

## THE ROLE OF INFORMATION TECHNOLOGY (IT) IN KNOWLEDGE MANAGEMENT PROCESS AT BUSINESS ADMINISTRATION DEPARTMENT LECTURERS, STATE POLYTECHNIC OF MALANG

Asminah Rachmi<sup>1</sup>, Tri Istining Wardani<sup>1</sup>, Kartika DS Susilowati<sup>1</sup>  
<sup>1</sup>Business Administration Department State Polytechnic of Malang

Corresponding author: asminah@yahoo.com

Artikel diterima: Oktober 2020

Tanggal direvisi: November 2020

Tanggal diterima: Desember 2020

### Abstract

The role of universities in providing knowledge and learning in various scientific disciplines has positioned universities as knowledge-based organizations. This suggests that universities have an important level of knowledge management (KM) activity although they may not have formal KM practices. This study aims to investigate the knowledge management process with its various dimensions namely knowledge creation, acquisition, organization, sharing and implementation in the Business Administration Department State Polytechnic of Malang. It also to identify the use of IT (hardware, software, security and usability) including the importance of IT in supporting KM process to increase the competitiveness of Business Administration Department, Malang State Polytechnic. This research is qualitative research using case study approach. The research subject is Business Administration Department, State Polytechnic of Malang. Unit analyses are head of Department, secretary of department, head of study program, lecturers and administrative staffs. Data collection methods use interview, observation, and document analysis. Data analysis use within case analysis. The research findings showed that activities held by the Business Administration Department are in accordance with a knowledge management system such as capture, store, change and share knowledge from the department to other members of the organization. The IT components including hardware, software, intranet, and internet networks as well as integrated applications facilitate all the activities. Suggestions were provided related to updating IT that should be conducted regularly including increasing internet network capacity to support knowledge management process that will increase organization performance.

**Keywords:** Knowledge Management, Knowledge Management Process, Information Technology

### 1. INTRODUCTION

The survival and success of any organization depends on the organization's ability to adapt to the business environment. Competitive environments are no longer predictable and change rapidly in terms of their complexity and uncertainty. As a consequence, knowledge management (KM) that is able to improve organizational capabilities is the key to organizational success.

Business Administration Department, State Polytechnic of Malang, as an organization that is engaged in education, consider knowledge management to be very important. In addition, Information Technology (IT) is needed to simplify the knowledge management process. In the end, Knowledge Management can be a reliable support for departments to increase competitiveness. This study is intended to investigate the IT components consisting of hardware, software, security and usability that support the KM process as developed by Probst, Raub, and Romhardt (2000).

The problems formulations of this research are: 1. How is the knowledge management process in Malang State Polytechnic Business Administration? 2. What is the role of information technology (IT) in the knowledge management process in the Business Administration Department, State Polytechnic of Malang? 3. Does the knowledge management process supported by IT solve problems in the department? 4. Does the knowledge management process increased the department's performance?

### 2. LITERATURE REVIEW

Knowledge Management is an effort to increase useful knowledge in organizations, including familiarizing a culture of communication between personnel, providing opportunities for learning, and promoting appropriate knowledge sharing (McInerney, 2002). Knowledge management is concerned with the exploitation and development of knowledge assets from an organization with a further objective view (Davenport & Prusak, 1998). In today's competitive environment, knowledge management is becoming increasingly significant in gaining a competitive advantage (Chang, Yen, & Tseng, 2009).

In general, knowledge is created as explicit knowledge in the form of documents and procedures as well as tacit knowledge in the form of experiences, considerations, insights and perceptions embedded in individuals. According to I. Nonaka (1994) explicit knowledge is knowledge that is codified, formally

documented and can be transmitted, shared and improved using database and IT facilities. Meanwhile, tacit knowledge is personal knowledge, depends on the context, inherent in one's experience and embedded to individual characteristics, therefore it cannot be utilise without the owner's willingness (Lam, 2000).

The concept of knowledge management is generally described based on several processes. According to (Probst et al., 2000) knowledge management process consists of knowledge identification, acquisition, retention, utilization, development and sharing that shown on Figure 1.

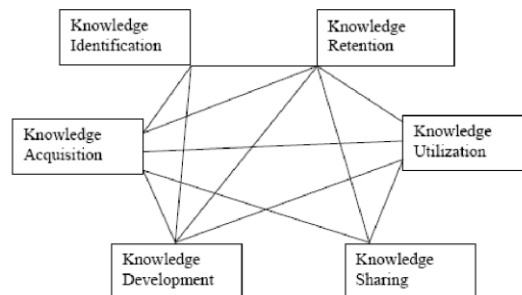


Figure 1. Knowledge Management Process (Source: Probst et al., 2000)

Knowledge identification deals with identifying and evaluating knowledge in organizations. Knowledge acquisition deals with the question of what type of intellectual capital the organization should invest in. Knowledge may be gained from the expertise and networks that the organization has with each stakeholder such as customers. Knowledge development is a procedure of synthesizing previous knowledge, ideas, information, and wisdom to create new knowledge (Ikujiro Nonaka & Takeuchi, 1995). Knowledge sharing is the act of exchanging tacit and explicit knowledge through the process of socialization and exchange (BecerraFernandez, Gonzalez, & Sabherwal, 2004). Knowledge utilization is part of the knowledge management process where knowledge is applied. Two subprocesses facilitate knowledge utilization, namely direction and routine (Becerra-Fernandez et al., 2004). Knowledge retention is usually done through internalization and externalization. Internalization is the conversion from explicit knowledge to tacit knowledge, while externalization is the conversion from tacit knowledge to explicit knowledge (Ikujiro Nonaka & Takeuchi, 1995).

Nor, Wan Ismail, & Bahari states that the benefits of KM for the organization including improve the organization's ability to respond (Responsiveness), improve the company's ability to innovate (Innovation), improve the skills quality of staff (Competence), and get best practice sharing. Usually, people start KM projects by focusing on technology needs such as whether they need a database or a single portal, but the key remains in people and processes. The real challenge faced by IT and its role in KM is revolutionizing strategic objectives in selecting, developing and implementing the correct technology, which is able to better serve KM (Badamas, 2009).

Previous research has shown that IT plays an important role in the knowledge management process. Egbu and Botterill (2002) concluded that IT components such as telephones, internet / intranet / e-mail, documents, and reports are still used by organizations to obtain, develop, share, and store knowledge. Kumar and Kumar (2006) conducted research on IT-based knowledge management in the higher education system in India and the results showed that the implementation of ITbased knowledge management can improve service quality and reduce costs in universities.

### 3. METHODOLOGY

This type of research is qualitative research with a case study approach. The research subject that becomes the case is Business Administration Department Malang State Polytechnic. Unit analysis are officials, lecturers and educational staff of Business Administration Department, consisting of the head of the department, the secretary of the department, the head of the study program, lecturers (3 people) and educational staff (2 people). Data collection techniques including interviews, observation, documentation, and archival notes. This research uses Within-case analysis which will compare and explain the pattern in one case. This analysis will reveal a pattern of the knowledge management process within Business Administration department. To facilitate this process, coding, indexing and reporting data methods are implemented.

### 4. DATA ANALYSIS

The Department of Business Administration is one of the departments at Malang State Polytechnic that provides vocational education in the fields of Business Administration and Marketing Management. In general, the activities of Business Administration Department as an academic institution are operational activities such as admission of new students, financial management, human resources management, education

and training for lecturers and education staff, research and community service, and student activities. Academic activities include teaching and learning, administering examinations and assessments. Meanwhile, academic administration activities include recording student attendance and inputting student marks.

The findings related to knowledge management process are described as follows:

1. **Knowledge identification.** In Business Administration department, the knowledge identification process is carried out during curriculum workshops, evaluation of teaching and learning processes, evaluation of annual routine budgets and implementation of activity plans as well as the audit process conducted by the quality assurance office.
2. **Knowledge acquisition.** In Business Administration department, the knowledge and information obtained and needed are in the form of policies from the Director, Pudir I (policies regarding academic activities), Pudir II (policies regarding performance, procurement of PBM supporting facilities and infrastructure and HR development), Pudir III (policies regarding student activities) and Pudir IV (policies related to cooperation with industry and development of lecturer certification). Information obtained from industry and companies is related to hard skills and soft skills needed by industry and needs to be provided to students, graduate recruitment opportunities and cooperation opportunities for training activities and competency tests. Meanwhile, the information obtained from the government (Dikti) includes policies related to improving the quality of management of departments and study programs, competency certification, internships and scholarships for further studies.
3. **Knowledge development.** Business Administration Department carries out a knowledge development process during industrial visits to BUMN, and companies to obtain information about alumni who work at these companies as well as obtain information on knowledge and skills needed by the industry today. This information will be formulated by the department team to develop new knowledge and skills that need to be provided to students.
4. **Knowledge sharing.** Knowledge sharing is the act of exchanging tacit and explicit knowledge. These activities involve two processes, namely socialization and exchange. Exchanging explicit knowledge is carried out by the organization, in this case the Department of Business Administration with lecturers and education staff in the form of socialization at departmental coordination meetings, informal meetings conducted by lecturers and staff with department officials to discuss issues related to a job. Meanwhile, tacit knowledge exchange is usually carried out between lecturers in seminars, workshops, and training with the aim of enriching the knowledge and skills of lecturers as participants from sources from outside the department and lecturers from Business Administration Department.
5. **Knowledge utilization.** Information or knowledge from the Polinema head office and the Higher Education such as grants and lecturer certification as well as scholarship information will be immediately responded to by the department for follow-up. Knowledge and skills acquired by lecturers and educational staff sent by the department to take part in certain training are usually shared and applied according to the objectives of the training.
6. **Knowledge retention.** Although Business Administration Department has been established for a long time, no lecturers have yet to retire. Even so, lecturers' knowledge has been stored in forms RPS, learning modules, research results by the department.

Information Technology (IT) which is used by Business Administration Department is integrated with the head office of Malang State Polytechnic especially for applications that are used centrally. Applications that are integrated with Polinema's head office include SISTER, SIMPEG, SIMKEU, SIMAKBMN, SIBMN, SIPAMN, SIM INVENTORY, SIAKAD, SIMP2M, SINERJA, SIMANTA, LMS Polinema, WEB Polinema, BKD AND SKP. Each application can only be accessed by interested groups.

Hardware equipment used includes computers and laptops, printers, LCDs and network cables to facilitate internet connection. The equipment is used for all activities in any knowledge management process, including making reports, inputting data, creating documents, storing and accessing information and knowledge, running applications for specific jobs, presentations in teaching and learning activities and sharing information via networks. Internet and intranet are used to facilitate integrated applications, online teaching, online seminar and communication via email or face to face with communication software such as WhatsApp, Skype, Zoom, Google Meet. And so forth.

## 5. DISCUSSION

The activities held by Business Administration Department are in accordance with a knowledge management system based on activities to capture, store, change and share knowledge from the department for the benefit of the department and people in the organization. The activities in each component of the knowledge management process are carried out with the aim of smoothing individual work and operational activities of the department including academic administration services and teaching and learning activities. The IT

component which consists of hardware, software, intranet and internet networks as well as integrated applications facilitates all these activities. Bhusry and Ranjan (2011) claim that information technology (IT) is the key that enables knowledge management systems (KMS) to run well and facilitates activities to capture, store, modify and disseminate knowledge.

Constraints related to IT in Business Administration Department include hardware that has not been updated regularly to keep up with IT developments and IT infrastructure that has not been developed to the maximum, which can be seen from the WIFI network connection, which is sometimes still choked up, interrupting communication and access to information. According to Riege (2005) at the technology level, barriers can be caused by factors, including difficulties in building, integrating and modifying technology-based systems.

## 6. CONCLUSIONS

Knowledge management (KM) in the Business Administration Department has been implemented according to its purpose, and has improved the performance of the department. The components of the knowledge management process consisting of knowledge identification, knowledge acquisition, knowledge development, knowledge sharing, knowledge utilization and knowledge retention have been carried out in various forms of activities such as arranging meetings, teaching and learning processes, seminars, and academic administrative services with aim is to streamline work and increase productivity. The IT component in the Business Administration department has also proven to have helped smooth the knowledge management process in the department. Hardware, software, internet, and intranet networks as well as various integrated applications that are centrally managed by Malang State Polytechnic make activities and communications easier and faster to carry out. Even though there are weaknesses such as equipment that cannot be updated regularly and the slower of internet / WIFI network, this does not prevent the department and its members from making the most of IT facilities in their works.

In connection with the findings that have been described and discussed, there are several suggestions that can be given to the Department of Business Administration, including: 1. The head of Business Administration Department should plan a budget for updating the department's IT equipment so that work can be done even faster. 2. The head of Business Administration Department should improve the internet / WIFI network connection so that communication via the internet is not hampered considering that almost all activities are now carried out online. 3. The head of Business Administration Department should build a departmental intranet that connects the department with lecturers, staff, and students to accelerate the dissemination of information even though it is now facilitated by cellphones.

## REFERENCES

- Badamas, Muhammed A. (2009). Knowledge Management and Information Technology: Enablers of E-Commerce Development. *Communications of the IIMA*, 9(4), 53-65.
- Becerra-Fernandez, I. , Gonzalez, A. , & Sabherwal, R. (2004). *Knowledge Management Challenges, Solutions, and Technologies*. New Jersey Pearson Education Inc.
- Bhusry, Mamta, & Ranjan, Jayanti (2011). Implementing Knowledge Management in Higher Educational Institutions in India : A Conceptual Framework. *International Journal of Computer Applications*, 29(1), 34-46.
- Chang, M, Y. Hung, , Yen, D. C. , & Tseng, P. T.Y. (2009). *The Research on the Critical Success Factors of Knowledge Management and Classification Framework Executive Yuan of Taiwan Government*.
- Davenport, T.H., & Prusak, L. (1998). *Working Knowledge: How Organisations Manage what They Know*. Boston: Harvard Business School Press.
- Egbu, Charles O., & Botterill, Katherine. (2002). *Information Technologies for Knowledge Management: Their Usage and Effectiveness*. *ITcon*, 7, 125-137.
- Kumar, A. , & Kumar, A. (2006). IT Based KM In Indian Higher Education System: Addressing Quality Concerns And Setting The Priorities Right *Journal of Knowledge Management Practice*, 7(3).
- Lam, A. (2000). Tacit knowledge, organizational learning and societal institutions: An integrated framework. *Organization Studies*, 21(3), 487-513.
- McInerney, Claire. (2002). Knowledge Management and the Dynamic Nature of Knowledge. *Journal of the American Society for Information Science and Technology*, 53(12), 1009-1018.
- Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5(1), 14-37.
- Nonaka, Ikujiro, & Takeuchi, Hirotaka. (1995). *The Knowledge- Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford: Oxford University Press.
- Nor, Khalil Md , Wan Ismail, Wan Khairuzzaman , & Bahari, Ahamad Zaidi. (2011). *A Linkage between organization Culture and Knowledge management: A Model Development*. Universiti Teknologi Malaysia.

- Probst, G., Raub, S., & Romhardt, K. (2000). *Managing Knowledge – Building Blocks for Success*. West Sussex: John Wiley & Sons, Ltd.
- Riege, A. (2005). Three-dozen knowledgesharing barriers managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.