

## PEER-TO-PEER LENDING IN SURABAYA: HOW IT DRIVES REGIONAL ECONOMY?

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### ABSTRACT

*Financial technology, or so called as “Fintech”, has been remarked as a disruptive idea that changed our current financial system. In Indonesia, one of the emerging financial practices related to Fintech is the online-based peer-to-peer lending (P2PL). This research has two objectives: to explore current scheme of P2PL in Surabaya and to learn how P2PL drives the economy of Surabaya. To meet the objectives, numbers of existing papers are being reviewed related to the matter of P2PL and Micro, Small and Medium Enterprises (MSMEs). Primary data is also gathered through in-depth interview from two basic stakeholders of P2PL in Surabaya: the provider of fintech apps and the owner of MSMEs who is benefiting from the fintech apps. The fintech provider is interviewed regarding to the channeling scheme of funds from the lenders to the MSMEs, while the MSME is interviewed related to the escalation of their business after receiving funds from the P2PL provider. By exploring this topic, the scheme of P2PL and the importance of P2PL to drive regional economy are being clearly described. The results indicate that the funding from P2PL providers help the MSMEs to boost their business performance, and the boosted MSMEs are affecting the regional economy.*

**Keywords:** *Fintech, Peer-To-Peer Lending, MSMEs, Lending Scheme.*

**JEL:** F65, O14, P42

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### Introduction

Financial technology, or so called as Fintech, has been remarked as a disruptive idea that changes our current financial system. Fintech is modernizing our traditional method of payments and wealth management. It is also responsible to the emerging financial practices such as online-based crowdfunding and peer-to-peer lending (P2PL). Even though there is no agreed-upon definition of fintech, the terminology of fintech is generally referring to the use of technology to deliver financial solutions (Arner et al., 2015). It is as simple of the marriage between financial services and technological innovations (Zavolokina et al., 2016).

Among those financial technology practices, there is a growth in the practice of peer-to-peer lending, especially within some major cities in Indonesia. A publication from Deloitte

(2017) explains that Indonesia has a large unbanked population with high mobile phone penetration; real opportunities of having a business in P2PL in Indonesia. It may seem to support the current condition, that the regulation related to peer-to-peer lending (P2PL) has also been established by the Financial Services Authority in Indonesia, ensuring the practice of P2PL are legal and supervised. Clearly, the environment of P2PL above is supporting the growth of the practices of P2PL in Indonesia.

However, the growing numbers of P2PL platform provider in Indonesia are not followed by academic research related to its practice. At the moment, only small research can be found related to P2PL practice in Indonesia, whereas every research related to P2PL practice are important to shape the business of P2PL. Thus, this research is intended to take part in shaping the business of P2PL, and also to support further research related to P2PL practices in Indonesia, particularly in the city of Surabaya.

The importance of this research is also highlighted where, to the best of our knowledge, we found no research that describe the causal relationship between the P2PL practice, MSMEs and the regional economy. Several researches are found only to focus describing the MSMEs and the economy. For instance, [Tambunan \(2011\)](#) has argued that SMEs are very important as a source of employment and as a growth engine for the economy. [Davis et al. \(2017\)](#) also supports the arguments by stating that SMEs employ 97 percent of the workforce and contribute over 60 percent of GDP, which relates the SMEs and the regional economy. However, the causal relationship between the activities of P2PL Platforms, MSMEs and the economy have not yet clearly described.

Therefore, the explanation related to the causality between the P2PL, MSME and regional economy should be well-described. The growing P2PL should be analysed further to discover its implication to the economy. In this research, the growing economy can be reflected by the growth of consumption, employment rate, and investment related to the MSMEs as the business institution and borrower of P2PL.

This research is focusing on the practice of P2PL in Surabaya as one of major city in Indonesia. The research has two objectives: (1) to explore current scheme of P2PL in Surabaya and (2) to learn how P2PL drives the economy of Surabaya. By describing the scheme of channeling of fund between the stakeholders (P2PL, lender and the borrower) and their relationship to the regional economy, regulatory institutions and government will be better at predicting the outcome of any policies established, or will be better at developing a policy to arrive at the desired outcome.

The remainder of this paper is as follows: Section 2 elaborates prior researches related to P2PL and MSMEs, Section 3 describes the methodology, Section 4 discusses the results and Section 5 concludes findings and provides the answer to the main question of "How the P2PL in Surabaya drives regional economy".

## **Literature Review**

### ***P2PL Platform in Indonesia***

Today, the industry of fintech can be categorised into five major areas ([Arner et al., 2015](#)): (1) Finance and Investment, (2) operation and risk management, (3) payment and infrastructure, (4) data security and monetization and (5) customer interface. However, other publication specifically mentioned fintech companies into four activities: Payment, Wealth Management, Peer-to-peer Lending and Crowdfunding. Even though the names of the activity could be different, however, the practices are somehow similar.

In this research, only peer-to-peer lending (P2PL) activities that will be discussed, and later will be narrowed down into a specific city in Indonesia, Surabaya. Regarding to the practice of P2PL in Indonesia, until September 2017, Modalku, Investree and Amartha have reported through their official website that they have disbursed funds in Indonesia for Rp621.1 Billion, Rp246 Billion, and Rp52 Billion respectively. Their total of funding almost reaches Rp1 Trillion.

The emergence of P2PL in Indonesia should not be viewed separately from the facts that there are problems existed between commercial banks and the unbankable segment of Micro, Small and Medium Enterprises (MSMEs). The problems not only impede the commercial banks but also the MSMEs as well. Auspiciously, the P2PL Platforms exist to overcome the problems between commercial banks and the MSMEs.

It is explained by [Davis et al. \(2017\)](#) that the Small and Medium Enterprises (which is a part of MSMEs) in Indonesia encounter problems in access to financing. The problems are due to issues of proximity, the requirement of collateral, and the need for formal bank accounts. Unsurprisingly, those problems are the attributes embedded naturally in commercial banks.

In other perspective, there are also some problems in access to financing which are encountered by the commercial banks. [Tambunan \(2017\)](#) mentions the difficulties of banks to conduct risk assessment due to unavailability and limited reliability of the data of MSMEs. Unfortunately, those problems are the attributes embedded in most MSMEs. Both of problems are also being justified by previous publication from Bank Indonesia ([Bank Indonesia, 2014](#)).

### ***P2PL and MSME in Surabaya***

Surabaya becomes one of several cities with growing MSMEs in Indonesia. This is proved by the number of MSMEs in Surabaya that have been exceeding more than 260.000 MSMEs ([Diskopukm Jatim, 2017](#)). Huge number of MSMEs have been becoming an opportunity for the P2PL Platforms to expand their business to Surabaya. One of several platforms that has been expanding to Surabaya is UangTeman.com. Uangteman.com has been expanding to Surabaya since November 2016. Uangteman.com sees a huge opportunity in Surabaya to introduce a new method of funding.

The funding will be beneficial for the MSMEs and the Platforms in Surabaya, as [Rahayu \(2017\)](#) explained that they see the growing rate of financial literacy is related to the growing and sustainability of MSMEs in Surabaya. The high rate of financial literacy in Surabaya can be the reason for P2PL Platform to expand the business to the MSMEs in Surabaya. At the end, the environment is beneficial for MSMEs and the platforms.

### ***System Dynamics as a tool policy-making for P2PL Fintech***

System dynamics is a methodology to describe complexity of a system including P2PL industry. It was originally developed in 1950's by Jay Forrester to improve industry by understanding complexity industrial processes, but now it use in many sectors including public sector and policy analysis. This methodology important for policy analysis, as feedback loop is useful to explain how all factors are influencing each other. All of factors included within the system are relevant to make a system and possible to stimulate diverse and assume nonlinear change.

The method to develop system dynamics is the Causal Loop Diagram (CLD). CLD as qualitative model can describe a whole system either in macro view or micro view. In macro

view, CLD can describe the effect of a whole system when all parts are linking each other. Micro view can describe the part of system (sub-system) and how part system can link each other. (Lee and Kim, 2015)

Ahmed (2016) argued that inter-linked of borrowers, lenders, and platform can make a socioeconomic impact. Related to the regulation set in Portugal, at the early of growing P2PL industry, P2PL known as a threat to banks and other financial institutions. Thus, government gave a disincentive regulation to the P2PL industry. However, some research proved that P2PL can help SMEs' sustainability.

Therefore, the government re-regulate the P2PL industry by supporting the industry. The regulation is to support P2PL industry to give more funds for SMEs. It can become the alternative finance market to grow, where individual and institutional investors approach the market of consumer lending. In other side, this regulation can continue to innovate P2PL industry and educate both player and public.

### **Research Method and Models**

The objectives of this research have been clearly explained; thus, the next step of this research is to conduct empirical study through qualitative approach. There are several stages to reach the objectives of this research: (1) Preliminary Study, (2) Data Collection, (3) Model Development (CLD), (4) Model Confirmation and (5) Result. The output from the stages are the empirical result of the concept of P2PL and its relationship to the economy of Surabaya.

#### **Methods**

The preliminary study is done to confirm the importance of this research and to set objectives of this research. Through literature review, we have captured current condition of P2PL activities from two perspectives: real practices and academic researches. Thus, we found the importance of the research and developed the objectives of the research, which has been explained in the section of introduction.

The causal loop diagram (CLD) is a method of capturing a holistic system by describing the variables within the system and their relationship, whether negative or positive. The CLD is constructed to help us exploring the current scheme of P2PL in Surabaya and learning how P2PL drives the economy of Surabaya. To develop causal loop diagram, literatures related to the practice of P2PL are being reviewed.

Developing a CLD is a crucial part in System Dynamics. CLD is used to schematize the interactions of potential causes and make feedback loops (Lee and Kim, 2015). The CLD is the model developed through this research and will be confirmed by the stakeholders. Therefore, In-depth interviews are being conducted to confirm and evaluate the model which has been developed earlier. A confirmation from the stakeholders will validate the CLD model.

Therefore, this CLD model is supposed to be helping regulatory institution and/or government to establish policies related to regional economy growth and P2PL Practices in Surabaya. Moreover, this model hopefully will help future researches by establishing a basis through academic research.

#### **Data**

There are two sources of data within this research. First, the data that is gathered through literatures and authors' mental model. The information is used as a basis of justifica-

tion to model the concept of P2PL based on CLD. Second, the data that is acquired through interviewing the stakeholder, which is done as a confirmation and evaluation to the developed CLD model.

The related stakeholders are the P2PL platform provider and the borrower. The interviewed P2PL platform provider is the provider who has been expanding the business to Surabaya or operating the business in Surabaya. The interviewed borrowers, which has done interviewed by Surabaya’s internal platform team, is the party that has been making loans through the P2PL platform provider. Full information of borrower is remain confidential from the authors, as the policy of uangteman.com (that is following the regulation of OJK) to keep the information confidential. Therefore, the interview session to the borrower is held and represented by uangteman.com team.

## Results and Discussion

### The Stakeholders

#### *P2PL Platform in Surabaya: UangTeman.com*

This platform has been becoming the pioneer for MSMEs’ funding since November 2016, just before the POJK 77 (regulation related to fintech) was established in the end of 2016. This platform aims to help by injecting quick-cash (loan) for consumptive and productive purposes. The total fund that has been injected in Surabaya has almost reached Rp4 Billion and 3000 applicants. Based on the interview, the proportion of the MSMEs that engage with this platform is 30%.

This platform injects their funds through the mobile apps and website. It only takes less than a week to be injected (transferred) by cash from uangteman.com The platform set a service fee<sup>1</sup> for the applicants, varying related to the number of loan application that the applicant has done with uangteman.com. The application of loan does not need a collateral, therefore the platform set certain filtrations to approve the loan application. The platform uses an algorithm that resulted only 25% to 30% approval rate from the total application.

Until September 2017, the Non-Performing Loan rate of uangteman.com in Surabaya is still less than 3%, related to the low rate of approval. Surabaya is the top 5 cities in Indonesia that performs well (in contribution of revolving fund) related to the business of uangteman.com. Thus, Surabaya is considered as one of several cities that will be focused further for the business of uangteman.com, particularly with the MSMEs in Surabaya. This platform has a novel idea in delivering the service, which is to result a good social impact in every loans approved.

**Table 1: Loan Criteria**

Loan	Range of Loan	Fee Service	Range of Payment
<b>First</b>	Rp1.000.000 – Rp3.000.000	1% per day	10 – 30 days
<b>Second</b>	Rp1.000.000 – Rp4.000.000	0.9% per day	10 – 30 days
<b>Third</b>	Rp1.000.000 – Rp6.000.000	0.8% per day	10 – 30 days
<b>Fourth and etc.</b>	Rp1.000.000 – Rp6.000.000	0.75% per day	10 – 30 days

Source: Authors’ Analysis

According to the interviewee, uangteman.com does not need any help from third-party to collect the loan from the borrowers. The process of collecting in uangteman.com is handled kindly by the internal team. The internal team will remind the borrowers two days before the payment day. This system will ensure that the collection will go smoothly.

### *Borrower*

The criteria of the borrower in this research is the MSME with no legal entity. Micro business, in practice, tends to “not separating the business and personal asset”. That will affect the personal consumption, as every profit acquired from the business will directly flowing into personal account rather than business account. Consequently, the owner (borrower) is dependent to the profit of the business for their personal consumption.

The condition of micro business tends to require quick-cash to run and to expand the business. Inauspiciously, collateral and financial report are the basic requirements to get loan from common financial institutions. Therefore, financial institutions that can give loans without collateral and financial report is needed. Micro business also needs only a small, but quick, injection of funds rather than a big cash with longer process of loan approval. It happens sometimes where a micro business needs an urgent and incidental cash.

Cash from P2PL that is acquired by the micro business can be utilised for business expansion or short-term liquidity. Related to the business expansion, the loan will be used for increase the supply. However, related to short-term liquidity, the loan will be used for incidental and urgent cash needs.

### *Lenders*

The model business of uangteman.com (and other stakeholders) has been confirmed by the interviewee to follow the POJK 77. The cash that is injected to the borrowers is coming from the institutions (of venture capital), in which the institutions are providing funds to the platform. However, further information related to the institutions are confidential. The authors conclude, based on the result of the interview and authors’ exploration through online news and articles, that the venture capital that support uangteman.com has a role as a shareholder<sup>2</sup>, where their funds are also used for lending to the borrowers.

The platform distributes the funds as a loan to the borrowers. The lenders get the profit from service fee that is regulated by the platform. Related to the Non-Performing Loan to the lenders, the platform make a set of rules related to the allocation of loan. The platform ensures that the algorithm to select (and approve) the borrowers could mitigate the risks of nonperforming loan.

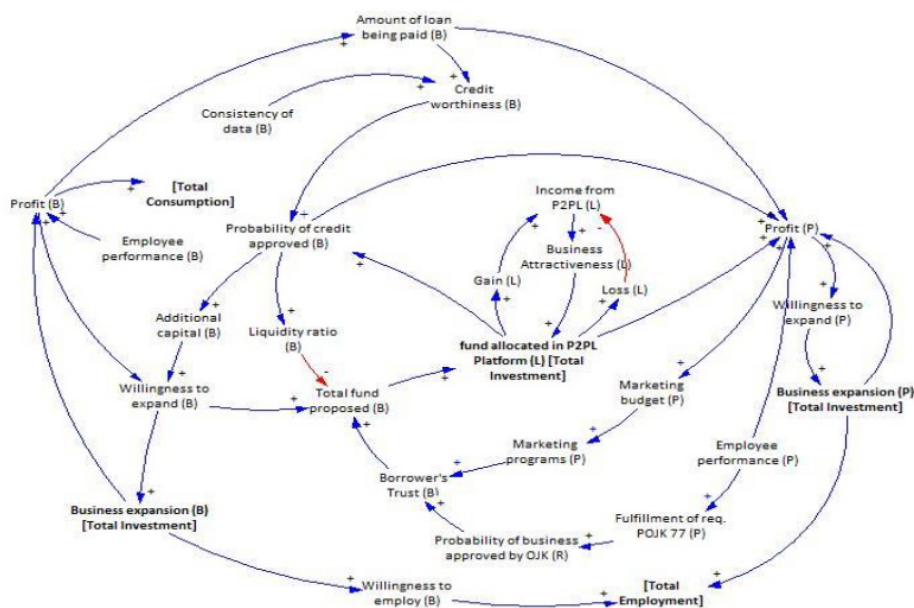
### *Causal Loop Diagram: P2PL and Regional Economy*

We confirmed 28 variables which are explicitly and implicitly mentioned during the interviews and literatures. It is important to remind that the system is dynamic and can be updated. CLD model can be adjusted if there are additional relevant information, or the boundaries are extended.

#### Variables:

- |                                       |                                   |
|---------------------------------------|-----------------------------------|
| 1) Profit (B)                         | 15) Gain (L) 16) Loss (L)         |
| 2) Employee performance (B)           | 17) Income from P2PL (L)          |
| 3) Amount of loan being paid (B)      | 18) Business Attractiveness (L)   |
| 4) Consistency of data (B)            | 19) Profit (P)                    |
| 5) Credit worthiness (B)              | 20) Willingness to expand (B)     |
| 6) Probability of credit approved (B) | 21) Business expansion (P) [Total |
| 7) Additional capital (B)             | Investment]                       |

- 8) Willingness to expand (B)
- 9) Business expansion (B) [Total Investment]
- 10) Willingness to employ (B)
- 11) Liquidity ratio (B)
- 12) Total fund proposed (B)
- 13) Borrower's trust (B)
- 14) Fund allocated to P2PL Platform (L) [Total Investment]
- 22) Marketing budget (P)
- 23) Marketing programs (P)
- 24) Employee performance (P)
- 25) Fulfillment of req. POJK 77 (P)
- 26) Approval from OJK (R)
- 27) Total Consumption
- 28) Total Employment



**Figure 1: Causal Loop System Diagram**

There are 10 loops within the system:

1. Reinforcing Loop (3 Variables)

Profit (B) → Willingness to expand (B) → Business expansion (B) [Total Investment] → Profit (B)

If the profit increases, then it triggers the willingness to expand to increase. Then, if the willingness to expand increases, the business expansion (which is represented by asset) also increases. Thus, the increasing business expansion (that is represented by asset, and asset is expected to generate future economic benefits) is triggering the profit to be increasing.

By this scenario, where the variables within one full loop is positively related to each other, the loop is categorised as a reinforcing loop. The feedback effect of this loop is reinforcing the original change.

2. Balancing Loop (4 Variables)

Probability of credit approved (B) → Liquidity ratio (B) → Total fund proposed (B) → Fund allocated in P2PL Platform (L) [Total Investment] → Probability of credit approved (B)

Keep in mind that increasing in the probability of credit approved does not neces-

sarily the same as approving the credit proposal, the probability should reach the value of 1 to really approve the credit proposal.

Therefore, when the probability of credit approved is increasing (and reach the value of 1, which means the system approves the credit proposal) then it triggers the liquidity ratio of the borrower to increase, as the cash is flowing into the borrower's account. If the liquidity ratio of the borrower is increasing, the total fund proposed to fulfill future's liquidity is decreasing as the borrower's need of cash is decreasing. Therefore, if the fund proposed by the borrower is decreasing, then the fund allocated in P2PL Platform by the lender is also expected to be decreasing. As the platform is responding to the decrease of borrower's demand of fund by lowering service fee [rate] to attract the borrower, the platform is also lowering the proportion of the service fee [rate] for the lender to adjust with new lower expected revenue from the borrower. Thus the attractiveness of the business is decreasing for the lender, which makes the lender may move out from the industry or lower their investment in P2PL industry. Remember that the lender does have alternative options to invest the cash outside the P2PL industry. Then, the decrease in fund allocated in P2PL Platform by the lender triggers the probability of credit approved to be decreasing (where it actually was "increasing" in the original change).

This scenario, where the feedback effect is opposing the original change of the first variable, is categorised as balancing loop.

### 3. Reinforcing Loop (5 Variables)

Willingness to expand (B) → Total fund proposed (B) → Fund allocated in P2PL Platform (L) [Total Investment] → Probability of credit approved (B) → Additional capital (B) → Willingness to expand (B)

When borrower's willingness to expand increases, then it triggers the total fund proposed to the lender to increase. By opposite explanation of the fund allocated in P2PL Platform by the lender in prior subsection (b), the increase in total fund proposed by the borrower triggers the fund allocated in P2PL Platform by the lender to also increase. The increase in the fund allocated in P2PL Platform by the lender stimulate borrower's probability of credit approved (however, keep in mind that increasing in the probability of credit approved does not necessarily as the same as approving the credit proposal, the probability should reach the value of 1 to really approve the credit proposal). Then, if the credit is approved, it is increasing the additional capital of the borrower. Thus, the increase in additional capital of borrower triggers borrower's willingness to expand to increase.

This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

### 4. Reinforcing Loop (7 Variables)

Profit (P) → Marketing budget (P) → Marketing programs (P) → Borrower's Trust (B) → Total fund proposed (B) → Fund allocated in P2PL Platform (L) [Total Investment] → Probability of credit approved (B) → Profit (P)

If the profit of the P2PL increases, then it triggers the budget of marketing to increase. The increase in marketing budget by P2PL will trigger the marketing programs to increase. Thus, the increase of marketing programs will trigger the borrower's trust to increase. Consequently, if the borrower's trust is increasing, the borrower will increase



the total fund that is being proposed. Similar to the prior explanation in subsection (c), that if the total fund proposed by the borrower increases, then, the fund allocated in P2PL Platform by the lender also increases. If the fund allocated in P2PL Platform by the lender increases, it stimulates the borrower's probability of credit approved to increase. However, increasing probability does not necessarily mean "approving the credit proposal", as it is also explained in subsection (c).

If the probability reaches value of 1 (Approved), it causes the profit of the P2PL will increase. The profit of P2PL Platform is gathered through the difference between the service fee (rate) taken from the borrowers and proportion of the service fee (rate) that is given to the lenders. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

#### 5. Reinforcing Loop (7 Variables)

Probability of credit approved (B) → Additional capital (B) → Willingness to expand (B) → Business expansion (B) [Total Investment] → Profit (B) → Amount of loan being paid (B) → Credit worthiness (B) → Probability of credit approved (B)

If the probability of credit approved increases (and the credit is being approved), then it triggers the additional capital of the borrower to increase, as the cash is flowing into the borrower's account. If the additional capital of the borrower is increasing, the borrower's willingness to expand is also increasing. Then, if the willingness to expand increases, the business expansion (which is represented by asset) also increases. Thus, the increasing business expansion (that is represented by asset, and asset is expected to generate future economic benefits) is triggering the profit of borrower to be increasing. If the profit of borrower increases, then it also increases the amount of loan being paid by the borrower, thus it increases the credit worthiness of the borrower. The increase of credit worthiness of the borrower will increase the probability of credit approved. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

#### 6. Reinforcing Loop (12 Variables)

Probability of credit approved (B) → Additional capital (B) → Willingness to expand (B) → Business expansion (B) [Total Investment] → Profit (B) → Amount of loan being paid (B) → Profit (P) → Marketing budget (P) → Marketing programs (P) → Borrower's Trust (B) → Total fund proposed (B) → Fund allocated in P2PL Platform → (L) [Total Investment] → Probability of credit approved (B)

If the probability of credit approved increases (and being approved), then the additional capital of the borrower increases. If the additional capital of the borrower increases, then it triggers the borrower's willingness to expand to increase. Thus, if borrower's willingness to expand increases, then the business expansion (that is represented by asset) is increase. Consequently, if the business expansion (that is represented by asset to generate future economic benefits) increase, then the profit increases. Then, if the profit of borrower increases, the amount of loan being paid by borrower increases. If the amount of loan being paid increases, then the profit of the P2PL platform also increases. When the profit of the P2PL platform increases, then it also increases the allocation for each division, particularly for marketing budget. If the marketing budget increases, then marketing programs increase.

If the marketing programs increase to ensure the good corporate branding, then

the borrower's trust to the company increases. If the borrower's trust increases, then the total fund proposed by the borrower increases. Then, if the total fund proposed by borrower increases (reflecting promising industry), then it increases the fund allocated in P2PL Platform by the lender (as explained in section [d]). If the fund allocated in P2PL Platform by lender increases, then it cause the increase of the probability of credit approved by the system. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

#### 7. Balancing Loop (4 Variables)

Fund allocated in P2PL Platform (L) [Total Investment] → Loss (L) → Income from P2PL (L) → Business Attractiveness (L) → Fund allocated in P2PL Platform (L) → [Total Investment]

If the fund allocated by lender in P2PL Platform increases, the (possibility of) loss also increases. If it turns out to be a loss, the higher fund allocated in the P2PL Platform means the higher total of loss. However, if the loss increases, then the income from P2PL decreases. Then, if the income from P2PL decreases, the business attractiveness also decreases. If the business attractiveness decreases, then the fund allocated in P2PL Platform by the lender also decreases. This scenario, where the feedback effect is opposing the original change of the first variable, is categorised as balancing loop.

#### 8. Reinforcing Loop (4 Variables)

Fund allocated in P2PL Platform (L) [Total Investment] → Gain (L) → Income from P2PL (L) → Business Attractiveness (L) → Fund allocated in P2PL Platform (L) [Total Investment]

If the fund allocated by lender in P2PL Platform increases, the (possibility of) getting gain also increases. If it turns out to be a gain, the higher fund allocated in the P2PL Platform means the higher total of gain. Consequently, if the gain increases, then the income from P2PL increases. Then, if the income from P2PL increases, the business attractiveness also increases. If the business attractiveness increases, then the fund allocated in P2PL Platform by the lender also increases. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

#### 9. Reinforcing Loop (6 Variables)

Fund allocated in P2PL Platform (L) [Total Investment] → Profit (P) → Marketing budget (P) → Marketing programs (P) → Borrower's Trust (B) → Total fund proposed (B) → Fund allocated in P2PL Platform (L) [Total Investment]

If the fund allocated in P2PL Platform (L) increases, it increases the profit of the P2PL. The profit of P2PL Platform is bigger when the amount of possible fund to be injected is higher, knowing that the profit for P2PL is gathered through the difference between the service fee (rate) taken from the borrowers and proportion of the service fee (rate) that is given to the lenders. That means, bigger fund will return bigger service fee. If the profit of the P2PL increases, then it triggers the budget of marketing to increase. The increase in marketing budget by P2PL will trigger the marketing programs to increase. Thus, the increase of marketing programs will trigger the borrower's trust to increase. Consequently, if the borrower's trust is increasing, the borrower will increase the total fund that is being proposed. Similar to the prior explanation in subsection (c), that if the total fund proposed by the borrower increases, then, the fund allocated in P2PL Platform by the lender also increases. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

#### 10. Reinforcing Loop (3 Variables)

Profit (P) → Willingness to expand (P) → Business expansion (P) [Total Investment] → Profit (P)

If the profit of P2PL platform increases, it cause the increase of P2PL platform's willingness to expand. Then, if the willingness to expand increases, the business expansion (reflected by the asset) also increases. Therefore, if the business expansion of the P2PL Platform increases, it is positively related to the increase of P2PL Platform's profitability. This scenario, where the feedback effect is reinforcing the original change of the first variable, is categorised as reinforcing loop.

Other variables related to each loops:

Within this system, however, there are several other variables which are connected, they are:

##### 1. Employee Performance (B) and Total Consumption.

Employee performance is a variable which also connects to the profit of the borrower (as the cause) beside the variable of business expansion of borrower. Therefore, if the employee performance increases, then the profit of the borrower also increases. Total Consumption is a variable which also connects to the profit of the borrower (as the effect or result) beside the variable of willingness to expand and amount of loan being paid (B). Thus, if the profit of borrower increases, then the total consumption increases. b)

##### 2. Consistency of data (B)

Borrower's consistency of data is a variable which also connects to the credit worthiness of the borrower (as the cause) beside the variable of amount of loan being paid by the borrower. Therefore, if the consistency of data increases, then the credit worthiness of the borrower also increases.

##### 3. Willingness to employ (B) and Total Employment

Borrower's willingness to employ is a variable which connects to borrower's business expansion (as the cause). However, there is no loop generated through this variable. The causality between the variables: If borrower's business expansion increases, then borrower's willingness to employ increases (grows).

Total employment is a variable which connects to borrower's willingness to employ and the P2PL Platform's business expansion (as the result for both variables). However, there is no loop generated through the variables. The causality between the variables: (1) If borrower's willingness to employ increases, then borrower's total employment increases, and (2) If the P2PL Platform's business expansion increases (grows), then total employment increases.

##### 4. Employee performance (P), Fulfillment of req. POJK 77 (P) and Probability of business approved by OJK (R)

The variables above are not included in any loops within the system. However, those variables are important to be included. The causality between those variables are: a) If the employee performance of the P2PL Platform increases, then the profit of P2PL platform increases. b) If the employee performance of the P2PL Platform increases, then the fulfillment of requirements of POJK 77 by P2PL Platform increases. c) If the fulfillment of requirements of POJK 77 by P2PL Platform increases, then the probability of business approved by OJK (R) increases. d) If the probability of business approved by OJK (R) increases, then the borrower's trust increases.

### **Insights**

There are some important insights within this industry, particularly for MSME that is getting loans through P2PL Platforms and the P2PL Platform itself. First, the P2PL platform believes that OJK Approval is crucial for their business to increase public trust to engage with the platform. Second, the MSME should be aware of their capability to repay the loan. Third, even though that there is a possibility for borrower to lend the money after the borrower gets the profit (become a lender in P2PL Platform), the borrower prefer to expand their business.

Based on the real practice of a platform in Surabaya, there are several factors affecting the credit worthiness of a borrower: (1) the historical payment and (2) consistency data that is submitted to the platform. However, credit worthiness is not the only factor that is affecting the credit approval, there are several factors affecting the credit approval. They are the fund which has been allocated in the P2PL Platform and the acceptance rate set by P2PL in the system. The insights are intended to help future studies to develop a better model based on the characteristics of current P2PL industry.

### **Policy Recommendation**

1. At the first place, P2PL industry should be believed as the complementary sector that delivers financial services collaborating with the banks and other financial institutions. The P2PLs recognise that they complement the current financial services in Indonesia. At the moment, P2PLs platform are filling the gaps for the unbankable MSMEs.
2. P2PLs' strategic position to fill in the gaps have been recognised by the MSMEs. They have been chosen over the banks and the shark loans (*rentenir*) as they possessed some advantages for the environment of MSMEs. Non-collateral loan, quicker process and regulated by OJK, are the advantages of P2PL.
3. The advantages of P2PL trigger the MSMEs that are engaged with the P2PL Platforms. The amount of loans and the application are reported growing and repeating significantly. In the long run, it is obvious that the asset of the MSMEs are growing.
4. Bigger assets to handle will stimulate the MSMEs to borrow the funds repeatedly through the P2PL Platforms. P2PL Platforms will also keep up with the growing MSMEs by expanding and innovating their products. However, the interaction between MSMEs and the P2PL will be happening only to some extent until the MSMEs are well-established where their total assets have been exceeding the category of MSME. At that point, without any change in regulation of P2PL, MSMEs will shift their loan partners to the banks.
5. Related to the policy recommendation, it is needed to develop policies to support the synergy between the P2PL Platforms and the Banks in Indonesia. One of the supportive regulations could be by encouraging P2PL Platforms and Banks to handle certain MSMEs collaboratively. Other regulation, perhaps, could be by allowing and the transfer of data related to the growing business entities between the P2PL and the Banks. Information such as historical performance assessment, including the credit history, should be used as a reference for the banks to provide bigger loans to support the growing business entities.
6. Therefore, it is a duty for P2PL to guide the MSMEs to be a well-established company. The guidance, then, will be transferred to the Banks, as the MSMEs are naturally needed to be more prudent in conducting their business and financial activities. The regulations are intended to benefit the MSMEs, the P2PL Platforms and the Banks. Hopefully, the regulations may be impactful to the economy in Surabaya and Indonesia.

### **Conclusion**

The conclusion of this research is knowing how funding from P2PL platform can become the solution for short-term loan for MSMEs, whether they are new comers or old play-

ers. It can be seen when MSME get loan for several times, it would increase the capital. The regular increase in capital may give a willingness for MSME to expand the business, and fortunately, expansion of the business is related to the investing activity of MSMEs (reflection of the growing economy). The investment activities may increase the profitability of the MSMEs, and thus, the profit can be utilised by the owner of MSMEs for household (personal) consumption.

From the perspective of the platform, distributing more loans to more MSMEs are affecting to profitability and the expansion of the platform (reflecting the investment activity within the economy). The expansion of the platform will affect the employment, as the platform is recruiting more employees to handle more MSMEs. To conclude, the result of the system is affecting the economy of Surabaya through the increase of investment activities of P2PL Platforms and MSMEs, the increase of personal consumption of MSMEs and the increase of the employment of MSME and the P2PL Platform.

### **Limitation and Scope for Further Research**

The limitation of this research is focusing only to interview one P2PL platform that gives fund for MSMEs. Further research, the interview can be expanded to include more P2PL platforms. To the best of our knowledge, until the early of October, there is another platform that has just expanded into Surabaya. Therefore, comparing the condition between two platforms (or more) of P2PL through Causal Loop Diagrams will be interesting and important. That will give a better perspective to explore what are the role of the P2PL platforms and how are they engaging to the MSMEs activities in Surabaya.

Related to the methodology, further research may construct the Stock and Flow Diagram (SFD) as the complementary analysis of CLD. Thus, the Causal Loop Diagram (CLD) may describe a whole system and the SFD may measure the impact of the system. Through SFD, the research can be more scientific as the SFD includes quantitative data to the model. This method can help policy makers to know how to make a better policy for P2PL Fintech.

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