DEVELOPMENT OF AN ANDROID-BASED BUMDes's BUSINESS FEASIBILITY ANALYSIS SYSTEM

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ABSTRACT

Minister of Home Affairs Regulation Number 20 of 2018 concerning Regional Financial Management Article 28 paragraph 4, states that capital participation in BUMDes is through a business feasibility analysis process, meaning that BUMDes are required to prepare a business feasibility analysis when developing a business unit. The preparation of a business feasibility analysis aims to comply with regulations and find out whether a business plan is feasible or not to be continued. BUMDes has the authority to manage village potential, survey results show that all operational implementers state that their village has potential but has not been able to manage it. This condition motivates research on the development of an Android-based BUMDes Business Feasibility Analysis System (BFAS).The purpose of the research is to build an android-based BUMDes BFAS application that helps BUMDes managers compile a business feasibility analysis. In the long term, this research supports the Village SDGs program, specifically Village SDGs 8, namely Equitable Village Economic Growth, 9 namely Village Innovation According to Needs, and Village SDGs 17, namely Partnerships to Build Villages. Data were collected by interview and Focus Group Discussion (FGD) methods. The FGD was attended by business feasibility analysis experts, BUMDes experts and the Chair of the Indonesian BUMDes Forum for the Bali region, the Chair of the Bali Province Regency/City BUMDes Forum and Community Empowerment Professionals in Karangasem Regency. The BUMDes BFAS application was built using the water fall method. The results showed that the Android-based BUMDes's BFAS prototype was developed with a user friendly approach using the JavaScript language. The prototype BUMDes's BFAS developed was legible on Android-Based smart phones. All BUMDes Directors as potential users expect the BUMDes's BFAS application to be used immediately.

Keywords: Business; Feasibility; Analysis; System; BUMDes.

INTRODUCTION

Village-Owned Enterprises (BUMDes) are village social entrepreneurship institutions that were established with the aim of managing village potential, in order to improve the welfare of rural communities. BUMDes in Bali Province has been proven to play a role in social development, absorb labor, reduce population movement from villages to cities and play a role in the economic field, increasing the production of household businesses of villagers in Karangasem Regency (Ni Kadek Sinarwati, 2019). BUMDes has a positive but not significant role for entrepreneurship, performance and the welfare of craftsmen in Karangasem Regency (Ni Kadek Sinarwati, Made Kembar Sri Budhi, I Made Suyana Utama, 2020). BUMDes as a legal entity that has the authority to manage village potential, obtains capital participation from village funds, so it is obligatory to compile a feasibility analysis in accordance with the mandate of PP Number 20 of 2018 concerning Regional Financial Management. Another reason why the preparation of a business feasibility analysis for BUMDes is mandatory is that businesses that are preceded by a feasibility analysis have a greater chance of success (Bhisma & Wasuka, n.d.).

The fact that the results of interviews, observations and questionnaires are distributed shows that BUMDes managers are not able to compile a business feasibility analysis. Business units established to manage available capital follow existing business activities in the community (Sinarwati & Prayudi, 2021). BUMDes should not be a competitor or predator of the community's economic business. BUMDes must run a business unit by managing village potential based on the needs of the village community(PT. Syncore Indonesia, 2020). BUMDes in Bali Province mostly run savings and loan business units, although in the village there are already savings and loan cooperatives and village credit institutions. Some BUMDes run office stationery trading and electricity payments without a feasibility analysis. Based on the results of a preliminary survey conducted to BUMDes managers, it was found that 83.95 percent of BUMDes managers stated that their village had potential and had not been able to manage it. The inability of BUMDes managers to compile a business feasibility analysis is an urgent problem to find a solution. BFAS (Business Feasibility Analysis System) is an android-based business feasibility preparation application which is a feasible solution to build.

This study aims to build an Android-based BUMDes Business Feasibility Analysis System application that helps BUMDes managers compile a business feasibility analysis. The urgency of the research lies in the presence of BFAS assisting BUMDes in two important matters, namely: firstly complying with PP No. 20 of 2018, secondly developing a business unit that is more likely to succeed. The long-term goal of BFAS is to support the Village SDGs program, especially Village SDGs 8, 9, and 17. Village SDGs indicators and sub-indicators that will be achieved in the long term if BUMDes managers are able to manage village potential as a result of applying the BUMDes's BFAS are presented in Figure 1

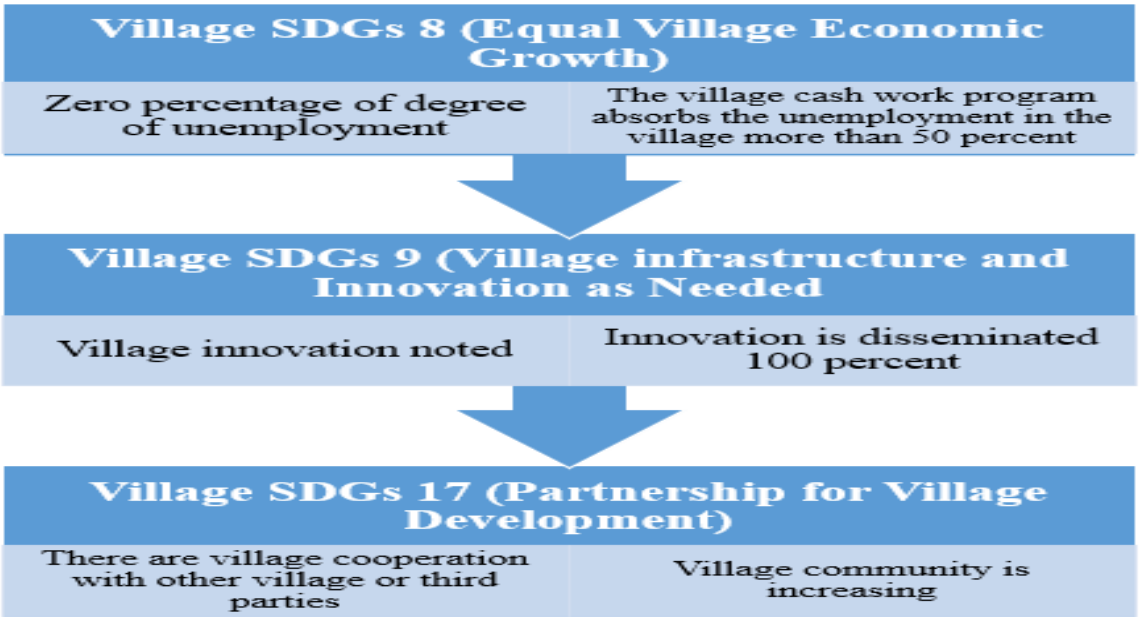

Figure 1. Village indicator will be achieved by the implementation of BUMDes's BFAS.

Specific Specifications for Applied Research, namely research aimed at finding solutions to problems in the community. The solution offered by BUMDes's BFAS is based on Android to solve the problem of BUMDes managers who have not been able to compile a business feasibility analysis. Research is directed at creating innovation and product-oriented science and technology development in the form of Android-based BUMDes BFAS software which will be validated in the field (validated by program experts, business feasibility analysis experts, product users/BUMDes managers.

LITERATUR REVIEW

State of the art is the highest achievement of a development which can be in the form of a device/product, procedure, process, technique/method, or science that is achieved at a certain time. This State of the Art research describes previous research in the field of Business Feasibility Analysis which is used as a reference in building an Android-Based BUMDes BFAS (Business Feasibility Analysis System). The research stages start from the development, implementation, evaluation and impact of the realization of the Sustainable Development Goals/SDGs program at the village level, especially Village SDGs 9, Village SDGs 10 and Village SDGs 17. Business Feasibility Analysis is an analysis made before starting a business to find out whether a business to be run earns a profit or suffers a loss (Antika et al., 2014). The instruments used to determine whether the business design is feasible or not feasible to continue are Break Even Point (BEP), Net Present Value (NPV), Pay Back Period (PP) and Internal Rate of Return (IRR);(Purnamasari & Hendrawan, 2013); (Winantara et al., 2014).

Research on Business Feasibility Analysis, among others, was conducted by(Kusuma, 2012) who compiled a manual business feasibility analysis for UKM Bloom Sari. The preparation of the feasibility analysis of bamboo cultivation is carried out by calculating the Net Present Value (NPV), Pay Back Period and Internal Rate of Return (IRR) indicating that the bamboo cultivation business is feasible to continue (Improvement et al., 2015). The preparation of a manual feasibility analysis on beef cattle business using the Break Even Point (BEP) and Benefit Cost Ratio (BCR) values states that the beef cattle business has the potential to be developed(Sahala, 2016). The feasibility study for the "ZOA" coffee investment was carried out by calculating the Net Present Value (NPV) finding that the NPV value was positive which means that the investment is feasible to continue (Utami et al., 2021).

Previous research on business feasibility analysis compiled a business feasibility analysis manually. The weakness of preparing a business feasibility analysis manually is that records are vulnerable to loss, damage, easy to forget, difficult to calculate, so that innovation in compiling a digital business feasibility analysis, especially Android-based, is urgently needed. Until now there has been no research that compiles a business feasibility analysis using either computerized or android-based applications. The BUMDes Business Feasibility Analysis System (BFAS) is an application for compiling a business feasibility analysis that helps BUMDes managers compile an android-based business feasibility analysis. The system design uses the Dreamweaver application program as a JavaScript editor with MongoDB as the database. Program implementation is done on localhost with Apache as the server. Other supporting application programs, including: PhotoShop, and Flash. Business feasibility analysis in this study uses the Net Present Value, Break Even Point and Payback Period are all calculated automatically by the system.

BUMDes is a social entrepreneurship institution that aims to accelerate development in the village. BUMDEs is one of the microfinance institutions in the village, which helps MSEs by providing funds with easier access and procedures. Its proximity to the community helps empower the community, especially the less fortunate to increase the productivity of their micro-enterprises (Cahya et al., 2018). Research findings on the role of BUMDes for community welfare state that the existence of BUMDes brings significant changes in the economic and social fields. Shifts in social values and also changes in patterns of interaction between

residents occur(Anggraeni, 2016). The sustainability of BUMDes depends on the ability to manage the organization, because BUMDes are in a situation that requires ambidextrous management to become a social business organization (Gabriella Hanny Kusuma, 2016). Then what are the Village Sustainable Development Goals/SDGs?.

The Sustainable Development Goals (SDGS) are development programs that are a follow-up to the Millennium Development Goals (MDGs) that have been achieved in 2015. The MDGs are an agreement by 189 countries that set eight development targets achieved in 2015. Internationally, the MDGs program has been declared successful with indicators that there is a reduction in the poverty rate of the world's population and a reduction in child mortality. The indicator for the success of implementing the MDGs in Indonesia is that the percentage of the population who earns less than 1USD per capita in one day decreased to 20.60 percent in 1990, and in 2008 the figure was 5.90 percent. Another indicator refers to BAPENAS data in 2011 there has been a decrease in the number of tuberculosis sufferers, namely 343 in 1990 then in 2011 the figure showed 189 cases out of 100,000 people (Sutopo Agus (Badan Pusat Statistik), 2014). The implementation of SDGs at the village level is abbreviated as SDGs Desa which is determined through 18 indicators, namely 1) Villages Without Poverty, 2) Villages Without Hunger, 3) Healthy and Prosperous Villagers, 4) Quality Village Education, 5) Involvement of Women in Villages, 6) Villages with Clean Water and Sanitation, 7) Villages with Clean and Renewable Energy, 8) Equitable Village Economic Growth, 9) Infrastructure and Village Economy as Needed, 10) Villages Without Inequality, 11) Safe and Comfortable Village Settlements, 12) Consumption and Production of Environmentally Aware Villages, 13) Villages Responding to Disasters and Climate Change, 14) Villages Caring for the Marine Environment, 15) Villages Caring for the Land Environment, 16) Villages of Peace and Justice, 17) Partnerships for Village Development, 18) Dynamic Village Institutions and Adaptive Village Culture (Taufik, 2020).

METHOD

The study used a Research and Development approach to develop an android-based BUMDes's BFAS application, which was carried out with a water fall model. The research data was collected by means of Focus Group Discussion (FGD) interview techniques which were attended by software experts, business feasibility analysis material experts, BUMDes experts and BUMDes operational implementers. Research respondents were determined by purposive sampling technique with the criteria for the manager to be the chairman of the BUMDes Forum in the district/city in the province of Bali. The stages of the research process starting from the development stage to the evaluation stage using the Waterfall Model are presented in Figure 2.

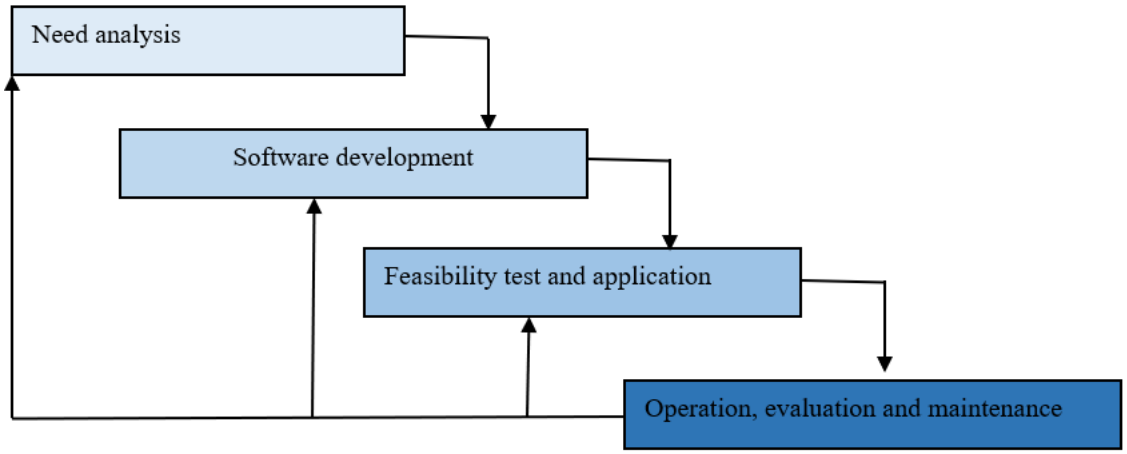

Figure 2. Work Plan for Developping BUMDes's BFAS Based on Android Using Aterfall Model(Khoirul Anwar & Listyorini, 2018)

Andriod-based BUMDes's BFAS was developed with a user-friendly approach using the JavaScript language. Development using the waterfall model refers to development research (Khoirul Anwar & Listyorini, 2018).

RESULTS AND DISCUSSION

The results that have been achieved so far are that the Android-based BUMDes-based BUMDes prototype has been successfully developed. The specification of this application is Version Name/Type "1.0". Application Size: 3 Mb, Minimum Android Version 5.0.1. Application Id"com.example.guswik.ireport". Min SDK Version 21. The Focus Group Discussion/FGD was held on Saturday, August 6, 2022. The FGD discussed the improvement of the Android-based BUMDes's BFAS prototype. The resource persons who gave suggestions for improvement were Prof. Dr. I Wayan Gede Supartha, SE., SU an expert in business feasibility analysis, Professor of Management Science from the Faculty of Economics and Business, Udayana University. The second resource person is Mr. Fandi Galang Wicaksana, S.Pd., M.Ak, a senior consultant from Bumdes.id (BUMDes school). The FGD participants who also provided suggestions for improving the prototype were the Chair of the Indonesian BUMDes Forum for the Bali region, the Chair of the Regency/City BUMDes Forum in the Province of Bali, the Professionals for Community Empowerment of the Karangasem Regency and representatives of the Chief Executive of BUMDes Operations in the Province of Bali.

Revisions submitted by resource persons and FGD participants so that the prototype can later become a useful application to assist BUMDes in compiling a business feasibility analysis are: a) The application must contain supporting data attachments that will be applied to the formula for calculating NPV, Pay back period, and IRR; b) Put the SWOT analysis and marketing analysis at the beginning of the analysis; c) The application contains the specific type of product to be developed; d) Pay attention to the laws and regulations to determine the account name presented on the system; e) Create a simple business feasibility analysis format that is easy to understand because the challenge is that many BUMDes treasurers do not have an accounting education background; f) The developed application contains what promotional media will be used to promote the product, questions in the marketing section include how to build relationships with consumers; g) The application contains non-financial analysis such as social, cultural and environmental; h) The output of the application must be able to print out; i) Where possible the application is capable of operating on a PC; j) It is recommended that this application be registered in the Ministry of Law and Human Rights, in order to obtain a certificate of Intellectual Property Rights.

The BUMDes's BFAS application was developed using the waterfall method, which is a sequential development model. The Waterfall model is systematic and sequential in building software. The manufacturing process follows the flow of analysis, design, code, testing and maintenance. The waterfall development model has several advantages, including: it can be easily understood and can be applied in the software development process (Weerman and Abma, 2019, n.d.). The appearance of the BUMDes's BFAS prototype is presented in the following figure 3:

Figure 3. BUMDes identity entry menu.

Figure 4. Feasibility Analysis of Raw Materials, Human Resources and Marketing.

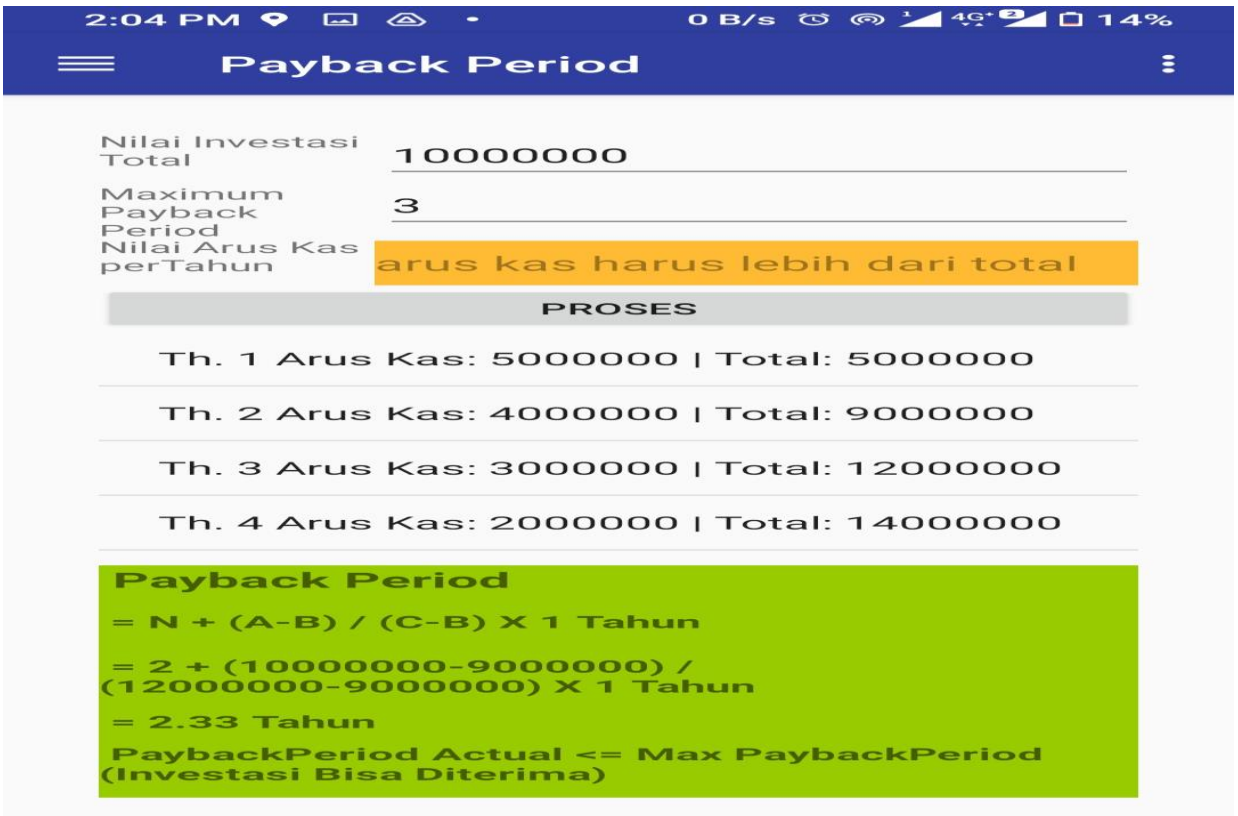

Figure 5. Financial Feasibility Analysis with payback period method

BUMDes's BFAS with Java Script Language, is user friendly, uses hardware and software specifications. The system development method used in this research is the System Development Life Cycle (SDLC). The prototype is a local host, based on mobile/android successfully processing input data into output in the form of reports in the form of working papers that are operated via mobile phones. These results are in line with research findings (Yunanto et al., 2012); (Subagja et al., 2020);(Sinarwati, 2020).

CONCLUSION

Analysis System) application for BUMDes. Things that can be concluded are: a) The BUMDes's BFAS application was developed using the waterfall method; b) The specification of this application is Version Name/Type "1.0". Application Size: 3 Mb, Minimum Android Version 5.0.1. Application Id"com.example.guswik.ireport". Min SDK Version 21; c) Application contains analysis of marketing feasibility, feasibility of raw materials, feasibility of human resources and financial feasibility (NPV, pay back period); d) Resource persons and BUMDes operational implementers as potential users provide suggestions for improving the application; e) Prospective users expect the application to be ready for use immediately to assist in compiling a business feasibility analysis. Suggestions for this research are addressed to the Office of Community Empowerment both at the provincial and district levels to provide training and assistance to BUMDes operational implementers in order to be able to improve the competence of Human Resources.

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