Dissemination of Information System Technology in Nagari Pakandangan

Dwiny Meidelfi [a,1,*], Rika Idmayanti [a,2], Fanni Sukma [a,3], Andre F Kasmar [a,4], Meri Azmi [a,5]

[a] Department of Information Technology, Politeknik Negeri Padang, Sumatera Barat, Indonesia
[1] dwinymeidelfi@pnp.ac.id; [2] rikaidmayanti@pnp.ac.id; [3] fannisukma@pnp.ac.id; [4] andrefebrian@pnp.ac.id; [5] meriazmi@pnp.ac.id;
* Corresponding Author

ABSTRACT

Nagari is a region that has a very important role to encourage its people to innovate both in the economic and technological fields. Technology is available to facilitate various activities in daily life. Nagari is expected to be able to use technology to assist the community in managing information and data in the Nagari. Management and processing of data related to public services in a Nagari are very important. The data is valid information that must be updated regularly. Nagari Pakandangan is located in the Nagari Pakandangan, Enam Linkuang sub-district, Padang Pariaman district, West Sumatra province. In order to improve the quality of human resources in Nagari Pakandangan, a website-based information system was built that can accommodate data or information from the community in Nagari Pakandangan. This activity is carried out in three stages: a) identification of the problem which is carried out as a first step to determine the formulation of the problem that will be useful as a material for the design of the Nagari information system, b) the design of the Nagari information system, c) the development of the Nagari information system.

KEYWORDS
Information System;
Website;
Nagari

1. Introduction

Nagari or Village Information Systems are currently being offered a lot. Some are made by certain companies with a one-time payment and then it is not known what support or postpaid services they provide. Some are developed by the community or non-profit non-governmental organizations. In addition, the government is also developing applications such as SID, whose continuation and form seem to be still in a very big question mark. Because if you look at the E-KTP project, for example, you could imagine if it stopped halfway, while the state had already spent a lot of money. Residents of the community only become victims of projects that are not running erratically because it seems that there is no state elite who has the desire for the village to grow, smart and good at managing its assets. Because projects from above will find it difficult to enter the Nagari because the Nagari has the data, requirements, and dreams as well as long-term programs to prosper their own village. The Nagari population database or the village Information System (Nagari) will not be useful if it is never updated according to events that occur in the Nagari community such as population migration, births, or when a resident dies, so it will reduce, add or update population data. The information system has been researched by previous researchers and is used as a reference for this community service. The computational infrastructure for the integration of semantic data into a patient-centered database for Tuberculosis treatment was investigated by Lima [1]. The development of a medical information system prototype for a clinical diagnostic center was investigated by Andrikov [2]. Trauma Center Access Quantification Using Technology-Based Geographic Information System was researched by Dijkink [3]. The emergence of motivational information systems: A review of gamification research researched by Koivisto [4]. The making of a Clinical Pathway from a Hospital Information System was researched by Tsumoto [5].

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systems was investigated by Bogaert [7]. The development of an analytical-information system for the analysis and monitoring of climate and ecological changes in the environment was investigated by Duisebekova [8]. The application of the UTAUT Model for Analysis of the Adoption of Integrated Licensing Service Information Systems was studied by Puspitasari [9]. FP-Growth-Based Regular Behavior Audit in Electrical Management Information Systems was investigated by [10]. Optimal binary system inspection through Information Value analysis was investigated by Lin [11]. The development of a minimum data set (MDS) for an information management system for an elderly care center in Iran was investigated by Soleimani [12]. Evaluation of the usefulness of a comprehensive national health information system: A heuristic evaluation was investigated by Rangraz Jeddi [13]. Evaluation of Student Information System (SIS) in terms of User Emotions, Performance and Perception of Usability: A Turkish University Case (Empirical Study) investigated by Demirkol [14]. Indian Tourism Information Retrieval System: An Onto-Semantic Approach researched by Laddha [15].

Results of Radiotherapy Plus Immunotherapy in Metastatic Renal Cell Carcinoma: Results from the Canadian Kidney Cancer Information System studied by [16]. At the depth of the decision tree above an infinite homogeneous binary information system 1 is studied by Moshkov [17]. The impact of an integrated electronic immunization registration and logistics management information system (EIR-eLMIS) on vaccine availability in three regions of Tanzania: Pre-post and time series analyzes studied by Gilbert [18]. Effect of Strategic Information System Interaction on International Freight Forwarders Performance: Performance Gap Analysis researched by Bae [19]. The hybrid intelligent information systems approach as the basis of cognitive architecture was investigated by Chernenkiy [20]. Customizable Web Platform for Managing Compliance with Information Security Standards and Cybersecurity Audits researched by Antunes [21]. Morphometric analysis of Lake Toshka in Egypt: A brief overview of geographic & remote sensing-based technique was investigated by Abd Ellah [22]. Approaching a Dynamic and Individualized Worker Information System researched by Teubner [23]. An analytical approach to an enterprise information system architecture based on hypergraphs to align business process requirements was researched by Bouafia [24]. A geographic information system algorithm for finding prospective locations for pumped hydro energy storage was investigated by Lu [25].

The Patient Reported Outcome Measurement Information System (PROMIS) of upper extremity and pain disorders did not significantly predict the dimensions of the rotator cuff tear studied by Pietroski [26]. A blockchain-based model for student information systems was researched by Ali [27]. Intelligent Information System for Telemedicine was researched by [28]. An intelligent dynamic resource allocation model for a patient-driven mobile medical information system using the C4.5 algorithm was studied by Lo [29]. Factors that influence pharmacists' intention to use Pharmacy Information Systems were investigated by Alanazi [30]. Towards an Evaluation Framework for Self-Evolved and Evolved Patient Identification Solutions in Health Information Systems was researched by Noran [31]. Evaluation of environmental resources and mental health in American military veterans using a geographic information system was researched by Shin Park [32]. An injury surveillance information system was investigated by [33]. The usefulness of information systems to support decision making in the order management process was investigated by Kunath [34]. The perception of the use of intelligent information access systems in university-level active learning activities among teachers of biomedical subjects was investigated by Aparicio [35].

The development of a “Bio search System” for biobank management and storage of genetic information related to diseases was investigated by Karim [36]. The effect of routinely collected health information system variables on readmission of patients with type 2 diabetes was investigated by Bah [37]. The optimization of the bandwidth of the information application system under the smooth integral method of ordinary differential equations of the order of fuzzy fractions was investigated by Huang [38]. The information system for selecting the optimal supplier of goods was investigated by Shendryk [39].

Use of a letter-based rating information disclosure system and its effect on dining choice in Singapore: A cross-sectional study was investigated by Aik [40]. Impact of community pharmacy utilization of immunization information systems on vaccination rates: Results of a randomized clustered controlled trial studied by Heaton [41]. Improving the design of a multi-sport event ticket accounting information system through the application of RFID and blockchain technology in the COVID-19 health protocol was researched by Nugraha [42]. The Information Metamaterial System was investigated by [43]. The specifics of Emergency Monitoring and Analysis in Information Systems were investigated by Holla [44]. Assessment of Information System Risk Management with Octave Allegro in Educational Institutions researched by Suroso [45].

The analysis of the performance of the cache replacement algorithm in the information center network and the construction of an electronic music composition system was investigated by Hou [46]. The use of information systems to support the management of reverse logistics processes was investigated by Starostka-Patyk [47]. The analysis of forced admissions in Korea through an admissions management information system was investigated by Hwang [48]. The Integrated Application of Blockchain in Electrical Information Management Systems was researched by Xu [49]. Web-Based Usability Measurement for Student Assessment Information System researched by Hendra [50]. Nagari Pakandangan is one of the villages located in Padang Pariaman Regency, West Sumatra province. The Nagari information system in Pakandangan has been created, but it has not been used optimally by the Pakandangan Nagari Government. The information system needed in Nagari Pakandangan is to store profile data and various administrative and service activities in Nagari Pakandangan. At first, to get population data, a survey was held every year by individuals at home to record data on all residents in Nagari Pakandangan, then the survey results were stored in the archive cupboard.

At the same time when data is needed, the staff must search for existing data, where this activity takes time, in addition, to surveying activities every year with a large budget. Accuracy of data is also required for certain activities such as aid activities, such as asset records, wealth, and population data in order to facilitate activities and achieve targets in these activities. Based on the above, we need a system to store data where the system can store detailed data for use as necessary. The system can also easily update its data annually without the need to conduct a whole survey. The application is made in the form of a website and will be installed standalone on the main computer of the Nagari Pakandangan office and will be hosted at the main office. With this system, it can facilitate activities in order to improve services for the people of Nagari Pakandangan. Based on the problems faced by the Pakandangan Mayor's Office, the Padang State Polytechnic (PNP) community service team contributed in proposing to create a Nagari Information System in Pakandangan. This community service partner is the Pakandangan Nagari Government. This community service contributes to the efficiency and effectiveness of data management in Nagari Pakandangan.

2. Method

The approach method is an important strategy so that the service activities carried out are right on target and get a response/support from the community at the service location. This service activity is carried out by taking into the conditions of partners and related stakeholders. The service team classified and determined who the interested parties (stakeholders) and Nagari parties were who could be involved in activities, encouraged communication and relationships, absorbed information and experience from parties related to activities [3], and transferred skills and knowledge as well as built a management system capable of overcoming the problems that exist in the Nagari environment.

Community service activities are carried out in three forms, namely manufacture and training with the following details: First, problem identification is carried out as an initial step to formulate what will be used as material for system design and training materials in this service activity. Second, the Design and

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Website-based Nagari Information System so that it can be accessed by anyone, anytime and anywhere. Third, direct demonstration/training given to the Wali Nagari and Nagari Information System management staff.

The work procedures carried out in this community service include, First, the management of permits for the implementation of community service activities by the implementing team to the Wali Nagari Pakandangan, Padang Pariaman Regency. Second, the implementation team meeting with Wali Nagari Pakandangan as partners to discuss plans, work steps, and schedule of activities to be carried out. Third, the design and manufacture of an information system that contains all the components needed by the Nagari to accommodate community data so that the information system can print the required documents or letters. Fourth, evaluation of the activities that have been carried out in the community service program.

3. Results and Discussion

The data collection stage was carried out by the staff of the Nagari Pakandangan office. The functional requirements of the Nagari Pakandangan Information System were obtained from the results of interviews with the Wali Nagari and the staff of the Wali Nagari office, can be seen in Fig. 1. The functional requirements of this information system application are as follows:

1. The system provides information on the residents of Nagari Pakandangan
2. The system provides Create, Read, Update, Delete (CRUD) operations for data management.
3. The system can display data that has been input by the admin

Non-functional requirements of this information system are as follows:

1. It requires a fast and stable internet connection for the application to run properly.
2. The system uses a security system in the form of user login to be able to use it.
3. Admin who operates the system must have knowledge in operating the system database server.
4. The application presents an attractive appearance for its users; this is useful for providing convenience.

The results of the information system created are as follows:

1. Dashboard Page

Dashboard is the main page when the system is first accessed. This page contains general information about Nagari Pakandangan. Dashboard Page can be seen in Fig. 2.

2. Maps

This page is used to show a map of Nagari Pakandangan. Maps can be seen in Fig. 3, Fig. 4 and Fig. 5.

3. Login Page

This page is a login page which the user must go through before entering the application. This login form contains a username and password. Login page can be seen in Fig. 6.

4. CRUD Population Data

In this menu, the admin can input population data and display data that is already in the database. CRUD Population Data can be seen in Fig. 7.

Fig. 1. Discussion with Wali Nagari and the staff

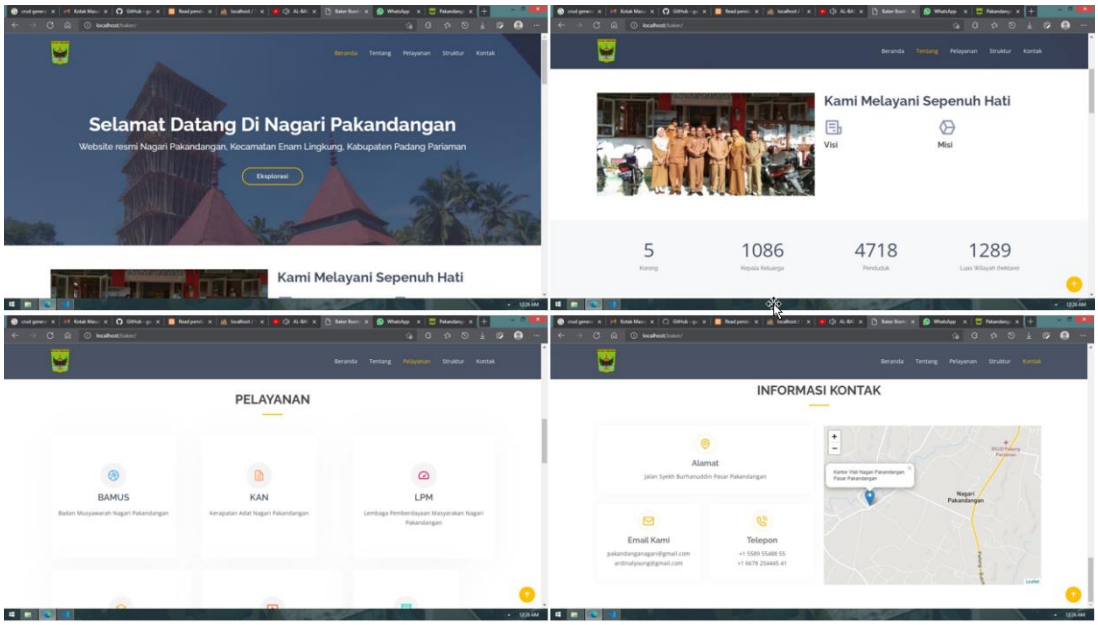


Fig. 2. Form Dashboard

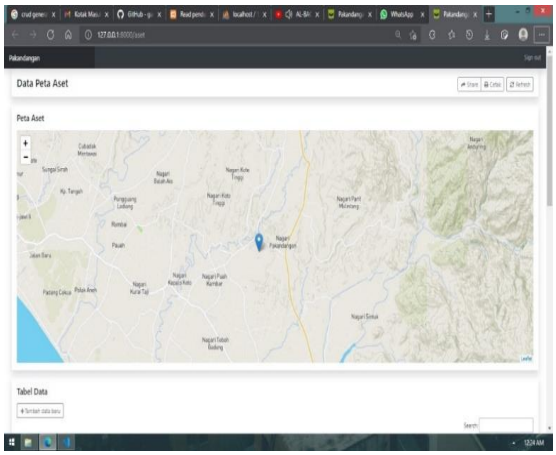


Fig. 3. Map Index

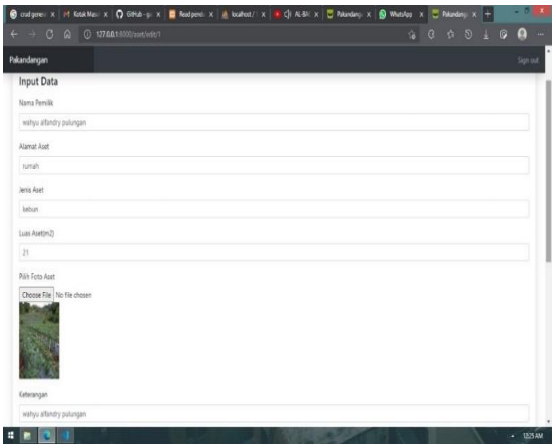


Fig. 4. Map Input

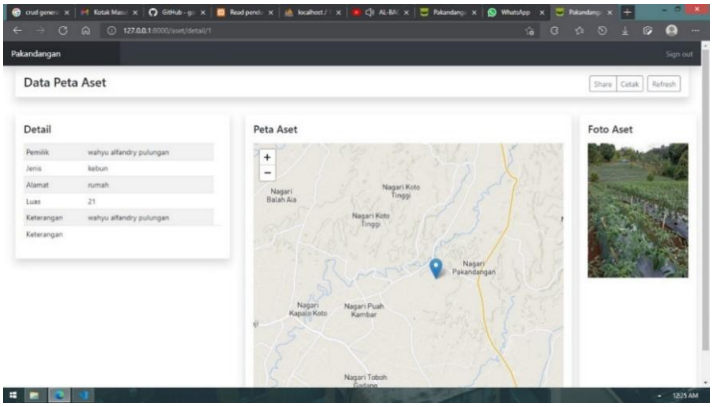


Fig. 5. Map Detail

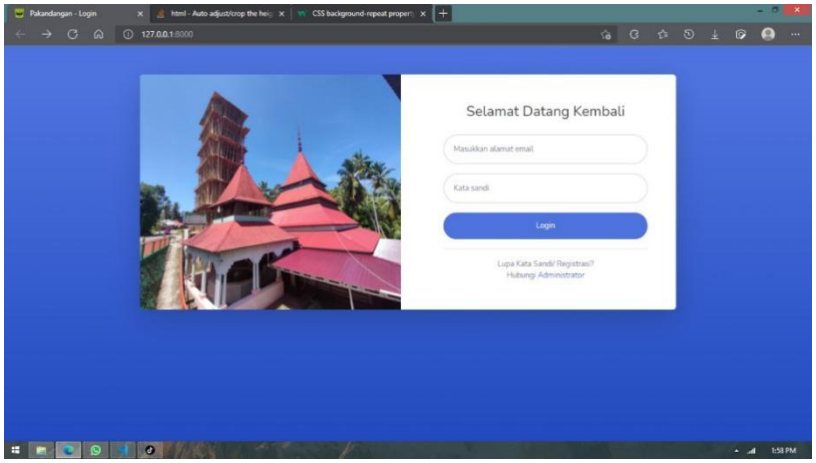
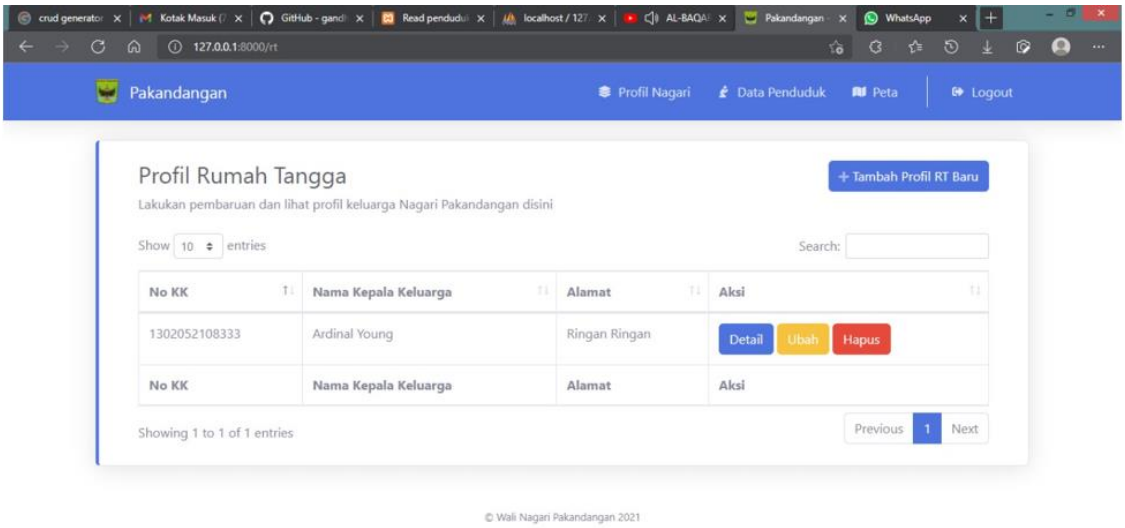


Fig. 6. Login Page



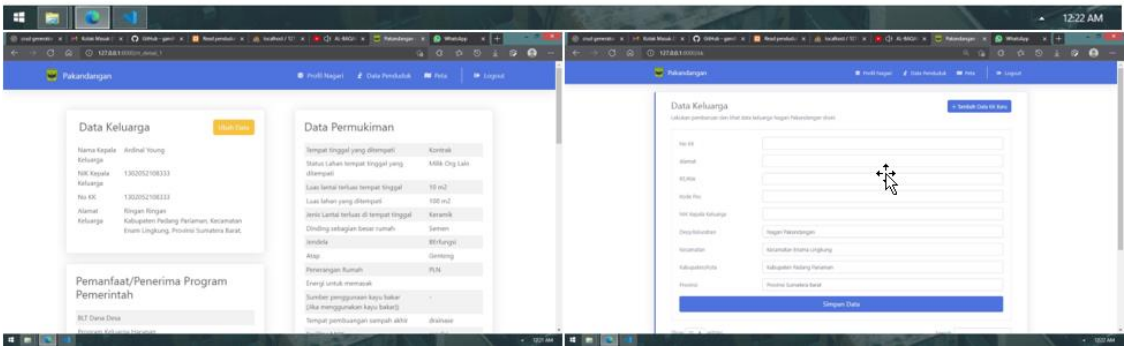
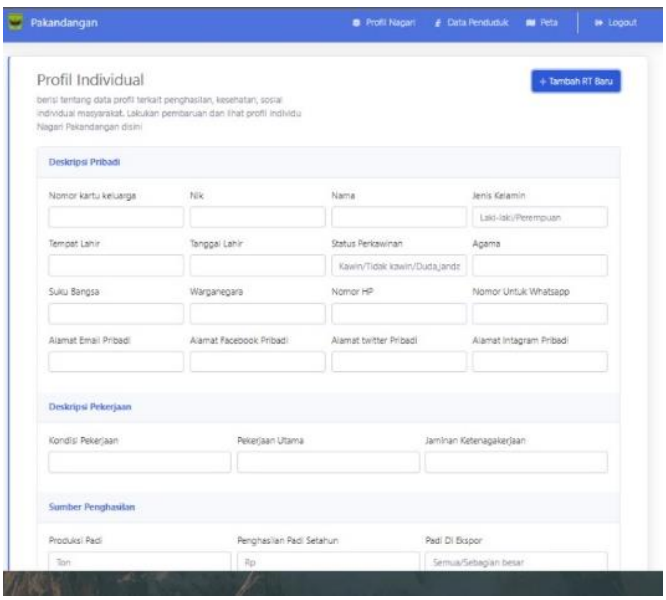


Fig. 7. Population Data Entry

5. Population Income Page

The population income page for the first form is the population data form where the monthly income will be recorded. On the Income Source Page, there is a form that is useful for inputting the income generated by the residents of Nagari Pakandangan. Entry of Population Income Page can be seen in Fig. 8.



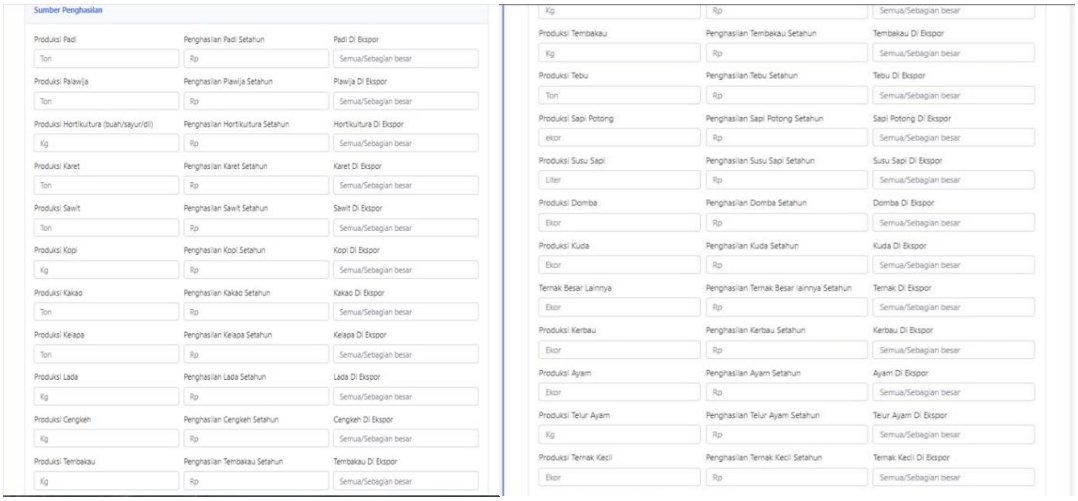


Fig. 8. Population Income Page

Based on the results of the implementation of the Nagari Information System, Fig. 9 shows the level of user satisfaction with the system. User satisfaction is obtained from the results of system testing to Wali Nagari and staff

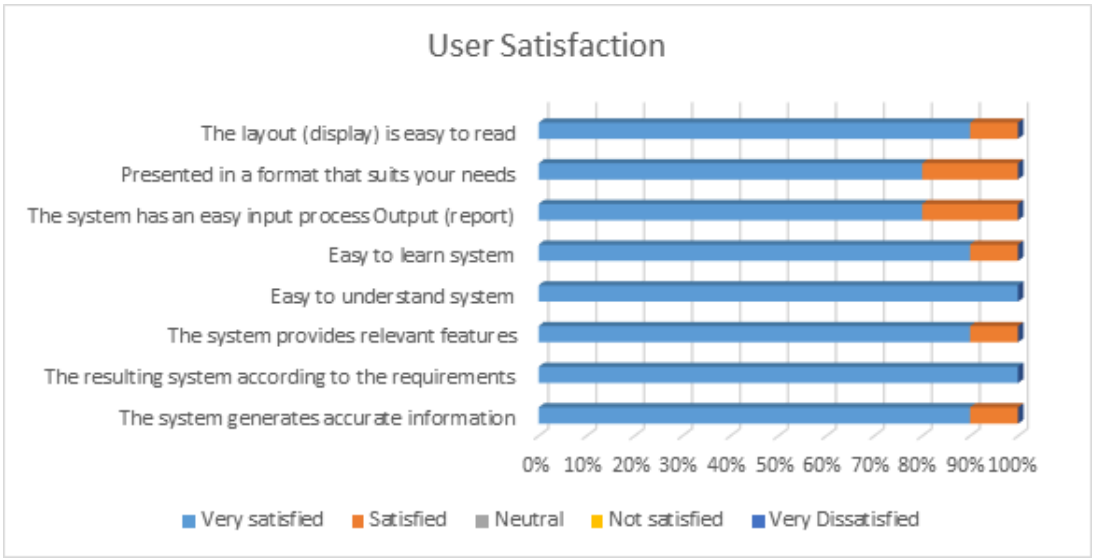


Fig. 9. User satisfaction.

4. Conclusion

As for the implementation process, this service was carried out well, with the support of Nagari Pakandangan. This support can be seen from the enthusiasm of the Nagari apparatus in responding to the design of the Nagari information system so that the implementation of the service is carried out properly. The making of the information system is carried out within 6 months and during the implementation, improvements are made from the implementation of the information system whether it is in accordance with what was set at the beginning or not. At the time of implementation there were several changes, both in the form of features, but when they were conveyed to the Nagari apparatus, they quickly processed the changes. The Wali Nagari's response was very enthusiastic about the implementation of this service, even the Wali Nagari gave special and serious time to participate in the training and really conditioned his equipment to participate in the training..

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Author Contribution

All authors contributed equally to the main contributor to this paper. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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