DESIGN THINKING WITH INFORMATION TECHNOLOGY SUPPORT AS A SOLUTION TO THE PROBLEM OF CSR SOEs IN INDONESIA

Muhammad Rozahi Istambul [1], Egi Abinowi [2]
[1]Information System Department, Widyatama University, Indonesia
Email: rozahi.istambul@widyatama.ac.id [1], egi.abinowi@widyatama.ac.id [2]

Abstract: State-owned enterprises (SOEs) in Indonesia are non-profit companies managed by the state that will help the community, including small and medium enterprises (SMEs) in running their business through capital loans to develop the production processes run by the SMEs concerned. The capital from these SOEs comes from the Corporate Social Responsibility (CSR) of each company in SOEs and has a division that will help provide soft loans, known as the Partnership and Community Development Program (PKBL). However, in the process, SMEs need policy procedures established by PKBL to channel soft loans (capital) according to applicable criteria, if SMEs can make a complete and good business proposal then PKBL will then follow up on that capital. The problem is that many SMEs do not know and find it difficult to make business submission related to their businesses, whereas, on the other hand, many SMEs have the opportunity to repeatedly capitalize on different SOE companies because they can make a good business submission. This problem requires PKBL to manage business processes more optimally by distributing loans equally and fairly to different SMEs. This problem solving was made using the design thinking method approach that involved all PKBL parties so that they could coordinate optimally. While the implementation action process involves the role of information technology developers.

Keyword: CSR, Capital, business submission, design thinking, information technology

1.INTRODUCTION

At present many State-Owned Enterprises (SOEs) in Indonesia are willing to help Small and Medium Enterprises (SMEs) in the form of Corporate Social Responsibility (CSR) or usually managed by the Partnership and Community Development Program or Program Kemitraan dan Bina Lingkungan (PKBL). Corporate Social Responsibility is a concept or action taken by the company as a sense of corporate responsibility towards the social and the environment in which the community's businesses are located. Activities
undertaken can improve the welfare of the surrounding community and protect the environment, which can be in the form of providing aid funds for the maintenance of public facilities, donations to build community facilities that are social and useful to the community at large, especially the communities around the company are located.

One of the CSR activities is in the form of social improvement by strengthening the economy of the community around the company's working area, in the form of strengthening SMEs in terms of providing capital assistance. The benefits of CSR for the company itself to improve the company's image in the eyes of the community and assist in managing business growth for SMEs as part of the CSR Program Development Partners.
SOEs has the obligation to foster and assist Small and Medium Enterprises to jointly improve the national economy. These efforts can be achieved optimally if improvements are made in the form of guidance to several aspects which so far have been considered the main obstacles faced by SMEs. Some general aspects that often appear on the side of SMEs include capital and marketing aspects.

1

The CSR program needs to be implemented as one of the mentoring and coaching activities for SME partners fostered by the CSR program. CSR programs can be in the form of credit assistance or capital assistance and other support as well as facilitating the fostered partners of the CSR Program to be able to pass through and manage their business growth productively by increasing their capabilities. As is the case, increasing the production and marketing of its products competitively, so that it becomes a strong and independent SME.

On the other hand, SOEs have constraints in the selection of CSR (capital) assistance to SMEs, one obstacle is that SOEs have not been able to select SMEs who will get help because not all SMEs are able to make business proposals. Provision of CSR assistance should ideally be given to SMEs that have the potential to develop and have constraints, especially on capital. At present every PKBL which is a division of various companies that manages CSR only selects and provides assistance to SMEs that have submitted their business submission. So, often SMEs that can make a good business submission can enter many PKBLs and have the opportunity to repeatedly get loan funds from a variety of different PKBLs.

Referring to these problems, the researchers made an approach using the Design Thinking method in making solutions to each problem that was on the PKBL and SMEs.

I. METHODOLOGY

At the time of planning the settlement will be carried out many approaches in carrying out the settlement. This involved many parties from PKBL and researchers in designing the solution.

A. Design Thinking

The main aspect that needs to be done by the PKBL is to get together to have a common goal in providing capital assistance for SMEs. One of the most important things is that in determining the selection of business submission for SMEs there needs to be a learning guide for SMEs to be able to take a picture of the business process along with a budget that will be a reference in managing finances.

According to Rim Razzouk & Valerie Shute that design thinking is generally defined as an analytical and creative process that involves a person in the opportunity to experiment and prototype models, gather feedback, and redesign [7].

Some argue that design thinking can be described as a paradigm and not an example of a method or methodology. An understanding of the design thinking paradigm refers to the analysis of the thinking process of a designer, as expressed by Georgi V. Georgiev [2].
According to Gruber, DeLeon, George and Thompson design thinking as a human-centered approach to innovation that places observations and discoveries that are often very nuanced, even human needs can be the beginning of the innovation process [3].

Meanwhile, according to Anne K. Bates, the main consideration for innovation design is efficiency in terms of thinking, which design thinking is a human-centered approach and focuses on what is wanted and needed by consumers [1].

The need for design thinking models will greatly assist the idea makers and system builders. As described by Hilda Tellioğlu that the design thinking model (mDT) consists of two parts: ideas & implementation and engineering, which are carried out by different parties [4].
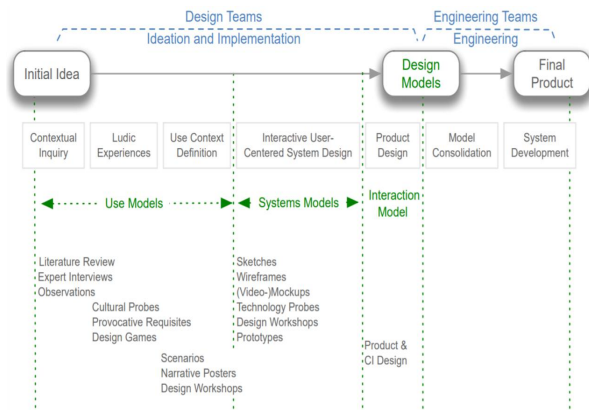
Figure 1. Overview of mDT containing the threefold design models for representing use, systems, and interaction elements of the design-to-develop

B. Information System Design

All the problems that have been found at the root of the problem will certainly be planned using various methods in solving them, as in this research the information system design.

As stated by Mhd. Rozahi Istambul that in developing SME's marketing products to be effective, it can utilize the internet network as a base on which the relationship between the user and the admin (owner) is designed in the form of information systems [5].

Implementation related to monitoring activities needs to be done in the design thinking stage, as explained by Mudjahidin & Putra that monitoring is a systematic and continuous assessment of the progress of a job [6].

C. Waterfall

At the time of an information system design will be implemented because it requires the role of information technology, it also requires stages in software development. The method in software development uses the waterfall model, which model takes basic process activities such as development specifications validation, evolution, and presents them as different process phases such as requirements specifications, software design, implementation, testing, and so on.
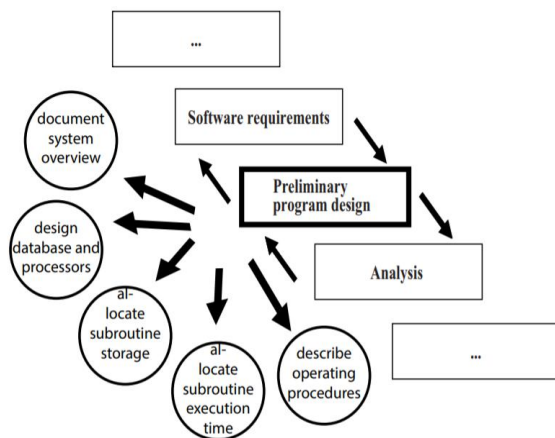

Figure 2. The Waterfall Model: an extra preliminary program design phase

Special development related to the part of the waterfall, namely in the initial stages of program design, several designs are needed, as explained by Winston W Royce quoted in the research paper Wilfred van Casteren, that in the preliminary program design phase is divided into five components, which through this technique the designer The program ensures that the software will not fail due to data storage, time, and flux, as shown in Figure 2.

II. ANALYSIS AND DESIGN

When the discussion on the issue of CSR assistance began, several PKBL leaders from each BUMN and system designers & developers were invited. During this time the rules in force in PKBL that every SME that will ask for capital assistance must make a business proposal, but coordination between the PKBL does not occur because it has a different business proposal selection policy. This makes the opportunity for certain SMEs to have the opportunity to ask for capital repeatedly from different PKBL.

While most SMEs are not able to make business submissions that are required in capital requests at PKBL. PKBL's efforts in fostering SMEs are also very limited seeing the distance from SME positions varying greatly and the procedures applied are also difficult for most SMEs. Based on the identification and these observations, it can be concluded temporarily that CSR assistance is not optimal with many obstacles both in terms of PKBL and SME.

After it was agreed to form a team between the PKBL, the Indonesian Chamber of Commerce or kamar Dagang Indonesia (Kadin) of the City of Bandung, and researchers, then the application of design thinking would be formed in combination with the development of information technology. The results of the discussion from the team agreed that the monitoring was made using integrated information technology carried out by various PKBL parties regarding the proposals of business submission that had been submitted by each SME to the PKBL goals in web monitoring.

The system design explains the design of web monitoring that will be built to meet the needs of information from system users and provide a clear picture and design to the programmer and other technical experts involved. For the achievement of these objectives, the things that must be designed are the data model, the behavior model, and the interface or display system interface.

A. Database Design
The data design of this system aims to meet the information needs of system users, support the processing requirements, and some object performance of a database system. The database also provides various information from the system that will be provided to users.

B. Model and Behavior
Behavioral models are explained using use case diagrams, activity diagrams, and sequence diagrams. The interaction of actors with the system that occurs in this system is described in the form of use case diagrams. Sequence diagrams explain the interactions between objects through the methods used in the system.

B.1. Use the case of the system
The interaction of actors with the system designed is illustrated in the form of use case diagrams as in Figure 3.
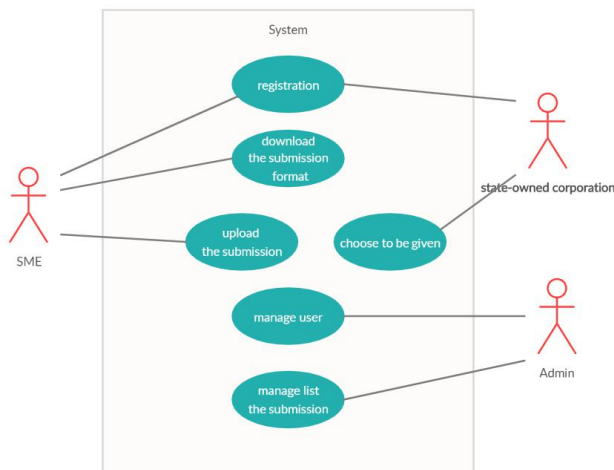

Figure 3. Use case diagram of the web

B.2. Activity Diagram

In the Activity, the diagram illustrates the flow of processes that occur in the system, such as Figure 4, which explains about SMEs sending the business submission. The image of SMEs must log in first by entering the email along with the password, if the email and password entered match what is on the system, then the SMEs automatically switches to the SMEs dashboard page.
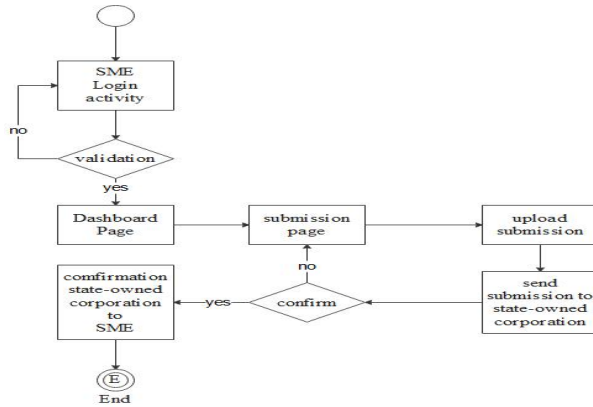

Figure 4. activity diagram regarding submitting business submission on the web

Then SMEs can switch to the proposal page, in the proposal page there is a form to upload the proposal and send the proposal to the PKBL to be addressed. When a business proposal has been submitted, it will wait until it receives confirmation about the status of the receipt of the submission.
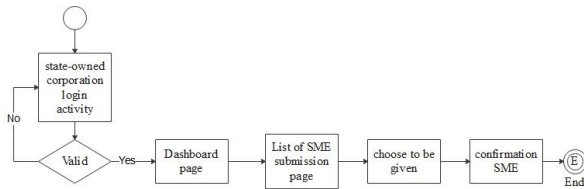

Figure 5. Activity diagram choose to be given

In figure 5 explains the flow of the SMEs submission process carried out by the PKBL. Furthermore, PKBL can switch to the SMEs list page, in that page, there is a list of SMEs lists that have sent business submission completed with the status display of the SMEs so that the PKBL can easily make a selection. After the SOE chooses the SMEs to be assisted, the PKBL can confirm the SMEs to be processed.

B.3. Sequence Diagram

The design of interactions that show how the processes between objects operate with each other is described using sequence diagrams. The following sequence diagram on the web.
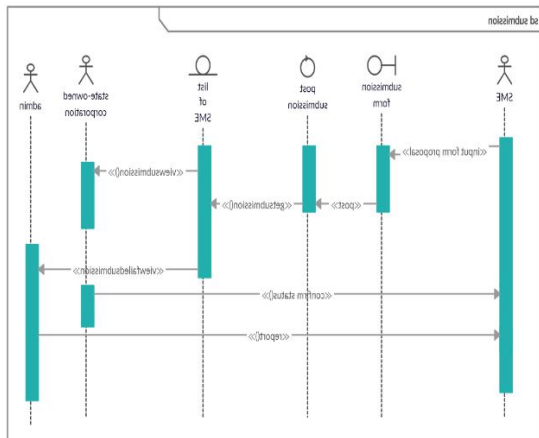
Figure 6. Sequence Diagram Submission

In Figure 6. explaining the set of methods, SMEs actors make the process of sending business submission that is included with PKBL actors and admins when providing SMES status represented in the sequence diagram.

C. Application

Web monitoring application that is built is a web-based application using the concept of client-server. As design thinking was built since the beginning, then the parties involved in this web monitoring need to change the culture of interaction. Applications that are built can be monitored both from the respective PKBL including SMEs because various information related to CSR assistance will be announced on the website. While the process of submitting proposals from the beginning to the end of the SME does not need to go to the relevant PKBL but enough to complete the requirements for submission.

PKBL also has a way of making decisions related to SMEs that have passed the selection by giving status on web monitoring has passed the selection. the submission that is included with PKBL actors and admins when providing SMES status represented in the sequence diagram.

This monitoring web application is used together (all parties), automatically other PKBL parties who see the status of the SMEs that has passed, will not be processed further in other PKBL. This will provide equitable distribution of justice for SMEs that have not yet received capital assistance.

As a form of assistance and coaching, in this monitoring web application also given various etymology from SMEs that pass the selection, and given various examples of business submission that can be referenced and studied by beginner SMEs to initiate the proposal of their business.

III. CONCLUSION

1. Design thinking is a model that can help solve problems not only within an organization, but a group of organizations can jointly solve problems with the same goal.
2. Design thinking can also be collaborated with various other models, especially in optimizing information that needs to be routinely monitored and in real-time, so that it can utilize the role of information technology.
3. The role of BUMN in managing CSR becomes more optimal with the existence of real-time coordination between PKBL

REFERENCES

[1]. Anne K. Bates, "Design Thinking: The Collaborative, Creative, and Human-Centered Approach to Problem-Solving", Journal of Transformative Innovation, 2018, Vol. 3 Iss. 2, pp. 46-52

[2]. Georgi V. Georgiev, "Design Thinking: An Overview", デザイン学研究特集号 / デザ, イン思考 Design Thinking Special Issue of Japan ese Society fo r the Science of Design, 2012, Vol.20-1, No.77

[3]. Gruber, M., De Leon, N., George, G. and Thompson, P., "Exploring The Impact of Design Thinking in Action", Managing by design. Academy of Management Journal, 2015, 58(1), pp.1-7.

[4]. Hilda Tellioğlu, "The Role of Design Models in Design Thinking", IADIS International Journal on Computer Science and Information Systems, 2016, Vol. 11, No. 2, pp. 132-145

[5]. Mhd. Rozahi Istambul, "Dukungan Teknologi Informasi Dalam Mempromosikan Produk Usaha Mikro kecil Menengah (Studi Kasus SMES Makehate Bandung)", Proceeding Seminar Nasional Strategi Indonesia Kreatif, Universitas Widyatama Bandung, 19 Maret 2015, Hal. 259-265.

[6]. Salem, M., Shawtari, F., Shamsudin, M. & Hussain, H. I. (2018) The Consequences of Integrating Stakeholders' Engagement on Sustainable Development (Environmental Perspectives), Sustainable Development, 26 (3), 255 – 268.

[7]. Rim Razzouk, Valerie Shute,"What Is Design Thinking and Why Is It Important ?", Review of Educational Research, September 2012, Vol. 82, No. 3, pp. 330–348.

[8]. Wilfred van Casteren, "The Waterfall Model and the Agile Methodologies:A comparison by project characteristics", Working Paper (PDF Available), February 2017.