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by Sri Dewi Anggadini

DESIGNING AN MSMES INTEGRATED INFORMATION SYSTEM MODEL THROUGH *ZAKAT* MANAGEMENT

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Abstract

The aim of this study is to design a *zakat* information system model that integrates *zakat* institutions at the provincial level of West Java, Indonesia, with branches at the district or city level. The purpose of this integration is to impact business continuity for MSMEs. The research method used was descriptive-qualitative, which examined the condition of natural objects and existing phenomena, and collected data using survey methods namely interview, observation, and literature review. The results of this study proposed an integrated *zakat* information system that are accessible online in mobile and website. The mobile access can make it easier for *muzakki* in urban areas to make *zakat* payments using cellphone and immediately receive a receipt for *zakat* payments. The web access aims to facilitate the reporting of *zakat* collection by *zakat* institution administrators. Through this research, integrating mobile-based and web-based features into *zakat* information system is expected to increase *muzakki* satisfaction in collecting *zakat* funds allocated for MSMEs development. This will further impact the development of MSMEs, thereby contributing to the overall economic growth of the region.

Keywords: Android mobile, Android mobile, MSMEs, Information system, *Zakat*, Web.

1. Introduction

Zakat (obligatory charity in Islam) is an essential part of guidance in carrying out Islamic religious teachings, its donor is called *muzakki* and its recipient is called *mustahik*. *Zakat* also has economic and social potential, which is very strategic for the people in a region or country, especially Indonesia due to its high Muslim population. Institutions with authority to collect and distribute *zakat* are known as *zakat* institutions, and the Indonesian government established the National *Zakat* Agency (*Badan Amil Zakat Nasional* or "BAZNAS"), whose job it is to supervise *zakat* institutions at the national level. *Zakat* institutions are divided into three levels: national level if they can collect *zakat* at least at IDR 50 billion per year; provincial level if they can collect *zakat* at IDR 20 billion per year; and regency/city level if they can collect *zakat* at IDR 3 billion per year [1].

In 2020, BAZNAS stated that there was an increase in the receipt of *zakat* and other religious and social funds of 31.8 percent, with a nominal value of IDR 2.13 billion. In addition, the agency also informed that the total amount of *zakat* collected throughout Indonesia was estimated at IDR 8.5 trillion. The amount of *zakat* is, in fact, only reach 3.71% of the estimated IDR 262 trillion [2] (see Fig. 1). It shows that the potential for collecting *zakat* is unoptimal, which was caused by insufficient data and information management as the agency was not yet oriented toward strengthening the information system [3]. Meanwhile, BAZNAS believes that in its management, most *zakat* management organizations have not integrated information technology professionally, and the few that have integrated it are concentrated in big cities [1].
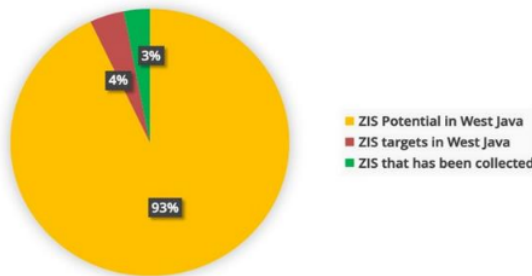

Fig. 1. *Zakat* **acquisition and potential in West Java.**

In addition to the problem of collecting *zakat*, the agency still need to improve its *zakat* distribution, particularly by understanding the impact of *zakat* distribution to Micro, Small, and Medium Enterprises (MSMEs) and increasing the growth of MSMEs as a driving force for the national economy [4]. Because there is no nationally integrated *zakat* management system based on accurate *muzakki* data, the *zakat* collection and distribution system must be strengthened throughout the country with appropriate, accountable, fast, and easily accessible medium for the community [2]. *Zakat* data processing is still not entirely computerized, and there are no plans to establish a web-based or mobile-based information system to reach a greater range of *muzakki* and *zakat* reports. Because *muzakki* does not receive reports (or having it delayed), it is vital to optimize *zakat* information in order to obtain *muzakki*

satisfaction with management performance [5]. Based on the phenomena discussed above, the information system in the *zakat* management environment must be optimized indefinitely. Research is crucial because it can determine whether the information system at the West Java *Zakat* institution is functioning properly.

2. Literature Review

2.1. Micro, small, and medium enterprises (MSMEs)

MSMEs are always fascinating to research, not only in terms of business management but also on other aspects such as its resilience, financing, or loan system. MSMEs must be able to survive in the age of globalization, especially with the existence of economic integration in Southeast Asia, which has transformed Southeast Asia into an economic community with a single production base [6]. In this case, MSMEs are required to be able to compete and create products that can be accepted not only by domestic consumers in Indonesia but also by consumers in Southeast Asia. MSMEs are always present because they are needed [7]. MSMEs have always been able to prove their resilience, especially when an economic crisis hits our nation. These MSMEs appear to be one of the main supporting business sectors that can absorb many workers. Data from the Indonesian Ministry of Cooperatives for all business classes shows that small-scale businesses in Indonesia occupy around 99% of the total businesses present in Indonesia. The development and growth of MSMEs are also quite good from year to year. Almost every government emphasizes empowering MSMEs [8]. The government is seriously paying more attention to this business sector. The reason is that these small businesses are the backbone of the labour supply because large companies emphasize the use of technology rather than labour [9]. The characteristics of MSMEs in Indonesia have a strategic position [10]. MSMEs do not require significant capital like large companies, so the formation of this business is not as complex as that of large businesses. The required workforce also does not require a certain formal education. Most of MSMEs are located in rural areas and do not require infrastructure as much as big companies. Lastly, MSMEs are proven to have strong resilience when an economic crisis hits Indonesia.

2.2. *Zakat* management institution

In Indonesia, *zakat* is regulated by Law Number 23 of 2011 concerning *zakat* management. Several chapters in the law states that there are two *zakat* management organization in Indonesia which are the National *Zakat* Agency (*Badan Amil Zakat Nasional* or "BAZNAS") and the *Zakat* Institution (*Lembaga Amil Zakat* or "LAZ"). Even though these regulations still have many deficiencies, the law encourages efforts to establish a *zakat* management institution that is trustworthy, strong, and trusted by the community [11].

2.3. Information system prototype model

Prototyping is a software development method in which prototypes are built, tested, and reworked when necessary until they become acceptable to users and can declared complete. The prototyping model is one of the best methods in scenarios where software requirements are not yet known in detail. This method is an iterative (repeated) process, and trial-and-error occurs between the developer and the user [12]. The prototyping model has six Software Development Life Cycle (SDLC) phases.

The sequential phases in SDLC are:

(i) Requirements gathering and analysis phase. The prototyping model begins with a needs analysis. In this phase, system requirements are defined in detail. During the process, system users are interviewed to determine their expectations from the system.

(ii) Quick design phase. The initial design, or quick design, is carried out. A preliminary design is created for a simple system design. This design provides a brief description of the system to the user. Rapid design helps in developing prototypes;

(iii) Prototype building phase. In this phase, the prototype is designed based on the information gathered from the quick design. This is a small working model of the required system.

(iv) Initial user evaluation phase. The proposed system is presented to the client at this stage for initial evaluation. It helps to know the strengths and weaknesses of the working model. Comments and suggestions are collected from customers and provided to developers.

(v) Prototype refinement stage. If the user is unsatisfied with the current prototype, it is necessary to improve it according to the user's feedback and suggestions. This phase will not end until all the requirements specified by the user are met. After the user is satisfied with the prototype, the final system is developed based on the approved final prototype.

(vi) Products implementation and maintenance phase. After the final system has been developed based on the final prototype, it is thoroughly tested and put into production. The system undergoes regular maintenance to minimize downtime and prevent large-scale failures [12]. The prototyping model used by other researchers in the Android application development process using App Inventor shows more efficient results than Android in Fig. 2. [13].
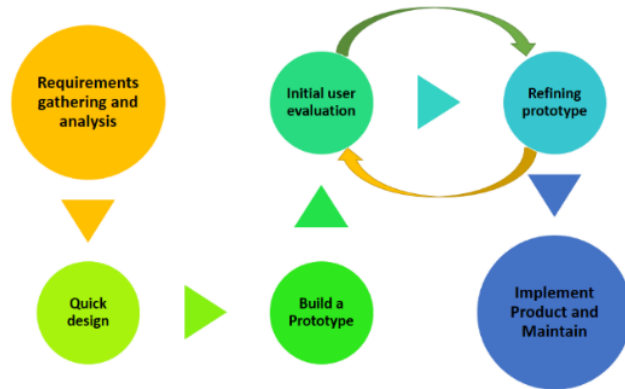

Fig. 2. Phases in the prototyping model.

3. Methodology

The type of research conducted in this study is qualitative research. What is meant by qualitative research is research that intends to understand the phenomenon of what is experienced by research subjects, for example, behaviour, perceptions, motivations, actions, and others. Holistically, and by means of descriptions in words and language, in a special natural context, and by utilizing various natural methods. While the research approach used is a case study. As for what is meant by a case study, it is a study that investigates a phenomenon in a real-life context when the boundaries between phenomenon and context are not visible and various sources of evidence are used.

In conducting this research, there are several data collection techniques namely observation, interview, and literature review. Observation is the direct sensing of an object, condition, situation, process, or behavior in research. Meanwhile, interview is a conversation involving a series of questions asked by interviewer to the interviewee to gain information about a certain situation, condition, or topic. In addition, literature review searches for data by gathering and analysing data in the form of text such as letters, books, scientific papers, documents, etc. The collected data were then compiled, analysed, and presented in writing. Processing the collected data is carried out using descriptive qualitative techniques. The technique describes the collected data to make general conclusions or generalizations [14].

The object of this research consists of *zakat* institutions, Nahdatul Ulama (NU) organization, and users of MSMEs funding benefits in the West Java region. With regard to *zakat* institutions, administrators appointed and approved by BAZNAS as administrators are then legally and formally able to collect and distribute *zakat* in the community.

The functions and roles of the West Java *Zakat* institutions are [15]:

(i) To become a tool for the central *zakat* institution in carrying out its functions and roles in the province of West Java;

(ii) To become the operational coordinator for branches in the province of West Java;

(iii) To encourage the establishment of branch-level *zakat* institutions in the West Java region;

(iv) To carry out coaching to branches within the scope of the West Java province periodically, so that trustworthy and professional branches are formed following expectations;

(v) To raise awareness of *zakat* in the community;

(vi) To allocate productive funds for MSMEs to grow.

The scope of research for developing an integrated *Zakat* information system at the provincial level and financial transparency is shown in Fig. 3.

Regarding MSMEs, turnover is the main criterion because their bookkeeping level is more complex than those with a small turnover. Structured interviews were conducted [14]. The interview contains three topics: the current condition of the recording, the existing system's strengths and weaknesses, and the new system's expectations. The interviews' results were analysed to determine the main problems in *zakat* institutions and SMEs. So, an information system is designed to help solve the problems of *zakat* institutions and MSMEs. The design process focuses on one

Zakat institution and two MSMEs, which have almost the same characteristics as the production process. The design of an integrated information system is created by creating an Entity Relationship Diagram (ERD) and designing the interface.
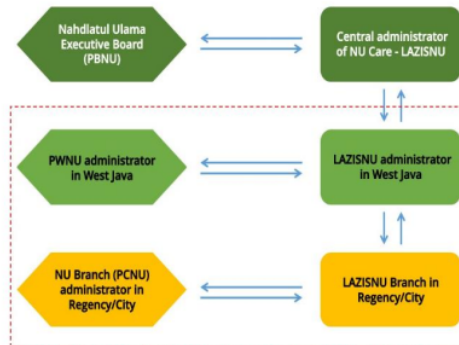

Fig. 3. The scope of research on *zakat* institutions in West Java.

4. Results and Discussion

4.1. Efforts to increase MSMEs through productive *zakat* funds

The *mustahik* (*zakat* recipient) are given financial assistance based on the size of the business being carried out. The West Java *zakat* institution has prepared business assistance programs, including business capital assistance programs for beginners and repairs to business premises. This program benefits micro, small, and medium enterprises in their efforts to develop their businesses. So, it can help change the economy of Micro, Small, and Medium Enterprise (MSME) actors who were initially categorized as underprivileged, but after their businesses developed well, they were able to improve the economy slowly. Before the *Zakat* Capital Assistance Program, most *mustahik* obtained capital from moneylenders who charged very high interest or usury, ranging from 100%-200%, which was very burdensome for *mustahik* in repaying loans and had the effect of violating religious rules, which prohibited interest or usury. Therefore, *mustahik* would be very happy and enthusiastic about the *zakat* business capital program run by *zakat* because it can help MSMEs avoid being crushed by moneylenders and help develop micro, small, and medium enterprises [11]. With the ease of borrowing funds from the Nahdlatul Ulama's *Zakat*, *Infaq*, and Alms Institution (*Lembaga Amil Zakat*, *Infak*, *dan Sedekah Nahdlatul Ulama* or "LAZISNU") and the development of MSMEs with capital originating from *zakat*, it is expected that they will be able to assist in further business development and continue to absorb new workers. This will result in reduced unemployment, and reduced unemployment will have an impact on increasing people's purchasing power, which will be followed by production growth and growth in the production sector. This growth in the production sector will become one of the indicators of Indonesia's economic growth. *Zakat* can be used as a form of capital for MSMEs.

Thus, *zakat* has a significant influence on various matters in people's lives, including the economic field. Another effect of *zakat* is a fairer income distribution within the Islamic community. In this program, besides increasing their income, *mustahik*, through their businesses, can also fulfil their daily needs and pay for their children's school needs. Furthermore, helping the government reduce poverty where *mustahik* can become a *muzakki* (zakat donor) in the future. The business capital provided is expected to continue to rotate [16]. It does not just run out in a few days but can be used to help businesses that can meet their needs and those of their families. The potential of this *zakat* system is very high because it can be utilized as well as possible by the *mustahik*. A harmonious community life is formed, with a social order based on the universal values of justice and humanity. That way, the *mustahik*'s economy will be helped a little by the existence of venture capital assistance funds from *zakat* institutions.

4.2. Integrated *zakat* information system model

In this study's results, the first step is to look at mobile applications. Mobile apps are software made specifically for use on mobile devices, and users have to download them from an application store based on the operating system on their cellphone [17]. The web version is different from mobile applications. The mobile web is a collection of web pages on specific sites that can be accessed through an application or browser on a mobile phone, taking into account the limitations of the screen resolution, pixel density, and memory capacity of the mobile phone. Technically, mobile applications must be downloaded before use, so their performance is faster and lighter than the mobile web [18]. An analysis of the system needs to be developed to pay attention to this. An analysis of the needs of the Integrated *Zakat* Information System from the perspective of the actors involved in the system can be divided into three parts namely *muzakki* needs, administrator needs, and *zakat* institution needs.

The needs for *Muzakki* are:

(i) *Muzakki* and donors can be facilitated in conveying or paying *zakat* without having to go to the location of the *zakat* institution's office, which requires physical effort and costs.

(ii) *Muzakki* and donors can make *zakat* payments with small nominal denominations *without* difficulty finding small denomination currency or difficulties in receiving change in small denominations.

(iii) *Muzakki* and donors can view the history of *zakat* that has been paid as a means of *motivation* to be more disciplined in delivering *zakat* from time to time.

(iv) *Muzakki* and *donors* can receive proof of payment of *zakat* digitally, which can be printed for individual tax reporting needs.

Administrator needs of West Java *zakat* institutions:

(i) Admin can receive activity and financial reports from branch *zakat* institution administrators as a form of accountability report for branch *zakat* institution administrators to *zakat* institutions in West Java Province.

(ii) Admin can summarize all financial reports from 27 branch *zakat* institutions throughout West Java.

(iii) Admin can display and print reports on *zakat* activities of *muzakki* and donors who have paid *zakat* via cellphone.

(iv) Admins can combine *zakat* data from web-based vehicles and android-based mobile platforms in the financial reports of *zakat* institutions in West Java Province.

The need for the management of the *zakat* institution branch [3]:

(i) Branch administrators can record *zakat* collection activities through programs each Branch Representative manages.

(ii) Branch administrators can easily report monthly activities with a uniform data format to facilitate the review process.

(iii) Branch administrators can coordinate with the admin of the *zakat* institution in West Java Province when there are problems or errors in reporting *zakat* activities.

(iv) Branch administrators can print and document the management's achievements in collecting and managing *zakat*. *Mustahik*, in the analysis of the current needs, has not become part of the system, although, in other studies, *mustahik* has been positioned as one of the actors in the *zakat* management system.

In Fig. 4, an integrated *zakat* information system model is made based on the functional and non-functional requirements that have already been set. Integration and synchronization between the web-based *zakat* system and the API Service mobile-based *zakat* system are essential in designing this model. The design of this model has not yet formulated the income management features of prospective *muzakki* and the calculation of income tax that should be paid, as previously done by researchers [3, 19].
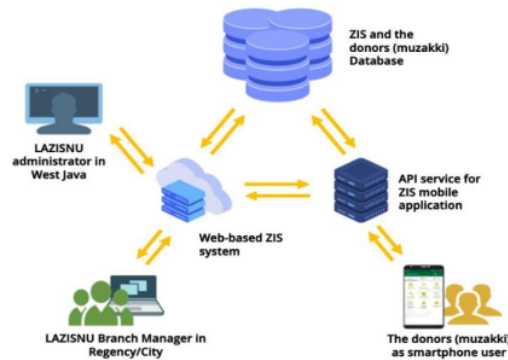
Fig. 4. Integrated *zakat* information system model.

One of the most important parts of making the Integrated *Zakat* Information System work is designing the interface for the Android mobile application [20]. User Interface (UI) design on Android mobile applications greatly influences *Muzakki*'s interest and comfort in operating these applications on their cellphones [21]. The mobile-based Integrated *Zakat* Information System interface design, as shown in Fig.

5, provides three primary tabs namely *Zakat* tab, news tab, and instructions tab. There are nine detailed button options on the *Zakat* tab, each of which will display a *Zakat* transaction page. Complete name data and an identification number must be considered because they will appear on the proof of *zakat* payment. *Muzakki* can later use the proof of payment in reporting personal taxes.

In previous studies, mobile application interfaces could be evaluated using the eight-parameter approach which are relevance, accuracy, efficiency, simplicity, features, fineness, safety, and attractiveness parameter to measure the level of user satisfaction [22]. This study performed mobile application testing up to functional testing according to user requirements in Fig. 5.
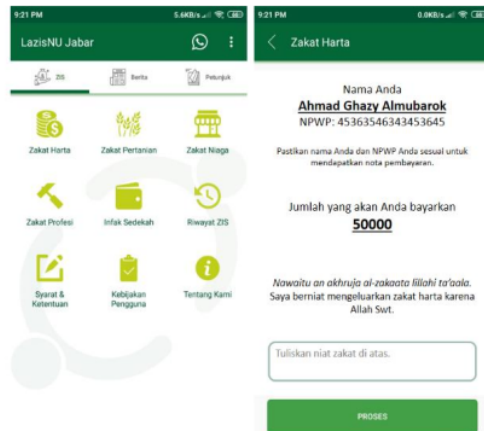

Fig. 5. **Mobile-based *zakat* application interface design.**

Based on Fig. 5, the system's design will make it easier for *muzakki* to donate *zakat* easily, quickly, and safely. Funds collected by *zakat* institutions will be managed to become productive funds for community development, one of which is MSMEs [23].

5. Conclusion

Based on the discussion that has been presented, it can be concluded that there is an urgent need for information technology-based medium in the digital age. Non-profit organizations, such as the *zakat* institution in West Java Province, must be able to use information technology to provide the best services and information. As collectors and managers of *zakat* from the community, the *zakat* institutions are obliged to increase the satisfaction of *muzakki* in providing *zakat* services to achieve a new stream of community economic independence through the development of MSMEs. Mobile-based *zakat* application can be a new tool for urban *muzakki* who are familiar with cell phones. The web-based *Zakat* institution application can coordinate between provincial and branch *Zakat* institutions spread across 27 districts/cities in West Java. Using cell phones to coordinate *zakat* institution branches is an opportunity in the future if the data and telecommunications infrastructure is stable enough in all remote

villages. Additionally, *mustahik* can find incoming and outgoing financial reports through monthly and annual reports at the provincial level or news on activities that can be carried out quickly and efficiently only via mobile phones. Efforts to develop MSMEs through business capital are expected to provide more income for MSMEs through this *zakat* fund. The management of *zakat* can be seen from changes in the economic level of *mustahik* after getting business capital assistance funds through *zakat*, which they will give in the future. After getting the business capital assistance, it is hoped that the *mustahik*'s income or economy will increase every month or for a certain period, so the management of *zakat* carried out by *zakat* institutions has been beneficial in alleviating the *mustahik*'s burden while at the same time freeing the *mustahik* from usury from moneylenders.

Acknowledgements

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