Maturity Assessment at SMEs Assisted by BUMDesma (Joint Village-Owned Enterprises)

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Abstract—**Enhancing the Small to Medium Enterprises (SME) Competency is a way to raise the chance of winning a global competition. The basic business profile should be provided as proof of the general foundation of being known as a mature business. This research provides a tool for the government to collaborate with academics to analyze SME performance. This tool is used for policy-making, and funding could be more accurate based on nearly objective criteria. This designed interface helps SMEs submit their business document online with their current self-assessment for production, marketing and all the business features. The preliminary object covers the three different cities in East Java Province. Based on the submitted document and data, academia and the government can do online assessments to complete the direct assessment through direct observations. The dashboard shows the performance based on overall equipment efficiency and adjusted indicator using a business model canvas.**

Keywords—**Small to Medium Enterprise, Business Competency Upgrade, Business Model Canvas.**

Figure 1. Total sales of small medium enterprises after COVID-19 pandemic.

I. INTRODUCTION

SMALL medium enterprise is a business that maintains the revenues, assets or several employees below a certain threshold, there are so many small medium enterprises in the world, SMEs or Small Medium enterprises play an important role in terms of economy in some countries because Small Medium Enterprises can outnumber large firms considerably, employs vast numbers entrepreneurial nature and shaping the innovation in some enterprises or countries [1–2].

This research provides a tool for the government to collaborate with academics to analyze SME performance and help them to develop their business because there are so many Small and Medium Enterprises or SMEs that are still under the standard condition in some countries, especially in Indonesia [3–4]. Figure 1 displays the graphic about the total sales of SMEs in the pandemic condition. The most significant percentage, 37 % is not selling any products [5]. This research has the purpose of providing a set of tools for government and academic to analyze the performance of Small Medium Enterprises or SMEs. Hopefully, it can help Small Medium Enterprises develop their business to the next level and standardize their business, especially in three different cities in East Java Province. Based on the survey and interview about needs and self-assessment that was already conducted twice in that region, all of the Small Medium Enterprises still not fulfilling those two problems. The method that used in this research is direct approach method with the steps; of conducting a field survey, Focus Group
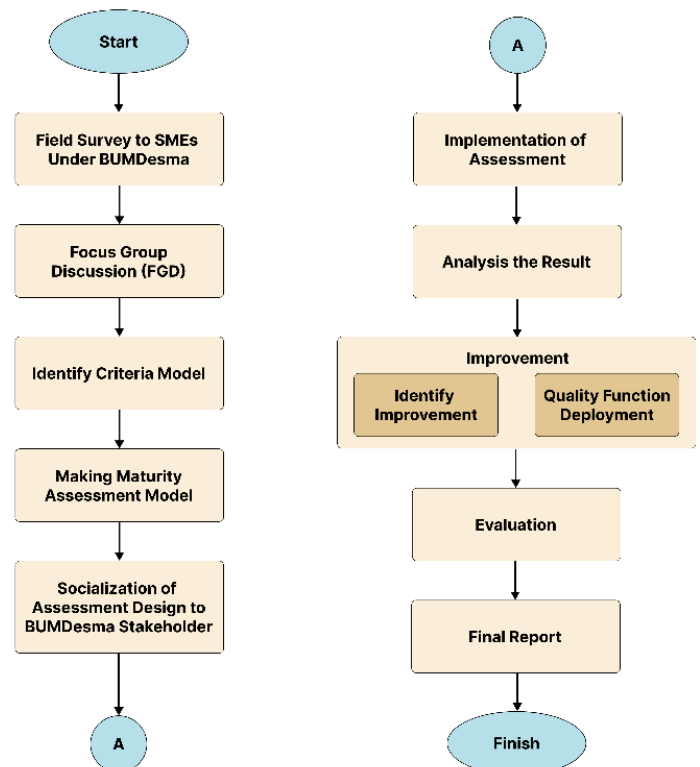

Figure 2. Methodology flowchart.

Discussion, identifying criterias, and the result of making this direct approach is a writer can differentiate and help the SME distinguish the urgency of the maturity level and the implementation gradually. The output and result of this paper and research is the website application that can give Maturity assessment dan quality function deployment to the selected Small and Medium Enterprises globally.

II. METHOD

This program located in Singosari Badan Usaha Milik Desa bersama (BUMDesma) at Singosari District, Malang Regency. The subject of this program is Small to Medium Enterprises (SMEs) under BUMDesma Singosari. The method used in this program is a direct approach to BUMDesma and its SMEs. By this direct approach, the SME can gradually distinguish the urgency of the maturity level and the implementation. The flowchart of a series of methods carried out can be seen in Figure 2.

A. Field Survey to SMEs under BUMDesma

This stage is carried out to find out the problems experienced by partners, and surveys carried out directly can provide an overview as well as important data that can be used.

B. Focus Group Discussion (FGD)

The FGD conducted in BUMDESMA Singosari to explain the urgency of maturity leveling. SMEs also get the chance to input their demand for upcoming developed websites and the condition of their SME.

C. Identify Criteria Model

The criterion of the model is discussed by adapting the existing condition of Singosaris SME. The model that our team proposed is divided into 7 levels of achievement; every level having its own criteria.

D. Making Maturity Model

The Maturity Model of our team's website is adapting to the demand of Singosari SME. The model that our team made is mean to be easy to use by SMEs and they can rely on this website to develop their own business.

E. Socialization of Assessment Design to BUMDesma Stakeholders

In this stage, our team will go to BUMDesma Singosari to present our website design and ask their opinion and input to make it suitable for future use.

F. Implementation of Assessment

In this stage, our team will revise the assessment and input some suggestions from BUMDesma stakeholders to improve the website so that BUMDesma stakeholders can use our website properly.

G. Analysis the Result

After all is set, our team will analyze the results of our assessment by asking about their satisfaction and calculate the users of our website to know how much impact it gives to BUMDesma Singosari Stakeholders.

H. Improvement

The assessment result will help us improve the website by identifying the improvement that wants to be made and using quality function deployment tools.

I. Evaluation

In this stage, our team will evaluate the result of our assessment for further improvement and sustainability of this website and make a recommendation for SME development.

J. Final Report

Making a final report to validate our assessment and documentation of it.

III. RESULT AND DISCUSSION

In this result section, the authors will explain the tools used in this paper. There are House of quality as a quality function deployment (QFD), website development which consists of SME quality leveling and UI/UX design, and some recommendations such as one pesantren one product (OPOP) and one village one variety (OVOV).

A. House of Quality

The House of Quality (HOQ) is defined as a product planning matrix that is built to show how customer requirements relate directly to the ways, and methods companies can use to achieve those requirements. HOQ is considered the primary tool used during quality function deployment to help facilitate group decision-making. House of Quality diagrams use a design that resembles the outline of a house and can be created using technical and competitive benchmarking data [6]. Benefits of building a House of Quality include: A customer's needs and requirements are established, then used to build and prioritize service offerings and products; Identifying customer needs and requirements and ensuring they have achieved leads to customer satisfaction and loyalty; Improving a company's understanding of its customers leads to better customer utilization, overall sales, and share of wallet.

House of Quality diagrams rely heavily on identifying and maintaining the voice of the customer (VOC). VOC is a way of obtaining and implementing the customer's stated needs and requirements for their services or products. Figure 3 represents House of Quality Analysis that we used.

B. Website Development Explanation

The maturity assessment website is purposed to help Small to Medium Enterprises (SMEs) achieve ideal conditions[7–8]. To achieve a sustainable quality system for SME to compete internationally. Our team chose to use quality leveling for a SME to control their productivity and design a simple UI/UX so that SME can use our website effectively and efficiently.

1) SME Quality Levelling

To achieve ideal conditions, an SME needs to have specific criteria [9]. These criteria will be grouped with a certain level to indicate the quality of the SME (Table 1). This level range is from 1 to 7, which level 7 indicates an ideal condition of SMEs. Below are the criteria needed for each level.

By completing each criterion, SME can reach the next level of their current level. For level 4, 6, and 7, SME can update their data every 3 months as approve and control system of their productivity, however other levels also can be updated depending on SME development.

2) UI/UX Design

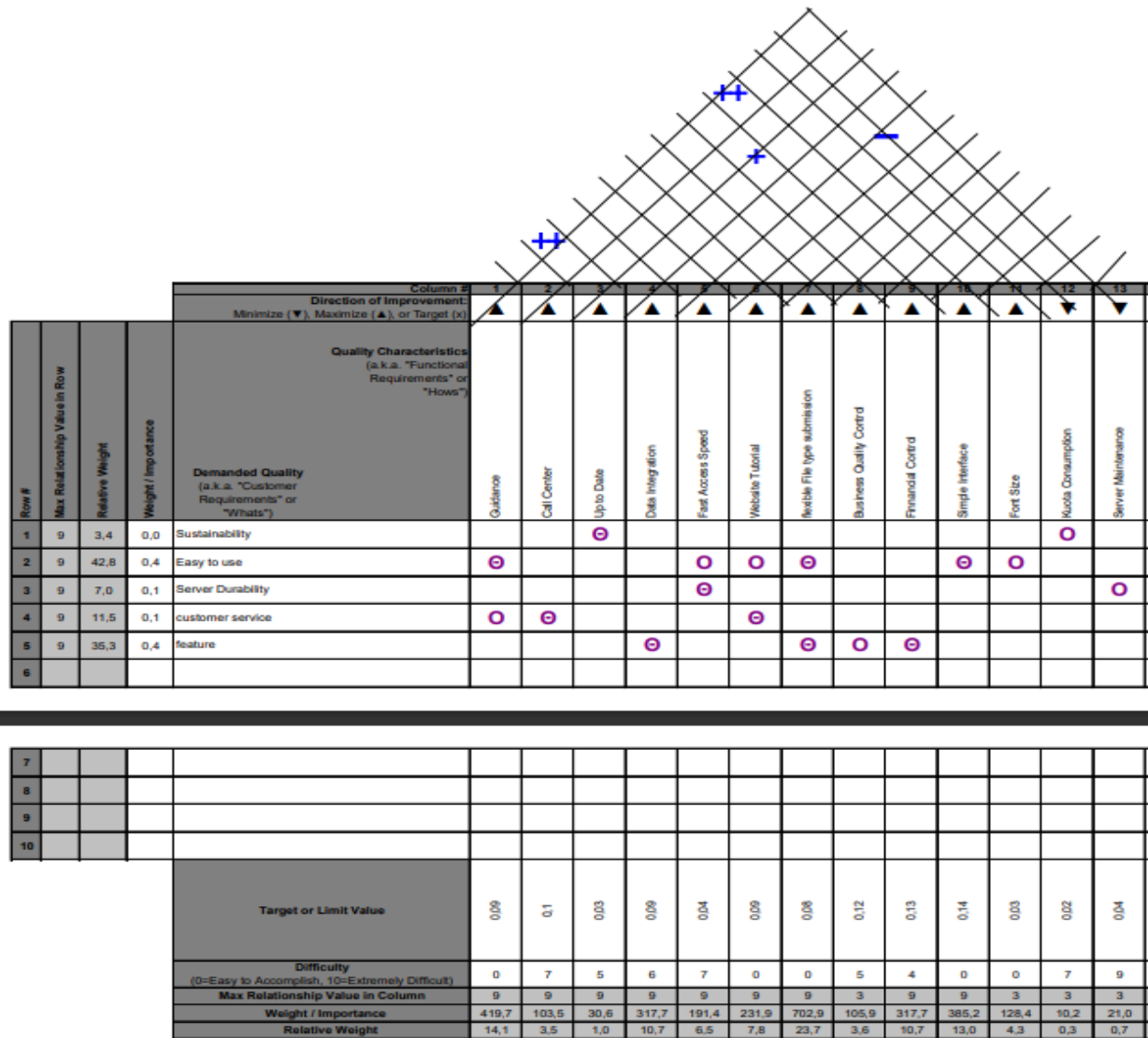The features of this website should be easy to use.

Figure 3. Website House of Quality.

Figure 4. (a) Landing page of website; (b) Website log in; (c) Home dashboard for SME; (d) Maturity assessment questions; (e) Final result of maturity assessment; (f) Leveling assessment dashboard; (g) Level 1 assessment.

Table 1.
Level Criteria

Level	Criteria	Description
1	Executive Summary	The executive summary is an introduction or summary of the business plan that you want to convey to others.
	Industry Analysis	Industry analysis is a market assessment tool used by businesses and analysts to understand the competitive dynamics of an industry.
	Company Description	Company description is a complete description of several components about the company, starting from the vision and mission, industry scope, products or services provided, to the history of the company's establishment.
2	Management team and company	Company and team management describes your management team, staff, resources, and how your business ownership structure will be. This section should explain who is on your management team and how each person's expertise will contribute to your bottom line.
3	Business Model	The business model is the structure or concept of how consumers see a product. With a business model, consumers can find out how your product can be produced into their hands so that it can shape consumers' perceptions of value.
	Market Analysis	Market analysis is the process of identifying and assessing quantitatively and qualitatively in determining how suitable a particular market is for your industry.
4	The economics of business	The economics of business shows that there is a process of evaluating the company's prospects (economics) and risk, including analysis of the business environment, strategy, financial position and performance. Business analysis helps managers make business decisions
	Marketing plan	A marketing plan is a comprehensive guide that describes a company's marketing efforts to achieve the desired target
5	Design and development	Design and development is a process of creating long-term value for a company through customers, markets, and business relationships.
6	Operational plan	Operational planning is the process of developing tactical plans that build management's ability to direct business strategies to achieve competitive advantage on an ongoing basis with a focus on customer satisfaction.
	Overall schedule	Overall schedule is an activity that need to be maintained daily to achieve company goals.
7	Financial projection	Financial projection is a budget project design or financial plan when you want to start a business or business. In general, financial projection provides an overview of the financial circulation of a company

According to Voice of Customer (VOC), our team needs to have a simple user interface design to achieve that. UI/UX design for the maturity assessment website can be seen in Figure 4.

C. Final Recommendation

Village economic development needs to be carried out in an integrated and sustainable manner. Integration is intended as an effort to synchronize production and consumption patterns with accurate calculations based on supply-demand analysis. With this analysis, the map of economic development will appear in a picture of the quantity and quality of production. Some of the policies or incentives mentioned in the previous slide can adopt the following concepts, which need to be equipped with a village support system (village entrepreneurship 4.0).

1) OPOP

Islamic boarding schools with stable entrepreneurship already have their own products, which are later marketed among Islamic boarding schools. Among the pesantren already have their products which have subsequently been marketed between pesantren. It can also be synchronized with village products.

2) OVOV

Almost all villages in East Java have superior products and other commodities that have similarities. Product variety or variants need to be developed more sharply to be unique and have a pattern of how to market and which target market to target.

3) Social Entrepreneurship

Potential of natural resources can be developed to meet needs and provide income. Management through the
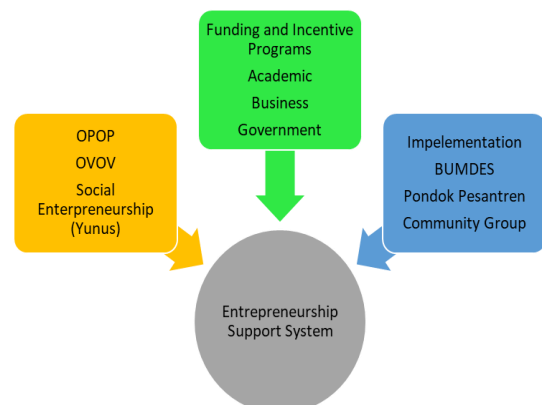
Figure 5. Entrepreneurship support system.

cooperative movement needs to be intensively assisted to generate income distribution and develop with the villagers involved. We can see this cooperative movement Figure 5.

IV. CONCLUSION

The purpose of this research is to provide a set of tool for the government together with academic to analyze the performance of SME. Enhancing SME Competency is a way to rise the chance of winning global competition. SME also played an important role in terms of economic in some countries. The object of this reasearch is BUMDesma Singosari. BUMDesma Singosari has succeeded in facilitating the assisted SME in developing marketed products. Our research team used direct approach to BUMDesma and its SME's as the method.

Fom our approach, we have concluded, and that is using HOQ to show how customer requirements and how the company achieve those requirements, the result of HOQ is

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BUMDesma Singosari's stakeholders demanded that the website is easy to use so the UI/UX design is made as simple as possible and we add customer service or call center to help the stakeholders use the website if they have any problem. We also use SME Quality Levelling to achieve the ideal condition for the company as our research solution. The output for our research is a website that can help BUMDesma Singosari to enhance SME Competency.

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