

Accounting Information System Design for Zakat on Bandung Islamic University Baitul Maal

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Abstract—The purpose of this research is to analyse the information system that is being implemented to identify the problems faced by Baitul Maal Unisba. The problem faced is the lack of use of documents in documenting the activities carried out, the lack of supervision and control of every process and procedure, and there are no adequate reports to provide accurate information. The method used in this research is descriptive analysis and case studies while the system development method used is system development with the Framework for the Application Development (FAST) method in the form of stages in system development through several phases and activities carried out. The results obtained in this study are the design of a new information system to help Baitul Maal Unisba in solving the problems, namely related to the receipt of zakat funds information systems, zakat fund distribution information systems, financial reporting information systems. The use of a new information system can help carry out operational activities well, then with an integrated system it can solve the problem of recording and calculation that is often done by humans (human error). In addition, Baitul Maal's internal control can be more effective and data security more secure.

Keywords: *receiving zakat funds information system, distributing zakat funds information system, financial reporting information systems*

I. INTRODUCTION

Information systems are the arrangement of people, data, processes, and information (IT) or information technology that interact to collect, process, store, and provide as the output of information needed to support an agency or organization [1]. Meanwhile, according to Laudon and Laudon information systems are interrelated components that work together to collect, process, store, and display information to support decision making, coordination, regulation, analysis, and visualization in an organization [2-5].

Baitul Maal Bandung Islamic University is an amil zakat institution which is under the control of the Bandung Islamic University foundation. Based on the results of an interview in 2018 with the deputy director of Baitul Maal Unisba and administration & finance there were many problems in the information system that was being carried out by Baitul Maal Unisba, namely the recording system was not well structured and PSAK 109 had not been standardized, there were still multiple functions, so that the functions between parts is not

clear. Furthermore, the administration and finance sector states that the lack of control over documenting proof of payment, there is no donation receipt form, and recording of transactions that are still not in accordance with the provisions.

Based on the results of the interview it can be concluded that the information system currently running in Baitul Maal of the Islamic University of Bandung is still not optimal and has not been standardized PSAK 109. Based on the above background, it is necessary to design an accounting information system for zakat in Baitul Maal Unisba in accordance with the Financial Accounting Standards Guidelines - Standards no. 109 (PSAK 109) in order to create accountability and transparency in financial reporting and increase Unisba academia's trust in Baitul Maal.

II. LITERATURE REVIEW

A. Information System

Information systems are a series of components in the form of humans, procedures, data, and technology that are used to carry out a process to produce valuable information for decision making. The understanding of information systems stated by Whitten, and Bentley [1] "information systems (IS) an arrangement of people, data, processes, and information technology (IT) that interact to collect, process, store, and provide as the output information needed to support an organization. Information systems are organized ways to gather input, and process and store data, and organized ways to store, manage, control, and report information in such a way that an organization can achieve goals that have been set.

From some of the definitions above it can be concluded that the information system is a unit of components that are integrated with each other that collects, processes, stores, and distributes information to support decision making and control in the organization so that the organization can achieve its goal of presenting financial statements needed by the user.

B. System Development

Information systems are developed through a process called information system development (Information System Development). The development of information systems can be

interpreted to compile a new system to replace the old system as a whole or improve existing systems.

According to Whitten and Bentley the definition of a system development methodology is "... a formalized approach to the systems development process; a standardized process that includes the activities, methods, best practices, deliverables, and automated tools to be used for information systems development" [1]. Furthermore Whitten and Bentley states that there are several stages in developing information systems, namely [1]:

A simplified system development process that is composed of the following steps:

- System Planning and Analysis
- System Design
- System Implementation
- System Support and Continuous Improvement.

Each of the above stages is carried out through several phases which can be explained as follows:

1) *System planning and analysis*: This stage is carried out through several phases, namely:

- **Survey and Plan the Project Phase**, This phase is carried out through several activities such as: Survey Problem and Opportunities, Negotiate Project Scope, Plan the Project, Present the Project.
- **Study and Analyse the Existing System Phase**, This phase is carried out through several activities such as: Model the Current System, Analyse the Business Processes, Analyse Problems and Opportunities, Establish System Improvement Objectives and Constraints, Modify Project Scope and Plan, Present Findings and Recommendations.
- **Define and Prioritize the Business**, This phase is carried out through several activities such as: Outline Business Requirements, Model Business System Requirements, Prioritize Business Requirements, Modify the Project Plan and Scope.

2) *System design*: This stage is carried out through several phases, namely:

- **Configuration Phase** This phase is carried out through several activities such as: Define Candidate Solution, Analyse Feasibility of Alternative Solutions, Recommend a System Solution.
- **Procurement Phase**, This phase is carried out through several activities such as: Database Design, Input design, and Output design.
- **Design and Integration Phase**, This phase is carried out through several activities such as: Analyse and Distribute Data, Analyse and Distribute Processes, Design Database, Design Computer Outputs and Inputs, Design On-line User Interface.

3) *System implementation*: This stage is carried out through several phases, namely:

- **Construction Phase**, This phase is carried out through several activities such as: Build and Test Networks, Build and Test Databases, Install and Test New Software Package, Write and Test New Programs,
- **Delivery Phase**, This phase is carried out through several activities such as: Conduct System Test, Prepare Conversion Plan, Install Databases, Train System Users, Convert to New System.

4) *System support and continuous improvement*: This stage is carried out through several phases, namely:

- **Systems Maintenance – Correcting Errors Phase**, This phase is carried out through several activities such as: Define and Validate the Problems, Benchmark the Programs and Application, Understand the Application and its Programs, Edit and Test the Programs, Update Documentation
- **System Recovery Phase**, This phase is carried out through several activities such as: Analyse the user's terminal and recover the system, discuss to systems operations personnel to correct the problem, discuss with data administration to recover lost or corrupted data files or databases, discuss with network administration to fix a local, wide, or internetworking problem, discuss with technicians or vendor service representatives to fix a hardware problem, discover a bug caused the crash.
- **End-User Assistance**, This phase is carried out through several activities such as: Routinely observing the use of the system, Conducting user-satisfaction surveys and meetings, Changing business procedures for clarification (written and in the repository), providing additional training, Logging enhancement ideas and requests in the repository.
- **Systems Enhancement and Reengineering**, This phase is carried out through several activities such as: Adapting an existing system to new requirements, to analyse the new requirement and return to the appropriate phases of systems analysis, design, and implementation, response to new business problems, new information requirements, or new ideas for enhancement.

III. RESEARCH METHODOLOGY

The research method used in this research is descriptive research method by using the FAST system development method (Frame work for the Application of the System Technique) and Joint Application Development (JAD). According to Whitten the FAST method is a method that provides a complement and analyses the needs of users to be able to implement a system [1]. Each stage in the FAST method has phases, each phase is carried out through several activities, and each activity is applied to system elements.

Furthermore, JAD development technique is one of the systems development techniques used to accelerate the process of acquiring information needs and developing system design [1,6]. JAD was created to bridge the communication gap

between system owners and system users with system developers through intensive brainstorming activities to reduce time and effort in documentation and in setting requirements and design specifications. The JAD technique is a structured collaboration between users of information systems, managers and information systems experts to determine and describe user demands, techniques required and external design elements. The JAD technique supports the FAST method in developing systems [7,8].

Data collection techniques used are 1) Interview: is a data collection technique through question and answer between researchers with the program and service sector, administration and finance, deputy director of Baitul Maal Bandung Islamic University to obtain more detailed data on existing problems, 2) Observation: is a data collection technique that is done by direct observation of the flow of activities that are being applied at Baitul Maal Bandung Islamic University. This direct observation involves systematic recording of events, behaviours, and objects needed to support research. The stages of system planning and analysis are carried out as follow:

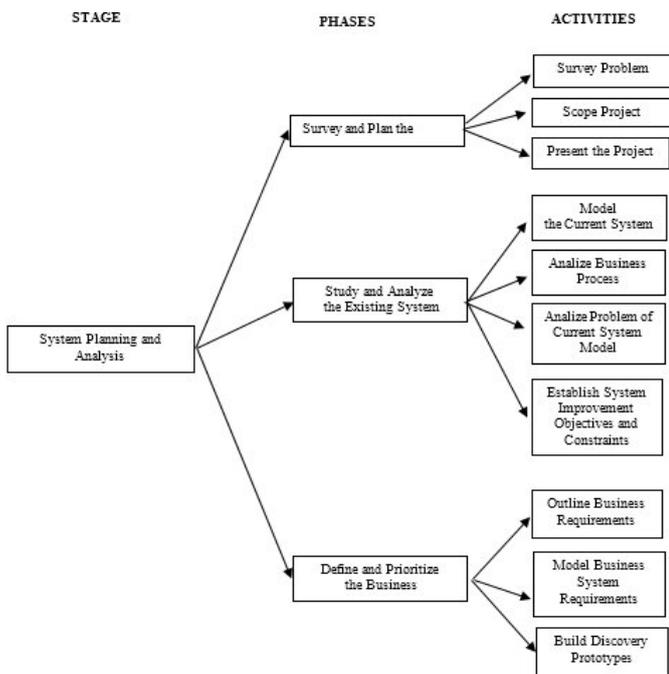


Fig. 1. Stages of system planning and analysis.

The stages of system design are carried out as follow:

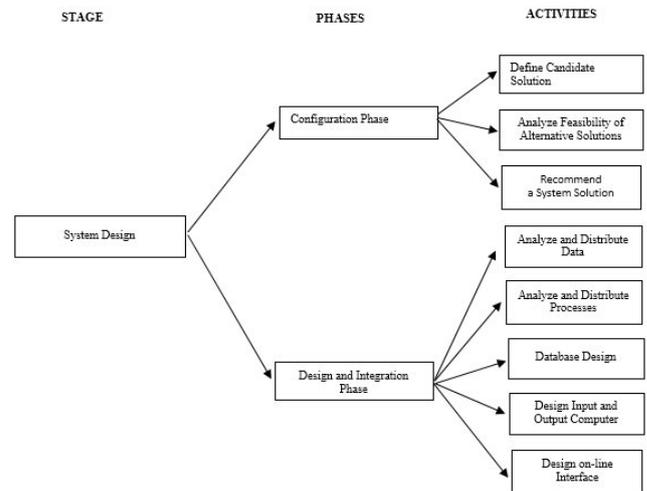


Fig. 2. Stages of system design.

IV. RESULTS AND DISCUSSION

A. The Result of System Planning and Analysis

After completing the analysis of the information system applied, the following results are obtained:

1) Problem statement for general problems.

- Problem: Job descriptions are only notified verbally.

Solution: A job description is made for each section so that they know exactly what the tasks and responsibilities are.

- Problem: Financial accounts do not cover Zakat, Infaq, Alms, and Waqf in full

Solution: New accounts were made which included: Zakat accounts, waqf accounts, and non-halal Funds accounts.

2) Problem statement for systems and procedures implemented for receiving funds.

- Problem: No duplicate receipt forms that are supposed to be duplicated and to be given to donors.

Solution: Designing 2 sheets donation receipt form. One sheet is kept as an archive and the other is submitted to donors as proof of donations.

- Problem: Administration has difficulty finding donor data that has registered.

Solution: Designing a database for donor data in accordance with the needs of Baitul Maal UNISBA

- Problem: There are many funder's data that are not recorded.

Solution: Design a form for receiving funds / cash with a Serial number printed.

- Problem: The leadership does not know and does not supervise the Fund Receiving Report

Solution: Design a standardized Fund Receiving Report so that it can prove that the receiving activity has been carried out.

3) Problem statement for system and procedure fund distribution.

- Problem: There are no forms for bailout fund and social funds

Solution: Design recipient forms for bailouts and social funds as needed

- Problem: The administration section had difficulty finding donation data.

Solution: Design a database for donation recipient data

- Problem: There are a lot of funds recipient data that are not recorded

Solution: Designing proof of expenditure of funds / cash with serial number printed

- Problem: The manager does not know and does not supervise the Fund Distribution Report

Solution: Design a standardized Fund Distribution Report so that it can prove that the distribution activities have been carried out.

B. The Design of the Proposed Information System

After analysing the information system that is being implemented by Baitul Maal Unisba, researchers determine and propose improvement solutions that must be applied in the form of data / document design models, procedures and reporting.

The following is a proposed information system design model.

1) Design model for job description

TABLE I. THE PROPOSED JOB DESCRIPTION DESIGN MODEL

Position	Duty	Authority
Director	Control the activities of Baitul Maal Unisba, the highest decision maker, authorizing the receipt and distribution of funds	Give authority for each activity after the requirements are approved by the deputy director
Vice Director	Provides requirements for each activity	Give approval for each activity requirement
Programs and services	Prepare, implement and evaluate every program that is carried out	Responsible for the implementation of the Baitul Maal Unisba program
Administration	Carry out work related to administration in all fields	Responsible for administrative work and report the activities
Fundraiser	Offering donations	Recapitulate donation data

2) Model design for the form of funds receiving.



BUKTI PENERIMAAN DANA

No. Bukti Kas Masuk: BPM01-01-.....

Diterima dari: _____

Terbilang: _____

Untuk: _____

Keterangan: _____

Rp. _____

Diketahui, _____ Bandung,.....
Direktur, _____
Bag Administrasi

Fig. 3. The proposed form of funds receiving.

3) Model design for systems and procedures receiving funds from lecturers and professional staff.

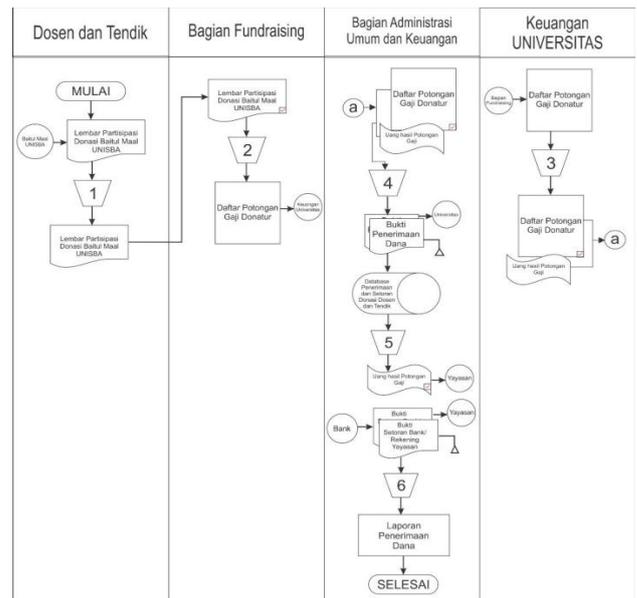


Fig. 4. The proposed systems and procedures of receiving funds from lecturers and professional staff.

Explanation:

Symbol (✓): Has been filled

- 1 = Baitul Maal UNISBA distributed Donation Participation Sheet to Lecturers and Professional Staff as participating parties. After that, fill in all the data contained in the form. Then, the filled form is submitted to the Fundraising section.
- 2 = Based on the completed form of Donation Participation Sheet Maal UNISBA, the Fundraising section prepare and make the donator payroll deductions list. Then, Fundraising section submit donator payroll deductions list to UNISBA Finance Division.
- 3 = Based on the donator payroll deductions list, UNISBA Finance Division deducts salary. The funds from the salary deduction are given to the

administration of Baitul Maal UNISBA along with a list of salary deductions that have been verified.

- 4 = Funds and donator payroll deductions list are received by the General Administration and Finance Section, which then makes a double copy of Funds Receipts Proof. One was submitted to the UNISBA Finance Section, the other was archived in the General Administration and Finance Section. From the Funds Receipts Proof, existing data is entered into Database of Acceptance and Payment of Donation from Lecturer and Professional Staff.
- 5 = The administration department deposits funds to the UNISBA Foundation Account and then receives proof of the deposit from the bank. The proof of deposit is copied, the original proof of deposit is submitted to the Foundation
- 6 = Based on the evidence of acceptance contained in the database of acceptance of donations from lecturers and students, it can directly produce reports on receipt of funds.

4) Model design for systems and procedures regular receiving funds.

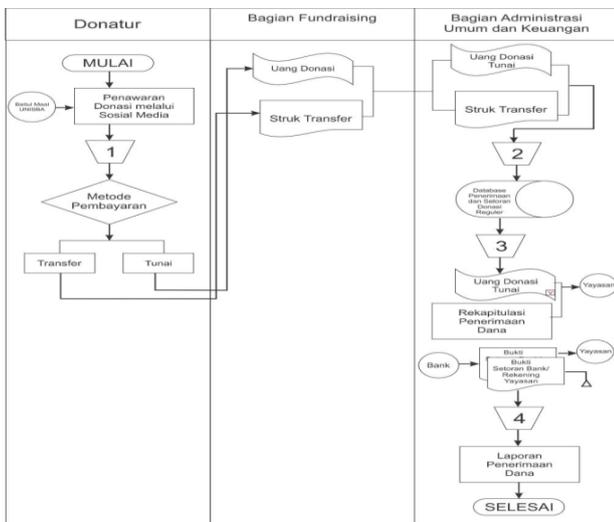


Fig. 5. The proposed systems and procedures of regular receiving funds.

Explanation:

Symbol (✓): Has been filled

- 1 = Baitul Maal UNISBA disseminates information about donation offers through social media. If donors are willing to contribute, the donors contact Baitul Maal UNISBA and choose the method of payment whether by transfer or cash.
- 2 = Fundraising Section gets donations along with evidence of transfers for those who make donations by transfer. The donation funds and proof of transfer were submitted to the administration for input in the database of Regular Donation Acceptance and Deposits.

- 3 = The Administration Section hands over money from regular donations to the UNISBA Foundation account along with a recapitulation of receipt of funds. After getting proof of deposit from the bank, the proof is copied and then the original deposit is submitted to the Foundation.
- 4 = Based on the evidence of receipt contained in the database of Regular Donation Acceptance can directly generate Fund Receipt Report.

5) Model design for the form of cash receiving.

Fig. 6. The proposed form of cash receiving.

6) Model design for donation acceptance report of lecturers and professional staff.

PENERIMAAN ZIS DOSEN DAN TENDIK UNIVERSITAS ISLAM BANDUNG									
Tanggal:									
No.	Nama	Fakultas	Prodi	Alamat	Tp	E-Mail	Jenis Penyakatan	Jumlah	
1	Annisa K	Ekonomi	Akuntansi	Jalan Tamansari...	08021..		Infak	200.000	
2									
3									
4									
5									
6									
7									
8									
9									
10									

Jumlah Penerimaan Zakat	
Jumlah Penerimaan Infak	200.000
Jumlah Penerimaan Sedekah	
Jumlah Penerimaan Dana Amil Zakat	12,5% dari Jumlah Penerimaan Zakat
Jumlah Penerimaan Dana Amil Infak dan Sedekah	12,5% dari Jumlah Penerimaan Infak dan Sedekah
TOTAL	

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Fig. 7. The proposed donation acceptance report for lecturer and professional staff.

7) Model design for donation acceptance report regular.

PENERIMAAN ZIS REGULER									
Tanggal:									
No.	No.BKM	Nama	Alamat	Tp	E-mail	Jenis Penyakatan	Jenis Pembayaran	Jumlah	
1	BKM-001	Denisa	Jalan Tam			Zakat	Transfer	250.000	
2									
3									
4									
5									
6									
7									
8									
9									
10									

Jumlah Penerimaan Zakat	250.000
Jumlah Penerimaan Infak	
Jumlah Penerimaan Sedekah	
Jumlah Penerimaan Dana Amil Zakat	12,5% dari Jumlah Penerimaan Zakat
Jumlah Penerimaan Dana Amil Infak dan Sedekah	12,5% dari Jumlah Penerimaan Infak dan Sedekah
TOTAL	

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Fig. 8. The proposed donation acceptance report regular.

8) Model design for fund distribution form of scholarship.

Fig. 9. The proposed scholarship participation form.

9) Model design for fund distribution form of bailout funds.

Fig. 10. The proposed bailout funds participation form.

10) Model design for fund distribution form of social funds.

Fig. 11. The proposed social fund participation form.

11) Model design for systems and procedures donation distribution of scholarship.

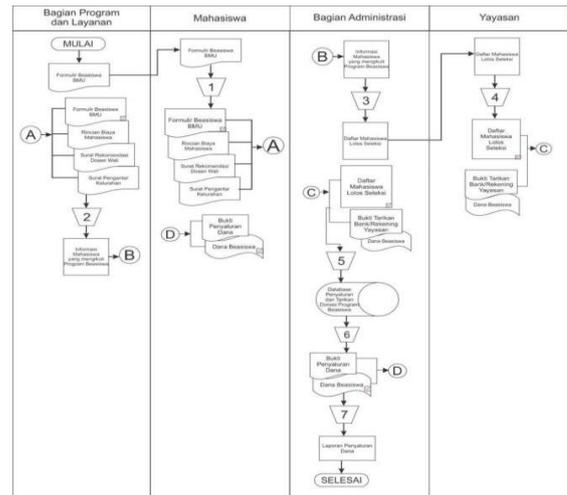


Fig. 12. The proposed systems and procedures of donation distribution for scholarship.

Explanation:

Symbol (✓): Has been filled

- 1 = Students fill out the Scholarship form and then submit it to the administration together with the requirements in the form of tuition payment bills (ISKS and IKT) or some other bills that can be submitted through official letters from the faculty and other requirements documents such as letters of recommendation from Student Advisors (achievement and economics).
- 2 = Program and Services Section receives the student's required documents and then conducts oral and written tests for the student. Then make list of Students Following the Scholarship Program.
- 3 = after completing the selection process, Administration section makes a List of Students Passed Selection. The list was submitted to the UNISBA Foundation to prepare its funds.
- 4 = The UNISBA Foundation made a withdrawal then handed over the scholarship funds along with a List of Students Passed Selection that had been verified and proof of bank withdrawals to the Administration Section.
- 5 = Administration Section inputs the List of Students Passed Selection in the distribution and withdrawal database of the scholarship program.
- 6 = Administration Section prints proof of the distribution of funds which are then given to students along with scholarship funds.
- 7 = Based on database regarding distribution and donation withdrawal and also Funds Distribution Proof,

Administration Section prepare the Fund Distribution Report.

12) Model design for proof of baitul maal funds distribution.

Fig. 13. The proposed funds distribution proof.

13) Model design for donation distribution report of scholarship program.

PENYALURAN ZIS BEASISWA						Tanggal:
No	No Formulir	Nama	NPM	Alamat	Fakultas/Prodi	Jumlah Diterima
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
TOTAL PENYALURAN BEASISWA						

Fig. 14. The proposed donation distribution report of scholarship program.

presented in a standardized report that can prove that distribution activities have been carried out correctly.

After concluding weaknesses based on the results of the survey, carried out analysis of these weaknesses. Then determine the solution to correct the weaknesses contained in the Baitul Maal Unisba information system, then design an information system that includes: document design, procedure design, and reporting design both for zakat fund receipt information system and zakat distribution information systems.

The results of the analysis and design previously described, the authors have constructive suggestions to Baitul Maal Bandung Islamic University to support the results of the design of the new system, which is as follows:

- Great expectations of researchers that the Baitul Maal Bandung Islamic University management information system that was designed can be implemented to help operational management of ZIS Waqf at Baitul Maal Bandung Islamic University.
- Based on the results of the analysis that has been carried out it is better for Baitul Maal Bandung Islamic University to fix weaknesses that can cause a problem.
- Perform maintenance if the Baitul Maal Bandung Islamic University information system designed has been implemented.
- Evaluate the Baitul Maal management information system at the Bandung Islamic University which has been implemented in order to keep up with technological developments.

V. CONCLUSION

Based on the survey results, several weaknesses are obtained, namely:

- There are functions that are less precise in carrying out their duties, there are many functions in carrying out the task, less clear in the description of the tasks for each function that can result in less optimal tasks performed by each function so as to cause reports / information that is less informative.
- In the procedure of receiving funds there are some weaknesses, namely: the absence of a database for donator data that has registered both permanent and incidental, donation receipt forms are still informative, there is no physical evidence of receipt of funds / cash from donators who pay by transfer, there is no Funds Receipts Reports are standardized and can prove that the acceptance activities have been carried out. These weaknesses can lead to a record that is not optimal and prone to errors in recording and even fraud.
- In the fund distribution procedure there are some weaknesses, namely: the absence of forms for bailout funds and social funds, the absence of a database for recipients of funds, the distribution of funds has not been recorded in adequate documents according to standards, the Funds Distribution Report has not been

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