Evaluation Model of Front End System Implementation of Bank XYZ's from Customer Side

Wahyu Sardjono[1*], *Roifayusyar*[1], *Johan*[2]

[1]Information Systems Management Department, BINUS Graduate Program – Master of Information Systems Management, Bina Nusantara University, Jakarta, Indonesia 11480
[2]Information Systems Department, School of Information Systems, Bina Nusantara University, Jakarta, Indonesia 11480

Abstract. Information Systems is used by banking companies to process and store financial data and transactions made by customers. The company strives to continuously improve its technological innovations in order to support internal business processes. With the implementation of information technology to contribute to the acceleration of internal business processes that are more efficient and effective internally, it is expected that companies can compete to be more competitive. The purpose of this study is to determine the main factors of the implementation of the existing front end system at bank XYZ, so that further models can be made that can be used to evaluate the performance of the system. This research method is carried out by collecting data from respondents or customers who are directly affected by the service from this front end system, then observations are made using the factor analysis method. The results of this study found that there were new factors formed by the presence of a number of clustered indicators which could then be represented as new factors that reflected the expectations of respondents in particular and bank customers in general. The conclusion obtained is that there are new factors formed: Automation, Information. Management Information Systems, Business Process, and Performance.

1. Introduction

The development of information technology is rapidly increasing and the role of information system management that is faster and felt from the business and operational aspects, most companies continue to compete to continue to create some innovations. Information systems and technology use banking to store and manage customer data and transactions that occur every day in real time. The use of Information Technology must be able to support the development of an organization. The presence of Information Technology makes management of information by employees in the information field easier and faster. XYZ is one of the companies engaged in banking. With the front end system (FES) application. FES itself is a web-based banking application that is used in all XYZ branches throughout Indonesia as a support in banking operations. With the increasing importance of the FES application for the sustainability of the XYZ business and XYZ customers. Within a period of 6 months after the implementation of the FES application apparently there were still issues and constraints reported by branch offices spread throughout Indonesia. Defact report reported to FES by the branch (Production) obtained from October 2018 to March 2019.
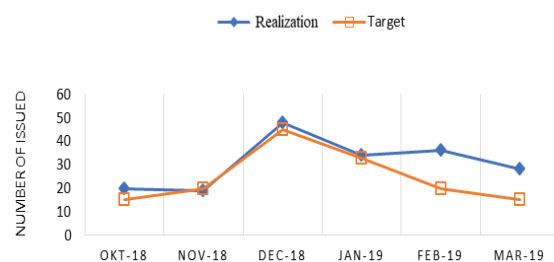
*Corresponding Author: wahyu.s@binus.ac.id

Figure 1. Problem Issue Front End System

From the graph above, it can be seen the problems that are being faced by the company. The percentage of the number of issues that did not reach the expected target every month so that it became the findings of the business IT audit team and as evidence of the non-smooth implementation of the front end system. This is the process of confirmation and verification that the service and product do not meet the expected target and the successful implementation of the front end System (FES) project is very important for the company's progress going forward The problem formulation in this research is to determine what factors help the successful implementation of the front end system. And what indicators can help the successful implementation of the front end system. Look for factors, indicators, that cause FES often experience problems when implemented in production. As a reference for evaluating the impact of implementing banking applications, optimizing the level of implementation of the front end system, as a reference for documentation, and information in planning the

efficiency of the company's strategy, increasing the competitiveness of the company against other banks.

2. Literature Review

In the development of information technology. the role of the system in the banking industry at this time is very necessary in decision making. The presence the system in banking industry makes managing information easier and faster to complete a predetermined target. The system is a collection of interrelated components and has a similar function to achieve several results. Meanwhile, the System is a collection of elements organized to achieve the goal of processing the available information [1]. From the above understanding it can be concluded that the system is a collection of components that are organized with each other that has a function to process information that is there. Information is the result of data processing so that it becomes valuable to the recipient and is useful when making decisions [2]. The definition is the definition of information in the use of information systems of raw data that has been processed to provide results in it [3]. From the above understanding it is concluded that the data has been processed and can be used to facilitate decision making.

Basically an information system is merger of IT and information to support operations and management [4]. Information system is the process of gathering, analyzing and disseminating information for a particular purpose [5]. Information system is the process of gathering, analyzing, information to achieve the goals that have been set [6]. Apart from that, another opinion, information systems a merger of people, hardware, software, and databases that collect, change and disseminate information in an organizational form. From the above understanding it can be concluded that the information system is a procedure that collects, processes, stores, analyzes, and disseminates information for specific purposes for most well-computerized information systems in an organization. Quality is a characteristic of a system that meets user criteria consisting of satisfactory indicators, effectiveness, user turn-over. Efficiency, and unsatisfactory. For an organization the quality of the system is very important and can increase added value that benefits the organization [7]. Factor analysis is a procedure used to reduce data that still contains a collection of information. The main purpose of factor data analysis is to describe the diversity among the many variables which can be distinguished in a number of fundamental properties but cannot be observed in quantity.

The stages of data processing in factor analysis:

a. Determine the adjustment matrix for sub-factors.
b. Conduct a data feasibility test if a factor analysis is suitable.
c. Determine the proportion of diversity that will know how many factors will be formed
d. Steps in processing data using factor analysis.
e. Determine the validity of the tested factors.

Capability Mature Model Integration (CMMI) is a model approach that serves to improve the software process

(software process) within the organization to become more efficient and effective. CMMI is one of the maturity models used to improve process improvement in an organization [8].

3. Research Instrument Development

The results of the literature study conducted by researchers regarding the relevance of the development of systems in organizations obtained a matrix.

Table 1. Reach Instrument Development

Factor	Indicator	Reference	Statement
System	User Friendly	Rainer, Prince, Cegielski. (2015). Introduction to Information System, Fifth edition, John Wiley and Sons	The system is easy for users to use
	Easy to adapt to change	N.N. Strategic R&D opportunities for 21st century, Cyber-physical system, Connecting computer and information systems with the physical world report of the Steering Committee for Foundations and Innovation for Cyber-Physical Systems, USA, January, 2013: 24.	The system is easy to adapt to changes that occur
	Stable	J.W Satzinger, John W., Robert B. Jackson, Stephen D Burd (2010). Systems Analysis and Design in a Changing World, sixth Edition. Course Technology, Cengage Learning.	The system provides value for users
	Integrated IT business process	GXS, Inc. (2010, June) Managed File Transfer for Banking, Insurance and. Retrieved July 2015.	Business processes are integrated with IT as a support for decision making
	Accurate	Visser, M, & Herselman M. (2013). Evaluation of management information systems: A study at a Further Education and Training college, SA, *Journal of Information Management*, 15(1), Art. #531, 8 pages.	The information obtained and provided is accurate
	Contribution	Scearce, T. (2014) "Negative Impacts of Unmanaged File Transfers"	Provides complete information records when needed
	Integrated data	Lightwell. (2014). Managing global challenges to data integrity with secure file transfer.	Information based on data so that it can be validated.
	Decision-making	Mortezaei, F. (2012). *The Role of The Information System in Improving Managerial Decisions*.	Improve the efficiency and effectiveness of information in organizations so that it helps in decision making.
	Harmony of business vision and mission	Mpofu, Raphael T.2011.Sistem manajemen pengetahuan *practices in Malawi. African Journal of Business Management*	Information based on the company's vision and mission for decision making
	Ease of Learning	Awosejo, O. J., & Pretorius, P. (2014) *"Recommendation of Information Systems to Motivate Accounting Firm in South Africa"*	Information is easily digested for new employees as a support for learning
	Relevant	HatvanyJ., *The efficient use of deficient information, CIRP Annals –Manufacturing Technology* 2013, 32/1:423-425.	The information obtained is relevant
	Stable	Gerard De Leoz, Stacie Petter. (2018) Considering the social impacts of artefacts in information systems design science research. European Journal of Information Systems 27:2, pages 154-170	Information systems provide value for users and run appropriately
	Process accountability	Compelling benefits of managed file transfer solutions. (2013, October 22). Retrieved August 2015, from The Lightwell Business Technology.,	The ability to track the entire transaction process
	In accordance with business processes	Vladimir Z. (2015) Editorial Introduction. Journal of Management Information System. pages 1-2.	IS run in accordance with existing business processes
Information			
	Responsive	O'Brien and George Marakas, 2011 Management System Information. McGraw Hill, New York.	Information systems are responsive when used by users

The results of this study will produce several new factors which are a representation of the existence of a number of factors that are dominantly grouped and represent the respondents' perceptions of the implementation of the application that is currently used. So that these results can later be used as an identification of the problems that have been faced so far and can be used as a reference for improvement and improvement of the front end system in the future. Various constraints revealed in the research can be used for decision making and future strategy formulation in order to increase the value of the company.

4. Methodology

After formulating the problem being faced, the next step in this research is to evaluate a system that was created

and developed based on the method of literature related studies and savings on the Bank XYZ, which includes direct observation of the running system, interviews, and conducting data collection using questionnaires in finding and gathering information related to the efficiency and effectiveness of the system running. Researchers conduct data collection activities by conducting observations, interviews, and distributing questionnaires to the users of both the IT department and business department to obtain information related to the efficiency and effectiveness and impact of the system that has been used to obtain relevant information needed in research.
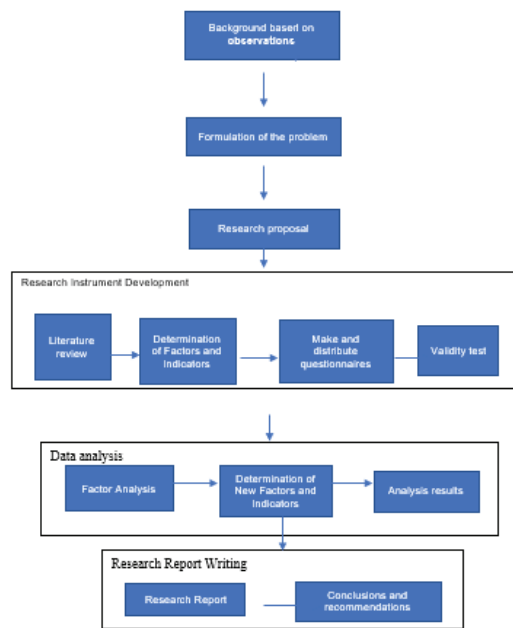

Figure 2. Thinking Framework

It is preceded by searching for information contained within the company by direct observation to the front end system (FES) used by the Bank XYZ. Then proceed with interviews with the people involved in it both from the IT division and the business division, the concept of problem solving is based on sources from literature studies, literature, journals in accordance with the topics raised in this discussion, so that factors can be determined and indicators in preparing the questionnaire.

Figure 3. Research Design

The researcher determines indicators based on existing factors and transforms them into research instruments for information gathering needs. And build research instruments from existing indicators. Researchers collect data by building and distributing questionnaires in accordance with company conditions. Data from the questionnaire were collected, after which the researcher conducted a factor analysis of the results of the questionnaire. Through the development of research instruments based on existing theories by determining related factors and indicators based on a number of existing references, in the end obtained a number of statements that will be used in developing a questionnaire that is built based on a Likerd scale with 5 (five) choices between very disagree to strongly agree. Then the respondent's data was taken through a random sampling system.

5. Result and Discussion

Reliability testing is the most commonly used questionnaire of the reliability testing technique represented by the Cronbanch's Alpha (α) value. If the value > 0.9 is very good, and if the value> 0.7 is said to be acceptable.

Table 2. Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
.882	25

With the discovery of 5 new factors obtained after going through a factor analysis namely, System Automation, Knowledge Information System Management Information System, Quality of Business Process and Implementation, these five factors will be used by the author to evaluate the implementation.
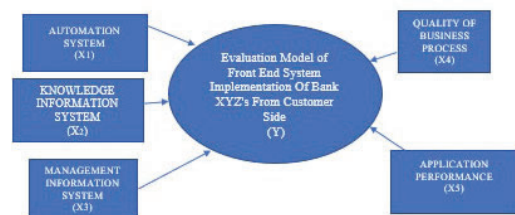

Figure 4. New Factors Influencing Implementation Evaluation Front End System

From previous studies from international and national journals used as a theoretical basis and research references related to the Quality Assurance in Information System with various methods according to their needs. The following is a list of studies with topics related to Quality Assurance in Information System that have been conducted.

Table 3. Comparison of previous researchers

No	Research purposes	Theory	Research result
1.	Test the quality of internet banking services on the implications of customer satisfaction [9]	Using quality theory from the level of customer satisfaction, Quality Assurance	The efficiency of banking websites is an important indicator in the quality of internet banking services
2.	Identifying approach features to improve the reliability of banking information system operator activities, the principles and methods that should be used in the development and implementation of the provision of quality banking information technology that is ergonomically proposed [10]	Using ergonomic theory, Software reliability, Quality Assurance Information System	One of the most effective tools to improve the reliability of banking information technology is the development and application of an ergonomic quality assurance system.
3	Evaluate and document the system development life cycle on operational factors and develop it into the quality of the metric model [11]	Using Systems Development Life Cycle theory, software quality factor	The metric model is validated on one project based on criteria, a valid quality measure on the project
4	Optimizing software process improvement (SPI) in companies that have existed for more than a decade [12]	Using theory, data collection, snowballing technique	The involvement of senior management and staff is an important factor for the success of ISU.

6. Conclusion

The conclusion of the evaluation of the implementation of front end system production issues of PT. Bank XYZ by using a factor analysis involving 176 respondents, the researchers proved that found 5 new factors that influence the implementation namely Automation Systems, Knowledge Information Systems, Management Information Systems, Business Process Quality, Application Performance.

Each new factor found presents several indicators. The first factor is the Automation System which consists of several indicators, namely: Automation, Testing, Unsatisfactory, Design, Efficiency, Analyst, Planning, Effectiveness. The second factor is the Knowledge Information System which consists of several indicators, namely: Stable, Ease of Learning, Responsive, Relevant, Stable. The third factor is the Management Information System which consists of several indicators, namely: Decision Making, Accurate, Contribution, Turn Over System Users. The fourth factor is the Quality of Business Processes consisting of several indicators, namely: IT integrated business processes, Alignment of Vision - Business mission, Process Accountability. The fifth factor is Application Performance which consists of indicators, namely: Implementation.

With the existence of several new factors that are formed, it is expected that the company can concentrate more on these factors to improve service to customers for factors related to external parties and improvements to internal business processes for a number of related new factors. The next suggestion is to build a linear regression model using these new factors as independent variables, utilizing the data score factor formed and using the current respondent's perception data as the dependent variable. This research was conducted for a moment, so that if this research was repeated with different respondents, it is possible that it would give different results. However, the way to get new factors and the resulting model can still be done and used and used as a reference to form a model for future researchers.

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