RISKS ANALYSIS OF CAMA AUTOMATION SYSTEM (CASE STUDY: PT. BANK YELLOW INDONESIA)

Muhammad Faizal Pradhana[1*], Raden Aswin Rahadi[2]

[1]   School of Business and Management, Institut Teknologi Bandung, Indonesia
      Email: muhammad_masemi@sbm-itb.ac.id
[2]   School of Business and Management, Institut Teknologi Bandung, Indonesia
      Email: aswin.rahadi@sbm-itb.ac.id
[*]   Corresponding Author

Abstract:

PT. Bank Yellow Indonesia (pseudonym) is developing a system called "CAMA Automation". The purpose of this system is to operate the cash waterfall management for project financing automatically. The reason behind the development of this system is to minimize the risk of human error that has occurred several times and had a significant impact on this bank. In this research, we analyzed the possible risks that might arise when the system starts operating. We interviewed seven people who are involved in the making of this system, and they are also are the people who will use this system. The results of this study indicate there will be some risks that may occur when they start using this system, and the one that has the highest level of risk is when they input the wrong schemes of CAMA to the system. Those risks could affect the relationship between this bank and its third party, and also would be the obstacles to grab the opportunity from the infrastructure development in Indonesia. Therefore, a structural user acceptance test with all the people involved in the CAMA process is the best thing to do to prevent and mitigate those risks. The structural user acceptance test will make the employees who are involved in the CAMA process, can fully understand how to use the system properly.

Keywords:

CAMA In The Banking Industry; Risks Of CAMA Automation In A Bank; Cash Account Management Agreement; Project Financing Loan; User Acceptance Test

Introduction

This research used a pseudonym because the company doesn't want the author to publish its real name. Originally, PT. Bank Yellow Indonesia *(pseudonym)* was a domestic bank that founded in the 1950s, but right now, it is owned by an international group which also one of the leading banking groups in South East Asia. Since the 1980s, this bank has been listed in Jakarta & Surabaya Stock Exchange, which now named as Indonesia Stock Exchange (IDX). Similar to other banks, this bank offers many types of the loan facility, one of them is a loan to "project financing" activities. However, loans for project financing activities have more risks compared to other types of loan facilities (Sogre, 2011).

In order to accommodate the risks of the loan for project financing, Bank Yellow Indonesia implement a cash waterfall management for a company that asked that kind of loan, and this bank named it as *Cash Account Management Agreement (CAMA).* In general, the bank will create an account called (Escrow Account) to gather all the funds that come from the people who buy the company's project, and then that funds will be distributed to the corresponding accounts, such as; installment account, sinking fund account, OPEX account, CAPEX account, and many more, depends on the agreement.

Based on the management evaluation, the current CAMA has trouble in securing the bank's priority which is the payment of the installment, and this problem exists because the ongoing process doesn't have a decent verification process which could lead to a human error or creating a fraud. Regarding this issue, this bank is developing a system that will automate the verification process and the cash distribution from the escrow account into the installment account, sinking fund account (this bank named as DSRA), OPEX and CAPEX, and other optional accounts. It will have a default scheme yet still can be customized based on the final approval of the management. However, the critical point in this system is to make a better verification process, so it can secure the bank's priority which is the payment of the installment.
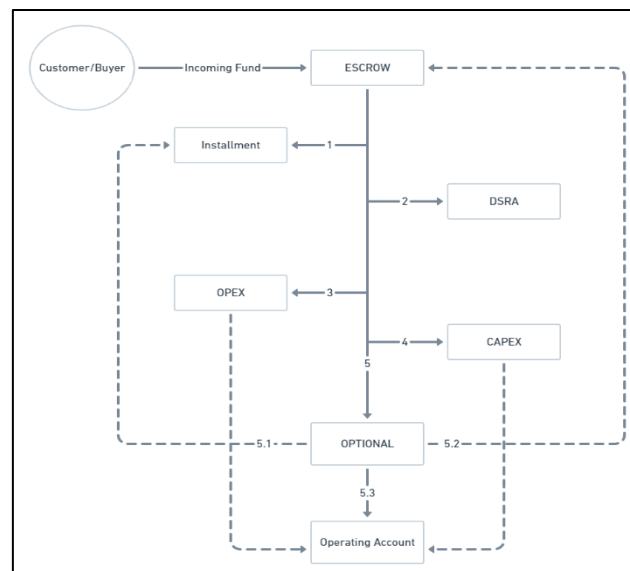

Figure 1. CAMA Project Default Schemes

(Source: PT. Bank Yellow Indonesia, 2020)

The figure above is the blueprint of this system, as we can see that this system will manage the cash distribution from the Escrow account to others account automatically. The numbers on that line represent the priority of the cash distribution, but it can still be customized because the schemes of CAMA depends on the agreement between the bank and the third party.

In this research, we will try to analyze all the possible risks that might arise when this bank finally switches the process from manual into automated by the system. Furthermore, we can analyze how those risks might affect the process of CAMA and the whole business of this bank.

Literature Review

Project Financing
Sogre (2011) describes three main challenges in project financing; first, the amount of loan is relatively higher than other kinds of loan, and it is only to finance a "single-purpose asset", the second one is project financing has two main phases which are the construction risk and operational risk which has been described above in chapter 1, and last, but not least is usually large projects are related to other parties outside that company such as supplier, government whether the central or local government. Sorge & Gadanecz (2004) also implied that in project financing has a higher risk in the earlier stage because of the short-term liquidity concerns, and the political aspect with the government plays a crucial role in the success of the project financing.

Systems Failure and Risks
Investing in information technology or a system in the bank can help the bank achieves some advantages such as cost savings (Robinson, 2000) and time savings (Karjaluoto *et al.*, 2003). However, no one can guarantee that the system will run properly as it should be. Furthermore, each case will have different types of risk depends on their environment (Khaled, Saleem, & Khalid, 2009). Many projects or systems are running in an environment full of uncertainty which could affect the success of the systems (Tom & Seema, 2002), if the systems not successful, the company has to face loss in money and time. Based on Tom & Seema's (2002) research, they found that "continuous requirement changes" and "unrealistic schedules and budgets" are the most common factors that occur in the software project. In order to avoid failure or possible risks that could happen in the future, the people who use that system or devices should understand well about that system or device, especially for the sophisticated system (Agboola, 2003).

Methodology

Data Collection
In order to gather all the data, this research used a qualitative approach. The reason why a qualitative approach is a decent option is that there was no a single research that explaining the possible risks of CAMA automation, which means we don't have any foundation of the factors for this study, but with this study, we explored those factors. This bank three main branches in Indonesia, those are in Jakarta, Medan, and Surabaya, however, the employees outside Jakarta will follow all the policies from the head office located in Jakarta. Therefore, in this research, we interviewed seven people who are the creators of this system, and they are also the people

who will use this system. The interview will be an open interview so that the author can look through all the possible risks from each individual.

Data Analysis

In order to analyze the possible risk from CAMA automation, this research refers to Sudarso & Suharto (2008) method. This method let us categorize the risks and then create a matrix that could visualize the likelihood and the level of impact of the risks.

LIKELIHOOD					
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Low	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Almost Never	Very Low	Low	Low	Low	Medium
	Minor	**Moderate**	**Severe**	**Major**	**Worst Case**

IMPACT

Figure 1: Risk Mapping Matrix

(Sudarso & Suharto, 2008)

Findings

Possible Risks of CAMA Automation

Table 1. Summary of Risks of CAMA Automation

Type of Risks	No	Risks	Possibility	Impact
Schemes Risks	1	Scheme with many extended accounts	Possible	Minor
	2	A new scheme that never been thought before	Likely	Moderate
	3	Very complicated scheme	Possible	Severe
Technical Risks	4	Funds are not transferred from escrow to other accounts	Almost never	Worst Case
	5	Funds only transferred partly	Almost never	Worst Case
	6	Sever down	Unlikely	Major
Human Error Risks	7	Input the wrong account numbers	Unlikely	Worst Case
	8	Input the wrong nominal	Possible	Worst Case
	9	Set up the wrong schemes	Possible	Worst Case

(Source: Author's Analysis, 2020)

Schemes Risks

Based on the interviews, the schemes of CAMA is very uncertain, and it is often to have different schemes for one company to another. There might be a new scheme that never exists before, or a scheme that has a lot of extended accounts, or a very complicated scheme, those

might exist because the scheme of CAMA depends on how the third party wants their funds to be managed by this bank. If this happens, they have to choose whether to force the schemes operated by the system or do it manually, but there is a likelihood that the system will not operate correctly if they insist on using the system. Eventually, the best thing to do for that moment is they have to do it manually. All of them have a high tendency to occur, but it will not have a significant impact since these events occur before they set up the schemes to the system.

Technical Risks

The technical risks are all the risks related to the technical problem about the system itself, and this risk can be found in every system, including CAMA automation. All of them have a significant impact on the CAMA process. However, the IT employee who is the engineer of this system said that this system would be placed in the core server of the company, which has a very low probability of having a server down. On the other hand, when those risks happen, it will take time to solve and have a significant impact on the CAMA process, especially when the issues occur near the due date of the transaction.

Human Error Risks

One of the ideas of CAMA automation is to minimize human error, however, with the CAMA automation, it will create a new kind of human error. Those risks are shown on the table above, and the probability of them to happen is quite possible except the inputting the wrong account numbers because the system will generate the account numbers automatically. However, human error risks will have a significant impact on the CAMA process, especially when no one realizes the mistakes before they start the process. The likelihood of human risks to happen is quite high because it is related to the daily operation.

Risk Mapping of CAMA Automation

LIKELIHOOD		Minor	Moderate	Severe	Major	Worst Case
Almost Certain						
Likely			(2)			
Possible		(1)		(3)		(8), (9)
Unlikely						(7)
Almost Never					(6)	(4), (5)
		Minor	**Moderate**	**Severe**	**Major**	**Worst Case**

IMPACT

Figure 2: Risk Matrix *(Sudarso & Suharto, 2008)***, of CAMA Automation**

(Source: Author's Analysis, 2020)

As we can see from the figure above, the good news is there is no risk that is very extreme from CAMA automation. On the other hand, risks of human error become the risk which has the most significant impact to the CAMA process, especially when they input the schemes of CAMA wrongly, and the nominal of funds that they input are not correct even for a little digit amount of money. The risks of human error will become worse if people who involved in the CAMA process don't monitor the process so that no one realizes the mistakes. In terms of

scheme risks, it doesn't have a significant impact on the CAMA process, but they are more likely to happen due to the uncertainty of the third party's condition. Almost all of the risks are possible to occur except with all the risks from technical risks.

Technical risks seem to be unlikely to happen because the system will be tested several times before it starts to implement, and the system will be placed in the core server of the company, and the engineer said that it is very rare that server will down. However, they will never know when the system and the server will have technical issues. If there is a technical issue, it will disrupt the CAMA process and will be very dangerous if the problems occur nearly at the due date of the transaction from the escrow account to other accounts

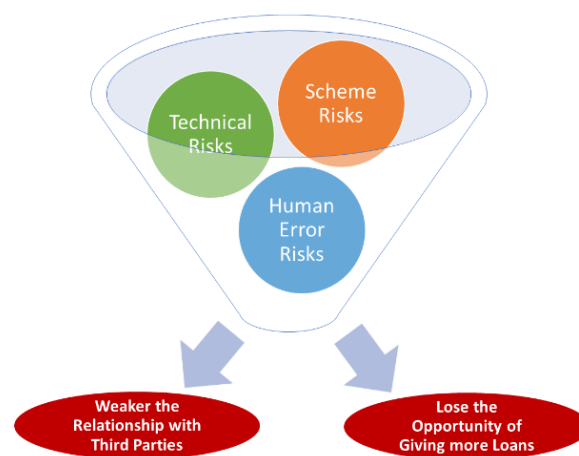**The Effect of The Risks**

Figure 3: The Effect of Risk of CAMA Automation
(Source: Author's Analysis, 2020)

The third-party might be losing interest in borrowing money from this bank due to the difficulties and inadequate services they have experienced with this bank's CAMA process. A loan for project financing which using CAMA, usually would generate more profit to the banks, because the risk from this loan is higher than other kinds of loans, if this bank loses its customer even only one customer, it will create a significant impact to this bank profitability.

On the other hand, currently, the development of infrastructure is the main political goal of Indonesia's government (CNBC Indonesia, 2019). Those infrastructures development will increase the activity of borrowing money from the banks, from the state-owned companies until the private companies. State-owned companies are mostly asking for a loan to build the infrastructures, and the private companies are borrowing money to make something that might be beneficial due to infrastructure development. These are the kind of loans that need CAMA in the process, because the company can only generate the money after the projects are done. Therefore, having some risks that frequently happen in the CAMA automation might be obstacles for this bank to grab the opportunity. This bank would not run the CAMA efficiently, and in the end, this bank can only grab the small amount of this opportunity.

Conclusion and Recommendation

Some possible risks might arise when this system starts running, and those are; schemes-risk, technical risk, and human error risk. These risks, if these happen very often, it would disrupt the CAMA process, and would endanger the relationship between the bank and the third parties. The worst-case scenario is this bank will lose its customer, and couldn't grab the opportunity to give more project financing loan. The results of this study suggest that the management has to make sure its people who involved in the CAMA process understand how to use the system properly, especially when they have to deal with a complicated scheme. In addition, having a structured user acceptance test is the best thing to do to prevent and mitigate those risks.

Novelty of The Research

This study can be said as an original study because the authors did not find any study that has analyzed the risks of CAMA automation. The author only found researches that just analyzed the level of technology acceptance toward a system in a bank, but none of those researches also mentioned and explained the CAMA process with or without a system. Therefore, this research can be used as a theoretical foundation for the next studies of CAMA automation in a bank. The human error in using the system becomes the most crucial aspect, and it has a higher level of risk compared to the other risks. Therefore increasing the level of understanding to use the system will minimize the risks of human error to happen in this kind of sophisticated system. (Agboola, 2003).

Limitation and Further Research

First of all, the system itself is not finished yet, so the information that we have here might be their assumption of what the system will be, not what they have experienced, also the likelihood and the level of impact of those risks might be different from the result of this research, and maybe there are some risks that they have never thought before. Moreover, not all the interviews were done with a face to face method, some of the interviews done with the phone call and have fewer durations because the interviewees have a lot of things to do. Further research will have a better insight if it could analyze the difference between two timeframes, before the implementation and after implementation. Moreover, quantifying the risk aspect and make a justification towards the benefit of the system will also give better insight, and it could create a new methodology on how to justify the risks of a system development in banking industry.

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