Modernization Planning Of Public Services on Death Management Based On Gotong Royong Using Zachman Framework

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ABSTRACT:The Pillars of Death are organizations that provide tangible benefits to the community. The presence of this mass organization can assist the government in providing public services for the people who died. The amount of benefits provided is a solid reason to support death organizations to modernize their business processes so that the services and benefits provided to the community will increase.

This research aims to produce an analysis of information system requirements that will be used as a framework for developing information systems in the next research. The tools used in the process and analysis are two perspectives on the Zachman Framework. This research resulted in the design of an information system that can overcome the problem of dues data, making transparent financial reports, recapitulation of bills, increasing citizen participation in contributions and funerals, and making death certificates. The design of creating an information system goes through the following stages: infrastructure provision, database management, information system creation, server/hosting provision, implementation. The existence of an information system can increase the services of death organizations and the benefits that are felt directly by the surrounding community.

KEYWORDS: Pillars of Death, Information Systems, Zachman Framework, Modernization of Public Services.

I. INTRODUCTION

In the city of Samarinda, the responsibility for services related to the provision of burial land lies with the Department of Housing and Settlements. However, funeral preparations and processions are not part of this responsibility. So that the community forms the pillars of death to organize funerals independently. [1] The Pillars of Death are social institutions created by the RukunTetangga administrators tasked with collecting funds from non-governmental organizations to organize funerals for the Muslim community.

Almost every large mosque has a Pillar of Death community organization consisting of local residents. The Pillars of Death have the aim of helping the preparation and funeral procession for Muslim citizens who died. Samarinda residents, especially residents of JalanSuwandi, where the Muhammad Sultan Sulaiman Mosque is predominantly Muslim. [2] The Islamic funeral process requires various preparations, including the preparation of the grave pit, the purchase of shrouds, mats, boards, tombstones, the preparation of tents at the funeral home, and other equipment. [3]

Pillars of death have a role in funeral preparations, including fundraising, digging grave land, erecting tents at funeral homes, ordering tombstones, purchasing shrouds, cotton, mats, and other equipment. The preparation and process required funds amounting to four to six million rupiahs. From the preparation to the procession, one of the obstacles for the Rukun Death management is fundraising and community participation in funerals.

In conducting the fundraising process, the Pillars of Death offered to all residents around the mosque to become members. [3] Furthermore, each member and his family will get the right to help with all preparations, including funding from the Pillars of Death. In a case study on the Pillars of Death of the Sultan Muhammad Sulaiman Mosque, residents who are willing to become members of the Pillars of Death reach 530 Family Cards with a total of 1960 souls. Each Family Cardholder has an obligation to pay a fee of 20,000 Rupiah.

Contributions are paid every time a member of the Pillar of Death dies.

Payment constraints occur if the news of the death occurs in the morning to evening. Because most of the residents work and cannot attend the funeral home, this has resulted in many members of the Pillars of Death not paying dues. As a result, the operational costs of the funeral process are not sufficient, so that the bereaved family has to pay for the lack of funds to buy funeral equipment. [4]

To realize this social mission, the Pillars of Death have made a rule that any member who does not make a maximum payment of three times in a row will be penalized. This is done so that members have a social awareness of fellow members of the mourning pillar of death. However, the administrators of the Pillars of Death have not been able to apply any sanctions for members who do not comply with the rules. This happened because the management had problems checking data on anyone who was in arrears more than three times.

From the various conditions above, it is necessary to present a solution for making financial reports for the Pillars of Death and identification of data on arrears in membership dues. So that the Pillars of Death Organization can carry out its humanitarian mission more optimally, and as a member, you can increase the value of minimal social care by regularly paying death contributions.

II. ZACHMAN FRAMEWORK AND INFORMATION SYSTEMS

Information systems are collaborations between software, hardware, internet technology, data, and people, which work in a structured manner and make business processes the basis for generating information, knowledge, and decisions [5]. Information systems can be used as a means to modernize business processes. Functions The simplest information system can automate processes, process data, generate information and reports.

The first stage in the creation of an information system is the identification of user needs. Then make a system design plan. Frameworks are needed to make system designs more structured, scalable, and easy to deliver to developers.

[6][8]Zachman Framework is a framework that contains a matrix of 6 columns and six rows. Six columns contain business questions aligned with the information system, and six rows contain the perspectives of various potential users. For this case, we will use two perspectives, namely Planner and Owner.
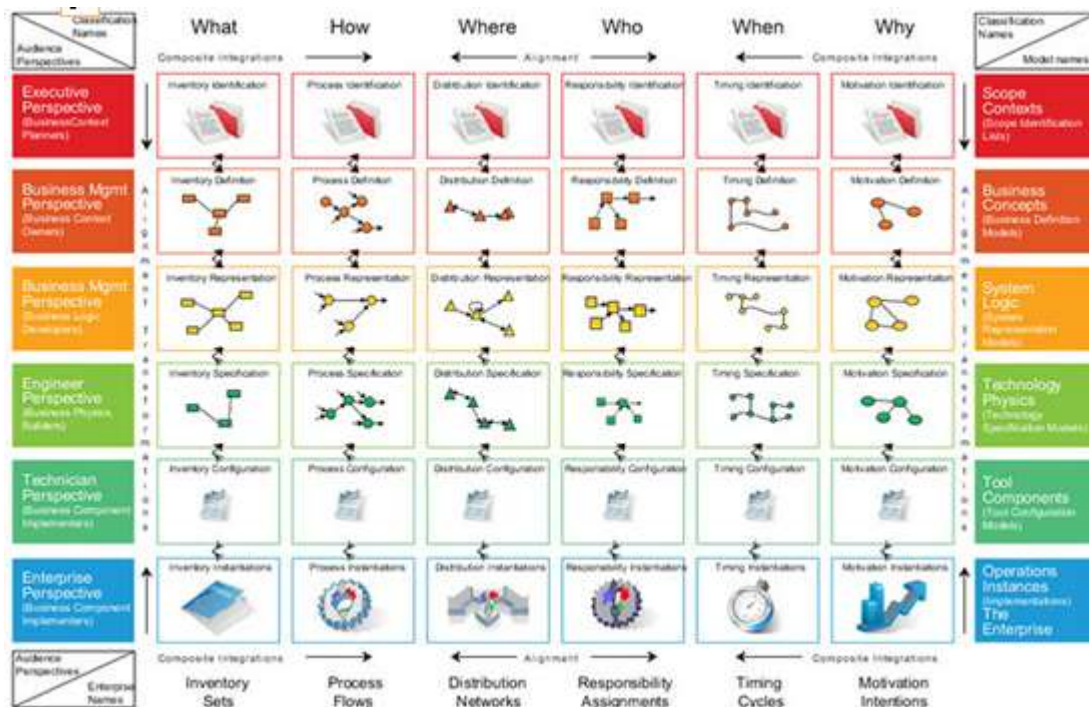

Fig. Zachman Framework [7]

III. METHODOLOGY

This research focuses on assisting the Pillars of Death in analyzing the need for information systems to help solve the problems they face. In this study, several data collection methods, analytical tools, and information systems strategic planning frameworks will be used. In total, the method used and the research location will be described in the following explanation:

Object of research

The Death Pillar, which manages death services, is very much needed by the community. Because of the benefits provided by this organization, its existence deserves the support of all parties. Therefore, this study took place at the Pillars of Death Organization of the Sultan Muhammad Sulaiman Mosque, located on JalanSuwandi, GunungKelua Village, Samarinda City, East Kalimantan Province. This organization houses 6 RTs, namely: 21, 22, 23, 24, 25, and 26, with a membership of 1960.

Research Model

The study used a qualitative descriptive method approach. The sampling method used was purposive sampling, and data analysis was carried out using the Miles, Huberman method. According to Miles, Huberman (1984) in [8], Hariyanti (2015) suggests that activities in qualitative data analysis are carried out interactively and continue until they are completed so that the data is saturated. The research takes a case study route that will photograph the reality of several business process events in a Death Pillar Organization by collecting primary data on the object of research through interviews and direct observation to the Death Pillar Organization.
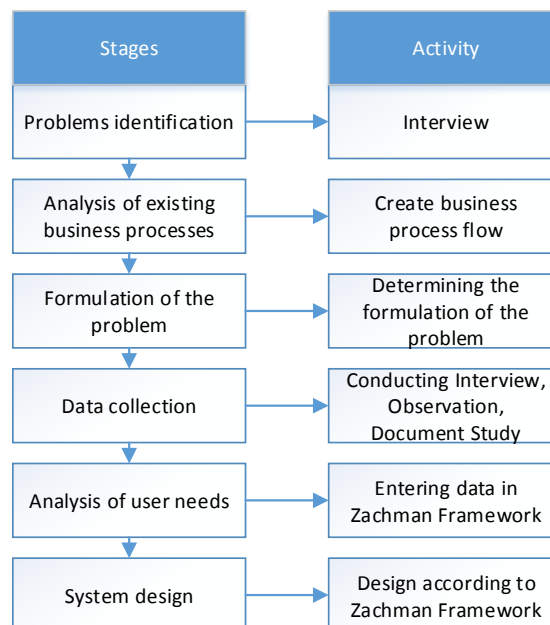
Research Tools

Interview instrument, used as a reference for extracting data.Observation instrument, is used as a guide in observing the process and facilitating coordination with the party who will be regarded. Zachman Framework, used as a framework for analyzing and designing information systems.

Research Stages

The research stages consist of the steps to be carried out and the tools to be used and the relationship between the devices in the research. These stages can be seen in Table 1.

Table 1. Research Stages

Stages	Activity
Problems identification	Interview
Analysis of existing business processes	Create business process flow
Formulation of the problem	Determining the formulation of the problem
Data collection	Conducting Interview, Observation, Document Study
Analysis of user needs	Entering data in Zachman Framework
System design	Design according to Zachman Framework

IV. RESULTS AND DISCUSSION

Based on in-depth interviews and observations at the time of death, information was obtained about the division in RKM and observations. In carrying out the humanitarian task of managing death, realizing there are deficiencies in service and even causing problems. Here are some processes that are less than optimal.

Table 3.1 Divisions and activities carried out, and problems faced

Division	Activity	Problems faced
chairman	Coordinates all divisions	Not able to provide information directly to all RK members so that sometimes RK members do not know information about deaths.
Secretary	Make dues card, issue death certificate, input contribution data in excel.	The contribution card was damaged several times due to rain, sometimes incorrectly providing the death certificate because the family gave incorrect information on the identity of the deceased.
Treasurer	Make reports of receipts and expenses, make payments for all funeral needs, convey compensation to bereaved families.	So far, there have been no reports of receipts and expenditures. So it isn't easy to provide transparency to members
Equipment Division	Prepare tents, coffins, baths, shrouds, hearses	No problem
Funeral Division	Searching for the position of grave land, digging graves, burying	No problem
Finance Division	Record contributions into the contribution book and list participants who do not pay contributions three or more times in a row.	It takes up to 2 hours to record because you have to do repeated recordings on all member cards, can't make a list of arrears of dues.
Administration Division	Provide death information to RT, distribute membership dues card to RT	In the event of death during working hours, members often do not receive information, resulting in members not paying dues.
Janais Division	Bathing, shrouding, praying, leading prayers at home and funerals.	No problem

The description of business processes in Table 3.1 shows that there are several overlapping processes. So that a new business process is proposed according to the input from the head of the RKM, as shown in the Table 3.2.

Table 3.2 Proposed Business Process

Division	Initial Business Process	Proposed Business Process
Chairman	Coordinate all divisions	Coordinate all divisions
Secretary	Make a dues card, issue a death certificate, enter attendance data in excel.	Make a dues card, issue a death certificate.
Treasurer	Make reports of receipts and expenses, make payments for all funeral needs, convey compensation to bereaved families	Make reports of receipts and expenses, make payments for all funeral needs, convey compensation to bereaved families, make a list of participants who do not pay contributions three times or more in a row.
Equipment Division	Prepare tents, coffins, baths, shrouds, hearses	Prepare tents, coffins, baths, shrouds, hearses
Funeral Division	Searching for the position of grave land, digging graves, burying	Searching for the position of grave land, digging graves,

Division	Initial Business Process	Proposed Business Process
		burying
Finance Division	Record contributions into the contribution book, make a contribution report, make a list of participants who do not pay contributions three or more times in a row.	Record contributions in the dues book.
Administration Division	Provide death information to RT, distribute membership dues card to RT	Provide death information to RT, distribute membership dues card to RT
Janais Division	Bathing, shrouding, praying, leading prayers at home and at funerals.	Bathing, shrouding, praying, leading prayers at home and at funerals.

The proposed business process has several changes in the finance and treasury departments. Business processes that information systems can assist are improved in function. Mapping of business processes that information systems can assist is in Table 3.3

Table 3.3 Activities that information systems can assist

Division	Activity	Activities that can be assisted with information systems
Chairman	Coordinate all divisions	Yes
Secretary	Make a dues card, issue a death certificate.	Yes
Treasurer	Make reports of receipts and expenses, make payments for all funeral needs, convey compensation to bereaved families, make a list of participants who do not pay contributions three times or more in a row.	Yes
Equipment Division	Prepare tents, coffins, baths, shrouds, hearses	No
Funeral Division	Searching for the position of grave land, digging graves, burying	No
Finance Division	Record contributions in the dues book.	Yes
Administration Division	Provide death information to RT, distribute membership dues card to RT	Yes
Janais Division	Bathing, shrouding, praying, leading prayers at home and funerals.	No

The proposed system design has been submitted to unite the finance and treasury divisions because the process can be carried out in one area. However, the request from the Pillars of Death, the process is still divided into two parts.

Analysis of information systems using the Zachman Framework.

Of the eight activities carried out in the RKM, there are five activities that the information system can assist. To identify and analyze information system requirements, the Zachman Framework is used, which is limited to two perspectives, namely Planner and Owner.

Planner's perspective
1.   Data/data (what?)
All data about member data, administrators, fees, cash, and contests
2.   Functions/functions (how?)
Processing member data, making membership cards, managing attendance data, processing dues data, making cash reports, making death certificates, and providing information to members.
3.   Network/network (where?)

Management, Head of RT, members
4.   People/people (who?)
Head of RT, Chair of RKM, Secretary of RKM, Treasurer of RKM, Administration of RKM, Finance Department of RKM, Head of the family
5.   Time/time (when?)
Planned for one year
6.   Motivation/motivation (why?)

We are encouraging modern public services in order to increase the spirit of mutual cooperation in the social community.

Owner's perspective
1.   Data (what?)
Data requirements in the perspective of the owner are described in a semantic network Figure 5.1. The points identified are only points that can be assisted by the information system. What information systems cannot help is ignored.
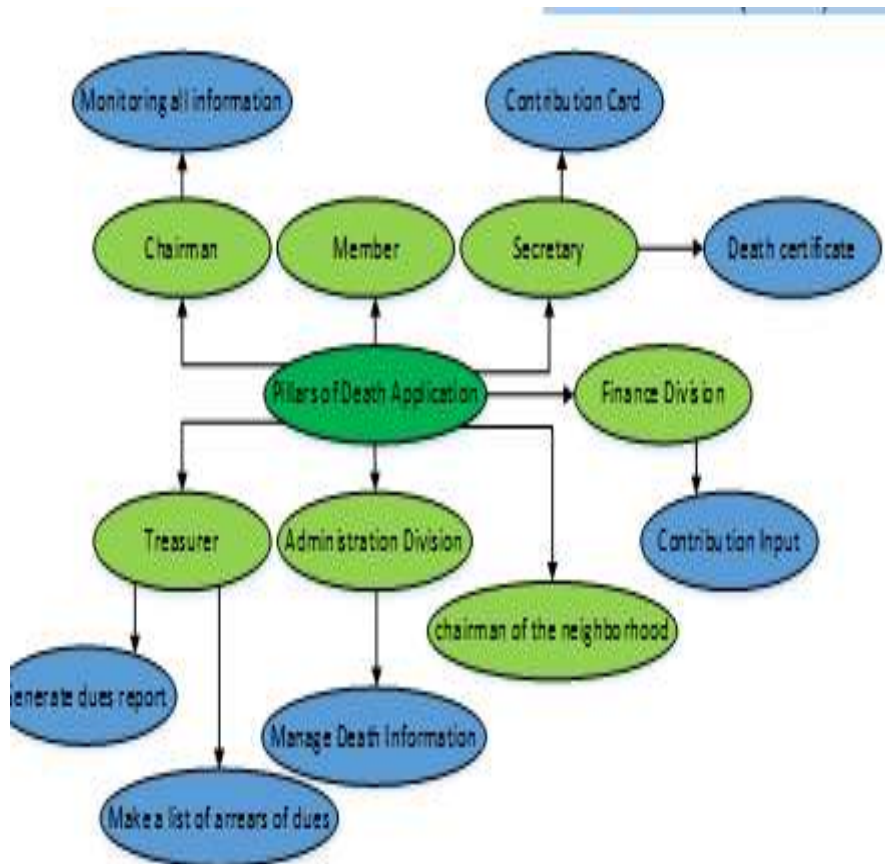
Figure 5.1 Semantic data for the application of the pillars of death

2.   Functions (how?)

The function matrix in the owner's perspective explains what functions can be performed by the system and who will use it. This function is described by use case generalization. It is in Figure 5.2. There are six users who will interact directly with the system. User interactions are as follows: Chairman, monitors all information generated by the system; Users of the financial division, inputting dues data, making reports on arrears of contributions, and making dues reports; administrative user, manage death information; user secretary, making contribution cards, issuing death certificates; member user, view death information, view arrears of dues, apply for a death certificate, apply for relief from not paying dues.
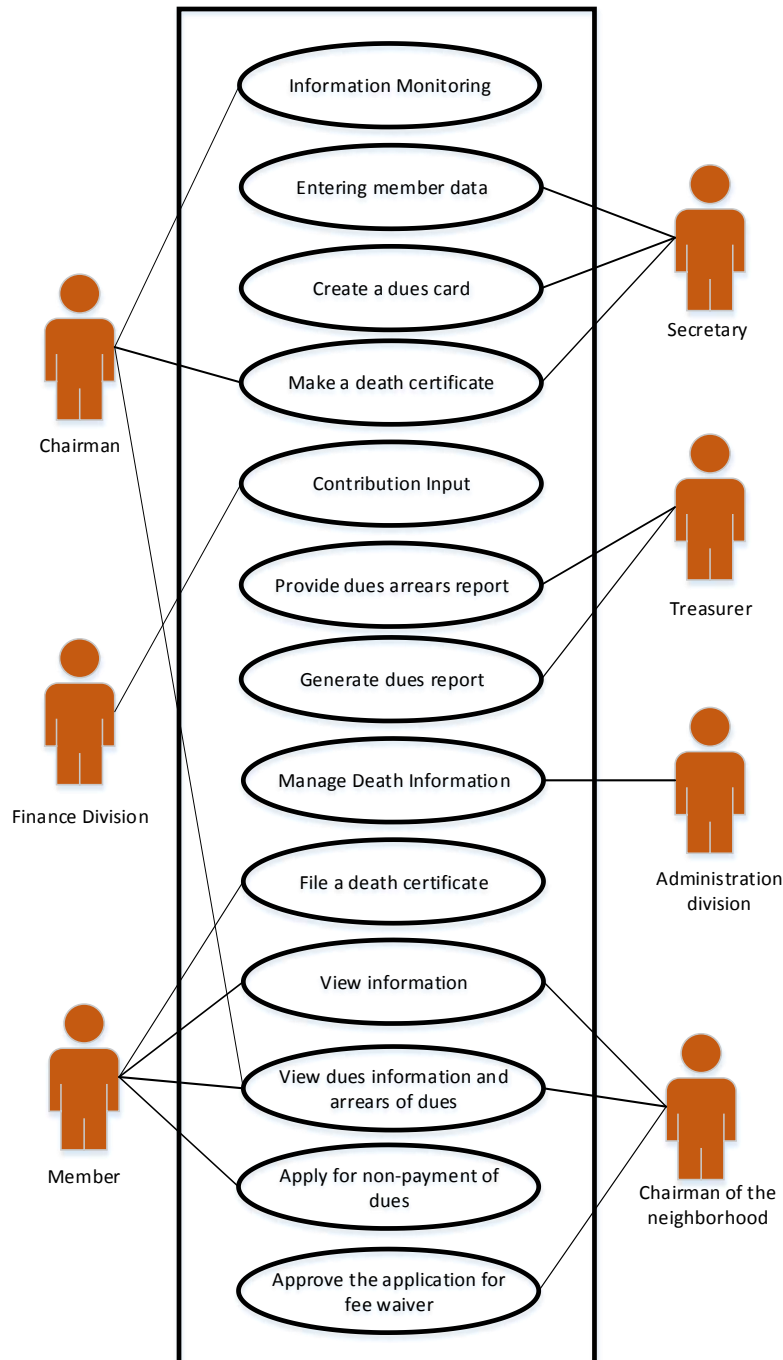

Figure 5.2 Use Case of system functions

3. Network (where?)

Describe the person in charge of data availability and data distribution. From the network or data location, it will be the basis for designing perspective 4, which is about who are the actors who will be involved in using the system. The data network is depicted in Figure 5.3.
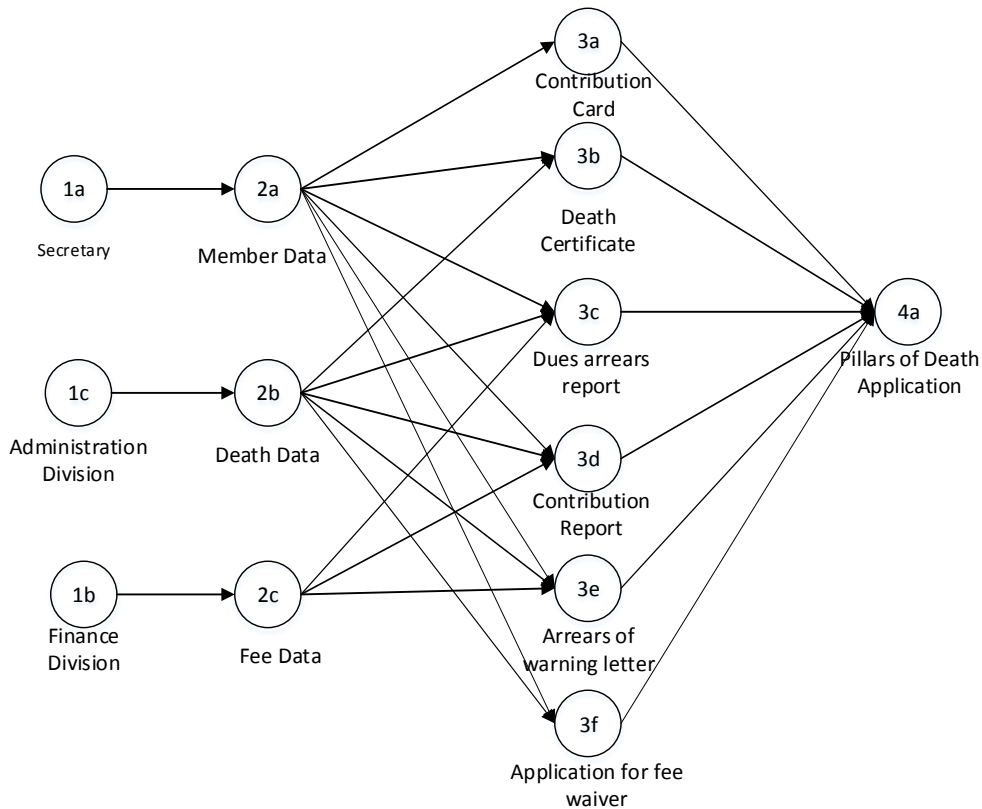

Figure 5.3 Data network

The network starts from three sources; namely, the secretary provides member data, the administrative division provides death data, and the finance division provides contribution data. Member data is used in making contribution cards, death certificates, arrears dues reports, dues reports, warning letters, requests for exemption from contributions. Death data is used to process death certificates, reports of arrears of contributions, reports of contributions, letters of warning in arrears, and requests for exemption from contributions. Contribution data is used in the process of reporting arrears, reporting contributions, and warning letters for arrears.

4. People (who?)

The Who perspective describes who is involved in using the system. There are five business processes and actors involved, shown in Figures 5.4 to 5.8.
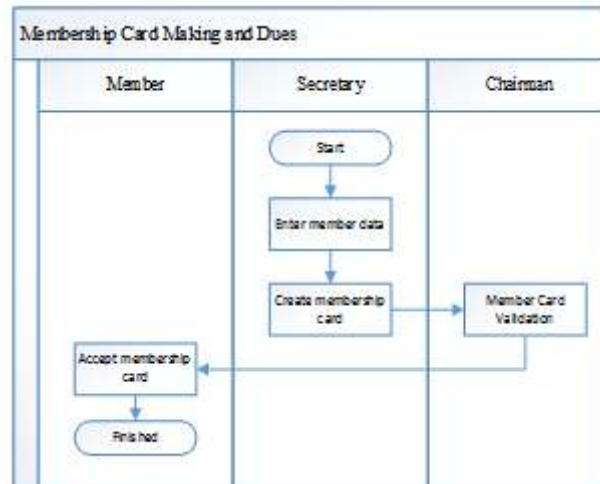
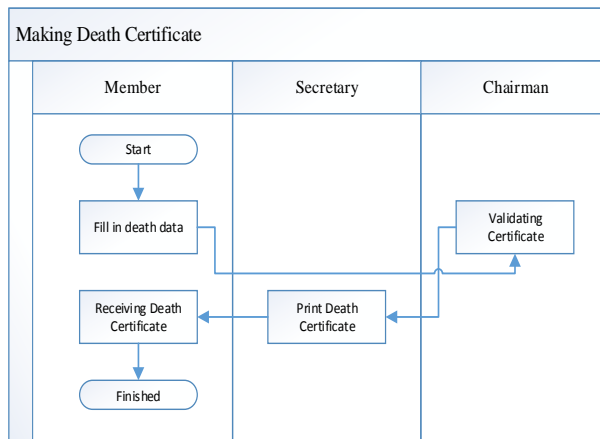Figure 5.4 Business Process of Member Card Making and Dues

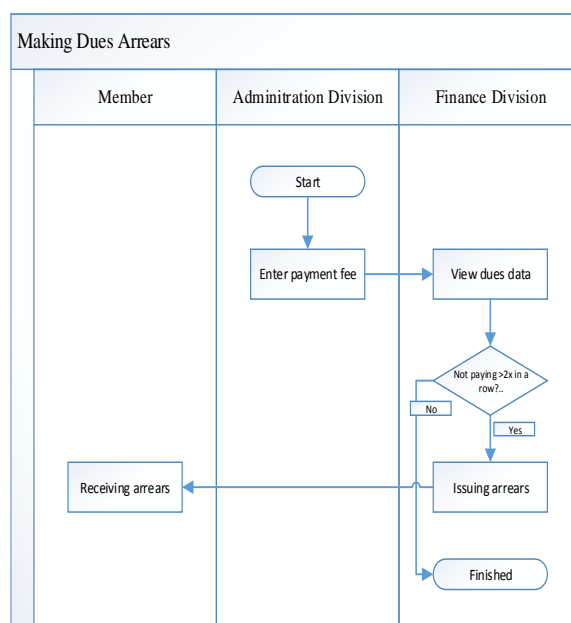Figure 5.5 Business process of making Death Certificate

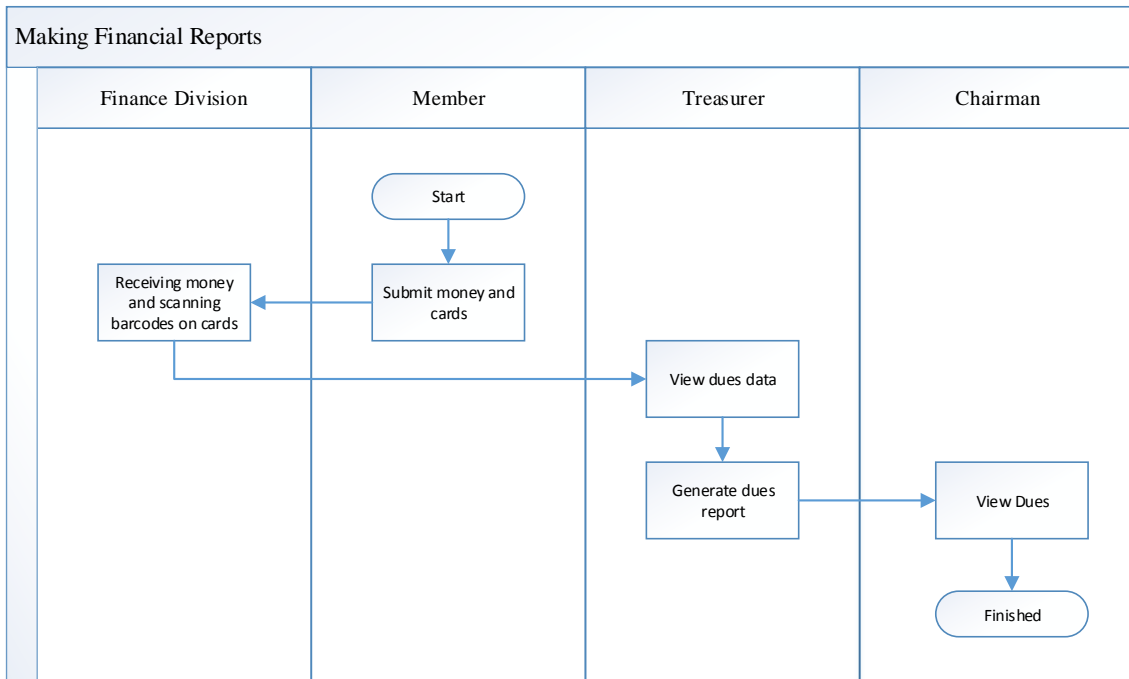Figure 5.6 Business process for making dues arrears

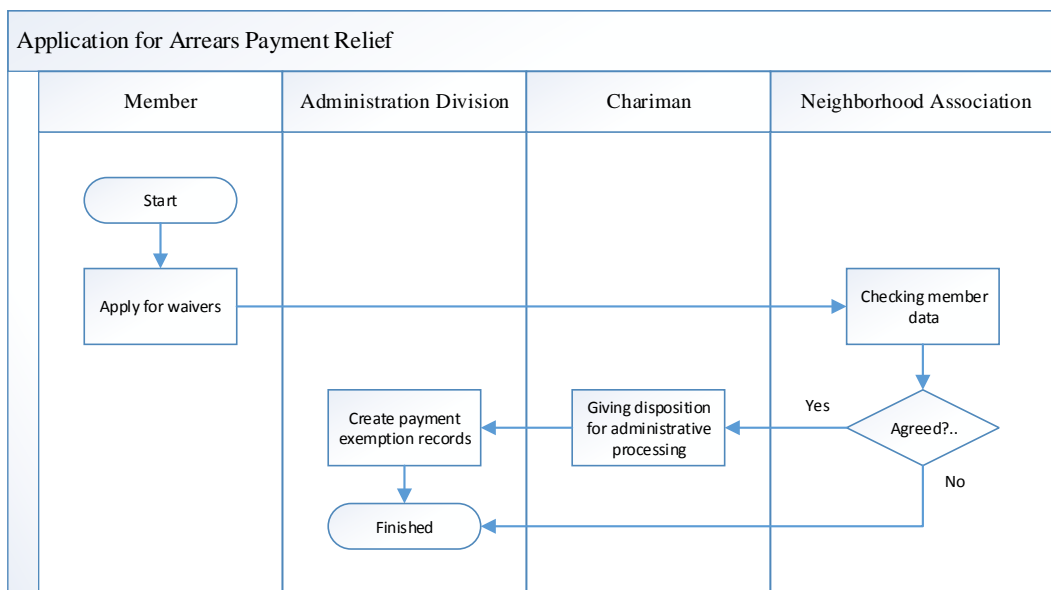Figure 5.7 Business process for making financial reports

Figure 5.8 The business process of applying for relief from payment of contributions

5. Time (when?)

The time component describes the planning for the implementation of activities for 55 days. Four components in the form of data, functions, networks, and people form the basis of this plan. The plan is depicted in the master schedule in Figure 5.9.

Master Schedule for Making Death Pillars Information System			
Work	**Duration**	**Start**	**Finished**
Initiation	**4 days**	**01/10/2021**	**05/10/2021**
- Gathering the administrators of the death pillars and all RT	2 days	01/10/2021	02/10/2021
- Agree on the objectives of business process modernization	2 days	03/10/2021	05/10/2021
Planning	**9 days**	**06/10/2021**	**15/10/2021**
- Identify the needs of each field	2 days	06/10/2021	07/10/2021
- Create a master plan	2 days	08/10/2021	09/10/2021
- Formation of development team	5 days	10/10/2021	15/10/2021
Data collection	**4 days**	**16/10/2021**	**20/10/2021**
- Each field	4 days	16/10/2021	20/10/2021
Infrastructure Provision	**6 days**	**21/10/2021**	**27/10/2021**
- Identify infrastructure needs	6 days	21/10/2021	27/10/2021
Application Development	**30 days**	**28/10/2021**	**01/12/2021**
- Create functional and non-functional	2 days	28/10/2021	29/12/2021
- Making prototypes	10 days	30/10/2021	10/11/2021
- Coding	18 days	11/11/2021	01/12/2021
Testing and Implementation	**2 days**	**02/12/2021**	**03/12/2021**
- System testing	1 days	02/12/2021	02/12/2021
- User training	1 days	03/12/2021	03/12/2021
Maintenance			

Figure 5.9 Master Schedule for Making the Pillars of Death Information System

6. Motivation (why?)
Realizing the modernization of public services for the management of death based on mutual cooperation
Strategy for Making the Pillars of Death Information System

V. CONCLUSION

This study resulted in the following conclusions: the pillars of death have eight fields that work on seven business processes so that after the analysis, it was found that there were overlaps in the two business processes. So it is agreed that the field becomes 7.

Strategic design using the Zachman framework with limitations on the perspective of Planner and Owner, obtained detailed information results regarding data requirements, data locations, expected functions, actors involved when planned time, and master plans in each field.

From extracting information according to the components in the Zachman Framework, an information system is needed to support the Pillars of Death business processes.

In the implementation, five stages are needed, including: infrastructure provision, database management, information system development, server/hosting provision, implementation

1. Infrastructure provision
2. Database management
3. Information system creation
4. Provision of servers/hosting
5. Implementation

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