

# Financial Literacy, Risk Perception and Cashless Services

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**Abstract**—This study aims to examine the effect of financial literacy and risk perception on financial services without cash to get a comprehensive picture of the policy framework in supporting movements without cash. The analysis technique uses cross-sectional data design, obtained by self-reporting using a questionnaire tool. The findings show that financial literacy (knowledge and financial attitudes) and risk perception simultaneously have a positive effect on the use of cashless services.

**Keywords:** *financial literacy, risk perception, cashless services*

## I. INTRODUCTION

The financial services industry is increasingly integrated and complex. Various service features have an impact on people's easy access to various financial services. Financial services are an important aspect of the economy, supporting community welfare and economic development through financial intermediation activities and other services.

The financial services industry in Indonesia from year to year provides a quite significant role for the community. One of the roles of the financial services industry in supporting public welfare and economic development is through bank lending. Up to 2018, lending reached 1,181.14 trillion, while financing disbursed by finance companies reached 436.26 trillion IDR in the same year. Another exciting thing happened in the pension fund sector, which also increased to 4,635 trillion IDR. It shows that Indonesian people are starting to have an awareness of investment for old age.

Indeed, these changes are a positive signal for the development of the financial services industry. A good understanding of financial service products is an absolute must for the community so that they can be successful and competitive in managing their finances well [1]. Further explained, interpreted as financial literacy. Financial literacy is awareness and knowledge about financial products, financial institutions, and concepts regarding skills in managing finances needed in the decision-making process [2].

Financial literacy will affect individual financial behavior [3],[4]. It also triggers awareness, knowledge, attitude skills and essential behaviors in financial decision making[5], even when a person's financial literacy is terrible, it will result in mistakes in making financial

decisions [6]. Based on some of the literature, it is not an exaggeration, if financial literacy is considered as the key to determining one's financial decisions [7].

The Indonesian National Financial Literacy and Inclusion Survey (SNLKI) in 2016, conducted by the Financial Services Authority (OJK), provides an overview of the condition of financial literacy in Indonesia, which is still low despite having increased from a survey conducted previously in 2013. The level of public financial literacy in Indonesia in 2016 is around 29.7%, which means that out of every 100 people, there are only around 30 people in the proper financial literacy category.

In line with the development of technology and information, several financial services products utilize this platform so that people can enjoy mobile banking services, e-policies, digital capital market access services, and others. All of this aims to facilitate the public in accessing financial services. However, these developments provide more straightforward and faster transaction convenience. However, it turns out that electronic (non-cash) transactions still need to be continuously socialized so that more numbers of accounts are involved. More than 50 percent of Indonesia's population are internet service users, but only 7.5 percent of all internet service users use the internet for non-cash electronic transactions. Bank Indonesia has initiated the National Cashless Movement (*Gerakan Nasional Non Tunai*) to give effect to changes in cash payments to non-cash payments.

This movement is an attempt by the government to support the community with minimal cash. Bank Indonesia states that the realization of a national non-cash movement has benefits. Such as the transparency of financial management, the creation of adequate public services, national-scale economic efficiency, and the existence of comprehensive financial support such as the availability of payment services for the lower middle class.

In the flip side, these changes have not run optimally. Although technology provides many benefits and ease of use for its users, it turns out there are still several users who refuse to use technology because there are uncertainty and security issues [8], [9]. The risk of losing password data, transfer errors, until the stolen money in a bank account is the risk that customers have when using non-cash services. It is one of the

reasons people avoid and are not interested in using the service.

Therefore, several things such as customer characteristics that show basic knowledge in using services, customer perceptions related to the risk of using services, to financial literacy owned by customers can influence public interest in using these services [10]. Then, this study will examine the relationship between financial literacy, risk perception, and cashless services, to obtain a good picture of the relationship, so that it can become a policy framework supporting the cashless movement.

## II. LITERATURE REVIEW

Financial literacy is an important thing to be understood and is an essential thing that must be owned by every individual in order to avoid financial problems. Good understanding provides benefits for proper planning, management, and financial control. Financial literacy can help anyone, regardless of age, gender, education, or income to be able to use most of the money, understand financial protection and consumer rights, manage financial risk and avoid financial difficulties, and ultimately a positive impact on individual financial well-being [11].

Financial literacy is an essential requirement for every individual to avoid financial problems. Financial difficulties are not only a function of income (low income). Financial difficulties can also arise if there is an error in financial management (miss-management), in addition to the study of found that in addition to negatively affecting individuals, poor financial decisions affect productivity at work [12].

Furthermore, financial product and service innovations and the influence of information technology in the past few decades have also had an impact on financial products and services. It requires good education and outreach to the public for these services, especially non-cash financial services. For example, emphasizes the importance of such education and outreach, because based on the fact that only 7.5 percent of all internet service users in Indonesia utilize the internet for electronic non-cash transactions. This phenomenon certainly requires a good study, so that an ideal framework is obtained to increase public understanding.

Cashless services are a form of technology adoption that can be explained from various theoretical perspectives. The technology acceptance model (TAM), for example, explains the person's reaction and perception related to a matter that will determine their attitude and behavior. TAM refers to the Theory of Reasoned Action (TRA) proposed by Ajzen and Fishbein in 1980. TRA explains the reactions and perceptions of users of Information Technology (IT), which in turn will affect its attitude in acceptance of the technology.

The primary purpose of TAM is to provide an explanation of the general acceptance of computers, provide an explanation of the behavior or attitudes of users in a population (Davis, 1989).

TAM states that behavioral intention to use is determined by two beliefs, namely: first, perceived usefulness is defined as the extent to which a person believes that using a system will improve its performance. Second, perceived ease of use is defined as the extent to which someone believes that the use of the system is secure. So, in this study referring to TAM related to the use of noncash financial services, this research will use risk perception variables, which are often the reason

why individuals have not used innovation in a product. Risk perception is negative consumer perception of several activities that are based on negative results and allow that results to be real. This perception also positively affects the level of trust, so the smaller the risk perception, the higher the level of trust, and vice versa [13].

In addition to the TAM approach, the research framework also refers to the theory of consumer decision models. Three things influence consumers in making decisions, namely differences in individuals, environmental factors, and marketing strategies. Individual differences and environmental factors influence consumer decision making examined in this study. Individual differences are in the form of knowledge, specifically financial literacy and information processing and perception, especially risk perception. Besides, the environmental factors examined in this study are socioeconomic characteristics.

## III. METHODOLOGY

This study uses a cross-sectional design, which is research conducted at one time and not in an extended period. Data collection is done by self-reporting with the questionnaire tool. The next stage is the process of editing, coding, scoring, data entry, data cleaning, and data analysis. We conduct validity and reliability tests on various question items. The results of the validity and reliability test require that we discard several question items such as the question items related to financial attitudes and behavior, risk perception. We developed financial literacy variables based on the instruments used by the OJK SNLKI (2016). The two literacy dimensions we measured were financial knowledge and attitudes and behavior. Based on index calculation, the categories of financial literacy data are: Not literate, if the score is 25%; Less literate, if the score > 25 - 50%; Sufficient literate, if the score > 50 - 75% and Well literate, if the score > 75%.

Risk measurement refers to prior approach [14], but we then classify risk perceptions in three categories: low, medium, and high. The category shows how far the respondent understands the risk in making a decision. We also have to develop various instruments that measure the level of use of cashless services. Some of the primary data we collect, among others: frequency of use, level of propensity to use, and ownership of cashless products/services. Finally, we do the scoring process based on the index as follows.

$$Index = \frac{score\ obtained}{highest\ score}$$

After we get each index, then the last stage, we do a multiple regression analysis between financial literacy, risk perception, and cashless services. We do this analysis to see the simultaneous impact of the literacy dimension and risk perception on cashless services, of course, after conducting various classical assumption tests. The regression equation is as follows:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \varepsilon_i$$

Where,  $Y_i$  is the dependent variable (cashless service), while  $X_{i1}$ ,  $X_{i2}$  and  $X_{i3}$  are the dependent variable (financial literacy dimensions: knowledge, attitude and behavior) and risk perception,  $\beta$  is the regression coefficient and  $\varepsilon$  error term.

**A. Descriptive Statistics**

Data profiles show that male and female respondents are almost balanced with values of 45.00% and 55.00%, respectively, mostly in the age category under 25 years (46.00%) and 25-35 years (36.00%). Profile of respondents also revealed the work of lecturers/researchers and BUMD / BUMN / Private dominated, namely 22.00% and 31.00% with the highest level of monthly expenditure at the level of 1,000,000 - 5,000,000 (see table 1).

**TABLE I DESCRIPTIVE STATISTICS**

Item	Option	%
Gender	Male	45.00
	Female	55.00
Age	< 25 years	46.00
	25- 35 years	36.00
	36- 45 years	17.00
	> 45 years	1.00
Education	Senior High School	7.00
	Diploma	9.00
	Undergraduate Degree	53.00
	Postgraduate Degree	31.00
Employment	Lecturer/ Researcher	22.00
	BUMD/ BUMN/ Private	31.00
	Government	7.00
	Housewife	3.00
	Entrepreneur/ Business	10.00
	Student	27.00
Expenditures (m)	< 1,000,000 IDR	17.00
	1,000,000 – 2,500,000 IDR	39.00
	2,500,000 – 5,000,000 IDR	24.00
	> 5,000,000 IDR	20.00

**B. Financial Literacy Dimension**

There are three dimensions of financial literacy; these dimensions include knowledge, attitudes, and behavior. Referring to the 2016 OJK survey, we determined four categories in measuring financial literacy (both knowledge and attitude and behavior). The four categories are: not literate ( $\leq 25$ ), less literate ( $> 25 - 50$ ), sufficient literate ( $> 50 - 75$ ), and well literate ( $> 75$ ).

**TABLE II FINANCAL LITERACY DIMENSION**

Dimension	Financial Knowledge (%)	Financial Attitudes and Behavior (%)
Not literate	0.00	2.00
Less literate	3.00	39.00
Sufficient literate	40.00	59.00
Well literate	57	0.00

**C. Risk Perception**

Risk perception is defined as the uncertainty faced by consumers when they cannot predict the consequences when making a purchasing decision. There are two essential point dimensions in this definition of risk perception, namely uncertainty, and consequences. This definition emphasizes that consumers are influenced by the risks they perceive, regardless of whether the risk exists or not. Risks that are not in consumer perception will not affect consumer behavior.

**TABLE III RISK PERCEPTION**

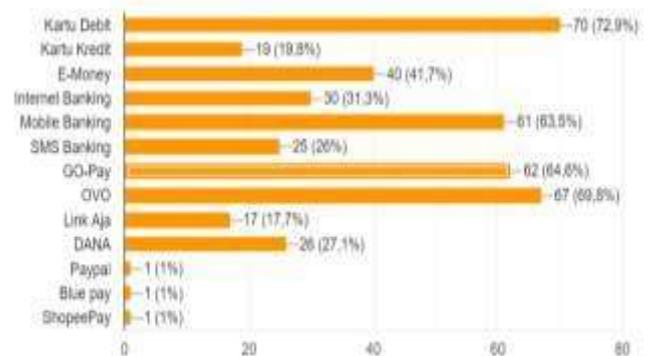
Dimension	Percent
Low	1.0
Medium	12.0
High	87.0

The data above shows that the understanding of the level of risk is quite high. It indicates that decision making in finance has considered various information available. It is in line with previous levels of financial literacy dimensions. The high value of financial literacy will provide a good understanding of risk and will ultimately be able to make an excellent financial decision.

**D. Cashless Services**

Data shows that the level of usage of cashless services is quite high. It can be seen from the data of respondents who use this product/service.

**Figure 1. Cashless Services Utilization**



The picture above shows that all respondents used cashless financial services with the highest level of debit card usage, followed by OVO, GOPAY, and internet banking services. This data also shows that the development of payment systems is also influenced by financial technology services, such as the presence of OVO, GO-Pay, and others, but these developments continue to place banking services as the leading platform in the daily payment system.

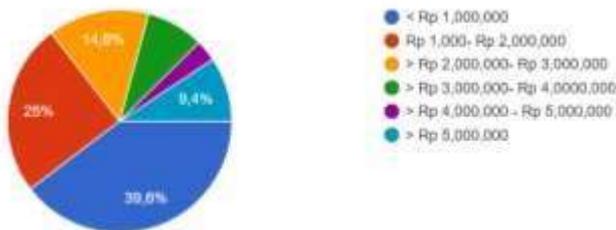
We also developed an index of the use of cashless services. The results of our analysis indicate that the level of usage is quite high.

**TABLE IV USES OF CASHLESS SERVICES**

	Min	Max	Mean	ST Dev
Cashless Services (Y)	30.00	100.00	71.95	15.74925

Data juga menunjukkan bahwa pengeluaran per bulan yang menggunakan layanan cashless cukup tinggi. Nilai tersebut mencapai 1,000,000-3,000,000 IDR. Hal ini mengindikasikan bahwa responden sudah mulai beralih dari tipe pembayaran tradisional kepada cashless.

Figure 2. Average monthly expenditure using cashless



**E. Dimensions of Literacy, Risk Perception and Cashless Services**

We examine the simultaneous influence between the dimensions of financial literacy (knowledge, attitude, and behavior), risk perception, and cashless services. To analyze that, we use multiple analysis techniques. The first step is to conduct a series of classical assumption tests. 1) Test for normality with the Kolmogorov-Smirnov OneSample Test. The results show normal data > 0.05 (0.92). 2) the linearity test also shows good results, that there is a linear relationship between the dependent and independent variables (deviation from linearity on the ANOVA table > 0.05 (0.786). 3) multicollinearity test through VIF shows that there is no multicollinearity data, i.e., VIF < 10 (1,175, 1,158 and 1,016 respectively), and 4) heteroscedasticity test shows that there is no such thing in the data.

**TABLE V SIMULTANEOUS REGRESSION**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3144.413	3	1048.138	5.121	.002 <sup>b</sup>
Residual	19648.89	96	204.676		
Total	22793.3	99			

Table 4 above shows that there is a simultaneous influence between the dimensions of financial literacy, risk perception of cashless services. The impact is positively significant with F = 5,121 in one degree of freedom among a total of 100 data collected. This significant effect indicates that both financial literacy and risk perception have a positive impact on cashless financial services.

This study is in line with previous research that financial literacy and risk perception shape a person's behavior in making decisions. Besides, this research is practically in line with government efforts to socialize cashless services. The data we understand together that 50 percent of Indonesia's population are internet service users. However, only 7.5 percent of all Internet service users use the Internet for electronic transactions. Then this finding can be one of the empirical evidences that education and socialization of cashless products and services are necessary, including in the public understanding of risk.

**IV. CONCLUSION**

Financial literacy is an essential requirement for every individual to avoid financial problems. Financial difficulties are not only a function of income (low income); financial difficulties can also arise if there is an error in financial management (miss-management). This study shows that the simultaneous increase in financial literacy, both knowledge, attitude, and behavior dimensions and perceptions of risk, will affect the level of cashless service use. Without financial literacy, people tend not to do financial management using cashless services. This finding is also basically in line with the profile of respondents who are mostly highly educated so that the impact on financial literacy scores and risk perceptions is relatively good. On the other hand, the dimensions are linearly positive for the use of cashless services.

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