FACTORS ENCOURAGING THE USE OF PEER-TO-PEER LENDING BY FARMERS

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ABSTRACT

Research on the adoption of peer-to-peer (P2P) lending by farmers in agribusiness, such as farming, is still limited. P2P lending is used to address the main challenges of Indonesian smallholder farmers' in accessing financial sources. However, despite its numerous benefits, the adoption rate of this strategy by farmers is still relatively low; therefore, it is essential to encourage its adequate utilization. This research examines the factors that encourage farmers' behavioral intention to adopt the P2P lending strategy in farming funding. The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) were the variables used. Data were obtained from 371 farmers in West Java, Indonesia, yet to adopt the use of this lending strategy and analyzed using the SEM. The results showed that hedonic motivation, price value, and habit are significantly correlated with behavioral intentions. Therefore, P2P lending providers need to educate farmers on the benefits of adopting this strategy in terms of simplicity, easiness, etc.

KEY WORDS

Consumer behavior, farming funding, peer-to-peer lending, sharing economy, technology adoption, UTAUT2.

According to Kementan (2018), agriculture is the third major sector that contributes tremendously to the Indonesia's national economy after industry and trade. A total of 39.68 million agricultural workers were obtained in February 2018, which was greater than any other sector (BPS 2018). However, there are many limitations associated with handling farmers' welfare levels in agriculture. According to research carried out by Suhari (2013), Indonesian farmers constitute 63.25 percent of the total poor population and live in rural areas. Navajas *et al.* (2000), Nugroho & O'hara (2008) and Angioloni *et al.* (2012) stated that poor income is one of the causes of poverty due to low productivity, technology adoption (Nuryartono *et al.* 2005) and difficulties in accessing sources of finance (Pasaribu *et al.* 2007; Rosengard and Prasentyantoko 2011; Sinaga 2011; Arief and Rosmiati 2013). The difficulty associated with accessing finance is due to constraints in land ownership, which are usually needed as collateral, is one of the difficulties associated with accessing finance by agricultural workers (Pattern and Rosengard 1991; Johnston and Murdoch 2008; Anggraeni 2009; Ayyagari *et al.* 2010).

Financial institutions play an essential role in financing production inputs until the postharvest stage to increase their income. According to the previous studies, the availability of access to financial institutions provides an opportunity for farmers to buy production inputs to increase their value and have an impact on the level of agricultural income (Rahman *et al.*, 2014; Iski *et al.*, 2016; Sekyi *et al.*, 2017). Credit from formal financial institutions, such as banks, are only obtained by farmers with broad land and a strong market network. At the

same time, those without these factors experience difficulty due to the unavailability of assets as collateral (Rahayu, 2016).

Anggraeni (2009) stated that uncertainty and time lag in the production process does not allow farmers to pay credit.

High risk due to natural disturbance such as flood, drought, pests, and plant diseases, as well as output price fluctuation, is also another reason associated with the limited interest of banking institutions to financing farming. Pratiwi *et al.* (2019) also included the mismatch of business characteristics in the agribusiness sector and the banking industry as an additional factor.

However, Indiastuti (2005) reported that the bad experience and trauma of handling credits and the inexperience of many major banks in distributing microcredit in line with the regulation of Bank of Indonesia are some of the problems faced by financial institutions. Therefore, the informal source of capital, such as peer-to-peer lending, is one of the options for farmers to get funding (Wineka, 2019; Hermawan & Adrianita, 2013; Mulyaqin *et al.*, 2016; Nurmanaf, 2007).

Irrespective of the proven benefits of sharing economy, the acceptance rate of P2P lending among farmers is still relatively low. According to Sembiring (2019), the adoption rate of farmers towards technological advancement in the agribusiness sector is still low. This argument is in line with Boswell's (2004) research on the poor acceptance of technology development, which is an inseparable part of sharing economy (Benkler, 2007; John, 2013; Codagnone and Martens, 2016). The Central Bureau of Statistics Indonesia showed that only 6.60% of farmers had accessed the internet to achieve financial facility. The difficulty of usage, low benefit awareness, inadequate training, unavailability, and cost-efficiency are some of the limitations faced by farmers in ICT usage (Taragola *et al.*, 2005; Duerfeldt, 2014).

Bachmann *et al.* (2011) stated that using ICT makes it easy for borrowers and lenders to connect through the internet using applications and websites.

In November 2019, the Financial Services Authority reported that the number of online loan service providers showed a positive trend with 164 companies. The government's seriousness in developing online loans is contained in OJK Regulation No.77 / POJK.01 / 2016 concerning Information Technology-Based Money Lending and Borrowing Services to regulate electronic transaction activities.

Hadad (2017) stated that online lending services became a disruptive innovation, due to its successful ability to transform an existing system or market, by introducing practicality, ease of access, convenience, and economic costs. An online loan service is a form of financial inclusion aimed at eliminating all forms of price and non-price barriers towards community access to financial services. Therefore, it provides significant benefits in improving people's lives, especially in regions with difficult geographical areas and conditions (Muzdalifa *et al.* 2018).

The purpose of this research is to provide an adequate understanding of the promoting factors needed for a proper understanding of the P2P lending mechanism among Indonesian farmers.

THEORETICAL REVIEW

Peer-to-peer lending (P2P Lending). This is the traditional practice of lending money without a mediator (Everett, 2010; Herrero-Lopez, 2009). However, the factor that makes online peer-to-peer lending a new phenomenon is the use of the internet in carrying out transaction activities. According to the Financial Services Authority Regulation (POJK) No. 77 of 2016, this process brings lenders together to make agreements regarding the direct lending of the Rupiah through an electronic system. The motive of the utilization of P2P lending is closely related to the use of internet banking, where transactions are carried out through applications or websites. Previous research stated that the analytical approach was carried out using a combination of the theory of Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB). These indicators include perceived security risk, financial

cost, easiness, social influence, trust, previous experience, usefulness, and compatibility (Tan *et al.* 2010; Nisar and Prabhakar 2017). Based on the costumers, the criteria for choosing a lender include; interest rates, service fees, service provider reputation, sharia, offered facilities, security guarantees, suitability, social influence, availability of information, trust and comfort (Ringim, 2014; Obeid & Kaabachi, 2016; Sayani & Miniaoui, 2013; Usman *et al.* , 2017).

Unified Theory of Acceptance and Use of Technology (UTAUT2). This studies the acceptance and use of technology in the context of mobile applications from costumers' points of view. UTAUT2 includes hedonic motivation, price value, and habits as additional factors to have a direct or indirect impact on behavioral intentions and usage behaviour. The price value is considered important because consumers need to bear the costs of purchasing technology. In addition, the voluntariness of use factor in UTAUT is removed and replaced with new links that facilitate conditions and behavioral intention. In general, UTAUT2 has a more explanatory ability in explaining behavioral intention and the use of technology, because it is inherited from UTAUT, with additional new factors and relationships. Due to its potential to be developed, further research can expand UTAUT2 in different countries, age groups, and technology (Venkatesh *et al.*, 2012).

Figure 1 – Conceptual Framework

The research hypotheses are defined as follows:

- H1: Performance expectancy has a positive effect on behavioral intention to adopt P2P lending;
- H2: Effort expectancy has a positive effect on behavioral intention to adopt P2P lending;
- H3: Facilitating condition has a positive effect on behavioral intention to adopt P2P lending;
- H4: Social influence has a positive effect on behavioral intention to adopt P2P lending;
- H5: Hedonic motivation has a positive effect on behavioral intention to adopt P2P lending;
- H6: Price value has a positive effect on behavioral intention to adopt P2P lending;
- H7: Habit has a positive effect on behavioral intention to adopt P2P lending.

METHODS OF RESEARCH

This is a quantitative research using the confirmatory approach. The purposive sampling method was used to obtain data from 371 farmers in West Java, Indonesia using questionnaires. Initially, the data showed no missing values; however, after further analysis, 15 respondents were found to have provided similar answers to the questions. Therefore, this study utilized valid data from 356 respondents.

The research consists of dependent and independent variables, such as behavioral intention and the UTAUT2 theory, respectively. Performance and effort expectancy, facilitating conditions, social influence, hedonic motivation, price value, habit, trust, values, and perceived risk are some of the constituents of the UTAUT2 theory.

Furthermore, the Structural Equation Modeling (SEM) technique was used to test the relationship between research variables in the model, while the hypotheses are tested with the farmers as the analysis unit. SEM can investigate and test the hypothesis involving multiple regression analyses among dependent and independent variables (Bentler and Chou, 1987).

Table 1 – Variables of Operationalization

No	Variable	Definition	Source
1	<i>Performance Expectancy</i>	The belief that using a system helps to achieve benefit in work performance	Venkatesh et al. (2012); Botsman and Rogers, (2010); Kim et al. (2015)
2	<i>Effort Expectancy</i>	Perception of easiness in using the technology	Venkatesh et al. (2012); Koufaris & Hampton-Sosa (2004); Cao, Zhang, & Seydel. (2005)
3	<i>Facilitating Conditions</i>	Perception of resource availability which helps farmers to adapt to technology easily	Venkatesh et al. (2012); Khalifa and Kathi (2008); Davis (1989)
4	<i>Social Influence</i>	The belief of using a new system in accordance with the surrounding environment	Venkatesh et al. (2012)
5	<i>Hedonic Motivation</i>	Perception towards enjoying the use of technology	Venkatesh et al. (2012); Van der Heijden
6	<i>Price Value</i>	Perception towards the amount of benefits compared to the cost	Venkatesh et al. (2012); Chen and Salmanian (2017)
7	<i>Habit</i>	Perception towards automatic Behavior	Venkatesh et al. (2012)
8	<i>Behavioral Intention</i>	Tendency to adopt P2P lending	Venkatesh et al. (2012); Davis (1989); Fishbein & Ajzen (1975)

According to Ghazali and Fuad (2008), SEM is an evolution from multiple linear regression developed by combining the econometric and regulation principles of psychology and sociology. It is an integral part of academic, managerial research.

RESULTS AND DISCUSSION

Majority of the respondent (91.47%) are male and above the age of 40 as shown in Table 2. This result is in line with an agricultural survey carried out by BPS-Statistics Indonesia (2018), which showed that most Indonesian farmers are above 35 years. According to Martins *et al.* (2018), age is one of the factors affecting the level of technology adoption.

In terms of education level, 39.08%, 30.73%, 16.17%, and 12% are senior high school, elementary, junior, and college graduates, respectively. Survey results also show that most respondents already own a smartphone, while 24% had none. This result is similar to the findings from BPS – Statistics Indonesia (2018), which showed that only 13.4% of the total number of farmers used the internet. This means that the adoption level of information technology amongst farmers is still low. Galloway and Mochrie (2005) stated that the delay in adopting the use of ICT in the sub-urban area is due to the supply and demand issue associated with poor technology infrastructure due to the lack of perception towards needs.

The borrowing experience is one of the considerations in the attitude of technology adoption. According to the survey, farmers tend to request conventional loans without using technology (offline) due to children's education, households, and vehicle needs. Approximately 40.31% use informal financial institutions, such as moneylenders, for their agricultural financing needs through mediators. Furthermore, they use brokers for easier loan application requirements with financial institutions as sources of capital, which are needed by

farmers for production purposes, daily living, and other social needs. Brokers play various important roles for farmers as capital providers, and in networking, various parties (Megasari, 2017). However, farmers' accessibility to funding sources is minimal, especially for smallholders as the most significant community (Hermawan et al., 2013; Mulyaqin et al., 2016; Nurmanaf, 2007).

Table 2 – Respondent characteristics

No.	Respondent Profile	Amount	Percentage
1	Age		
	< 30	53	14.2%
	30 – 39	78	21.02%
	40 - 49	113	30.46%
	50 – 59	93	25.07%
	>=60	34	9.16%
2	Gender		
	Male	332	89.49%
	Female	39	10.51%
3	Education		
	Elementary school	114	30.73%
	Junior High School	60	16.17%
	Senior High School	145	39.08%
	Diploma	6	1.62%
	Graduate	45	12.13.7%
	Post Graduate	1	0.27%
4	Mobile phone ownership		
	Owned mobile phone	320	86.25%
	Have no mobile phone	51	13.75%
5	Type of farmer		
	rant land Farmer	118	31.81%
	owned land Farmer	209	56.33%
	Breeder	44	11.86%

Table 3 – Experience in borrowing fund from conventional/offline provider

No.		Amount	Percentage	LVS
1	Have you ever borrowed funds for non-farming purposes?			
	Yes	159	42.86%	-0.21
	No	212	51.14%	-0.78
2	Objectives of borrowing			
	Children education	71	44.65%	-0.17
	Buy vehicle	33	20.75%	-0.37
	Buy electronic goods including mobile phone	22	13.84%	0.09
	Buy a house	3	1.89%	-0.40
	Buy household equipment	24	15.09%	-0.05
	Others	6	3.77%	-0.24
3	Lender			
	Conventional bank	95	59.75%	-0.06
	Sharia bank	2	1.26%	-0.67
	Cooperation	11	6.92%	-0.54
	Others	51	32.08%	-0.11
4	Consideration of borrowing fund			
	Low interest	54	6.15%	-0.37
	Profit-sharing system	16	3.08%	-0.75
	Low obligation	26	12.31%	-0.30
	Confidence of payback ability	38	6.15%	-0.67
	Easy requirements	98	43.08%	-0.52
	No interest in shariah	11	18.46%	-0.83
	Bigger benefits	11	4.62%	-0.62
	Not required to own land	4	6.15%	-0.44

In this research, the composite reliability test is employed to measure the consistency level, which is higher or equal to 0.70. Table 4 shows the reliability test of this research shows that all indicators are reliable.

Table 4 – Reliability test result (Composite Reliability)

Dimension	CR	Result
X1 <i>Performance expectancy</i>	0.92	Reliable
X2 <i>Effort expectancy</i>	0.87	Reliable
X3 <i>Facilitating conditions</i>	0.80	Reliable
X4 <i>Social influence</i>	0.84	Reliable
X5 <i>Hedonic motivation</i>	0.92	Reliable
X6 <i>Price value</i>	0.81	Reliable
X7 <i>Habit</i>	0.80	Reliable
Y1 <i>Behavioral intention</i>	0.91	Reliable

*) reliable if CR > 0.70.

The validity test result on all indicators in this questionnaire shows that the loading factor is above 0.50, therefore, it has fulfilled the validity requirements; therefore, there is no elimination of variable. Table 5 shows the validity test.

Table 5 – Validity test results (Average Variance Extracted)

Dimension	AVE	Result
X1 <i>Performance expectancy</i>	0.61	Valid
X2 <i>Effort expectancy</i>	0.63	Valid
X3 <i>Facilitating conditions</i>	0.49	Valid
X4 <i>Social influence</i>	0.63	Valid
X5 <i>Hedonic motivation</i>	0.63	Valid
X6 <i>Price value</i>	0.59	Valid
X7 <i>Habit</i>	0.66	Valid
Y1 <i>Behavioral intention</i>	0.71	Valid

*) valid if AVE > 0.50.

The analysis results show that there are three significant correlations with behavioral intention, namely: hedonic motivation, price value, and habit. All relationships are positive.

Table 2 – Path coefficient of the structural model

Hypothesis	Correlation	Path Coefficient	T-Count	Significance
H1	X1 → Y1	0.01	0.15	
H2	X2 → Y1	-0.08	-1.00	
H3	X3 → Y1	-0.13	-1.66	
H4	X4 → Y1	0.04	-0.77	
H5	X5 → Y1	0.46	4.63	*
H6	X6 → Y1	0.24	2.62	*
H7	X7 → Y1	0.41	3.72	*

Note: Symbol (*) shows Path Coefficient significant at the error rate 5%, in which absolute t-count > 1.96.

In accordance with hypothesis 5, hedonic motivation (X5) positively influences behavioral intention to adopt P2P lending. The analysis also shows that P2P lending intention has the strongest relationship adoptive behavior compared to price values and habits at a path coefficient of 0.23. These results are similar with the several previous studies, which showed the positive effect of hedonic motivation on behavioral intention to adopt the technology (Leong *et al.*, 2017; Yapp *et al.*, 2018; Martins *et al.*, 2018; Salarzadeh *et al.*, 2017; Lin, Wang, & Wu 2017; Tak & Panwar 2017). The hedonic motivation in this study was measured from farmers' perceptions of using peer-to-peer lending applications and services, which provided pleasant experiences, easy access, and respondent enthusiasm. Price value (X6) also showed a positive relationship with behavioral intention using a path coefficient of 0.17 and t-count above 1.64; therefore, Hypothesis 7 was accepted. Mohd Isa & Wong (2015), Leong *et al.* (2017), Hew *et al.* (2015), Lin *et al.* (2017), and Tarhini *et al.* (2017), assumed that the use of technology reduces costs. Meanwhile, farmers assumed that peer-to-peer lending benefits are greater than the costs incurred; therefore, it provides easier access and obligations.

Tak & Panwar (2017) stated that many people are addicted to the use of online media. This is in line with the analysis results, which stated that habits are variables with a significant positive effect on behavioral intentions to adopt peer-to-peer lending. Habit (X7) shows a positive relationship with behavioral intention using a path coefficient of 0.05 and a t-count above 1.96; therefore, Hypothesis 8 was accepted. This is in accordance with the UTAUT2 theory developed by Venkatesh *et al.* (2012). The habit of conducting other online activities such as social media and shopping is an indicator that active users of electronic devices have greater ability to adopt to new technologies (Venkatesh & Zhang, 2010).

According to the analysis of the results above, hedonic motivation, price values, and inadequate information and habits significantly influence the behavioral intention of farmers in adopting peer-to-peer lending. Therefore, intensive socialization is needed with a direct approach through field agents to demonstrate the benefits of technology utilization to accelerate the process.

Furthermore, socialization, practice, and training on the use of application and website technologies is needed to obtain the maximum benefits of the P2P lending economy in agricultural farming (Nurmawiya & Kurniawan 2019).

CONCLUSION

In conclusion, the various factors that influences behavioral intention in adopting a peer-to-peer lending sharing economy in agricultural financing were analyzed in this study. The results indicate that hedonic motivation, price value, and habits influence farmers' behavioral intention in adopting a sharing economy strategy. Due to farmers' limited access to internet services, a more socialization approach is needed regarding the benefits of using technology to accelerate their ability to access agricultural financing.

This research is similar with the previous studies, where hedonic variables, price values, and habits had a significant and positive effect on farmers' behavioral intention in adopting peer-to-peer lending in agricultural financing. Furthermore, performance, effort expectancy, and social influence, also showed a positive impact on behavioral intention, which was insignificant at an error level of 5%. Therefore, further research needs to be conducted on a more significant number of respondents in the broader area using the questionnaire to obtain better generalizations on the adoption of peer-to-peer lending in agricultural financing among Indonesian farmers.

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