

Exploring The Drivers Of Mobile Based Peer To Peer Lending Application Service Quality In Indonesia

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Abstract—The purpose of this study is to examine the drivers of peer to peer lending mobile application and to identify the significant driver of user satisfaction. The author employed critical incident technique to reveal the drivers of peer-to-peer lending mobile application service quality, sentiment analysis to identify significant drivers of user's satisfaction/dissatisfaction, and semi structured interview as triangulation to gain more insight of perceptions and understanding. The analysis obtained a total of 47 components node that identified as 15 drivers of peer-to-peer lending mobile application service quality. This research discovers responsiveness as most significant factors that impact user satisfaction, while information as the most significant factor for user dissatisfaction. Furthermore, peer-to-peer lending platforms company or new Financial Technology start-ups that intend to enter digital peer-to-peer lending market through mobile application may use 15 drivers service quality that identified from this research which taken directly from user perspectives incident.

Keywords— *peer-to-peer (P2P) lending, platform, mobile application, service quality, user sentiment analysis.*

I. INTRODUCTION

Banking industry is in the new era as technology has disrupted traditional practices, banks also face the rise of start-up company that offer technology-based financial service or known as financial technology [1]. Strong growth of financial technology company in Indonesia indicated by its financing portfolio that increased 38.23 percent in the amount of 3.54 trillion rupiah as of February 2018 compared to previous year [2]. As of the specialization of financial technology in Indonesia, Indonesian Financial Services Authority (OJK) stated that payment system with 39% and loan services with 32% from total financial technology company in Indonesia are dominant player in financial technology [3]. Fintech Indonesia association (Aftech) stated that peer-to-peer lending technology is growing faster than others due to increaseing number of financing disbursed from 200 billion rupiah in 2016 to 2.5 trillion by the end of 2017. At the same time, by percentage, the number of financial technology in payment system is reduced [4].

Furthermore, it is important for peer-to-peer lending platforms company to deliver outstanding service quality perceived by cutomers and specific components of each drivers in order to sustain in the competition. As many previous studies approved that service quality drivers significantly positive influence customer satisfaction, which turn to significant positive impacts for customer loyalty [5]. Meanwhile, previous study regarding peer-to-peer lending focused on loan performance and borrowers or lenders behavior on decision making [6].

II. LITERATURE REVIEW

A. Peer-to-Peer Lending Related Work

Peer-to-peer lending is still considered young as a field of research [7], however there has been substantial research study addressing P2P lending examining funding or loan performance. One study concerns about default monthly dynamic probability predictions, suggested that ensemble mixture random forest (EMRF) had better performance compared to standard mixed care models, proportional cox hazard models and logistic regression [8]. Another study based on credit performance shows that it is unpredictable based on the amount of communication the borrower lenders [9]. This study shows that the borrower's response is positively related to the success of the loan, although only comment help reduce the final interest rate.

A study investigates that descriptions of small business loans can be used to predict likelihood for a loan that will be funded [10]. An experimental result showed that the area under annualized rate of return (ARR) curve is not long enough metric in evaluating the model from a profit perspective [11]. Furthermore, there is a research suggests that peer-to-peer landing is currently not a fully efficient market, which means data mining techniques can identify the most profitable loans. Based on the analyzed sample, it is found that lenders who chose loans by applying a profit rating system using multivariate regression outweighed the results obtained using traditional credit scoring systems, based on logistic regression [12].

B. Electronic and Mobile Service Quality

There are many studies that address service quality management issue over decades [13]. Researchers approved that service quality drivers significantly give positive influence on customer satisfaction, which changed into a significant positive impact on customer loyalty [14]. In Electronic commerce, service quality recognized as an important aspect to be measured and has several drivers such as ease of use, appearance, relevance, structure, and layout in order to increase click rate, adhesiveness, and customer retention. Meanwhile, the active drivers consist of efficiency, reliability, support, incentives, security, and communication [15]. Another study revealed that reliability is the most important driver followed by assurance [16]. Further study by another researcher proposed ten drivers scale in measuring electronic service (e-service) which are personalization, reliability, responsiveness, fulfilment, security, website design, trust and experience from the customer's perspective information, and empathy from the e-service provider's perspective [17]. There are also four drivers that discovered in other study regarding customer behaviour of online shopping which are privacy, system availability, fulfilment, and efficiency [18].

Study in 2013 shows that service quality has significant effect on customer satisfaction [19]. Meanwhile, study in 2017 confirm that Information system and service quality affects user satisfaction positively [20]. E-Service quality development continues with more focused studies about mobile service quality. Research in 2013 attempted to explore behavior transition of US cellular service customers and find that the quality of mobile services (m-SERVQUAL) is a significant barrier for customer's intention to move to another provider [21]. Another study that focuses on mobile service quality developed a scale for mobile service quality considering mobile device particularly phones and determined drivers of mobile service quality and its significant to the customer satisfaction. Result of that study are five drivers considered as mobile service quality which are ease of use, availability, perceived risk, entertainment service, and compatibility of mobile devices, thus have significant positive impact on customer satisfaction [22].

Drivers of mobile banking service were examined by the study in 2016 that reveals seventeen drivers of mobile banking service quality which are m-banking application quality (accuracy, content, responsiveness, aesthetics, ease of use, security, mobile convenience, and diverse mobile application service features) and m-banking customer service quality (access, communication, credibility, reliability, responsiveness, continuous improvement, competence, and understanding the customer) [23].

C. Peer-to-Peer Lending Service Quality

Study in 2016 revealed the comparative characteristics of P2P lending and Bank lending by several criteria such as; access, information, ease of use, cost, risk, and flexibility [24]. Another study in 2016 revealed competitive advantage of P2P lending platform over the banks which are: the provision of credit to some categories of borrowers unable to access lending from bank, the perception of P2P lending

is more responsible and greater social value than banks, the technical innovation improving of the quality and speed of service to both lenders or borrowers, and the better offer rates of return than banks deposit together with relatively low fees for borrowers [25].

A study regarding trust of lenders in an online P2P lending platform found that service quality, structural assurance, and information quality, reputation, and awareness are significantly affected trust lenders. Perceived awareness, reputation and risk significantly affect the lender's trust in the borrower and the intention to lend. Trust has a positive effect on lenders' lenders to borrowers. Awareness, reputation, perceived risk, trust in the platform and trust of borrowers can directly impact the intention of the lender [26].

In the other hand, many studies conclude that P2P lending is riskier for provider than traditional banking lending. Study that conducted in 2017 found that there are still some risk gaps in peer to peer loan services that still need to be improved, especially at the risk of default, the risk of hacker attacks, fraud risk, and the risk of misuse of client data [27].

III. METHOD

The design chosen for this study was qualitative method. Focusing on the exploratory qualitative research that allowed the study to incorporate peer-to-peer lending user's perception. The qualitative method selected to explore the drivers of peer-to-peer lending mobile application service quality and its significant driver that drive user's satisfaction/dissatisfaction.

A. Critical Incident Technique (CIT)

In finding the drivers of P2P quality lending services as perceived by users of mobile applications, this study used CIT [28]. Flanagan defines CIT as a series of procedures that collect data from direct observation of human behavior in solving practical problems. This method often used in market research that investigates the sources of satisfaction and dissatisfaction in service meetings [29]. This method also widely used in organizational development to identify organizational problem [30]. Data collected using CIT are from customer's perspective, thus make it the data provides rich perception and feeling because of customer actual shares; CIT provides relevant, undeniable, and concrete information for organizations or others relevant [31].

Author identified all Indonesian P2P lending mobile apps companies that already supervised by Financial Services Authority and available on Google Play store. Author found there were 18 P2P mobile apps which are *Cicil*, *Crowdo*, *Danamas*, *IGrow World*, *Indodana*, *Investree*, *Karapoto*, *Kimo*, *Klik ACC*, *Koinworks*, *Kredivo*, *Modalku*, *Pinjam Uang*, *Rupiah Plus*, *Tunai Kita*, *Tunaiiku*, *Uang Teman*, and *Win Win*, which accessed from Google Play application on May 19, 2018 by author.

Data collection of comments results in total of 1129 individual comments on latest update version of apps only. To get appropriate data, the author selected comment that has content, customer's point of view and have sufficient detail ("the customer service really kind and nice", "lack of

C. Peer To Peer Lending Service Quality Drivers And Satisfaction/Dissatisfaction

The total frequency satisfying and dissatisfying from 15 drivers of P2P lending service quality was 556. Evidently, total of satisfying sentiment (323) greater than dissatisfying sentiment (233). It indicates that Indonesian peer to peer lending users tend to share their satisfying moment using the application rather than dissatisfying one. The most five drivers that frequently mentioned when combining satisfying and dissatisfying sentiment are responsiveness, diverse apps features, ease of use, information, and user incentives. Of all most frequent drivers, apparently again responsiveness becoming highest driver to be most influential for both of satisfying and dissatisfying sentiment with total of 18.52% (103). Second highest mentioned is information (75), showing the rejected information problems are really influence sentiment significantly. Followed by diverse apps features (65) followed by user incentives (53). Finally ease of use (48) as seen in Table II

TABLE II. SENTIMENT ANALYSIS FREQUENCY

Dimensions	A: Positive Satisfier		B: Negative Dissatisfier		Total	
	n	%	n	%	n	%
Access	9	2.78	15	6.43	24	4.31
Account	9	2.78	17	7.29	26	4.67
Accuracy	3	0.92	31	13.30	34	6.11
Apps Performance	3	0.92	15	6.43	18	3.23
Attitude	11	3.40	12	5.15	23	4.13
Competence	20	6.19	4	1.71	24	4.31
Credibility	5	1.54	9	3.86	14	2.51
Diverse apps features	48	14.86	17	7.29	65	11.69
Ease of use	38	11.76	10	4.29	48	8.63
Information	19	5.88	56	24.03	75	13.48
Merchant problems	6	1.85	3	1.28	9	1.61
Privacy	2	0.61	5	2.14	7	1.25
Reliability	16	4.95	17	7.29	33	5.93
Responsiveness	84	26.00	19	8.15	103	18.52
User incentives	50	15.47	3	1.28	53	9.53
Total	323	100.00	233	100.00	556	100.00
Notes:	n, number		%, percentage			

The most frequent driver sentiment factors appeared as main drivers of P2P lending service quality, but with different order. In terms of peer to peer lending user satisfaction, again responsiveness driver becoming most frequent mentioned, then user incentives, followed by diverse apps features, ease of use, and competence. Competence appeared as satisfier sentiment rather than information driver indicates that problem solving answer of apps has more satisfaction result. Besides that, it turns out that information identified as the most frequent mentioned source of dissatisfier sentiment, then followed by accuracy, responsiveness, and surprisingly account, diverse apps features, also reliability has the same frequent of dissatisfy or negative sentiment mentioned. The findings from interview also referred to responsiveness as significant satisfier driver while information as dissatisfier driver of peer to peer lending mobile application service quality.

This finding shows that two P2P lending application service quality drivers which are responsiveness and diverse

apps features, seems have the intense impacts depending on their performance to the level of user satisfaction also dissatisfaction. The result indicates that the most crucial aspects of peer to peer lending apps user satisfaction to be maintained is on the responsiveness performance while the crucial aspects that bring dissatisfaction of users to be evaluated is information. The interesting result is the percentage of privacy driver. Privacy driver has lowest frequent presented on both of service quality driver and satisfying/dissatisfying sentiment. Privacy attributes point out that P2P lending application users does not really pay attention the importance of privacy security on P2P lending application experience.

V. CONCLUSION

A. Theoretical Implications

Users direct sharing in term of using peer to peer lending mobile apps perceived service quality is one of the major factors that can help P2P lending platform maintain or evaluating their application service quality. This study revealed research question regarding examining the drivers of Indonesian P2P lending service quality. Author analyzed 753 critical incidents from 18 Indonesian P2P lending platform mobile apps that already licensed and supervised by Financial Services Authority. The result shows that there are 15 drivers that indicates have major impact for P2P lending service quality which as follows: access, ease of use, reliability, diverse apps features, merchant problem, information, responsiveness, privacy, account, user incentives, apps performance, accuracy, attitude, competence, and credibility.

The top five drivers of peer-to-peer lending service quality reveal from critical incident technique comments are responsiveness, incentives, diverse apps features, ease of use, and information. While the result of interview shows that access as substitute of incentives. Access driver is in line with previous research that reveals access as one of the differences between P2P lending and banks.

From all drivers, responsiveness is the most drivers that affect P2P lending mobile and significant satisfier as well. This finding in line with previous study by Ruiqiong and Junwen (2014) that stated peer to peer lending faster than bank and has more flexibility [32]. Meanwhile, information driver revealed as the most dissatisfied driver of peer to peer lending service in line with previous study about information driver on peer to peer lending application [33].

B. Managerial Implications

P2P lending platform especially that has mobile apps can use our findings in terms to maintain or developing the application. Responsiveness driver as resulted as the most significant impact both on service quality driver and satisfied or dissatisfied sentiment. Platform can focus on that responsiveness performance as well as information provided. Giving clear, solving problem, fast information will increase user satisfaction. Any information regarding rejection supposedly informed to the borrowers to minimizing dissatisfaction. Platforms also should consider again about the amount of interest rate, tenor of loan, as well

as limit. Adding more features also bring more user satisfaction such as increasing in limit for repeated loyal borrowers. For lenders feature, platform may use promo code for attraction, also give ease of use interface for lenders in term to keep monitor the progress, deposit or ongoing investment. Platforms also should maintain the accuracy of application content, make it transparent, and give the best responsiveness performance on financial transaction.

C. Limitations and Future research Directions

This study has limitation of the use of data. Critical incidents comments pick from users review on the Google Play application rate box. Although author already did the best regarding qualifying the data, there might be biases results obtained. It might be data biases occurred regarding unverified comments that might indicate comment from internals to have good reputation only. Another concerned about factor analysis limitation. Future research directions might aim to analyze web-based P2P lending platform not only from mobile application in exploring the top 5 drivers which are responsiveness, information, diverse app features, user incentives, and ease of use since the area of exploration from those top 5 drivers in web-based application is more flexible rather than in mobile application. Then, data may be collected from survey or interviews and analyzing with factor analysis relationship regarding drivers and identify its validity also reliability.

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