

## **Analysis of Enterprise Resource Planning (ERP) Implementation: Institutional Work and Institutional Logics Perspectives**

**Apelina Teresia<sup>1</sup>, B. Linggar Yekti Nugraheni<sup>2\*</sup>**

<sup>1</sup>Program Studi Perpajakan, Fakultas Ekonomi dan Bisnis, Universitas Katolik Soegijapranata

<sup>2</sup>Program Studi Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Katolik Soegijapranata

\*Corresponding author email: [ling@unika.ac.id](mailto:ling@unika.ac.id)

### **Abstract**

*This study aims to analyse the role of the ERP system in supporting the management decision-making process by using institutional logics and institutional work perspectives. This study uses primary data through semi-structured interviews and applies NVivo software for coding management. It applies purposive sampling method and generate 2 key participants. Researchers used a qualitative method based on the concept of institutional logics and institutional work to analyse the suitability of the logics embedded in the ERP system with the institutional logics applied in XYZ. Identity of the company has been disguised to avoid unintended consequences. This study finds that organisation needs to synchronise its habits and culture with the system innovation, and vice versa. Moreover, this study finds that the works of actors are important in making successful ERP implementation. Organisation actors play significant roles through political, cultural, and technical works. This study contributes to current literature on how institutional works used to explain the works of actors in the implementation of innovation. Moreover, this study supports the argument about the importance of adjustment between system innovation and organisation logics during innovation implementation.*

**Keywords: ERP, innovation, institutional logics, institutional work**

### **Abstrak**

Penelitian ini bertujuan untuk menganalisis peran sistem ERP dalam mendukung proses pengambilan keputusan manajemen menggunakan logika institusional dan perspektif kerja institusional. Penelitian ini menggunakan data primer melalui wawancara semi terstruktur dan menggunakan software NVivo untuk coding management. Metode yang digunakan adalah purposive sampling dan menghasilkan 2 partisipan kunci. Peneliti menggunakan metode kualitatif berdasarkan konsep logika institusional dan kerja institusional untuk menganalisis kesesuaian logika yang tertanam dalam sistem ERP dengan logika institusional yang diterapkan di XYZ. Identitas perusahaan telah disamarkan untuk menghindari konsekuensi yang tidak diinginkan. Studi ini menemukan bahwa organisasi perlu menyelaraskan kebiasaan dan budaya mereka dengan inovasi sistem, dan sebaliknya. Selain itu, studi ini menemukan bahwa kerja aktor penting dalam membuat implementasi ERP berhasil. Aktor organisasi memainkan peran penting melalui kerja politik, budaya dan teknis. Studi ini berkontribusi pada literatur terkini tentang bagaimana kerja institusional digunakan untuk menjelaskan kerja aktor dalam implementasi inovasi. Selain itu, penelitian ini mendukung argumen tentang pentingnya penyesuaian antara inovasi sistem dan logika organisasi selama implementasi inovasi.

**Kata Kunci: ERP, inovasi, logika Institusional, Pekerjaan Institusional.**

## 1. INTRODUCTION

Enterprise Resource Planning (ERP) is a technology innovation in which the system is integrated and able to connect data from various modules. ERP integrates business functions and data into a single system for providing information used by a company (Seo, 2013; Ifinedo, 2006; Davenport, 2000; Klaus et al., 2000; Nah et al., 2001; O'Leary, 2000). ERP helps organisations to complete tasks on a real time basis. Moreover, ERP supports management in the decision-making process because ERP produces more precise and accurate data or information.

Currently, ERP-based accounting information systems have been widely adopted by commercial companies (Seo, 2013; Dhupa, 2014; Alsharari, 2017). With the help of ERP, management can be efficient and accurate in finding information about costs and revenues because ERP provides information in real-time. That information will help management in a decision-making process (Yudewo, 2019; Maria, 2019). ERP data such as sales and purchase are integrated, journal and financial reports can be done automatically. Management can monitor expenses so that it is more efficient. It also encourages promotional activities so that the sales level can reach the set target. It also encourages promotional activities so that the sales level can reach the set target. Thus, the company's business processes become more effective.

Commercial companies have organisational structure, culture and decision-making processes which are different from other type institutions (Amiri et al., 2011; Permadi and Handoko, 2015). Company revenue tends to be directly related to efficient administrative processes. Therefore, the company needs to continuously change its administrative processes. Besides, companies are also required to provide quality services to consumers at lower costs. The implementation of an ERP system is expected to be one of the solutions to meet these expectations.

Lai (2008) states that organizations are willing to spend sums of money to invest in new technologies that can increase productivity. However, the implementation of new technologies often brings challenges to organizations that result in failure in their implementation. Most ERP project failures are not caused by technical factors but organisational factors (Permadi and Handoko, 2015). Therefore, management plays an important role in the success of the ERP implementation process (Yudewo, 2019). In the early stages, managers plan and design the ERP system process. Managers must be able to work closely with vendors to design an ERP system that suits the company's needs.

Furthermore, managers also have roles to provide education or understanding to other employees about the importance of implementing an ERP system. During ERP implementation, the manager needs to oversee the ERP implementation according to plan and overcome obstacles. In the post-implementation stage, it is necessary to carry out continuous monitoring so that ERP can function properly and correctly. Therefore, the role of management is significant to ERP success. Dhupa (2014) found that top management mandates are stronger in influencing user willingness to use ERP systems. Seo (2013) also revealed that top management support is an important factor in the ERP implementation success.

ERP system implementation is not only about switching to a new system but also anticipating its impacts on the organisation. ERP implementation is also a process of organisational change. According to Amiri et al. (2011) organisational change is the process of organisational change from a stable condition to a new condition in order to achieve organisational effectiveness. Work patterns will change as a result of using an ERP system. Furthermore, these changes also have an impact on organisational culture, structure and decision-making processes. Organisations must make adjustments to these changes. Therefore, ERP system implementation is challenging (Lai, 2008; Amiri et al., 2011; Permadi and Handoko, 2015).

The relationship between ERP system implementation and organisational change can be analysed using Institutional Theory. Every organisation must have a series of governance systems, structures, and cultures or what is called institutional logics that is different from other organisations (Friedland and Alford, 1991; Thornton and Ocasio, 1999; Alsharari, 2017). Each organisation has different rules, structures, work patterns, and decision-making processes, but on the other hand ERP also has institutional logics that may differ from the organisation. Alsharari (2017) states that ERP implementation does not automatically transfer institutional logics written in software into organisational practices. The logics written in the ERP system can conflict with the institutional logics that have been deeply internalised in the organisation.

The process of implementing ERP as a new system in an organisation will involve various parties or actors, one of which is a manager. The work or role of the actor is referred to as institutional work (Lawrence and Suddaby, 2006; Chiwamit et al., 2014; Perkmann and Spicer, 2008). According to Lawrence and Suddaby (2006), institutional work refers to actions aimed at creating, maintaining, and disrupting institutions. The concept of Lawrence and Suddaby (2006) was later developed by Perkmann and Spicer (2008) and Chiwamit et al. (2014) which state that institutional work can be divided into three types, namely political, technical, and cultural work. The three forms of institutional work describe the institutional work life cycle which is parallel to the institutional life cycle. Thus, the role of actors as agents of organisational change is involved in the life cycle of the institution starting from its formation, maintenance, and even destruction.

This study conducts study in XYZ. This study disguises the identity of the company and informants as required by the management of the company to avoid unintended consequences of information publication. XYZ is one of the companies in Indonesia that has started to adopt an ERP system in its business processes. XYZ is a pipe distribution company. XYZ started implementing the ERP system in 2017, whereas previously XYZ had several programs or applications that were used in some of its departments or business units. As a distribution company, XYZ has salesmen who sell goods to other cities. This makes the sales orders take a long time to process as salesmen usually come to the office once a week. The slow business process causes XYZ to often experience difficulties in obtaining data to find out the real company's performance hampering the decision-making process. To improve company performance and improve its business processes effectiveness and efficiency, XYZ made a decision to adopt an ERP system.

This study aims to analyse the process of adjustment in both system innovation and organisation in the XYZ. Furthermore, this study investigates the work of the actors for successful

ERP implementation. Theories of institutional logics (Friedland and Alford, 1991; Thornton and Ocasio, 1999; Alsharari, 2017) and institutional work (Lawrence and Suddaby, 2006; Chiwamit et al., 2014; Perkmann and Spicer, 2008) will be used as analytical tools to determine what was XYZ's motivation to start using ERP, how did each individual in the company try to adjust to the ERP system and how did these changes impact the structure, culture, and decision-making process at XYZ.

This research is expected to provide an overview of the important role of the ERP system in assisting managers in making decisions, and to emphasize that management support is a significant thing in the ERP system implementation process. This research also contributes theoretically by providing an understanding of the application of institutional theory in the implementation of the new system. The difference between this research and previous research is that this research applies the concepts of institutional logics and institutional work with a typology of political, technical, and cultural work that is rarely used in qualitative research related to ERP system implementation in Indonesia.

## **2. LITERATURE REVIEW**

### **Institutional Logics**

The term institutional logic was introduced by Friedland and Alford (1991) who argued that every institutional order has a central logic that guides its organizing principles. According to Friedland and Alford (1991) institutions have central rules that limit individual behavior. However, institutions also provide a source of agency and change. Meanwhile, Thornton and Ocasio (1999) define institutional logics as a material practice pattern that is built based on social, historical, belief, and rules values. Institutional logics provides a link between individual agency and socially constructed institutional cognition and practice.

Friedland and Alford (1991) created a new approach to institutional analysis that places institutional logics to define the content and meaning of institutions. The focus of institutional logics is no longer on isomorphism but the effects of different institutional logics on individuals and organisations in a variety of contexts including markets, industries, and organisations. Institutional logics shape rational behavior of individuals in an organisation. At the same time, an individual in an organisation is also an actor having roles in shaping and changing institutional logics (Thornton and Ocasio, 1999). By providing a link between institutions and actions, the institutional logic provides a bridge between macro and micro perspectives.

Accounting studies have used institutional logic to explain how adjustments are made during innovation implementation (Alsharari, 2017; Friedland and Alford, 1991; Thornton and Ocasio, 1999). In his research entitled 'Institutional Logics and ERP Implementation in Public Sector Agency', Alsharari (2017) compared institutional work and institutional logics to the Dubai Community Development Authority (CDA) which adopts an ERP system. Alsharari (2017) uses institutional logics to generate new insights which help organisations to understand and manage ERP systems in Dubai Smart Government. Friedland and Alford (1991) use institutional logics to

define the content and meaning of institutions. The focus of institutional logics is no longer on isomorphism, but on the effects on individuals and organisations.

### **Institutional Work**

Lawrence et al. (2011) state that "Institutional work describes the practices of individual and collective actors aimed at creating, maintaining, and disrupting institutions". According to DiMaggio and Powell (1983), an institution in the concept of institutional work can be considered as elements of long-lasting social life that influence the behavior and beliefs of individuals and collective actors by guiding action, cognition, and emotions. Institutional work involves physical or mental efforts to influence the institution.

Institutional work proposed by Lawrence and Suddaby (2006) states that the concept of institutional work refers to actions having the objective to create, maintain, and change institutions and businesses. It also examines how individuals influence institutions and analyse interactions between actors and institutional structures that produce stability and flexibility in the governance system. Institutional work focuses on "institution" as a centre of institutional approaches. Organisation adopting an institutionalist perspective believes there is an element in social life, namely institutions that influence the thoughts, feelings, and behavior of individual and collective actors (Lawrence and Suddaby, 2006). Lawrence and Suddaby (2006) introduce the concept of 'institutional work' as actions aimed at creating, maintaining, and disrupting institutions.

Previous studies have used institutional work in accounting (Oliver, 1991; DiMaggio and Powell, 1983; Lawrence and Suddaby, 2006; Lawrence et al., 2011; Chiwamit et al., 2014; Qadri, 2019; Nugraheni et al., 2022). Chiwamit et al. (2014) use institutional work to observe agents involved in creating, maintaining, and disrupting institutions and to find out the institutional work performed by actors with various interests to establish governance mechanisms. Qadri (2019) uses institutional work theory as a theoretical lens in explaining the phenomenon and finds that external pressure from the government has forced the particular mosque to compile financial reports. Meanwhile, Lawrence et al. (2011) uses the concept of institutional work to describe an institution as an element of social life that influences actor behavior and beliefs. Furthermore, Lawrence and Suddaby (2006) state that institutions influence organisational actions so that there are effects of individual and organisational actions on institutions. DiMaggio and Powell (1983) highlight the importance of institutional work from various actors in the creation of new institutions. Oliver (1991) focuses on two important categories of institutional work, namely disrupting institutions and maintaining existing institutions.

Chiwamit et al. (2014) developed the theory of institutional work proposed by Lawrence and Suddaby (2006) by breaking down the concept of institutional work into three typologies, namely political, technical, and cultural. These typologies were also applied by Nugraheni et al., (2022) to explain the application of fair value in the Indonesian context. According to Perkmann and Spicer (2008), these three types of institutional work are often present in institutions and can support or contradict each other. Chiwamit et al. (2014) focused his research on the key actors involved in various types of institutional tasks in the political, technical, and cultural fields.

According to Perkmann and Spicer (2008), political work refers to the efforts of various actors to influence rules, property rights, and boundaries to develop institutions into a broader social system. Political work requires establishing a formal regulatory framework that governs institutions through mechanisms such as legislation, policy formulation, and standardization (e.g. organizational targets and performance evaluation standards). One form of political work is a political negotiation between actors who support and oppose innovation to ensure that interests remain aligned in the institutional sphere.

Meanwhile, technical work involves the adjustment of technical elements to suit a specific institutional context (e.g., specific techniques and procedures for measuring organizational performance). An important part of technical work is an educational activity aimed at training users. Technical work requires the placement of actors with greater technical expertise who work closely with organisations that adopt management innovations (e.g., consultants, professional bodies).

Cultural work refers to symbolic actions to ensure that emerging institutions conform to the belief systems that dominate a particular institutional area. Cultural work requires the mobilisation of normative discourse and rhetoric supported by various authorities or social movements. Cultural work also needs to ensure that the discourse and rhetoric are adapted to a particular institutional context. Thus, cultural work is related to the process of framing innovation which does not contradict with organisation values. In contrast to political work, the primary means for cultural work lies in normative atonement and broader meaning than formal regulation.

### **Enterprise Resource Planning (ERP)**

Davenport (2000) describes an ERP system as an information system that is capable of supporting the flow of information smoothly across various business functions, business units and geographic boundaries. Moreover, the ERP system is also able to facilitate communication among organisations.

According to Rainer et al. (2015), there are three major types of benefits of ERP implementation. First, ERP may lead an organisation to be more flexible and agile. First, ERP systems break the functional boundaries of business processes, information systems, and resources so that an organisation becomes more flexible, responsive, and adaptive. Companies can quickly respond to changes in business conditions and find new business opportunities. Second, ERP systems support organisation management in the decision-making process. ERP systems provide important cross-functional information. This information increases the ability of managers to enhance decision accuracy and speed. Third, ERP systems enhance the quality and efficiency of business processes. ERP system integrates and improves organisation business processes. It also makes significant quality improvements to the production, distribution, and customer service processes.

However, Rainer et al. (2015) suggest that the ERP system also has several limitations. ERP software is often adjusted to best practices that have been developed by vendors. Hence, some organisations need to make some changes in the business process to adapt the new system.

Furthermore, the implementation of an ERP system is very complex, expensive, and time-consuming. The costs and risks of failure in implementing an ERP system are also high, which can cause a large loss of revenue, profit, and market share for the company.

### **3. RESEARCH METHOD**

This research applies a qualitative research approach. According to Creswell (2014), a qualitative research approach is used to explore and understand the meaning related to social or human problems. In this approach, data is analyzed inductively, starting with specific phenomena to build general conclusions, followed by data interpretation. Researchers used a qualitative method based on the concept of institutional logics and institutional work to analyse the suitability of the logics embedded in the ERP system with the institutional logics applied in XYZ. The theoretical lenses are applied to explore the role of actors in organisational change. Therefore, qualitative research is very appropriate to describe, interpret, and explain a phenomenon and the relationship between actors (Marshall and Rossman, 2015).

The research method used is a case study. According to Yin (2014), case study is an empirical investigation that investigates contemporary phenomena in-depth and in real-world contexts, especially when the boundaries between phenomena and contexts are not clear. Researchers conducted a case study at XYZ as a company that has implemented an ERP system.

#### **Data Collection Technique**

This study conducts interviews with key informants in the organisation. Efrina et al. (2019), states that an interview is a proper method to communicate directly with the key person in the field related to the problem using a list of questions that have been prepared previously. The interviews are semi-structured and might be developed according to the situations and conditions in the interview. According to Sugiyono (2014), semi-structured interviews are included in the in-depth interview category. The purpose of this interview is to generate deeper information and informants may reveal information, opinions and ideas. Interviews are conducted through video conference. In this case, the researcher was unable to conduct face-to-face interviews due to the COVID-19 pandemic.

#### **Participants in Research**

Participants express ideas, opinions, experiences, and other information by answering questions in interviews (Salkind, 2010). The sampling technique used by the researcher was the purposive sampling technique. This technique is used to obtain representative participants based on the criteria required by researchers; those who are involved and have a direct role in the ERP implementation project at XYZ.

There are no standard rules regarding the number of participants that should be used in qualitative research (Baker and Edwards, 2012). The number of participants is considered adequate if it has reached the level of saturation and information used for the study has been generated.

Participants in this study were parties involved in the ERP implementation project at XYZ, including the following:

**Table 1. Research Participants**

<b>Participants</b>	<b>Reasons for Selection</b>
Programmers	Programmers are staff involved in the ERP system design team so it is appropriate to find out whether the modules in the ERP system have been customized and what kind of technical problems occurred during the implementation of the ERP system at XYZ
Implementers	The implementer is directly involved in the ERP system implementation process as well as one of the initiators of ERP system adoption at XYZ. Therefore, this participant can provide information about what the organisation is preparing for adopting a new system, how cooperation is made with vendors to adjust the ERP system to suit conditions, and how employees respond to the ERP system

Source: Primary data processed.

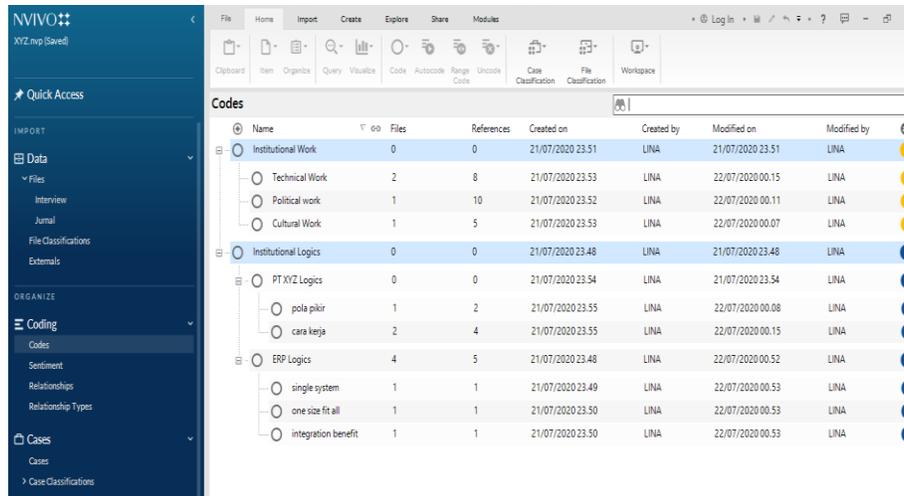
Implementers and programmers at XYZ are sufficient to represent the research population because researchers can obtain adequate information from those informants. The implementer at the same time acts on behalf of the XYZ leaders because the implementer is a trusted staff of and often has direct discussions with the management of XYZ. In this case, the implementer is also one of the initiators of the ERP system adoption at XYZ so that the implementer becomes the key informant in this study. Meanwhile, the programmer is the party who understands more about technical issues so that his opinion is needed to complement this research. The implementers and programmers interviewed have worked for a long time at XYZ so they understand the ins and outs of XYZ's business processes. Besides, implementers and programmers are directly involved as a system design team and deal directly with the system developer vendor. Implementers and programmers also communicate directly with employees from the pre-implementation to post-implementation processes, so they know what employees feel and experience regarding the ERP system implementation process. Therefore, the opinions or information conveyed by the implementers and programmers are deemed sufficient to represent and represent XYZ.

### **Data Analysis Method**

Miles and Huberman (2009) state that data analysis techniques that can be applied in qualitative research using the interview method are: 1) Determining the timeline for the ERP system implementation project. 2) Conducting interviews with participants. 3) Transcribing of data from interviews. 4) Summarising the main ideas based on the interview data. 5) Coding the interview data using the NVivo application. 6) Arranging the results of descriptions and themes resulting from the previous coding process. 7) Linking the description and theme using pictures,

tables, and narrative explanation. 8) Comparing the concepts of institutional work and institutional logics with the results of data analysis.

**Figure 1. NVivo Application**



The screenshot shows the NVivo application interface with a list of codes. The table below represents the data shown in the application:

Name	Files	References	Created on	Created by	Modified on	Modified by
Institutional Work	0	0	21/07/2020 23:51	LINA	21/07/2020 23:51	LINA
Technical Work	2	8	21/07/2020 23:53	LINA	22/07/2020 00:15	LINA
Political work	1	10	21/07/2020 23:52	LINA	22/07/2020 00:11	LINA
Cultural Work	1	5	21/07/2020 23:53	LINA	22/07/2020 00:07	LINA
Institutional Logics	0	0	21/07/2020 23:48	LINA	21/07/2020 23:48	LINA
PT.XYZ Logics	0	0	21/07/2020 23:54	LINA	21/07/2020 23:54	LINA
pola pikir	1	2	21/07/2020 23:55	LINA	22/07/2020 00:08	LINA
cara kerja	2	4	21/07/2020 23:55	LINA	22/07/2020 00:15	LINA
ERP Logics	4	5	21/07/2020 23:48	LINA	22/07/2020 00:52	LINA
single system	1	1	21/07/2020 23:49	LINA	22/07/2020 00:53	LINA
one size fit all	1	1	21/07/2020 23:50	LINA	22/07/2020 00:53	LINA
integration benefit	1	1	21/07/2020 23:50	LINA	22/07/2020 00:53	LINA

Source: Primary Data Processed.

#### 4. RESULTS AND DISCUSSION

XYZ is a pipe distribution company for irrigation, agriculture, and housing. XYZ is running its business and has hundreds of employees who are divided into several divisions or departments including the purchase, sales, accounting, inventory, and human and resource development departments. In running its business, XYZ does not only reach consumers from within the city but also from outside the city.

In 2017 XYZ started implementing an ERP system. This implementation stage begins with the selection of vendors who will design the ERP system. Before implementing the ERP system, XYZ had used an accounting information system program. XYZ has three applications or programs that are used to assist its employees at work. These applications include retail programs (purchasing and warehouse), accounting programs, and sales programs. The three applications are used in different departments hence departments need to duplicate the data from other departments when they need the data because data is not integrated. Besides, XYZ as a distribution company also often experiences problems related to inventory. Examples are unpredictable stock movements and gaps between inventory record and physical counts in the warehouse.

XYZ has one large warehouse and 15 canvas sales spread across several regions. One of the reasons for XYZ to implement an ERP system is because the business processes company has been taking a long time. New sales order data will be received by the accounts receivable department one week after the salesman receives the order from the customer. Salesmen from another area come to the office once a week making the process longer. Thus, the company's business processes become slower. In addition, the delivery of goods, collection of receivables and preparation of

financial statements were also delayed. This condition has prohibited company to get an update information related to level of sales in one month, the amount of collectible and uncollectible receivables resulting delay in making a strategic decision. Therefore, XYZ decided to adopt an ERP system to improve the company's business processes for the better.

**Figure 2. XYZ ERP Module**



Figure 2 shows the modules in the ERP system used by XYZ. The selection of modules is tailored to the needs of the company. XYZ combines the three applications previously used so that the ERP system that will be adopted can facilitate the retail (purchasing and warehouse), accounting, and sales processes.

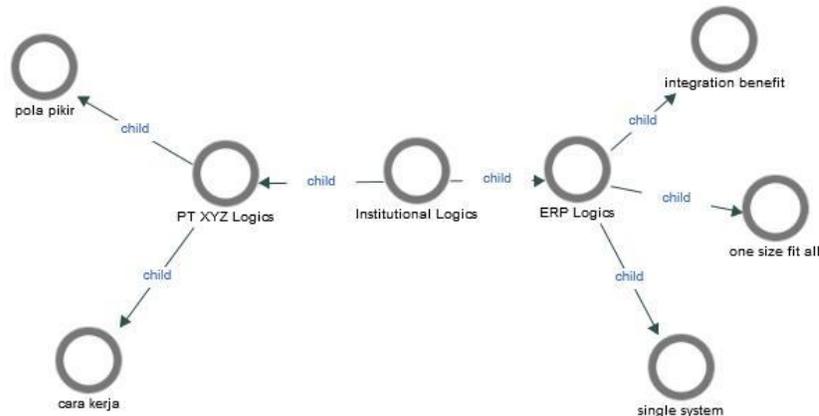
### **The Role of ERP in Decision Making**

Business competition requires organisations to continue and develop themselves, one of which can be done by taking advantage of technological advances. Many companies adopt ERP systems to increase organisation effectiveness and performance. ERP is a solution for companies facing the pressure of business competition. However, ERP implementation is a process having high complexity because organisations must align technology with their business practices and the culture. Prior ERP implementation, an organisation has certain rules or habits that may have been formed and embedded over the years and has internalised within individuals in the organisation. Meanwhile, the ERP system has its logics or best practices according to certain industries or business sectors.

Snapp (2018) states that several logics underlie the ERP system, including a single system, integration benefits, and one size fits all. ERP is a single system, so it is considered more effective than using many applications and has easier maintenance. ERP can meet all organisational needs at once in one system because one system can be used for various purposes. ERP also has integration benefits because it combines multiple modules in one system which reduces integration problems. Besides, if there is only one system that the organisation buys and uses, it will save costs for the system integration process. An ERP system also one size fits all so that it can be applied to various companies in the same type of industry or business sector. ERP development vendors can review the designs of several companies and select the best practices to be included in the developed system.

According to Alsharari (2017), institutional logics embedded in the ERP system is seen as financial accounting software designed to allow companies to easily track all inventory, income, and expense transactions. Meanwhile, Gosain (2004) views that the logic embedded in the ERP system is that different users work with the same system, resulting in interdependence.

**Figure 3. Concept Map Institutional Logics**



Source: Primary Data Processed.

The difference between the institutional logics that was previously inherent in the organisation and the logics embedded in the ERP system as a new system can cause some problems. Culture and organisational structure and work patterns of actors can conflict with ERP system procedures. Therefore, an alternative that can be taken is to do customisation.

*“Our company is more custom, from the existing ERP and then adjusted to the needs of the company. So, we do not fully take from best practices”* (Interviewee 1 – Implementer).

During its development, the ERP system used by XYZ continues to undergo changes or updates such as the addition of certain functions according to the conditions and environment of XYZ. There is a possibility that changes will occur from the initial design that was designed due to several conditions that were not facilitated by the system at the initial design stage. Hence, it must be added to the ERP system to cover XYZ's business processes. The ERP system used by XYZ is continuously being updated to suit the situation, environment, and user.

*“In the end, from the initial design, something might change because there were conditions that were not facilitated at the beginning, so it must be added to the program”* (Interviewee 1 – Implementer).

XYZ also changed the procedures in the ERP system that had been designed. These changes have more influence on the way XYZ employees work and mindset. The process of recording transactions or journaling at XYZ also changed the implementation of the ERP system, one of which occurred in the process of recording sales transactions. Initially, the salesman reports the sales orders he receives directly from the customer to the office once a week. Then the sales department will approve it. The sales department and accounts receivable department will then input the transaction data. Then the new warehouse will process the delivery of goods to the customer. Furthermore, the data entered by the sales and accounts receivable department will be

journalized by the accounting department. However, this workflow changed after the implementation of the ERP system. Salesmen can directly input order data from customers without coming to the office. The data can be immediately received by the sales department and approved. When the sales department and accounts receivable department input the transaction, the transaction is immediately journalized and the financial statements have been formed so that the accounting department no longer needs to keep a journal.

This also shows that the impact of implementing the ERP system in XYZ affects the roles or duties of actors, one of which is experienced by the accounting department. Before XYZ adopted the ERP system, the accounting department was in charge of journalizing all transactions. Following ERP system implementation, transactions are immediately journalized so that the accounting department no longer needs to input journals. The role of the accounting department changes to an analyst to check if there are transaction input errors made by other departments and make corrections for these errors.

*“In the past, the accounting department included bank and cash transactions, then at the end of the month, it would match sales and purchase data, then input journals to make financial reports. When there is an ERP program, everything is automatically journeyed, from transactions carried out by the sales, purchasing, and warehouse (retail) departments, they are immediately journalized. So the changed assignment is in accounting. Accounting no longer performs journal entries, but turns into a checker, checking whether the transaction made is correct because there is a possibility that other parts are wrong, for example, the sales department incorrectly entered the COA, so when the financial statements entered the COA was wrong”* (Interviewee 1 – Implementer).

Based on the description above, it can be seen that the implementation of the ERP system has an impact on changes in business processes at XYZ. These changes certainly affect the decision-making process undertaken by management. Before implementing an ERP system, management must wait for data to be processed until it is finished into financial reports. The process of preparing financial reports at XYZ takes a long time because XYZ does not only sell in the city but also outside the city. The process of receiving sales orders from outside the city usually takes longer because new salesmen will deposit sales order data to the office once a week. Therefore, the delivery of goods and collection of accounts receivable is hampered. This condition caused XYZ's business process to be slow and it was difficult to analyse financial statements which had an impact on the decision-making process.

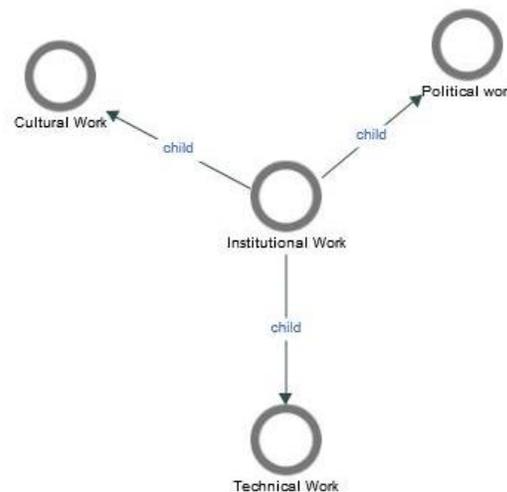
However, after implementing an ERP system, transaction data can be automatically inputted and journalized. Financial reports can also be formed immediately. Therefore, managers can obtain the required information precisely and in real-time. Thus, the decision-making process can be done quickly. Managers can directly analyse data based on the information presented in financial reports. Furthermore, based on the data and information, the manager can make the right decisions. Besides, managers can also more easily monitor the costs incurred by the company and the achievement of sales targets.

The implementation of the ERP system causes business processes at XYZ to take place faster than before. Data obtained from financial transactions can be directly inputted and processed and produce useful information as a basis for decision making. Therefore, managers can determine strategic steps that must be taken based on the real conditions of the company today. Thus, the company can develop, face competition in the industry, and increase its competitive advantage.

### The Role of Management in the ERP System Implementation Process

According to Lawrence and Suddaby (2006), institutions influence the thoughts, feelings, and behavior of actors. On the contrary, actors also play a role in shaping and changing an institution. Institutional work is the role or work of actors in influencing the institution. Chiwamit et al. (2014) and Nugraheni et al. (2022) grouped institutional work into three categories, namely political work, technical work, and cultural work. The three forms of institutional work can support or conflict with each other. This discussion will analyse the institutional work by the management of XYZ in terms of political, technical, and cultural work.

**Figure 4. Concept Map Institutional Work**



Source: Primary data processed.

### Political Work

The role of management in XYZ from a political perspective can be seen from the role of managers in helping employees adapt to the ERP system. Managers not only diplomatically convey policies related to the use of the ERP system as a substitute for the old program, but also facilitate employees through routine review activities so that problems and obstacles experienced when using the ERP system can be resolved together.

*“Director gives total support because the company requests to change for the better, one of which is with ERP, so the leadership fully supports it. Socialization to employees about using ERP has been done one year before, employees know that they are going to use ERP so they*

*can get ready. When implementing ERP there is a joint meeting session to gather users and discuss where there are obstacles” (Interviewee 1 – Implementer).*

Prior to the implementation of the ERP system, the manager of XYZ had first socialised to employees that the programs used at work would begin to switch to the ERP system. Socialisation was even carried out one year before the ERP system was implemented. It is intended that employees can prepare themselves while the vendor and team design the system. The manager of XYZ has made every effort possible by approaching employees in order to understand the ERP system to be implemented. Thus, the leadership is significant in helping employees prepare and change their mindset.

*“Director has taken an approach so that employees understand. However, the leadership also did not understand what the program would be like, the shadow would be difficult, during the initial implementation it would be difficult” (Interviewee 1 – Programmer).*

During the initial implementation stage, XYZ management routinely conducted reviews or joint meeting sessions. There are frequent meetings every week. The meeting was held to gather employees and discuss any obstacles faced when using an ERP system. In the joint meeting session, they discuss and identify obstacles in the data integration process and XYZ's business processes while using the ERP system.

*“The implementation requests a leader so that the program can run well. The leader also facilitates meetings by conducting meetings twice a week so that the program can be implemented quickly” (Interviewee 1 – Implementer).*

The management of XYZ is very responsive to the implementation of the ERP system by supporting and fulfilling the request of the implementer to conduct regular reviews. Managers also facilitate these activities by mobilising all employees so that the ERP system implementation can be carried out quickly.

*“We collaborate with other companies, i.e. external vendors, IT from the company and a development team from the office. The cooperation with vendors is stated in the contract for programming, but not for maintenance because maintenance is carried out by company employees” (Interviewee 1 – Implementer).*

Other political work is demonstrated through the collaborative relationship between the XYZ manager and the ERP system designer. XYZ managers do not only rely on internal Human Resources (HR) but also strive to build relationships with professionals in the field of system development so that they can get the best results. The cooperation has been stated in the form of a contract agreement that contains the design and development of the system, including the creation of a manual book.

The approach taken by XYZ managers to employees is one form of actor work to influence the organisation. In the theory of institutional work according to Lawrence and Suddaby (2006), this work can be categorized as the work of creating institutions through advocacy. Managers seek to mobilise support from employees through direct and deliberate persuasion techniques so that employees accept the ERP system as a new system. Then the routine review activities provided by the company management are also an effort in maintaining institutions. According to Lawrence

and Suddaby (2006), this activity includes the work of embedding and routinising, in which it provides normative foundations into the routine and daily practices of organisational actors. Routine review activities are carried out to evaluate work in the field and overcome obstacles that occur. This is a process that aims to maintain the institution because if there are technical problems it can be immediately handled so that the company's business processes can continue to run smoothly.

### **Cultural Work**

The implementation of a new system within the organisation can indirectly change the culture that has been embedded in each actor. The new system has a different procedure from the old system. These different procedures affect the workings and thinking patterns of the individuals who use them. Changes in the habits of these actors can indirectly change the overall organisational culture. In implementing the ERP system at XYZ, the manager has a role to help employees change their work patterns and ways of thinking to suit the ERP system used.

*“It is not considered difficult, but also not easy. Changing habits is hard. It took one year to regulate employee behavior. The treatment program is different from the old program”* (Interviewee 1 – Implementer).

Employees experience changes in the way they work because the ERP system-based program currently used has changed completely from the programs used previously. However, the change process does not just happen because employees also need time to adjust from the old program to the new program. Prior implementation of the ERP system, managers tried to help employees adapt to their behavior. Adjustment and introduction to the ERP system are carried out for 3 months. At this initial stage, the implementation of the ERP system is first carried out in parallel, namely comparing the old program with the ERP system.

*“During the socialization, many employees were confused because they didn't know what the ERP system would be like, but they had imagined that because of the parallel ERP transition, two programs were being compared, employees needed more effort and time, then there were some employees who resigned because they imagined they would hard. But from there we understand that it is employees who are still willing to work who survive and want to go to the next change”* (Interviewee 1 – Implementer).

When managers socialise the pre-implementation of the ERP system, some employees are confused. In this case, the management of XYZ has explained to employees that in the early stages, the ERP system will be implemented in parallel. Therefore, at the initial stage, it will take more time and effort from employees because two programs will be compared or used for work. As a result, some employees resigned because they imagined that the new system to be used was much more difficult. This shows that there is resistance from some employees.

Some of the employees who chose to resign were employees who were already senior and already comfortable with the old legacy system. These employees are reluctant to change old habits and resistant to change. Learning about new technology and re-adapting is a process that can be overwhelming for some senior employees. Besides, the reason some employees resigned was

reinforced by the lack of a good explanation from the manager regarding the benefits of the ERP system. The need for an explanation of the benefits or benefit awareness of the ERP system will at least make employees accept the presence of the ERP system as a substitute for the previous program. Besides, employees have not explained the reasons the company has to replace the old program with an ERP system and what problems the company faces that can only be resolved when implementing an ERP system.

*“When using an ERP system, the process from start to finish has been recorded so that when you make a mistake in the middle, the user cannot immediately delete it, correction must return to the front again. Many users are still oriented to the old pattern, because in the old program if it is wrong, they can immediately delete and then input again, but in the ERP program, if it is deleted incorrectly, it cannot connect to the next process”* (Interviewee 2 – Programmer).

The changes occurred after using an ERP system are changes in the way employees work and mindset. Cultural work can be seen from the role of management work at XYZ in adjusting and helping other employees to be able to adapt to the ERP system as a substitute for the previous program. Managers try to change old ways of working, habits, and thinking patterns to work according to ERP system procedures. Adjustment, willingness, and efforts of organisational actors to change is a form of cultural work at XYZ.

According to Lawrence and Suddaby (2006), disrupting institutions is a work that includes redefining a series of concepts, reconstructing actors, and reconfiguring relationships between actors. The efforts of the XYZ manager to help employees change and abandon habits, ways of working and old thinking patterns that have been embedded and embedded because they are familiar with the previous program is a form of disrupting institutions through disassociating moral foundations, namely releasing practices, rules or technology from their cultural-appropriate moral foundations. In this case, the actor of XYZ gave up old habits and replaced them with new ways of working and thinking to fit the ERP system procedures.

### **Technical Work**

Chiwamit et al. (2014) and Nugraheni et al. (2022) state that actors can play a role in influencing institutions through technical actions. The work or role of the actor is referred to as technical work. ERP implementation as a new system requires supporting facilities and infrastructure so that ERP implementation can be successful. Besides, the success of ERP implementation is also influenced by the need for support from actors who master information technology, especially those who have an understanding of how ERP systems work. These needs can be met through professional consultants or external or internal experts.

*“The infrastructure is updated, there are computer and network upgrades, adapting to changes”* (Interviewee 2 – Programmer).

The management of XYZ provides facilities and infrastructure that support the successful adoption of an ERP system. This is done by updating the infrastructure to support the implementation of the ERP system, such as upgrading computers to higher specifications and

improving the quality of the internet network in the office so that employees can access data quickly because the use of an ERP system requires data to be accessed online and in real-time.

Regarding professional staff, XYZ already has an IT team or programmers who understand ERP procedures. Programmers are also ready to help other employees who have technical problems working with an ERP system. The manager of XYZ has conducted socialisation one year prior the implementation of the ERP system. Hence, employees can mentally and technically be prepared. After implementing the ERP system, the XYZ manager facilitates employees with regular review activities hence the obstacles experienced by employees can be resolved. The manager of XYZ is also involved in providing technical guidance in the form of a manual book for employees.

*“There is a manual book from the vendor and it is assisted for revisions from the company according to work practices in the company”* (Interviewee 2 – Programmer).

Technical problems arise when conditions in the company change. The occurrence of conditions that do not match with the initial commitment when designing the system can cause technical problems. Another obstacle occurs when the implementation of business practices in the company is not following the modules that have been designed. Furthermore, these constraints are conveyed and discussed by employees with programmers and managers in routine review activities. One example of a condition that was not facilitated by the module and which was resolved by making SOPs occurred in the purchasing process. When an employee makes a purchase order from a supplier, the last purchase price will appear in the program. However, sometimes the price listed on the purchase order differs from the price on the supplier's invoice. To overcome this problem, XYZ creates a procedure for the sales department that if there is a price change or the purchase order price does not match the invoice, the price list must be changed according to the last purchase price.

*“Every day the implementer checks directly, even though some staff are strict, it must be doubled-check at the beginning”* (Interviewee 1 – Implementer).

The technical work carried out by the management of XYZ also describes the work of actors in creating institutions in the form of education. After implementing the ERP system, XYZ undergoes the formation of a new institution because the old system is replaced by a new system. The formation of this new institution is carried out through educating by providing new knowledge to organisational actors about the ERP system. Education conducted by XYZ is in the form of socialisation, routine review activities, and provision of manual books. Thus, XYZ employees understand how the ERP system works. This will increase the knowledge and skills of employees who support the company's business processes.

Even though the manager has tried to support it, the ERP system implementation process at XYZ is still not spared from various obstacles and problems. In the early stages, there was resistance from some employees who chose to resign because of fear of a heavier workload, the adjustment process of employees and various technical obstacles that arise due to conditions in the field that have not been facilitated by the module. Therefore, XYZ is expected to continue to make improvements so that the company's business processes can run effectively and efficiently.

## Discussion

ERP system implementation is not only a process for integrating modules in the system but also integrating technology and organisation. ERP implementation can be seen as a confluence between the logics of the ERP system and the logics of an institution because there is an alignment between technology and business practices, human resources, and organisational culture. Therefore, ERP implementation has high complexity and can lead to failure.

ERP implementation does not automatically transfer the institutional logics possessed by the software into organisational practices. ERP's logics can conflict with institutional logics that are deeply internalised in organisations. ERP implementation can be described as a confluence between ERP's logics and institutional logics in organisational practice. Therefore, it needs adjustments from both system innovation and organisation (Alsharari, 2017; Friedland and Alford, 1991; Thornton and Ocasio, 1999).

In order to harmonise the institutional logics of ERP and organisation, the role of agents is substantial which is reflected in institutional work. The implementation of the ERP system causes changes to the organisation. There are actors involved as agents of change in organisations (DiMaggio and Powell, 1983; Lawrence and Suddaby, 2006; Lawrence et al., 2011; Qadri, 2019; Nugraheni 2022). Chiwamit et al. (2014) states that institutional work can be grouped into political, technical, and cultural work. The three forms of institutional work describe the institutional work life cycle which is parallel to the institutional life cycle. Thus, institutional work will support the alignment of institutional logics. Meanwhile, institutional logics needs to be aligned so that the ERP system is in line with organisational practices.

The successful implementation of an ERP system is certainly supported and influenced by several factors. Critical Success Factors (CSF) are the main factors that must be met to achieve the goals and objectives so that the implementation process can be successful. These factors can be technical or non-technical factors. The following are factors that contribute to the smooth implementation of the ERP system at XYZ. First, Manager support, in which managers provide full support for the ERP system implementation process. Manager approaches employees through socialisation and infrastructure development. Moreover, managers support implementation of the ERP system by conducting training for employees. Second, conducting routine review activities. The review activity or joint meeting carried out by the management of XYZ aims to evaluate the ongoing ERP system implementation process. This review activity discusses the constraints and problems experienced by employees when working using an ERP system and finds solutions to these problems. This review activity involves managers, employees, and programmers. Third, allowing a period for adjustment and adaptation. In the pre-implementation period, XYZ management gave adequate time to the employer to set behavior. Employees having old habits, ways of working, and mindsets requiring an adjustment process. One year prior to the ERP implementation, managers conduct socialisation and approach employees to provide an opportunity to adapt. Managers also help employees to reduce manual work. It will reduce a culture shock experienced by employees.

The process of implementing the ERP system at XYZ is not running smoothly. There are obstacles such as resistance from some employees, conditions that cannot be facilitated by the system, and others. There are corrective steps that can be taken by XYZ if they develop the system; First, forming a team having responsibility for successful ERP adoption, development and implementation. Second, providing an understanding about the features and benefits of ERP. Third, involving employees in the discussion process regarding the system hence employees can be actively involved in the implementation process and foster a sense of belonging to the system.

## 5. CONCLUSIONS

Successful implementation of innovation in an organisation requires some efforts from its actors. ERP is a system having integrated modules and helping companies for decision process. However, implementation of such innovation also needs the “works” of actors involved in the process. Institutional work explains how the role of actors can change institutions through political, technical and cultural works (Chiwamit et al., 2014; Lawrence and Suddaby, 2006; Perkmann and Spicer, 2008; Nugraheni et al 2022). The implementation of an innovation also requires adjustment from actors to system innovation, and vice versa. Institutional logics explain this process and provide an understanding of how the ERP's logics and organisational culture adapt to each other to create an effective and efficient work system (Thornton and Ocasio, 1999; Alsharari 2017).

ERP has the characteristics of a single system, integration benefits and one size fits all. The difference between organisational institutional logics and ERP system logics as a new system can cause problems. Culture and organisational structure and work habits of actors can conflict with ERP system procedures, even though the ERP system possesses best practices. Therefore, an alternative step that can be taken is conducting a customisation. Alsharari (2017) uses institutional logics to generate new insights that can help organisations better understand and manage ERP systems. Institutional logics is also applied to define the content and meaning of institutions and actors having roles in shaping and changing institutional logics (Friedland and Alford, 1991; Thornton and Ocasio, 1999).

Managers play significant roles in implementing the ERP system at XYZ through institutional work, namely political work which is carried out through approaches and outreach to employees. Besides, the XYZ manager also maintains a cooperative relationship with a system designer vendor as outlined in the contract agreement. Cultural work is carried out by managers by helping employees adapt to change the way of working and the mindset that is used to using old programs to suit the ERP system. Technical work is seen through managers' efforts to overcome technical problems that occur during ERP system implementation through routine review activities. Besides, managers also provide manual books, upgraded computers, and internet networks to support the ERP system implementation process.

This study supports the argument of Chiwamit et al. (2014), Perkman and Spicer (2008), Alsharari (2017) and Nugraheni (2022) who explain how political, technical, and cultural works in the implementation of innovation. This study can provide an overview of the ERP system implementation process from the point of view of institutional theory. Furthermore, it provides an

understanding of the significance of actors' role in implementing a new system. Finally, the adoption and implementation of a new system requires adjustments from two sides, i.e. the innovation system and the organisation.

## REFERENCES

- Alsharari, N. M. 2017. Institutional Logics and ERP Implementation in Public Sector Agency. *The Journal of Developing Areas* 51(2): 417-423.
- Amiri, A. N., R. Rasaefard, and B. Dastan. 2011. An Analysis of Changeability Grounds in Iranian Public Organisation: A Case Study in the Cities of Lamerd and Mohr. *Iranian Journal of Management Studies* 4(2): 121-142.
- Baker, S. E., and R. Edwards. 2012. How Many Qualitative Interviews is Enough? National Centre for Research Methods. Review Paper. <https://eprints.ncrm.ac.uk/id/eprint/2273/>
- Chiwamit, P., S. Modell, and C. L. Yang. 2014. The Societal Relevance of Management Accounting Innovations: Economic Value Added and Institutional Work in The Fields of Chinese and Thai State-Owned Enterprises. *Accounting and Business Research* 44(2): 144-180.
- Creswell, J. W. 2014. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th Ed. Thousand Oaks, CA: Sage Publications, Inc.
- Davenport, T. 2000. *Mission Critical*. Boston, MA: Harvard Business School Press.
- Dhipa, G. R. S. 2014. Analisis Penerimaan Pengguna Akhir Terhadap Implementasi Sistem ERP (*Enterprise Resource Planning*): Studi Kasus Implementasi Sistem ERP di XYZ. Jakarta: Universitas Indonesia.
- DiMaggio, J. P., and W. W. Powell. 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organisational Field. *American Sociological Review* 48(2): 147-160.
- Efrina, L. S., E. Diah, dan T. Aurora. 2019. Evaluasi Kinerja Keuangan dan Pelayanan Universitas Jambi Dalam Penerapan Pola Keuangan Badan Layanan Umum. *JAKU* 4(3): 53-67.
- Friedland, R., and R. R. Alford. 1991. Bringing Society Back In: Symbols, Practices, and Institutional Contradictions in The New Institutionalism in Organisational Analysis, ed. Walter W. Powell and Paul J. DiMaggio, pp. 232–263. Chicago: University of Chicago Press.
- Gosain, S. 2004. Enterprise Information Systems as Objects and Carriers of Institutional Forces: The New Iron Cage. *Journal of the association for information system* 5(4): 151-182.
- Ifinedo, P. E. 2006. *Enterprise Resource Planning Systems Success Assessment: An Integrative Framework*. Jyväskylä: University of Jyväskylä.
- Klaus, H., M. Rosemann, and G. G. Gable. 2000. What is ERP? *Information Systems Frontiers* 2(2): 141-162.

- Lai, C. L. 2008. Technological Change and Impact on Employee Behavior. Thesis. Hong Kong: The Hong Kong University of Science and Technology. <https://repository.ust.hk/ir/Record/1783.1-3609>
- Lawrence, T. B., and R. Suddaby. 2006. *Institutions and Institutional Work*. London: SAGE, Handbook of Organisation Studies.
- Lawrence, T., R. Suddaby, and B. Leca. 2011. Institutional Work: Refocusing Institutional Studies of Organisation. *Journal of Management Inquiry* 20(1): 52-58.
- Maria, L. 2019. Peranan Enterprise Resource Planning (ERP) Terhadap Kualitas Informasi Akuntansi Dalam Pengambilan Keputusan (Studi Kasus Pada PT Eigerindo Multi Produk Industri). Bandung: Universitas Katolik Parahyangan.
- Marshall, C., and G. B. Rossman. 2015. *Designing Qualitative Research*. Sixth Edition. USA: SAGE Publications, Inc.
- Miles, M. B., and A. M. Huberman. 2009. *Qualitative Data Analysis, A Methods*. Sourcebook. Sage Publications.
- Nah, J. F., L. Lau, and L. Kuang. 2001. Critical Factors for Successful Implementation of Enterprise Systems. *Business Process Management Journal* 7(3): 285-296.
- Nugraheni, B. L. Y., L. S. Cummings, and A. Kilgore. 2022. The localised accounting environment in the implementation of fair value accounting in Indonesia. *Qualitative Research in Accounting & Management, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/QRAM-08-2020-0126>
- O'Leary, D. E. 2000. *Enterprise Resource Planning Systems: Systems, Life Cycle, Electronic Commerce, and Risk*. Cambridge, the UK: Cambridge University Press.
- Perkmann, M., and A. Spicer. 2008. How Are Management Fashions Institutionalized? The Role of Institutional Work. UK: Loughborough University.
- Permadi, A., dan M. Handoko. 2015. Pengembangan Model Penilaian Kesiapan Implementasi ERP di Pendidikan Tinggi. Bandung: Institut Teknologi Bandung. *Jurnal Teknik Informatika dan Sistem Informasi* 1(2). <https://doi.org/10.28932/jutisi.v1i2.573>
- Qadri, R. A. 2019. Dinamika Institusional Dalam Implementasi Standar Akuntansi Entitas Nirlaba Pada Masjid. *Jurnal Substansi* 3(2): 167-187
- Rainer, K.R., B. Prince, and C. G. Cegielski. 2015. *Introduction to Information Systems*. Fifth Edition. USA: John Wiley & Sons, Inc
- Salkind, N. J. 2010. *Encyclopedia of Research Design*. Sage Publications.
- Seo, G. 2013. Challenges in Implementing Enterprise Resource Planning (ERP) System in Large Organisations: Similarities and Differences Between Corporate and University Environment. Working Paper CISL# 2013-07. Massachusetts Institute of Technology.

- Snapp, S. 2018. How to Understand Logics Used to Sell ERP Systems. Retrieved from <https://www.brightworkresearch.com/erp/2018/11/08/how-to-understand-the-logics-used-to-sell-erp-systems/>
- Sugiyono. 2014. *Metode Penelitian Kuantitatif, Kualitatif, dan Kombinasi (Mixed Methods)*. Bandung: Alfabeta.
- Thornton, P. H., and W. Ocasio. 1999. *Institutional Logics*. The Sage Handbook of Organisational Institutionalism.
- Yin, R. K. 2014. *Case Study Research: Design and Methods*. Fifth-ed. United States: SAGE Publications, Inc.
- Yudewo, Y. 2019. Pentingnya ERP dalam Pengambilan Keputusan Perusahaan. Retrieved from: <https://www.its.ac.id/news/2019/04/27/pentingnya-erp-dalam-pengambilan-keputusan-perusahaan/>