Implementation Business System Planning for the Design of Tracer Study at Perjuangan University

Ruuhwan¹*, G Aristi¹

¹Department of Informatic Engineering, Perjuangan University Tasikmalaya

*ruuhwan@yahoo.com

Abstract. Information systems in business organizations are very important related to the timeliness and correctness of information needed by users. The first step to building an information system is planning. One methodology in planning information systems is the arrangement of strategic plans carried out using Business System Planning (BSP). This methodology is related to efforts to how information systems must be structured, integrated, and implemented by the organization for a long time. Perjuangan University is a university in Tasikmalaya. Even though Perjuangan University does not have graduates in the current year but for the future processing of graduate data is very important. Graduate have an important role in the development of an educational institution. Because graduate can act as ambassadors that reflect the quality of an educational institution in the public sphere. With the empowerment of good graduate, it can indirectly improve the good image of the alma mater towards the general public. Thus a plan is needed to build an information system tracer study which will be useful to manage graduate data and facilitate the search for graduate data. Steps taken with this methodology are business planning systems that define business goals, business processes, data classes, information architecture and integration. In this paper a prototype will be produced from the Perjuangan University tracer study information system.

1. Introduction

University as one of the educational institutions obtains formal duties and responsibilities to prepare students in accordance with the objectives of national education, which is to fill the needs of the community for the availability of experts and skilled workers with very diverse levels and types of abilities. Students as students and young people who have an important position and role in realizing the ideals of national development, always need to be guided and developed With the increasing number of graduates every year, information is needed on graduates for the benefit of the academic community. So far, services regarding graduates have not run optimally, so an information system is needed that can support the process of finding information about graduates. Graduates have an important role in the development of an educational institution. Because Graduates can act as ambassadors who reflect the quality of an educational institution in the public domain. With the empowerment of good Graduates, it can indirectly improve the good image of the alma mater towards the general public. In building an information system, our first step is planning. One methodology in planning to make an information system is the preparation of a strategic plan carried out by utilizing
the Business System Planning (BSP) methodology. This methodology is related to the efforts of how information systems should be structured, integrated and implemented by the organization in the long term. The university was established based on the fact that public awareness to study through higher education is increasing. Meanwhile, Siliwangi University, which has a PTN status, can only accommodate students with very limited numbers. Therefore, with the presence of the Perjuangan University (UNPER) which is under the auspices of the Siliwangi University Foundation (YUS), it is expected to accommodate young people of the nation’s hope to gain quality knowledge to lead the nation of the future. The education process at the Perjuangan University has qualities that are parallel to the quality at Siliwangi University, because the quality of coaching and educational facilities have the same quality standards. In the next few years the Perjuangan University will graduate its students. Thus a tracer study information system is needed to manage Graduates data from the Perjuangan University. So a study was made about the application of business system planning in the design of a tracer study information system at the Perjuangan University.

2. Literature Study

2.1. Definition of Information System

1. According to [2] the expert Haag & Keen, information systems are a device that is able to help human work with information and do some work related to the process of information. A set of tools that help work with information and perform tasks related to information processing. In general, technology is a development of applications or tools, both in the form of machines, materials to processes that help humans to do some work and solve problems. While information in general is the result of a process or manipulation that has knowledge value for the users. So in general information systems are technologies that are useful for processing data, processing, compiling, managing, obtaining and completing data manipulations that produce quality and accurate information.

2. According to Martin, information systems are not only hardware or software that can store and process data but also send information that has the essence of communication.

3. These two experts argue that information systems are technologies that combine computers with high-speed communication and have data in the form of sound, documents and videos.

4. Information systems are all forms of technology that can be applied to send information through electronic media. Technology and information have many benefits for life in the digital era as it is today, by utilizing the sophistication of information systems, we can do many things in minutes. Information systems really can help you do your work and solve it more effectively and efficiently.

2.2. Business System Planning (BSP)

[6] Business System Planning is often referred to as a structured approach or methodology. The Business System Planning methodology was developed by IBM companies in the 1980s. This methodology is related to the efforts of how information systems should be structured, integrated and implemented by the organization in the long term. The basic concept of Business System Planning is that information system planning is made top-down with bottom-up implementation. This concept can be expressed in the form of a diagram as shown in the picture below.

2.3. Tracer Study

[4] Tracer study is a study of tracking traces of graduates conducted to alumni after graduation. Tracer study aims to determine the educational outcomes in the form of transitions from the world of higher education to the world of work, education output, namely self-assessment of mastery and competence acquisition, the educational process in the form of evaluating the learning process and the contribution of higher education to the acquisition of competencies and educational inputs in the form of further excavation of graduate sociobiographical information. The purpose and benefits of tracer studies are as follows:

Purpose of a tracer study
1. Knowing the educational outcomes produced by our universities

2
2. Knowing the contribution of our tertiary institutions to the competencies in the world of work
3. To monitor adaptation to college graduates when entering the workforce required by the Directorate General of Higher Education.

Benefits of Tracer Study
1. Can know the spread of our college graduates (graduate information)
2. As a material for university evaluation of graduates produced whether it has met the appropriate competency standards in the world of work
3. As information about competencies relevant to the world of work can help efforts to improve curriculum and learning systems. As one of the added values in the college accreditation process

3. Methodology
3.1. Data Collection
Data collection is done in a descriptive way, namely research describes systematically, and looks for the presence or absence of other symptoms of the problem under study where the source of data is obtained from:
1. Literature Study
   This research takes the theoretical foundations of various scientific journals on information architecture, Business System Planning which was taken a maximum of 10 years ago
2. Field Research
   Conduct research directly to obtain the data needed. Data collection is done by:
   a. Interview
      In this case the author conducted an interview or consultation directly with several employees at the Perjuangan University of Tasikmalaya
   b. Observation
      Directly reviewing the object under study at the Perjuangan University of Tasikmalaya
3.2. Business System Planning Method
Business System Planning is a method related to how information systems should be structured, integrated, and implemented by the organization in the long run. Following are the steps:

![Business System Planning Method Diagram](Image)

Business system planning has the following stages:
1. Defining business goals
   At this stage the business that will move must first determine what goals it wants to achieve, including what targets it wants to achieve in the short and long term. And guarantee an agreement between the executive level about where the business will run
2. Defining business processes
   At this stage just determine the business strategy that will be applied along with the process flow that you want to use. And make the main foundation for long-term SI support for business
3. Defining data classes
Then at this stage defines the problem and divides the problem classes into various groups and is carried out based on supported processes

4. Defining information architecture
At this stage it is only building all the concepts that have been formulated both in terms of organizational structure, design of information systems and information systems departments. long-term information goals, from architecture Information on existing modules can be identified, scheduled and created

3.3. Types and Data Sources
Types and Sources of data in this study are divided into 2 parts, namely:
1. Primary Data Sources
   Namely the data obtained directly from the field through interviews with employees who are at the Perjuangan University of Tasikmalaya
2. Secondary Data Sources
   Namely data collected from other parties where they make the data as a means for their own interests, the data already exists or is available which is then reprocessed for certain purposes, this data is in the form of history and company conditions, literature, articles, scientific writings deemed relevant with the topic above.

4. Discussion
4.1. Define Business Goals
To describe the modeling of tracer study that will developed at Perjuangan University using IDEF which can be seen on picture below:

![Figure 2. IDEF](image)

4.2. Define Business Process
There are business processes that occur at Universitas Perjuangan especially in defining data classes, defining an academic function information architecture. The main activities contained in the Perjuangan University are in tracer studies, namely:
1. Entry data
2. Filling Out the Questionnaire
3. Reported
Figure 3. Business Process Model Of Tracer Study

Figure 4. Entry Data Model

Figure 5. Reported Model

Figure 6. Filling Out Questionnaire

4.3 Define Data Classes

Table 1. Data Classes

| Business Function      | Data Classes                                           |
|------------------------|--------------------------------------------------------|
| Entry Data             | NIM<br>Full Name<br>Date of Birth<br>Study Program<br>Religion<br>Gender<br>Phone Number |
| Filling Out Questionnaire | Questionnaire Entry<br>Questionnaire Validation       |
| Reported               | Graduate Diagram<br>Diagram of Graduate who have worked<br>Diagram of Graduate who have not worked<br>Diagram of Study Program Graduate |
5. Closing

5.1. Conclusion

Based on the research that has been done, it can be obtained:

1. Based on the analysis that has been carried out, an information system planning is obtained from the business components at Perjuangan University for tracer study using BSP.
2. Based on the definition of business objectives, a description is obtained IDEF for Tracer Study Perjuangan University.
3. Based on the definition of business processes, 3 activities are obtained the main is the process of entry data, Filling out the questionnaire processes, processes reported, each of which has a main activity business processes.
4. Based on the definition of data classes, 13 classes can be obtained data is then carried out defining data classes and associated with business processes that exist in tracer study functions.

5.2. Suggestions

Suggestions that can be given from the results of this study are:

1. Planning the development of an tracer study information system that has been built can be used as reference material for the development of tracer study information systems that are in accordance with their business functions.
2. This research can be used for advanced system planning by lowering all the conceptual designs generated to build the system better tracer study information.
3. The results obtained in this study are an example of planning system development in an organization engaged in education services, so that if this research will be used in other organizations, adjustments are needed which are directed towards the organization's system development planning needs in question.

6. References

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