Transformation of Information Systems in the Tasikmalaya City Communication and Information Department

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Abstract

Statistical data and information regarding government and regional development is a right of the community. But unfortunately, this has not been fully fulfilled in the community. This research then tries to look at the implementation of factors in managing information systems at the Tasikmalaya City Communication and Information Service. This research will be carried out using qualitative methods through case studies. The data used in this study came from observations and interviews. The results of this study then found that the management of information systems at the Tasikmalaya Office was still ineffective. Unprofessional executors and inadequate infrastructure have resulted in this. Several factors that can be useful in supporting information transformation at the Tasikmalaya City Service are data collection, data processing, data analysis and assessment, data presentation and dissemination, and documentation. Some of the inhibiting factors for this transformation are professional staff, infrastructure, and technology.

Keywords: Transformation, Information System, Communication and Informatics Office of Tasikmalaya City.

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1. INTRODUCTION

Information systems play a very important role in various aspects of our lives today. First, in the business world, information systems are the backbone of modern corporate operations. They help in managing employee, customer, and inventory data efficiently, enabling companies to make better and faster decisions (Thuan et al., 2022; Bisman et al., 2019). In addition, information systems also facilitate communication and collaboration between various departments, which can increase a company's overall productivity and efficiency. Beyond the business world, information systems are also important in health, education, government, and many other sectors, enabling the storage, analysis, and sharing of data needed to improve services and decision-making (Kassen, 2022; Adi, 2020). In addition, information systems also play an important role in increasing the accessibility and exchange of information around the world. The Internet and the various applications that run on it are clear examples of information systems that connect millions of people around the world (Attaran, 2022; Donorijanto et al., 2023). In this context, information systems give us access to unlimited information resources, allowing us to learn, communicate, and collaborate with people in various corners of the world. They also play a role in supporting innovation and the development of new technologies, which have fundamentally changed the way we live and work (Teubner et al., 2023; Ervitasari & Pardi, 2023). Therefore, we need
to continue to develop and maintain safe, reliable, and efficient information systems so that we can take maximum advantage of their important role in modern society, especially in the era of globalization (Ahmad et al., 2021; Kustina & Anggionaldi, 2022).

In the era of globalization and the transformation of increasingly sophisticated information systems, with rapid developments, information is one of the most important types of resources and is a necessity in government agencies. The openness of public information is also an important element for the realization of good governance in government administration. In public information disclosure, several principles can realize Good Governance, namely the principles of participation, transparency, and accountability (Kim & Kim, 2020; Soelistiono & Wahidin, 2023).

The role of the Regional Government website needs to be intensified in supporting the search for public information, namely by providing easy access to data services and facilitating more transparent regional government management to encourage active community participation. The Regional Government of Tasikmalaya City, through its website, has attempted to uphold the values contained in the Smart Governance concept, namely ICT (Information, Communication, and Technology) based public services (Adam & Fazekas, 2021; Sumantri, 2021).

The Communication and Information Service (Diskominfo) in Tasikmalaya City was only formed in July 2014 based on Regional Regulation Number 07 of 2016 concerning the Formation and Organizational Structure of the Tasikmalaya City Regional Service. One of the tasks of the Tasikmalaya City Communication and Informatics Service (Diskominfo) is to collect, select, process, disseminate, and store information so that it can be used for the benefit of the community at any time (Ahmadi & Rachmiatie, 2019).

Research at the Tasikmalaya City Diskominfo shows that in general, the people of Tasikmalaya City need information on city development and development information, government information, and information on community welfare. As we know, currently there are relatively many sources of information and they are spread in various forms of presentation media, both through print media (books, newspapers, magazines, bulletins) and electronic media (radio, television, cellphones, internet) which can be easily obtained. However, sometimes the information presented and disseminated still does not have data with accurate data quality (Prastowo et al., 2021).

This then caused several problems in the implementation of information transformation at the Tasikmalaya City Communication and Information Service. Some of these problems include:

1. Not yet maximal fulfillment of sectoral statistical data and information to the public
2. The management of data, information, and communication technology is not yet optimal.
3. Information on government and regional development has not been maximally conveyed to the public (Marlina et al., 2023).

Based on the brief explanation above, this research intends to see how transformation in the information system can be carried out by the Tasikmalaya City Communication and Informatics Service.

2. LITERATURE REVIEW

1. Transformation

The term transformation refers more to the reality of the change process. In the Big Indonesian Dictionary (KBBI), transformation means a change in form, nature, function, and so on. Transformation is a change process that has the following characteristics:

a. The existence of differences is the most important aspect of the transformation process (Röck et al., 2020).

b. There is a concept of characteristics or identity that becomes a reference for differences in a transformation process. If it is said that something is different or in other words, there has been a process of transformation, then it must be clear what the difference is, for example: what are the social characteristics, what certain concepts are like (including thoughts, economics or other ideas) or the characteristics of the application of a concept (Jayawickreme et al., 2021).

c. Historical in nature, the transformation process always depicts differences in historical conditions (different conditions at different times) (Wadhwani et al., 2020).

Meanwhile, according to Laseau, transformation is a process of change gradually so that it reaches the ultimate stage, changes made by responding to the influence of external and internal elements that will lead to changes from previously known forms through a process of duplicating repeatedly or double (Kraus et al., 2022). Laseau further provides the following categories of transformation:

a. Transformations are typological (geometric) geometric shapes that change with the same components that form and function in space (Belmahdi & Djemili, 2022).
b. Ornamental grammatical transformations are carried out by shifting, rotating, reflecting, overturning, folding, etc (Cummins, 2020).

c. Transformation is referral (opposite) image reversal on the object figure to be transformed where the object image is changed to the opposite image (Zhang et al., 2022).

d. Transformation is a distortion (confuses) of the designer's freedom in activities (Liu et al., 2023).

A transformation does not just happen but through a process. According to Habraken, the transformation process is described as follows:

a. Changes that occur slowly or little by little.

b. It cannot be predicted when it will start and how long the process will end depending on the factors that influence it.

c. Comprehensive and continuous

d. The changes that occur have a close relationship with the emotional (value system) that exists in society (Tchuindjang et al., 2021).

The transformation process contains a dimension of time and socio-cultural changes in the people who occupy it that arise through a long process that is always related to the activities that took place at that time. The transformation process goes through 3 stages, namely: Invention, Diffusion, and Consequences (Settembre-Blundo et al., 2021).

a. Investment is a change from within society, where in society there are discoveries, which then slowly appear (Ratten, 2020).

b. Diffusion is the second process in transformation. Namely the communication of ideas, new concepts, or efforts to change society more broadly (Perdana et al., 2021).

c. Consequences, namely the stage of adoption of new ideas or ideas in society. In this stage, there are usually results of changes that appear in society (Khayer et al., 2020).

Transformation can occur intentionally and unintentionally. Intentional transformation is characterized by: clear planning, management, and demonstrated programs and expected changes. Deliberate transformation is usually programmed by a community agent to change ideas, concepts, and culture in society from less pleasant (good) to good (fun) (Leeuwis et al., 2021). Meanwhile, unintentional transformation is a change that occurs naturally (either due to changes in natural conditions, technology, etc.). This change can occur due to influences from within the community itself as well as influences from outside the community (Anggarwal et al., 2022).

According to Habraken, the factors that cause transformation are as follows:

a. The need for self-identity (identification) people want to be known and want to introduce themselves to the environment (Floress et al., 2022).

b. Lifestyle changes: structural changes in society, the influence of contact with other cultures, and the emergence of discoveries regarding humans and their environment (Zhang et al., 2021).

c. The influence of new technology gives rise to a feeling of following fashion, where parts that are still technically usable (have not yet reached their technical age are forced to be replaced to follow fashion (Veraart et al., 2023).

2. Information Systems

The term system is used to define many things, especially activities related to data processing. The following are several definitions of the system according to several experts. A system is a group of elements that are closely related to each other and function together to achieve a goal (Sarker et al., 2021). A system is a series of components coordinated to achieve a set of goals. A system is a network of interconnected procedures gathered together to carry out activities or to complete a certain target. A system also has certain characteristics or properties, which indicate that something can be said to be a system (Breuer et al., 2019).

There are several types of definitions of information systems according to experts, including the following:

a. According to Lippeveld, Sauerborn, and Bodart, an information system is a set of interconnected components, that work to collect and store data and process it into information that can be used (Saigi-Rubió et al., 2021).

b. Mulyanto stated, "An information system is a component consisting of humans, information technology, and work procedures that process, store, analyze, and disseminate information to achieve a goal" (Arifanti et al., 2022)

c. According to Sutarman, "An information system is a system that can be defined as collecting, processing, storing, analyzing, and disseminating information for certain purposes. Like other systems, an information system consists of input (data, instructions) and output (reports, calculations)" (Kebede et al., 2020).

d. According to Sutarani, an information system is a system within an organization that brings together daily transaction processing needs that support the managerial operational functions of an organization with the strategic activities of an organization to be able to provide certain external parties with the necessary reports (Wamba-Taguimdje et al., 2020).
Information systems consist of five resources known as information system components. The five resources are humans, hardware, software, data, and networks. These five components play a very important role in an information system. However, in reality, not all information systems include these five components. For example, a personal information system that does not include telecommunications networks (Pop et al., 2021).

Information systems can be formed according to the needs of related organizations/institutions. Therefore, to be able to implement an effective and efficient system, planning, implementation, regulation, and evaluation are required according to the wishes of each organization/institution (Bibri & Krogstie, 2020). The classification of the information system is divided into several groups as follows:

a. Information systems based on organizational level are grouped into operational level, functional level, and managerial level (Aydiner et al., 2019).
b. Information systems based on management activities are grouped into banking information systems, academic information systems, health information systems, insurance information systems, and hotel information systems (Jeyaraj, 2022).
c. Information systems based on business functionality are grouped into accounting information systems, financial information systems, manufacturing information systems, marketing information systems, and human resources information systems (Hutahayan, 2020).

Hamalik suggests that the processes involved in the concept of information transformation are:

a. Data collection is carried out according to the type of data, object, data source, and preparation of data collection in a certain way
b. Data processing, a transformation of the collected data into the required information
c. Analysis and assessment can be carried out qualitatively and quantitatively in terms of benefits, advantages, impacts, constraints, efficiency, and usage
d. Presentation and dissemination, presented and disseminated either directly or indirectly
e. Documentation, storing data and information systematically and carefully in the form of a data bank, stored and arranged carefully, completely, safely, and easily retrieved when necessary (Widodo & Setiyawan, 2021).

3. METHOD

The research method used in this study is qualitative, especially the case study type. A case study is an in-depth research approach whose focus is on a particular individual, group, organization, activity program, or phenomenon in a particular time context. This research aims to explore an in-depth understanding of the implementation of factors that influence information system management in the Tasikmalaya City Communication and Informatics Office. This research will collect data through observations and interviews to provide a comprehensive picture of the situation at the Tasikmalaya City Communications and Information Office. The data obtained from this research will be used to analyze obstacles in managing information systems in the office and to identify factors that support information transformation in that environment. By using the case study method, this research is expected to provide deeper insight into the problems faced in information systems management at the Tasikmalaya City Communication and Informatics Office, so that it can provide more concrete recommendations for necessary improvements (Haryono, 2020).

4. RESULT AND DISCUSSION
1. Information System Management at the Tasikmalaya City Communication and Informatics Service

Successes and failures in the implementation of information transformation at the Office of Communication and Informatics can be seen from several factors that determine it. Identification of factors that influence the success of information transformation in the communications service is based on information transformation factors according to Hamalik Oemar, namely: data collection, data processing, data analysis and assessment, data presentation and dissemination, and documentation.

a. Data Collection

The initial stage in the transformation of information is data collection. The results of the research show that the Tasikmalaya City Communication and Informatics Service tends to get reports or summaries of events from the Information and Communications Office at the Tasikmalaya City Communication and Informatics Office. The report is distributed using a communication application called Whatsapp or other applications to regional agencies/organizations in Tasikmalaya City. Data collection is carried out by Diskominfo only as a facilitator, however, Diskominfo has the authority to request data from each OPD to create information
that will be conveyed to the public. However, in the implementation of data collection, there are still difficulties in obtaining data. From the results of research at the Tasikmalaya City Communication and Information Service, data collection staff are still lacking, with only 3 people with inadequate skills and abilities. Fulfillment of data in conveying information must be truly fulfilled so that the public is not disappointed with information received without complete data. The data collection method is carried out directly or indirectly. Reliable tools according to the type of data required include questionnaires, interview guides, checklists, cumulative records, and reports. Based on the description above, it can be concluded that technological advances help in the data collection process. The tendency for the data collection process is to be obtained from a new communication application called Whatsapp and this has proven to facilitate the performance of staff at the Tasikmalaya City Communication and Information Service in obtaining and disseminating information.

b. Data Processing
Data processing can be done manually or through the help of a computer. Manually, human ability is the basic capital in processing information consisting of the senses of the recipient (eyes, ears, nose, and so on), which receive signals and pass them on to the processing unit (brain as a storage unit). Processed results are responses or responses physically, in speech, or in writing. So that this process requires basic human skills in processing data manually by collecting data, filtering, and making decisions. Within the Tasikmalaya City Communication and Informatics Service, these steps were carried out after the Head of the data and information management section carried out manual data checks. After the data is allowed to be submitted, the staff in the data and information management section continue with the sorting/arrangement process selecting data and compiling the data with the desired type and grouping, then the editing process continues, namely adjusting the data according to the intended purpose that has been previously set. Checking and adjusting the data (to be processed) following predetermined purposes. In checking and adjusting the data, it must be following the facts according to changing conditions and circumstances.

c. Data Analysis And Assessment
Data processing needs to be analyzed and reassessed to obtain accurate information. This activity is usually carried out quantitatively or qualitatively, quantitative is based on calculations, and qualitative is based on logic or rationality. The results of the research show that after the information and statistics data management section performs data processing so that it becomes information. The section for the management of public communication and information channels is back to checking the information that will be conveyed to the public by considering the benefits and impacts rationally, of course paying attention to the existing regulations in the Communication and Informatics Office regarding Procedures for Public Information Services.

d. Presentation and Dissemination
Presentation and dissemination of information in the desired formats with language that is easy to understand, interesting, easy to read systematic, and oriented towards support for decision makers, and information dissemination is carried out through websites, and selected publication media which are carried out continuously according to organizational needs. It is known that the presentation and dissemination have been carried out properly, complementing and supporting each other in the presentation and dissemination of information at the Tasikmalaya City Communication and Informatics Office. This is indicated by the implementation of presentation and dissemination that has been well received by the community so that the impact affects the effectiveness of information system management.

e. Documentation
Documentation of the information transformation process. Documentation means storing it for maximum possible use for the user's needs. Apart from that, documentation functions to store data and information systematically and carefully in the form of a data bank. Documentation activities can be carried out the old way in the form of files and can be done by computerization. The Tasikmalaya City Communication and Informatics Service in the documentation process states that the data stored is in the form of softcopy or hardcopy, information data whether it has been disseminated by the Public Communication and Information Channels Section or not, the information stored is of course for reuse or will not become an archive. The information transformation process carried out by the Applications and Informatics Sector is carrying out its role as a communication facilitator and communications technician where the "Information and Public Communication Sector" and the "Applications and Informatics Sector" become a communication bridge between institutions and the public by conveying accurate
information and providing access to information. in
media as a communications technician.

Implementation of Information Transformation in Information System Management at the Tasikmalaya City Communication and Informatics Office

The concept of Information Transformation is implemented in the management of information systems designed to meet ideal conditions. In practice, the existing conditions are following the results of observations and research that are going quite well. However, of course, to achieve maximum results, improvements still need to be made and further innovations implemented. The description of the implementation of information system management still needs to be improved and maximized in various factors.

a. Data collection on the implementation of Information Transformation at the Tasikmalaya City Communication and Information Service.

In obtaining data there are several techniques used directly and indirectly to collect data from the source. For example, for the authorized agency or organization to obtain truly accurate data there is still a lack of collectors who have professional skills and the quantity and quality following needs. Then a reliable tool that uses a mailing system is sending a checklist or form with a letter carrier via post or email to the selected agency or organization to fill it in and interview guidelines.

In the management of information systems at the Tasikmalaya City Communication and Information Service, it is known through observations and interviews with informants that there are still unprofessional resources or collection staff.

b. Data processing in the implementation of Information Transformation at the Tasikmalaya City Communication and Information Service.

Information system management carried out by the Tasikmalaya City Communication and Information Department refers to efforts to convey information to the public that can be well received. Data processing in information management is the goal of the Communications and Information Department to provide effective information that can be received by the public. The Tasikmalaya City Communication and Information Department specializes in the fields of informatics, public communication, and statistics as an implementing element which has the main task of coordinating the preparation of technical policy materials, implementation, and guidance in the management of public information and communication and regional statistics. For this reason, the government through these agencies manages information systems to serve the community.

c. Analysis in assessing data on the implementation of information transformation at the Tasikmalaya City Communication and Information Service.

The belief is that mutual trust in information in a network is necessary to achieve common goals. This needs to be analyzed in data assessment because it becomes evidence that to convey information to the public before it is carried out there must be data studies that show that the data is accurate and valid and following the conditions at that time.

d. Presentation and dissemination of data in the implementation of information transformation at the Tasikmalaya City Communication and Information Service.

Because there are standard regulations governing electronic transactions, each party has freedom of opinion and the right to obtain information through the use and utilization of information technology. However, there is still some information needed by the public related to the public domain, so that the presentation and dissemination of data and information are sufficient to fulfill the certainty of transformation.

e. Documentation of data in the implementation of information transformation at the Tasikmalaya City Communication and Information Service.

Data documentation serves to store data and information systematically and accurately in the form of a bank. Backing up data has become an important need due to the development of digital society. Each institution has a different method to protect the security of their data. This consideration is something that needs to be taken into account with the latest methods, of course with safer data backup.

This study found modifications to Hamalik Oemar's theory which factors confirmed and which factors weakened the concept of Information Transformation in the implementation of information system management at the Tasikmalaya City Communication and Informatics Service. Apart from that, other factors were also found that influenced the success of Information Transformation besides the 5 components determined by Hamalik Oemar, namely

a. Human Resources competency factor. As stated by A. S. Hornby, professionalism is the value or quality of a profession that is used to develop the demands of certain expertise, knowledge, and skills with the concept of Information Transformation. One of them is professional human resources who have special skills. This work cannot be done by people who do not have the expertise and skills to
carry out certain activities or jobs as a profession. The implementation of government information technology requires human resources (HR) who have competence in the field of information technology.

b. Infrastructure and technology factors. According to Turban, Rainer, & Potter, information technology infrastructure is the physical facilities, information technology components, information technology services, and information technology management that support the entire organization.

In this research, one can feel how the expertise and skills that shape Information Transformation professionals as well as adequate infrastructure and technology greatly influence their performance in managing information systems. This will then give rise to the belief that Information Transformation is not only in the form of formal institutions but can also be in the form of professional human resources, expertise, and skills as well as adequate facilities and infrastructure from implementing Information Transformation will improve the implementation of information system management at the Tasikmalaya City Communication and Informatics Office. On this side, the researcher considers that this research is different from previous studies. On the other hand, this research is aimed at criticizing and viewing information system management as an incomplete concept of an ideal information transformation.

5. CONCLUSION

The data collection process at the Tasikmalaya City Communication and Informatics Office is still not very good, resulting in ineffective information system management. This is due to unprofessional executors and inadequate infrastructure and technology. Data processing is part of the implementation of information transformation, and it plays a crucial role in obtaining accurate information. However, the current data processing methods, whether manual or computer-assisted, are still not optimal. Supporting factors for information transformation in managing information systems at the Tasikmalaya City Communication and Information Service include data collection, data processing, data analysis and assessment, data presentation, and dissemination, as well as documentation. On the other hand, the inhibiting factors that hinder efficient information system management are the lack of professional staff and insufficient infrastructure and technology. These challenges must be addressed to improve the overall effectiveness of the office’s information system management.

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