

DEVELOPMENT OF THE INFORMATION SYSTEM OF THE EDUCATIONAL CENTER

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Annotation

The purpose of this study is to express the experiences, ideas, needs, and the use of information technology for the development of management information systems in a higher education institution. This study is a qualitative approach research using the case study method. The research data collection uses the techniques of observation, interview, and documentation study. The research procedure used in this research consists of several research steps utilizing the case study method of Robert K. Yin: research planning, research design, research preparation, research data collection, research data analysis, and doing the research report. The research analysis is done by pattern matching. The data validity testing through data source triangulation and technique triangulation. The result of the study presents: the analysis of management information system based on tacit and explicit knowledge through the process of exchanging experience, idea, and initiative, the management information system design based on the needs analysis, and the development of management information system using information technology.

Аннотация

Целью данного исследования является выражение опыта, идей, потребностей и использования информационных технологий для разработки информационных систем управления в высшем учебном заведении. Данное исследование представляет собой исследование качественного подхода с использованием метода тематического исследования. При сборе исследовательских данных используются методы наблюдения, интервью и изучения документации. Процедура исследования, используемая в этом исследовании, состоит из нескольких этапов исследования с использованием метода тематического исследования Роберта К. Инья: планирование исследования, дизайн исследования, подготовка исследования, сбор данных исследования, анализ данных исследования и составление отчета об исследовании. Анализ исследования проводится путем сопоставления с образцом. Проверка достоверности данных посредством триангуляции источников данных и триангуляции методов. Результатом исследования являются: анализ информационной системы управления на основе неявных и

явных знаний посредством процесса обмена опытом, идеями и инициативами, проектирование информационной системы управления на основе анализа потребностей и разработка информационной системы управления с использованием информационных технологий.

Introduction

Information and communication technologies have developed rapidly in business growth. The geographical outreach of the internet and the widespread global adoption of high technology provide educational institutions with unprecedented opportunities to increase their offerings. This technology has changed the way customers look at information and how to use it. Higher education institutions are forced to develop new systems to carry out the educational process using this technology. Information management systems have become hype today among stakeholders in higher education institutions. The needs of customers in higher education institutions should be undertaken to the maximum extent possible, one of which is through an efficient and effective management information system following the needs of all academic communities in higher education institutions. The management information system usually requires ongoing design, coordination, communication, and supervision. Today many organizations are exploring the field of knowledge management to expand and to achieve an efficient and effective management information system, information technology is required, ranging from a very simple to advanced technology. The use of information technology in the management information systems varies widely for each organization, starting with receiving data, searching data, processing data, storing data, and distributing data, using software and hardware that suits the needs of each organization. The information system uses information technology to collect, create, and distribute useful data. Information technology includes hardware, software, and telecommunications network. Concerning the use of hardware, software and communications networks in management information systems, each organization has specific strategies to achieve them, either through the initiative of employees and leaders, the provision of special budgets, innovations and creations of each member of the organization as well as donations or assistance from the government. It is in line with Rainer's et. al views that the strategy for obtaining management information systems based on information technology is through cost leadership strategy, differentiation strategy, innovation strategy, operational effectiveness strategy, and customer orientation strategy (Rainer, Prince, & Cegielski, 2015). Innovation Strategy as one of the strategies used by the organization to develop management information systems is a strategy to meet customer needs that always change from time to time. To realize these changes, new

ideas are required in designing information technology that facilitates the implementation of activities within the organization. The design of the information technology systems should be following the procedures and operational steps developed from the various needs of people in carrying out their work, both in using software and hardware. To operate the management information systems, it is necessary to organize the human resources who will administer it, plan the manufacturing, plan the delivery and the return following the results and services provided to customers, as something that meets their expectations. Operation and supply chain processes can be conveniently categorized, particularly from the view of a producer of consumer products and services, as a planning, sourcing, making, delivering and returning. To operate the systems, it is necessary to group the system procedures based on the service systems, strategies implementation, services concepts, product services, and targets that demand the customers according to the needs of the organization members. The basic categories presented from left to right are service delivery systems, operations strategy, service concepts, and target market segments and to develop systems within an organization, it can be started from the analysis of mission, function, task, and method. First, mission analysis can be done by members of the organization through needs analysis activities by looking at the strengths, weaknesses, opportunities, and threats that occur within an organization. By looking at the strengths, it can be perceived how significant the strengths can overcome the weaknesses and threats that the organization encounters. Strengths are also applied to see the Opportunities that can be attained by the organization to achieve its goals. Secondly, the function analysis looks at how the role of each component of the system can contribute to the running or the smooth flow of activities of the organization as a whole. The functions or roles of the system components can be identified as early as possible as a basis or material in the organization's decision-making. Thirdly, the task analysis, that is the leaders of the organization can analyze and identify the duties to avoid overlapping activities carried out by employees, both groups and individuals.

The concept of knowledge can be seen from how a person or group can understand what is in his mind in the form of thoughts, ideas, theories, procedures, field practices, and ways that become a habit for someone in work measured by effectiveness, efficiency, and productivity. Knowledge is connected. It exists in the collection (collective wisdom) of multiple experiences and perspectives. Knowledge management leads to knowledge creation, knowledge capture, knowledge validation, knowledge storage and security, knowledge sharing or transfer, and use and reuse of knowledge. Knowledge Management has been applied at the level of individuals, groups, organizations, between organizations, cities, countries, and internationally,

with a particular focus on people, processes, technology, and learning. The knowledge consists of two aspects, namely tacit and explicit knowledge which then developed into from tacit to tacit, from explicit to explicit, from tacit to explicit, and from et al. to tacit. This study uses a qualitative approach with a research method that deals with the type of case studies to see phenomena and events (Creswell, 2007; Yin, 2009) that occur in the doctoral program in educational management, which are related to unique cases in the development of management information systems. The main objective of this research is to gain an in-depth understanding and look at phenomena and events that occur at the doctoral program in educational management that are related in the development of management information systems, therefore, semi-structured interviews are considered more appropriate. Interviews with the informants are an essential source of case study evidence because most case studies are related to human events or behavior. Researchers used purposive sampling and snowball sampling. To obtain data information, researchers set informants as targets for research conducted following the quality and characteristics of the informants. In the process of collecting data, this research involved researchers and interviewed. Each interview session lasts 20-30 minutes for each participant. The primary purpose of this interview is to obtain information about the information management system developed in the doctoral study program in educational management. Therefore, the researcher collected data through semi-structured interviews from key informants, namely, students, lecturers, coordinators, and alumni. Those who were involved in this research are listed in the following table: The exchange of experiences takes place between lecturers, lecturers, and students, lecturers with alumni. It started from the discussions conducted by the program coordinator with several lecturers, students, and alumni. The topic discussed was related to the problems encountered by the department coordinator in serving the students, as starting from the beginning of 2017, the study program secretary was no longer available to assist in tending to the students. The informant of C-MM said: Since 2017, I have strived to develop a needs service system program because the policy of the university states that the absence of a study program secretary for effectiveness and efficiency in HR and financial management. So, I think to address this using the knowledge management approach in an information system. The development must start from developing the needs of writing the dissertation from the beginning, starting from the submission of the dissertation title, registration of purposing the dissertation proposal to the public defense of the dissertation. It can even be done up to the filing of graduations conducted at the level of study programs and integrated by postgraduate. The statement was abovementioned state that one of the alumni has started to create a very simple system for students to interact with the study program,

such as creating an online program for title verification, proposal seminar registration, feasibility seminar, closed and open examination as well as consultation appointment through the WEB grafted on one of the Hotspots owned by alumni. According to the statements by the informants above, the researcher could conclude that both students and lecturers developed the web-based management information systems, and each student gave his/her opinion during the class that involved four classes: namely, regular A-class, regular B, non-regular A, and non-regular B. Each student and lecturer designed the information system according to the ability of the class members.

Conclusion

The conclusions of this research are: the management information systems analysis of the study program is based on tacit and explicit knowledge through the process of exchanging experience, ideas, and initiative among the administrators, students, lecturers, and alumni. The management information systems design of the study program is based on the analysis of the needs of managers, students, lecturers, and alumni. And the management information systems development of the study program is based on the information system and the technology system owned by the managers, the lecturers, the students, and the alumni. From the results of the research, the discussion, and the conclusions, it can be recommended that: Firstly, managers, students, lecturers, and alumni are encouraged, as much as possible, to share ideas, experiences and initiatives to develop innovative activities and contribute to each other, especially in learning information systems. Secondly, the design of information systems should be prepared based on needs analysis, as well as the needs of internal customers and external customers. It is expected that Postgraduate and University leaders to contribute to the accomplishment of information systems involving top, middle and lower-level leadership. And thirdly, to create an efficient and effective management information system, university leaders should generate the necessary policies, budgets, regulations on an ongoing, consistent, and systematic basis in the procurement of infrastructure required to operate the system.

References

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