risky, the motivation to use it will be reduced. Likewise, if it is applied to the context of the digital gold platform, if consumers think that the digital gold platform is not too risky, then consumers will dare to try the digital gold platform. Therefore, in this study the following hypothesis was proposed:

H.11a. Perceived risk has a significant and negative effect on Hedonic Motivation in the use of the digital gold platform.
H.11b. Hedonic Motivation acts as a mediation in the relationship between perceived risk and behavioral intention.

Price value is the level of price influence on technology use. Only in the condition consumers is not burdened by cost, they will tend to adopt new technologies [23]. In the context of digital gold technology adoption, it is hoped that the more positive the PV is, the higher the intention to use it. Based on this theoretical basis, this research proposes the following hypothesis:

H12. Price value has significant and positive influence on the behavioral intention of a digital gold platform.

Study by Kesharwani and Singh [5] shows that consumers are opposed to fees that must be incurred when using online banking such as service, internet connection, and other fees. Only consumers who think the risk of using technology as low risk will tend to perceive it as having high price value. On the contrary, consumers who feel that using technology will be of high risk tend to perceive the technology as having a low-price value. Based on the theoretical basis, in following hypotheses were proposed:

H.13a. Perceived risk has a significant and negative effect on price value in the use of the digital gold platform
H.13b. Price value acts as a mediation in the relationship between perceived risk and behavioral intention

Trusts are variables related to a person's understanding of future actions. Trust is defined as someone's positive expectation or expectation of something based on past performance, an honest guarantee [24]. In online transactions, there is a lot of uncertainty and great risk so that trusts need to be built by consumers so that they can accept the risk. Therefore, in this study the following hypothesis is proposed:

H14. Trust has a positive and significant influence on the behavioral intention of a digital gold platform.

Confidence may vary depending on the level of risk, but to strike a balance between risk and confidence, the confidence must be greater than the risk [25]. Lack of trust will make consumers only focus on the risks arising from the online transactions they do. In the context of a digital gold platform, it can be assumed that convincing consumers' intentions can be done by maintaining their trust. Based on the theoretical basis, this research proposes the following hypotheses:

H15. Trust positively moderates the relationship between perceived risk and behavioral intention of the digital gold platform.

3 Method

Based on above literature, this following model adapted from previous research conducted by Kaur and Arora [8] is used to analyze the role of perceived and trust along with its relationship with Unified Theory of Acceptance and Use Technology 2 (UTAUT2) in digital gold platform context.

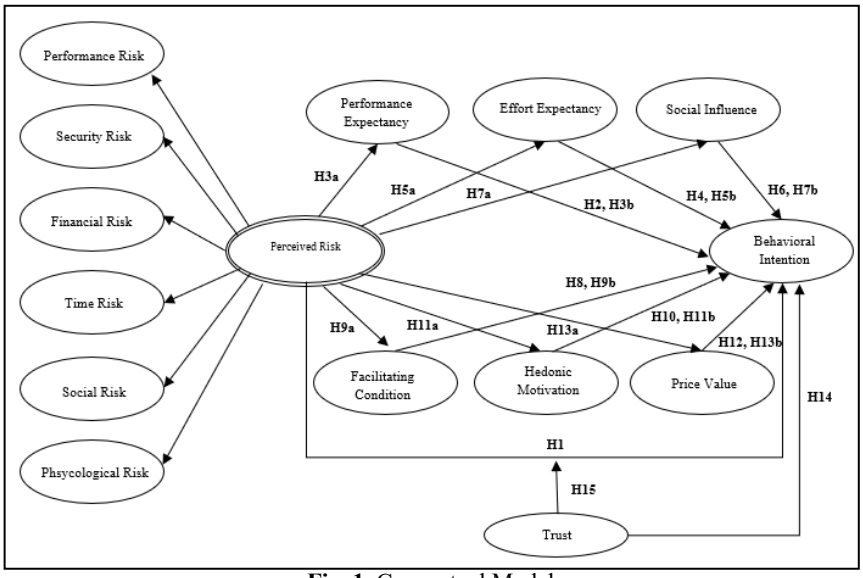

Fig. 1. Conceptual Model
(Kaur and Arora [8])

This research is a quantitative research applied descriptive method. The research is based on the primary data collected using online questionnaire with target population of the research is potential user of digital gold platform. Questionnaire presented consist of 61 question and explained using a five-point Likert scale. Prior to the main research, the survey questionnaire was pre-tested on 30 respondents with screening question carried out to prevent from some flaws during data collection.

The structural equation model was used in this study to evaluate the proposed model through a two-stage method. This study uses the Social Sciences Statistics Package (SPSS) 21 with PLS-SEM to estimate the complex model parameters with many structures, indicators, and relationships.

4 Result and Analysis

4.1 Respondents and Data Collection

Based on collected questionnaires, 251 respondents were collected, but there were only 192 respondents who were eligible to be used to test the model after screening the respondent. Participants read the definition of digital gold platform and then answered questions to screen for conditions: whether they are 17 years old and above and had experienced download or access digital gold platform but have not transact in last 18 months.

Among all 192 respondents, the majority are male (192;51%), with the range of age are 26-35 years old (192;54%), has monthly expenditure IDR 3 – 5 mio (192;42%), living in Jabodetabek (192;62%), work in private company (192;60%), last education was Diploma/Bachelor (192;84%), used digital gold platform 2-3 times in last 18 month (192;51%), and used Pegadaian & Tokopedia Emas (192: 29% each) as their digital gold platform. Table 1.

Table 1. Respondent Profile

Profile	Description	Frequency	%
Sex	Male	98	51%
	Female	94	49%
Age	18 - 25 years old	11	6%
	26 - 35 years old	104	54%
	36 - 45 years old	48	25%
	=> 46 years old	29	15%
Occupation	Student	17	9%
	Civil servant	8	4%
	Private company employee	115	60%
	State-owned company employee	26	13%
	Entrepreneur	9	5%
	Others	17	9%
Education	Junior High School	0	0%
	Senior High School	13	7%
	Diploma/Bachelor	162	84%
	Master/Doctor	17	9%
Location	Jakarta, Bogor, Depok, Tangerang, Bekasi	119	62%
	Java island (outside Jakarta, Bogor, Depok, Tangerang, Bekasi)	21	11%
	Outside Java Island	52	27%
Age Monthly	< IDR 1.000.000	8	4%

Profile	Description	Frequency	%
expenditure	IDR 1.000.001 – IDR 3.000.000	38	20%
	IDR 3.000.001 – IDR 5.000.000	81	42%
	IDR 5.000.001 – IDR 8.000.000	38	20%
	IDR 8.000.001 – IDR 10.000.000	19	10%
	>= IDR 10.000.001	8	4%
Occupation Location	Jakarta, Bogor, Depok, Tangerang, Bekasi	119	62%
	Java island (outside Jakarta, Bogor, Depok, Tangerang, Bekasi)	21	11%
	Outside Java Island	52	27%
Monthly expenditure	< IDR 1.000.000	8	4%
	IDR 1.000.001 – IDR 3.000.000	38	20%
	IDR 3.000.001 – IDR 5.000.000	81	42%
Frequency of digital gold platform usage in last 18 months	1 time	55	29%
	2 – 3 times	98	51%
	4-5 times	17	9%
	6-10 times	22	11%
	>10 times	0	0%
Most used digital gold platform	Laku emas	10	5%
	Pluang	13	7%
Most used digital gold platform	Pegadaian	55	29%
	Indogold	9	5%
	Bareksa	17	9%
	Treasury	0	0%
	e-mas	0	0%
	Butik Antam	21	11%
	Orori	0	0%
	Emas Digi	0	0%
	Tokopedia Emas	56	29%
	Bukalapak Emas	8	4%
	Others	2	1%

4.2 Data Analysis

Part least-square structural equation model (PLS-SEM) was conducted to analyze the measurements. The model was tested using SmartPLS. The result of the validity and reliability test of the measurement model are presented in Table 2. In the reliability test, value of construct reliability (CR) is acceptable if it is ≥ 0.7 and the AVE value ≥ 0.5 [26]. Result show that all outer loading, composite reliability (CR) and AVE were acceptable after removing some indicator with factor loading is below 0,7. Thus, the indicator are valid to measure the constructs.

Table 2. Construct Reliability and Validity

Variable	Indicator	Factor Loading	AVE	Composite Reliability	Cronbach Alpha
Performance Risk (PR)	PR1	0.779	0.687	0.916	0.886
	PR2	0.817			
	PR3	0.807			
	PR4	0.840			
	PR5	0.897			
Security Risk (SR)	SR1	0,872	0,677	0,943	0,919
	SR2	0,859			
	SR3	0,850			
	SR4	0,657			
	SR5	0,823			
	SR6	0,806			
Financial Risk (FR)	FR1	0,839	0,745	0,921	0,886
	FR2	0,845			
	FR3	0,903			
	FR4	0,865			
Social Risk (SoR)	SoR1	0,604	0,703	0,904	0,859
	SoR2	0,660			
	SoR3	0,678			
	SoR4	0,843			
Psychological Risk (PsyR)	PsyR1	0,658	0,709	0,877	0,792
	PsyR2	0,927			
	PsyR3	0,913			
Performance Expectancy (PE)	PE1	0,905	0,711	0,907	0,866
	PE2	0,852			
	PE3	0,835			
	PE4	0,776			
	EE1	0,867	0,750	0,923	0,888
	EE2	0,777			
	EE3	0,918			
	EE4	0,897			
	SI1	0,959	0,790	0,949	0,931
	SI2	0,746			
	SI3	0,951			
	SI4	0,939			
	SI5	0,828			
Facilitating Condition (FC)	FC1	0,796	0,755	0,902	0,838
	FC2	0,912			
	FC3	0,894			
Price Value (PV)	PV1	0,872	0,781	0,915	0,860
	PV2	0,919			
	PV3	0,859			
Trust (TRUST)	Trust1	0,903	0,659	0,920	0,896
	Trust2	0,821			
	Trust3	0,783			
	Trust4	0,905			

Variable	Indicator	Factor Loading	AVE	Composite Reliability	Cronbach Alpha
	Trust5	0,852			
	Trust6	0,835			
Behavioural Intention (BI)	BI1	0,918	0,736	0,943	0,928
	BI2	0,841			
	BI3	0,834			
	BI4	0,883			
	BI5	0,857			
	BI6	0,810			

The primary evaluation criteria for the structural model are the R^2 measures and the level and significance of the path coefficients. The R^2 value for the behavioral intention is 0.717. The Q^2 value for the behavioral intention variable is 0.522, indicating that exogenous variables show a fairly predictive relationship to behavioral intention.

4.3 Hypothesis Testing

Hypothesis testing is done by seeing the level of significance in path coefficient using the bootstrapping technique 5000 iterations of re-sampling and the number of cases should be equal to the number of observations in the original sample [26]. Critical t-values that can be accepted is t-value > 1,96 and p-value <0,05. Table 3 summarizes the results of the hypothesis test of this study.

Table 3. Structural Relationship Test Result

No	Construct	Path Coefficient	t-value	p-values	Conclusion
1	Perceived Risk→ Behavioral Intention	-0,066	2,483	**0,038**	H1a supported
2	Performance Expectancy→ Behavioral Intention	0,184	2,131	**0,033**	H2 supported
3	Perceived Risk → Performance Expectancy	-0,142	2,033	**0,042**	H3a supported
4	Effort Expectancy → Behavioral Intention	0,020	0,161	**0,872**	H54 not supported
5	Perceived Risk → Effort Expectancy	-0,322	4,764	**0,000**	H5a supported
6	Social Influence → Behavioral Intention	0,377	4,544	**0,000**	H6 supported
7	Perceived Risk → Social Influence	0,037	0,457	**0,648**	H7a not supported
8	Facilitating Condition → Behavioral Intention	-0,051	0,475	**0,635**	H8 not supported
9	Perceived Risk→ Facilitating condition	-0,219	3,153	**0,002**	H9a supported
10	Hedonic Motivation → Behavioral Intention	0,003	0,038	**0,970**	H10 not supported
11	Perceived Risk→ Hedonic	-0,158	1,968	**0,049**	H11a supported

No	Construct	Path Coefficient	t-value	p-values	Conclusion
12	Motivation Price Value → Behavioral Intention	0,211	2,705	**0,007**	H12 supported
13	Perceived Risk→ Price Value	0,036	0,090	**0,403**	H13a not supported
14	Trust → Behavioral Intention	0,241	2,924	**0,003**	H14 supported

4.4 Moderation Analysis

To examine whether trust acts as moderating variable in this study, bootstrapping method was carried out up to 5000 subsamples and a significance level of 5% on the interaction of perceived risk and trust on behavioral intention. Table 4 summarizes the results of the hypothesis test of this study:

Table 4. Moderation Analysis

Hypothesis	Path		Direct Effect	Indirect Effect	Mediation Type
H3b	Perceived Risk → PE → BI	Path Coefficient	0,038	0,042	Complementary (Partial Mediation)
		T-stat	2,483	1,966	
H5b	Perceived Risk → EE→ BI	Path Coefficient	0,038	0,873	Direct Only (Non-mediation)
		T-stat	2,483	0,159	
H7b	Perceived Risk → SI→ BI	Path Coefficient	0,038	0,673	Direct Only (Non-mediation)
		T-stat	2,483	0,422	
H9b	Perceived Risk → FC→ BI	Path Coefficient	0,038	0,64	Direct Only (Non-mediation)
		T-stat	2,483	0,468	
H11b	Perceived Risk → HM→ BI	Path Coefficient	0,038	0,973	Direct Only (Non-mediation)
		T-stat	2,483	0,033	
H13b	Perceived Risk → PV → BI	Path Coefficient	0,038	0,707	Direct Only (Non-mediation)
		T-stat	2,483	0,376	

5 Discussion

According to the results of the hypothesis test shown in Table 3, perceived risk has a significant and negative influence on behavioral intention to use digital platform. The results of hypothesis testing also showed that UTAUT2 influence behavioral intention to use digital gold platform. Behavioral intentions are positively influenced by performance expectations, social influence, and price value. This is consistent with previous studies [27][28][29][30][31][32]. This shows that the level of consumer expectation towards digital gold platforms to help them transact will affect their behavioral intentions.

Contrary to the hypothesis, the results did not show that there is a positive correlation between effort expectancy, facilitating condition, and hedonic motivation to behavioral intention It was found that the positive impact of effort expectancy on behavioral intentions was negligible. These results are not previous studies by Alalwan et al. [16] and Martins et al. [9] found that the expectation of effort is positively correlated with behavioral intention. However, the results of this study support and confirm the research conducted by Baptista and Oliveira [17]; Chaouali et al. [33]; Kaur and Arora [8]. An explanation for this insignificant effect of effort expectancy might be because digital gold platform is a technology that was recently launched in Indonesia, so it is likely that respondents feel this platform is complex (not easy to use) if compared to other platforms (such as e-commerce, social media, and games). Regarding facilitating condition, the results indicate this insignificant relation to behavioral intention. It may happen because consumers are confident and independent to use digital gold platforms. Consumers do not need to allocate special resources (internet network and certain capabilities). Consumer have previously allocated these resources for social media, e-commerce, games, and others so this requirement is considered as extraneous for them. Through this study, hedonic motivation was not found positively impact behavioral intention. However, this condition also occurs in previous study [34][35]. A possible explanation for this might be because consumer perceive digital gold platform provide them with benefits and uses, not only for fun.

The relationship between perceived risk and trust was found significant and positive. These results support and confirm previous research conducted in the context of online services by [8][36][37][38]. It indicates that in online transactions, consumers perceive trust to service providers to influence their interest in using these services. In online transactions, such as digital gold platforms, the lack of face-to-face contact and a high level of uncertainty or risk can continue to increase consumer behavioral intention if the service provider can be responsible even though it is not supervised by the authorities and law. This study also confirm finding from Kaur and Arora [8] research the relationship between perceived risk and behavioral intention is moderated by trust. These results also confirm previous study by I. B. Hong and Cha [39] which proves the mediating role of trust on perceived risk and behavioral intention variables in the context of e-commerce. However, the results are inconsistent with the research conducted by Damghanian et al. [1] who find that perceived risk is an antecedent to trust. Grabner-Kräuter and Faullant [40]; Kesharwani and Singh Bisht [5] also explain that the influence of trust on behavioral intention precedes perceived risk. This result show that to reduce the effect of perceived risk on behavioral intention, trust must be increased. When consumers are faced with the perception of many risks when using a digital gold platform, consumers will continue to use the platform if consumers trust their service providers.

6 Managerial Implication

This study contributes to a theoretical contribution by analyzed the effect of perceived risk in digital gold platforms. Specifically, the study analyzes whether trust moderates perceived risk and behavioral intention relationship. The study applies a Unified Theory of Acceptance and Use Technology 2 (UTAUT2) and trust in this relationship. The study described that perceived risk is a barrier to consumer behavioral intention in using the digital gold platform. Of the eight of perceived risk dimension tested in this study, performance risk variable is the most influential in inhibiting consumer intentions to use the digital gold platform. Performance risk is related to the ability of the digital gold platform to deliver its services. This shows that consumer intentions will decrease if the digital gold platform used often has errors, cannot be accessed due to maintenance or poor network, and does not comply with other standards. The emergence of a digital gold platform that is relatively new could make consumers who previously have a history or experience of buying gold directly at a physical store compare the journey they will face if they buy gold through a digital gold platform. Therefore, controlling the perception of risk by digital gold service providers is important. However, developing a risk-free platform is also difficult. So what can be done is to mitigate the IT architecture (web server, application server, and consumer database) is safe. Service providers can give clear guidance to use the service and what steps to take if an error occurs and clearly inform the duration of the maintenance time.

In addition, not all variables in the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model have been proven in this study to have a positive and significant effect on behavioral intention of digital gold platform. Performance expectancy, social influence, and price value have a positive and significant effect on behavioral intention but effort expectancy, facilitating conditions, and hedonic motivation have no positive and significant effect. This indicates that according to consumers, to use it they need to allocate resources (internet, mobile phones) and special efforts and make the digital gold platform not easy to provide convenience. The purpose of the digital gold platform is also limited to investing or seeking information about gold, so consumers do not have the intention to use it to entertain them.

Although some UTAUT2 variables have a positive effect on behavioral intention, the t-value for the UTAUT2 variable is smaller than the t-value for the perceived risk variables. This explains that controlling perceived risk in digital gold platforms is becoming more important than providing perceived benefits.

Finally, this study found that trust has a positive and significant effect on behavioral intention in using the digital gold platform. The trust variable has also been shown to moderate the relationship between perceived risk and behavioral intention. This indicates that trust is an important variable that serves to minimize the effect of perceived risk on behavioral intention. When consumers are faced with the perception of many risks when using a digital gold platform, consumers will continue to use the platform if consumers trust their service providers. Therefore, digital gold service providers must try to gain consumers trust by developing some risk management strategies and increase consumer confidence to use the services. Some of the ways that can be done are by providing detailed and comprehensive information to consumers, ensuring credibility in maintaining consumer confidential data, ensuring system security so that consumers can trust that transactions are safe and protected.

7 Limitation

This study has several limitations which include: First, this study only examines potential users/non-users of the digital gold platform due to limited access to sample users. In order to get a broader view and provide better validity of the result, research can be carried out with a multi-group sample, to actual users and non-users of the digital gold platform. Second, this study sample is not geographically limited, but it turns out that most of the respondents are domiciled in Jakarta. In order to get a wider area for digital gold platform user, research is needed to be more focus on other areas. Finally, prospect theory found in this study can be further investigated by applying it to different backgrounds to improve and verify the validity and applicability of the results

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