Enterprise Architecture Planning of North Sulawesi Tourism Information System as a Website Container of the Tourism Office using the Zachman Framework

Yonatan Parassa  Mex U. Pesik  Toban T. Pairunan  Alma K. Pongtuluran
Manado State Polytechnic  Manado State Polytechnic  Manado State Polytechnic

ABSTRACT
The tourism sector in North Sulawesi Province continues to grow, it can be seen by the soaring growth of tourist visits. It is unfortunate that these developments have not been supported by reliable tourism information, while now it is the industrial era 4.0.

In 2018, of the 16 Tourism Offices, only 3 tourism offices in North Sulawesi Province had a website, while the tourism office was part of the government that played an important role in promoting tourism for the welfare of the community.

The purpose of this research is to design a tourism information system in North Sulawesi as a website container for tourism office.

Enterprise Architecture Planning is a method used to design tourism information systems.

The results of this study are the design of the North Sulawesi tourism information system as a website container for tourism office.

Keywords
Tourism Information systems, North Sulawesi, Website Container

1. INTRODUCTION
North Sulawesi Province is a tourist destination and included in the international tourism destination [1]. Seen by the soaring growth of tourist visits [2]. The increase in tourist arrivals is one source of foreign exchange for the Province of North Sulawesi. Foreign exchange earnings through the field of tourism is a contribution to development [3]. In 2009 Tourism was the third largest foreign exchange earner for the country of Indonesia [4]. Minister of National Development Planning Bambang Brodjonegoro during the Seminar and National Dialogue on Millennial Creative Economy in the Industrial Revolution Era 4.0. “Tourism is the biggest source because Indonesia is an important country in international tourism” [5]. Tourism is a sector that has a huge impact on the economy [6].

It is unfortunate that the development of tourism in North Sulawesi Province has not been supported by qualified information, while now it is the industrial era 4.0. Tourism information that can be accessed via the internet has not been supplied much by the tourism office. Based on the observation of the Research Team, in 2018 out of 16 Dinas, only 3 tourism offices in North Sulawesi Province have a website, while the tourism department is part of the government which plays an important role in promoting tourism for the welfare of the community.

On the other hand the Central Government through the ministry of tourism utilizes digital technology for promotion.

70 percent of promotions use digital [7].

The information system that functions as a website container for the tourism office is one solution so that all tourism services in the province of North Sulawesi can convey tourism information through the internet that can be accessed by tourists or potential tourists.

This information system can be used by tourism offices that do not yet or also offices that already have a website. So that all tourism offices can convey information through the internet through one door.

The system design is a thing that greatly influences the quality of the software. Zachman framework is a capable method for designing software that refers to Enterprise Architecture Planning (EAP).

This research applies the Zachman Framework method in the design of North Sulawesi tourism information systems to get quality that ensures software is built according to the rules.

The results of this study are the implementation of the zackman framework in the design of the North Sulawesi Tourism Information System as a tourism office website container is expected to provide a solution for tourism agencies that do not yet have a website.

2. LITERATUR REVIEW
EAP according to Spewak in Kurniawan explained about various architectures, namely data, applications and technology [8].

Framework is an EPA function that classifies information through logical structures [9]. The Zachman framework is used to align organizational architecture and information technology [10].

Good long-term planning must be had when building information systems. Information system development plan is an investment of an organization as outlined in the master plan document [11]

The result of collecting and processing data to valuable information that comes from an integrated environment of the internet is an information system [12]. One component that influences the success of an organization is the information system [13].

Some previous research with a focus on the importance of information systems and enterprise architecture, [10], [14], [15], [16].

3. RESEARCH METHODS
This research uses the Zachman framework to design the system. In general, the Zachman method consists of columns and rows to produce information systems. The column
consists of what, how, where, who, when and why. The line consists of Planner, owner, designer, builder, sub-contractor and functioning enterprise [17].

Data collection methods with documentation, observation and interview techniques [18].

4. RESULT AND DISCUSSION

Use the Zachman framework to design the North Sulawesi

Table 1. Zachman Matrix of Information system

<table>
<thead>
<tr>
<th>ABSTRACTION / PERSPECTIVE</th>
<th>DATA / What</th>
<th>FUNCTION / How</th>
<th>NETWORK / Where</th>
<th>PEOPLE / Who</th>
<th>TIME / When</th>
<th>MOTIVATION / Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOPE (CONTEXTUAL) / Planner</td>
<td>Tourism Office data</td>
<td>The work program reporting process</td>
<td>Tourism Office</td>
<td>Administrator, operator Tourism office</td>
<td>Office Data Input : Work Program, socialization</td>
<td>Vision, Mission tourism office</td>
</tr>
<tr>
<td>BUSINESS MODEL (CONCEPTUAL) / Owner</td>
<td>Use case system</td>
<td>activity diagram</td>
<td>Information System Network Design</td>
<td>Designer, administrator, operator</td>
<td>Schedule information system project</td>
<td>the reason for the procurement of information systems</td>
</tr>
<tr>
<td>SYSTEM MODEL (LOGICAL) / Designer</td>
<td>ER Diagram</td>
<td>sequence, detailed use case</td>
<td>network design proposal</td>
<td>interface application design</td>
<td>detail system schedule</td>
<td>rules in making models</td>
</tr>
<tr>
<td>TECHNOLOGY MODEL (PHYSICAL) / Builder</td>
<td>Table Relation</td>
<td>application usage process</td>
<td>Location and technology used</td>
<td>overview of the application interface</td>
<td>detailed application design schedule</td>
<td>the rules in making designs</td>
</tr>
<tr>
<td>DETAIL REPRESENTATIONS (OUT-OF-CONTENT) / sub Contractor</td>
<td>entity creation algorithm</td>
<td>report process algorithm</td>
<td>Network configuration</td>
<td>privilege algorithm</td>
<td>detailed coding process schedule</td>
<td>rules in the coding process</td>
</tr>
<tr>
<td>FUNCTIONING ENTERPRISE</td>
<td>an example of tourism office data</td>
<td>sample transaction data in the system</td>
<td>network infrastructure</td>
<td>users who use the system</td>
<td>time schedule process, design, implementation</td>
<td>SOP the system usage</td>
</tr>
</tbody>
</table>

5. CONCLUSION

The province of North Sulawesi is experiencing a rapid development of tourist visits, but it has not been followed by a supply of qualified information from the tourism offices which can be accessed via the internet considering that most tourists access information via the internet. The information system that functions as a website container for the tourism offices to be able to provide information so that it can be accessed via the internet is a solution. Software development must use proven methods to ensure the quality of the software is produced.

6. ACKNOWLEDGMENTS

On this occasion, the research team would like to thank the Ministry of Research and Technology of Technology and Higher Education of the Republic of Indonesia for funding this research through the directorate of research and community service in 2019. Also to the Manado State Polytechnic and various parties involved in the research.

God bless us all.

7. REFERENCES


[12] The result of collecting and processing data to valuable information that comes from an integrated environment of the internet is an information system


