STRATEGIC PLANNING OF SYSTEM INFORMATION STAFF PONDOK PESANTREN WITH ZACHMAN FRAMEWORK APPROACH

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Abstract: The ABC Islamic boarding school is one of the Islamic boarding schools in Madiun Regency, in addition to the Islamic boarding schools in the Islamic boarding school there are also SMP and SMA which are under the same foundation. The ABC Islamic boarding school also applies information technology as a companion to its operational activities. The large number of employees and teachers in Islamic boarding schools, junior high schools and senior high schools creates difficulties in the staffing division for management. The management method that is currently running in the personnel department is deemed insufficient, because the existing information technology to support their work has not yet functioned optimally to support the strategy. The zachman framework is chosen so that planning is carried out in strategic steps, easy to understand and can be a control for future information system development. The results of this research are in the form of a blueprint for the system design which is mapped in the form of a Zachman matrix from the perspective of the Planner and Owner.

Keywords: *Information Systems, Strategic Planning, Zachman's Framework*

Abstrak: Pondok pesantren ABC merupakan salah satu Pondok Pesantren yang ada di Kabupaten Madiun, selain pondok pesantren di lingkungan ponpes tersebut juga terdapat SMP dan SMA yang dinaungi satu yayasan yang sama. Pondok pesantren ABC juga menerapkan teknologi informasi sebagai salah satu pendamping kegiatan operasional nya. Banyaknya karyawan dan guru yang terdapat di pondok pesantren, SMP dan SMA menimbulkan kesulitan pada bagian kepegawaian untuk pengelolaannya. Cara pengelolaan yang sedang berjalan di bagian kepegawaian dirasa tidak lagi mencukupi, karena teknologi informasi yang ada untuk menunjang pekerjaan mereka belum berfungsi optimal sebagai pendukung strategi. Kerangka kerja zachman dipilih agar perencanaan dilakukan dengan langkah-langkah yang strategis, mudah dipahami dan bisa menjadi kontrol untuk pengembangan sistem informasi ke depan. Hasil penelitian ini berupa blue print rancangan sistem yang dipetakan didalam bentuk matrik Zachman yang dilihat dari sudut pandang Planner dan Owner.

Kata kunci: Kerangka kerja Zachman, Perencanaan Strategis, Sistem Informasi

INTRODUCTION

Education in Indonesia is growing day by day, this development is also directly proportional to the increasingly rapid technology in Indonesia. The new demands in the field of information technology have led to a paradigm shift in the management of information technology which used to be only as a companion to operational activities to become the main supporter of the success of education management in Indonesia.

The ABC Islamic Boarding School is one of the Islamic boarding schools in Madiun Regency, in addition to Islamic boarding schools in the Islamic boarding school environment, there are also junior and senior high schools under the same foundation. ABC Islamic

Boarding School also applies information technology as a companion for its operational activities. The large number of employees and teachers in Islamic boarding schools, junior and senior high schools creates difficulties for the staffing department to manage them. The current management method in the personnel department is no longer sufficient, because the existing information technology to support their work has not functioned optimally as a supporter of the strategy.

The Zachman framework was chosen so that planning is carried out with strategic steps, easy to understand and can be a control for the development of information systems in the future. Another important aspect is that the differences between the three architectures can
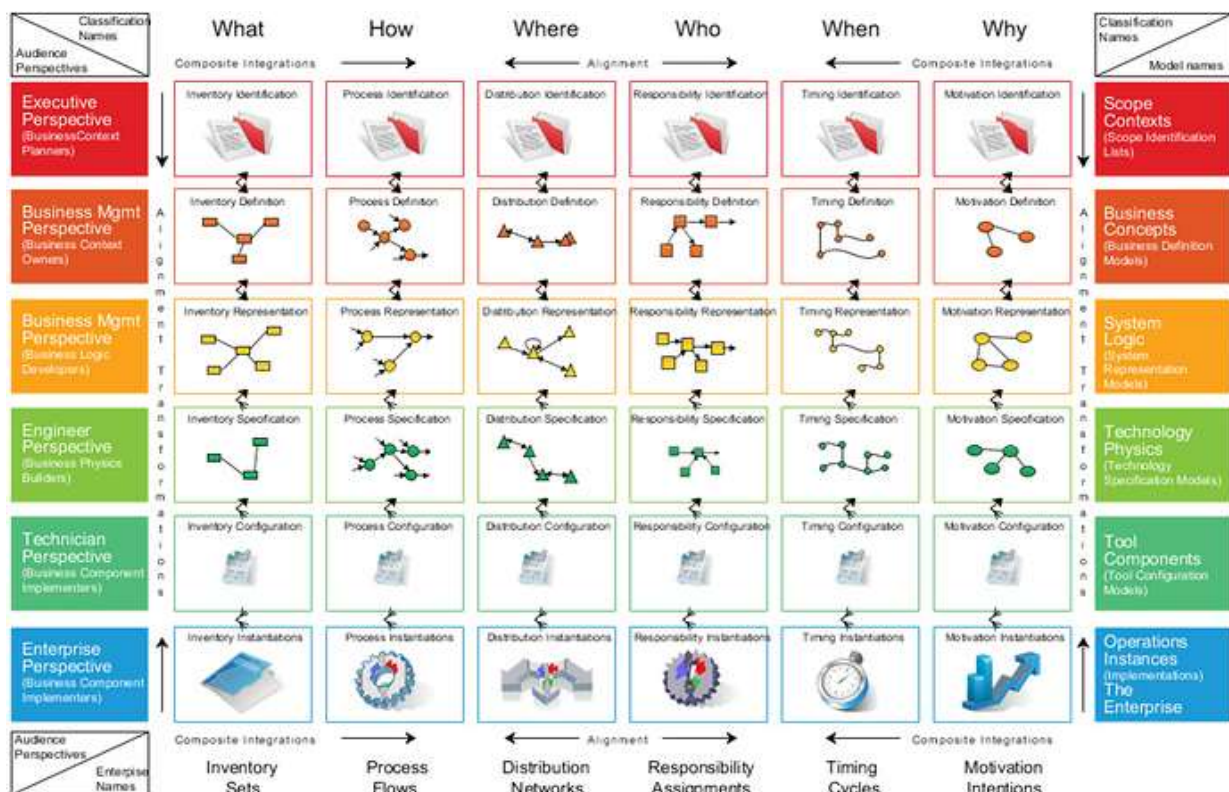

Figure 1. Zachman Framework

be clearly defined, namely: data architecture, process architecture (application), and network architecture (technology).[1]

The results of this study are in the form of a blueprint for the system design with the Zachman framework approach. The blueprint is a blueprint for the strategic plan of implementing the development of the information system for the staffing section of the ABC Islamic boarding school.[2] By using the Zachman Framework, detailed information can be obtained about how the information system was designed, all the needs of both data, human resources and infrastructure that support the operation of the information system. [3]

According to Rully Pramudita, the Zachman Framework has the advantage that it is relatively simple because it has two dimensions and is easier in the process of grouping elements in the enterprise. [4]

Research by Luh Nitra Aryani et al, entitled "The Zachman Framework Approach for Design" The Remuneration System Data Integration Architecture explains that the Zachman Framework can be used as a way to define an enterprise that is currently running so that it is more structured and integrated with information technology development. [5]

With this research, it is hoped that it can help the development of personnel information systems in the ABC Islamic boarding school environment for Enterprise Architecture.

METHOD

The method in this study fully refers to the zachman framework described in Figure 1. Each column in the zachman framework describes the focus, abstraction, and architectural topics, namely What, How, Where, Who, When, and Why.[6]

The Planner's perspective, contains several columns, namely, the What column to identify important things regarding the main data and information needed in business processes in the form of entities that exist within the scope of the ABC Islamic boarding school, the How column where to identify existing business processes at the ABC boarding school, the Where column is for identifying important locations in the business process, the Who column is for identifying the organizations involved in the business process, the When column is for identifying events that are important to the business process, and the When column is for identifying important events in the business process.

Why where to identify business objectives or strategies that can be obtained from the strategic plan document. [7]

The owner's perspective, contains several columns, namely, the What column serves to describe a conceptual picture of the relationship between data entities, the How column contains an overview of organizational activities and modeling business processes currently running, the Where column contains an overview of the relationship between locations important roles involved in the business process, the Who column serves to describe the organizational structure of the ABC Islamic boarding school and its main tasks and functions, the When column describes the schedule of business activities that run at the ABC Islamic Boarding School and the Why column serves to identify goals that support the main objectives of the ABC Islamic Boarding School.[8] For more details, the research flow is presented as

Table 1. Zachman Matrix Information System for Islamic Boarding Schools

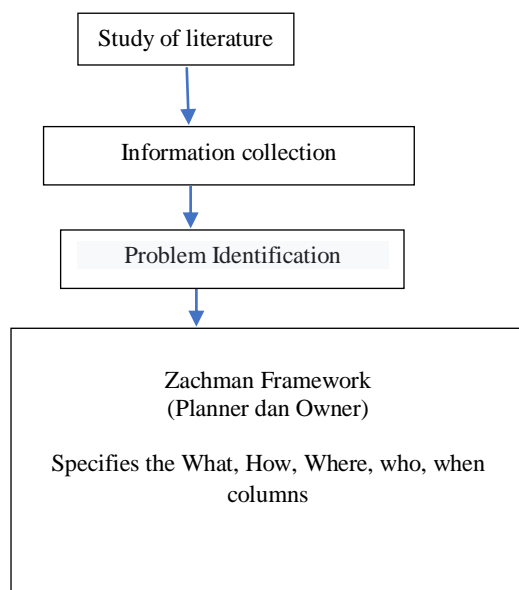| Abstraksi/ Perspektif	DATA What (Things)	FUNCTION How (Process)	NETWORK Where (Location)	PEOPLE Who (People)	TIME When (Time)	MOTIVATION Why (Motivation)
Planner	data and information pondok pesantren	Business process	Pondok Pesantren ABC	Kepala Pondok, Kepala Kepega-waian, Ustad/Ustadzah, Admin kepega-waian	Input data kepegawaian pondok pe-santren ABC	Vision and Mision pon-dok pesantren ABC
Owner	Use case diagram	Activity Diagram	Network design pondok pesantren ABC	Penanggung ja-wab sistem in-formasi, System analyst, Pro-gramer, Desainer web dan grafis, Teknisi hardware dan jaringan, Pengelola kom-puter	Time Schedule information system	The purpose of making an information system

shown in Image 2.

Image 2. Research Flow

RESULT AND DISCUSSION

In this study, a needs analysis was carried out using the Zachman framework approach. This is done to identify and describe the system requirements needed. This study uses two cells contained in the Zachman framework, namely the planner's perspective and the owner's perspective.[9]

If the system requirements are known, then map the results of the analysis into a matrix framework. The zachman matrix framework is described one by one starting from the rows and columns. Zachman matrix in the study is described in table 1 [10].

The description of the Zachman matrix based on the planner's perspective is as follows: The planner's perspective is usually referred to as contextual architecture. In the planner line, the data and information of the Islamic boarding school are defined, the business processes of the ABC boarding school staffing system, the external needs of the organization and a description of the vision, mission, context, boundaries and system architecture.

The "what" column explains the data relating to the ABC boarding school staffing information system. From the results of the analysis, the data is divided into several parts including: HR data containing a list of HR and curriculum vitae who work in abc Islamic boarding schools, departmental data, position data, promotion data and reports, employee

transfer data and reports, outgoing employee data and reports. and pensions, employee attendance reports, employee salary reports and employee training reports.

The "how" column describes the process/stages that occur in the staffing section of the ABC Islamic boarding school. These processes include registration of new employees, addition of departments, creation of new positions, determination of promotions, determination of transfers, determination of employees leaving/retiring, addition of employee education history, attendance, determination of salaries and additional training.

The "where" column explains the location of the business process, namely in the staffing section of the ABC Islamic boarding school.

The "who" column explains about human resources who have an important role in activities in the staffing section of the ABC Islamic boarding school. The people involved are the Head of the ABC Islamic Boarding School, the Head of the Personnel Division, Teachers at the ABC Islamic Boarding School and the Personnel Admin.

The "When" column describes the activities carried out in the staffing section of the ABC Islamic boarding school. The activities are recording and archiving HR data, adding new departments if needed, upgrading position data, class, transfer, leaving/retiring employees, adding new training, and making attendance and determining employee salaries.

The "Why" column explains the vision and mission of the ABC boarding school. His vision is to be at the forefront of producing an Islamic generation that carries the Islamic message with a high level of scientific and practice. and its

mission is to build an Islamic character that prioritizes Quranic morality, prepares strong da'wah cadres and conducts integrated learning of the Koran.

The description of the zachman matrix based on the owner's perspective is the owner's perspective is a conceptual model to describe the system from the owner's point of view or who has an important role and responsibility in the ABC boarding school. In the owner's point of view, in this case the head of the Islamic boarding school will submit a proposal for a new system and how the system will be used. The depiction of the head of the Islamic boarding school is still a simple picture. The head of the Islamic boarding school sees how this system will work later, who is related to the system and the purpose of developing the system.

The "what" column describes the entity that has been determined from the perspective of the previous planner. In this owner's perspective, it explains how each previously defined entity will carry out the processes in the Islamic boarding school. The result of this column is the use case of the boarding school staffing system. The use case is shown in Figure 3.

The "How" column describes the functional requirements. The explanation is carried out by describing the business processes that are currently running at the Islamic boarding school. These processes include: Employees, ustadz/ustadzah report to the personnel admin if there is a change in data related to the addition of new training, addition of educational history, the personnel admin makes new employee registrations, adds new departments, new promotions, transfers and if there are employees who leave and retire, the Head of Personnel is in charge

of assessment for new promotions, mutations and additions to new departments and the Head of Islamic Boarding School receives reports related to Islamic boarding school staffing data.
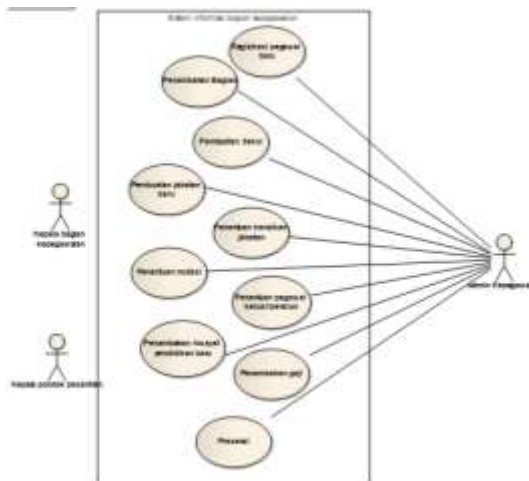

Image 3 Use case of Islamic boarding school personnel information system

The "who" column describes the human resources who will be in charge of building and managing information systems. These human resources are those in charge of information systems, systems analysts, programmers, web and graphic designers, hardware and network technicians and computer managers.

In the "why" column, it explains the purpose of making an Islamic

the Islamic boarding school environment, maximize the performance of human resources in the Islamic boarding school environment, streamline time in the bureaucratic process of the Islamic boarding school staffing section.

The "when" column describes the time schedule for building a boarding school staffing information system determined by the owner and delegated to the project team. The time schedule is described in table 2

The "where" column describes the network that will be built to support the Islamic boarding school staffing information system. The network to be built is depicted in Figure 4.
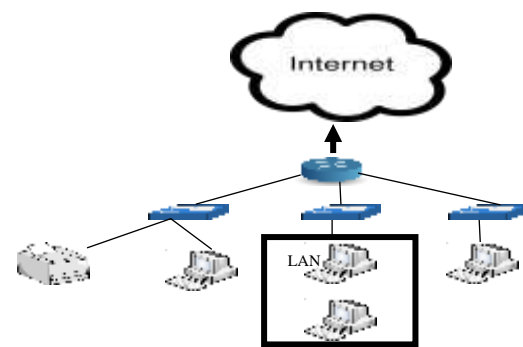

Image 4. The network to be built

Table 2. Time Schedule for the creation of a boarding school personnel information system

Project work description	Month 1	Month 2	Month 3	Month 4	month 5
Identify the problem	v				
Define project team and job description	v				
Project scheduling	v				
Data retrieval	v v				
Determine system requirements		v v			
Determine project completion with the Zachman framework approach		v V	v v v v		
Implementation				v v v v	v v v v

boarding school staffing information system. The purpose of making the personnel information system is to want to make better staffing management in

CONCLUSION

The Zachman framework requires us to describe in detail the rows and columns in order to get a general picture of the system to be built from various perspectives (points of view), especially planners and owners.In the analysis process using the Zachman framework, it must be consistent because it becomes a reference for other points of view

With the Zachman framework approach, the blueprint for the strategic plan for the development of the Islamic boarding school personnel information system is obtained from various perspectives, especially planners and owners. In addition, it creates an architecture for the Islamic boarding school staffing system which can later become a reference in the development of Islamic boarding school staffing information systems. This research can be continued with other perspectives, namely designer, builder, subcontractor and user.

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