

# Change Management Perspectives in an ERP Module Implementation: A Case Study in a Telecommunication Company

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**Abstract:** Successful Enterprise Resource Planning (ERP) projects require change management to support the integration of the ERP systems into work environment because ERP implementations involve lots of changes on technical infrastructures, business processes, organization structure, rules and skills of people in the organization. This study was aimed to explain the challenges in implementing an ERP module in a Indonesian telecommunication company, focusing on the change management process involves in the project. A case study at a telecommunication company was used to collect empirical data and to analyses important aspects of project arrangements that will have an impact on the change management process accompanying the ERP implementation project. The following two aspects of changes were analyzed as the impact of ERP implementation: changes in individual behaviors and changes in the organisational practices. Based on the empirical study, two important aspects of change management effectiveness in the project and post-project stage were highlighted: alignment of the organization structure to support IT-business collaboration and alignment of employee orientation towards effective use of ERP systems. Besides, this study also highlighted that it is important to plan and execute change management process in the post-project stage to obtain benefits from ERP implementation.

**Keywords:** ERP project; ERP module implementation; success factor; change management; case study.

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## Introduction

Currently, many companies have focused on their activities in preparing and implementing an integrated standardized information system packages, which is called the ERP system. This is done to anticipate, response and react to the market changes and tighter competition. This ERP system requires a substantial amount of investment but when implemented successfully, it will give significant benefits such as increasing service to customer, better production scheduling and reducing production cost. However, there were many unsuccessful ERP implementation project, but this doesn't inhibit companies to invest on the ERP system because of the potential benefits. Some causes of the failures were: failure to choose the right systems to solve the business problems and in identifying the right needs (Brynjolfsson, *et al.* [1]); incapability of the company to determine the changes in the design and structure of the organization that will align with the benefits of the chosen technology and resistance from the system's user (Ehie and Madsen [2]).

An ERP system makes it possible for a company to integrate its business functions into a unified and integrated business processes. In doing this, the most difficult and biggest problem is how to integrate the separated systems in a company and moving from the separate functional areas to become a computer systems that can serve different interdepartmental needs (Ehie and Madsen [2]). When implementing ERP in the design phase, companies face the question whether to change their business processes or the ERP software (O'Leary [3]). Usually, ERP software comes in a ready-made package and no ERP software is likely to meet all the company's needs, even though currently many ERP vendors already provide industry-specific software solutions. Many companies have used this aspect as an opportunity to change their business processes and reengineer the entire organization towards adoption business best practices. Still, some firms have chosen to customize the software to fit their processes (O'Leary [3]). Regardless of the choice a company makes, business process change is inevitable with an ERP because of the standardization of business process.

The ERP implementation will cause more than a mere incremental changes but will cause radical changes in the technical infrastructure, business process, organization structure, rules and skills of the people in the organization and knowledge management activities. Those changes are important in ERP success (Martin [4]; Davenport [5]). Al Mashari

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and Zairi [6] argued that a successful ERP implementation requires the use of change management to adjust the ERP to the work environment. Company that can realize the benefits from the technology is a company that is able to undertake changes to the organization structure, strategies and business processes (Weston, [7]; Govindaraju [8]).

A large part of the failure of an ERP implementation is caused by the mistakes in managing the change process which is an important part of an ERP implementation process (Govindaraju [8]). The changes brought by ERP implementation may have a big effect on the organisational structures, policies, processes and employees (Dezdar and Sulaiman [9]). In many ERP implementation cases, the existing organisational structure is not compatible with the structure, processes and types of information provided by ERP systems. If people are not properly prepared for the changes, resistance and chaos will be unavoidable. However, if proper change management processes are applied, the company would be able to realize the benefits provided by the new ERP system.

A number of earlier studies on ERP implementation such as Nikolaou [10], Marnewick and Labuschagne [11], Fallon [12], Govindaraju [8], and Shaul and Tauber [13], also highlighted the importance of change management issues. Though earlier studies had addressed the need for change management in ERP implementation, most of the studies were more focused on studying the change management process in the project stage. Therefore it is considered important and interesting to do an exploration of challenges in ERP module implementation that covers analysis of the project and post-project situation, from a change management perspective. The question addressed in this study is: how can change management process be improved in an Indonesian company's ERP module implementation case, in order to support the implementing company realising the potential benefits offered by ERP in the post-project stage?

This paper is aimed to describe how the change management process took place in an ERP module implementation case, how the change process had impacted the organization, and how the change management process can be improved in order to get better implementation results.

## Methods

### ERP Systems and ERP Implementation

There are many definitions of ERP such as ones defined by Klaus *et al.* [14], Rosemann [15], O'Leary

[3], Fui-Hoon Nah, *et al.* [16]. All of those definitions are quite similar and the main focus is the issue of integration. ERP is a system that has the potency to integrate all company processes and functions and provide a comprehensive view of the overall company. ERP also ensures a seamless integration from all information flowing in all part of the organization.

ERP software package contains different modules such as financial accounting, manufacturing, human resources, and logistics. Each module is business process specific. Generally companies choose one ready-made package for their companies but it is also common to select the modules that best meet their needs (O'Leary [3]). The major characteristics of ERP systems include: A packaged software system designed by ERP vendors for the client environment, the integration between the modules across the entire organization, real time access to data, and data storing and retrieving processes using a single integrated database.

Nowadays the ERP systems have been influenced by the high dissemination of smartphone. The productivity has improved and the cost was decreased by the use of smartphone version of ERP application (Ilyas and Ahson [17]). SysPro Company has built Android compatible ERP mobile software to manage workforce and secure access to business information. Another company has developed Enterprise EQMS mobile technology that allow users to manage their company whenever and wherever (Ncibi *et al.* [18]). With this capability, the way people work with the ERP will change and most likely the business process will also change.

ERP implementation is the process that begins with the managerial decision to develop and use an ERP system and is complete when the system is used and operating as an integral part of the organization's IS (Govindaraju [8]). Implementing an enterprise system is a complex task. Many choices and changes have to be made concerning the way people and processes are to be arranged and aligned to the ERP systems (Bancroft *et al.* [19]; Davenport [5]). ERP implementation is different from traditional system analysis and design projects. Among the significant differences are the scale, complexity, organisational impact and the cost of the project (Grabski *et al.* [20]).

Implementation of ERP is a process of change that requires conscious management of mutual adaptation between technology, organization and business processes (Govindaraju [8]). Implementing ERP implies adapting the current business processes to the best business process standards. Therefore,

although ERP do have a great influence on the organization than other information technologies, organisational processes and outcomes are not necessarily determined by how the companies deal with the technical ERP applications.

Ehie and Madsen [2] describe that there are 5 phases of implementation process: project preparation, business blueprint, realization, final preparation and finally go live and support

Govindaraju [8] describes that ERP implementation consist of 2 stages, namely: planning and adaptation stage (project stage) and usage and implementation (post-project stage). The project stage includes the processes of preparing the ERP project, the activities to design and develop the system, rollout and making the final preparation of the system roll-out (go live). This project stage is similar to the chartering and project stages described by Markus and Tanis [21] and also similar to the initiation, adoption and adaptation argued by Cooper and Zmud [22]. The post project stage is similar to the shakedown, onward and upward determined by Markus and Tanis [21]. This stage starts from when the system is being used, becomes normal routine until the new ERP is institutionalized within the organization. The framework for ERP project and post-project implementation challenges in presented in Figure 1.

Related to change management in an ERP project, the project stage is the stage in which changes in organisational process and the technical systems are prepared. The post-project stage is the stage in which is actual change takes place in the organization, including changes in the ways business processes are executed, changes in the way individuals do their job, and changes in the ways information systems applications support the execution of organisational processes (Govindaraju *et al.* [23]; Govindaraju [8]).

### ERP Implementation and Change Management

Change management is very important in ERP implementation, and this involve the trade-off between change the business process to fit the ERP system or change the ERP system to fit the business process (Rothenberger and Srite [24]). They argued that the level of customization should be controlled and targeting the process redesign inhibitors. The ERP customization should be kept minimum, it can only be changed for example when a business process cannot be changed without losing a competitive advantage.

Change in culture and organisational structure must be managed which includes people, organization and

cultural change (Rosario [25]). The change management team must have clear understanding to the organisational and people issues to increase the probability of success. The team must also assess the awareness of people to accept new system and to undertake changes in business area. Things that inhibit change usually categorized into (Steyn [26]): not willing (employees don't want to change), not able (employees must understand how to do the main process, use the system and develop new business capability), not knowing (communication must enable the building of awareness, buy in and ownership).

Organisational resistance to change can be caused by factors such as threats to established resource allocations, structures, established power relationship, and expertise (Robbins [27]). Therefore, the formulation of change strategy for the implementation of ERP systems is one key factor in the implementation of organisational change process. The selection of strategy is influenced by several factors such as the magnitude of resistance, the size of changes that will be done, risks, implementation time, expertise and their dependency (Fallon [12]). Different strategy will produce different effect on the individual behavior in the organization as a response to the changes resulting from ERP implementation. This is because approach to the individual in the organization will be different for each strategy depending in the characteristics of the organization environment.

Lewin in Branch [28] identifies that there are 3 ways to undertake organisational change: (1) changing the individual who works in the organization (skills, values, attitude and even behaviour), (2) changing the various organization structures and systems (system reward, reporting relationship, work design, etc.), (3) directly changing the organisational climate or interpersonal style (frequency of interaction with others, how conflict is resolved and how decision is made).

Earlier studies on ERP implementation had addressed the issues related to the importance of change management (e.g. Nikolaou [10], Fallon [12]; Govindaraju [8]; Shaul and Tauber [13]). Somers and Nelson [29] based on their survey to 86 organizations, found 22 CSF for ERP implementation success, including business process change and change management. Furthermore, Fui-Hoon Nah *et al.* [16] based on literature reviews argue that there are 11 critical factors for ERP implementation, which include change management program and culture, reengineering business processes, performance monitoring and evaluation, effective communication and appropriate business and IT legacy system.

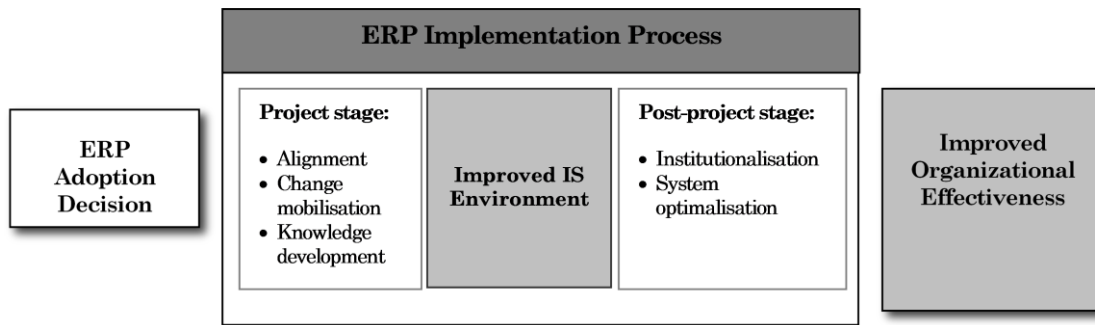


Figure 1. A Framework for ERP project and post-project implementation challenges (Govindaraju [8])

Aladwani [30] argues that during the ERP implementation, companies often face undesirable attitude from the user who rejects the implementation process. Aladwani [30] proposes a process oriented integrated approach to face the complex problems resulting from the employee resistance to ERP. The proposed framework consists of three phases: knowledge formulation, implementation strategy and status evaluation. Hong and Kim [31] studied critical factors for ERP implementation and concluded that successful ERP implementation significantly dependent on how ERP fits the organization.

Fallon [12] described a model that combined the change management with CSF. This model tried to discuss human aspect (change management) with technology aspect (CSF) of an ERP implementation. The model is then named 3C2M (Combined CSF and Change Management Model). According to Fallon [12], based on the studies of Chen [32] and Nikolaou [10], there are 12 main reasons why ERP implementation fails, including rejection or resistance to change (less involvement of employees), mistake in the alignment of application software with business process, inadequate training and education and lack of communication.

According to Marnewick and Labuschagne [11], important issues in ERP implementation include customer mindset, software, change management and process flow. Change management is undertaken to manage user attitude, project changes, business process changes and system change. The development of an ERP system should be managed as an ongoing project that involves requirement management, change management, user support, maintenance and upgrades (Chen *et al.* [33]). Hailu and Rahman [34] based on their extensive literature review argue that successful implementation of ERP depend on several factors including communication and change management.

### Research Methodology

This study was started with a literature review to identify the challenges in an ERP implementation in

general, and challenges related to change management processes in particular. This study in an exploratory research focused on a deeper understanding on the problems and not intended to generalize the results. This research is aimed at gaining a deeper understanding of how change management can be managed in an ERP module implementation project in order to achieve the potential benefits offered by ERP systems use. There exist various strategies of empirical research or ways of collecting and analyzing empirical data. Generally researchers agree that in order to answer the research questions formulated in this study, an in-depth understanding of the implementation process, rather than the testing of hypothesis based on variance study is needed (Pettigrew [35]). For this reason case study method is considered appropriate for this research, in which "how" and "why" questions are asked (Yin [36]).

Data gathering was undertaken through observations, semi-structured interviews and document analysis, to get the data explaining retrospective and current situation related to change management and ERP implementation in the case company (Yin [36]; Creswell [37]). The data collection was done in the period of May 2013 until August 2013. To guide the interview process, an interview protocol was developed using the knowledge collected from literature and the relevant documents regarding the ERP module implementation provided by the company prior to the interview process. Interviews were tape recorded and transcribed to ensure accuracy of written data, and to minimize researcher's bias. Besides the digital record, notes were also made during the interviews. The notes made during each interview were reviewed and typed up after the interview. Based on the analysis of the interview transcripts and notes, a brief summary of key themes were added.

From the summary, a number of factors that may drive or constrain the change management process in the project and post-project stage were identified. Beside the list of factors, based on the case study

data, a number of detailed illustrations regarding the benefits of ERP implementation in the case company were also identified. The benefits (impacts) were grouped into three types of impact based on the definition of ERP success used in this study. All the findings were later discussed with two senior managers from the case company's HR Department and the company's IT manager.

## Results and Discussions

### Case Study at a Telecommunication Company

The case study was executed at a telecommunication company in Indonesia called PT TELKOM. During the case study data was collected by reviewing secondary documents and executing a number of interviews. Company documents reviewed include: 1) project documentation which describes the arrangement of the project including the aim of the project, detailed composition of project organization, and information regarding change management plan; 2) two ERP project evaluation reports which shows the issues faced during the project; 3) newsletters which shows how information about the project was communicated to the employees; and 4) one HR managerial report which describes how the situation of ERP usage in HR Department in the operation (post-project) stage. Semi structured interviews were done involving the ERP project manager, IT manager, two change management team members, and two senior management members from Human Resource Department, two HR key users.

### ERP Module Implementation in PT TELKOM

The ERP module implementation project was called the INSANI Project. The project was started in Januari 2011 and the ERP system was going-live in March 2012. The INSANI Project is a part of the company program to implement Competence-based Human Resources Management and TEKOM Management Information System Project. The objectives of the project are: (1) to implement the *Competence Based HR (CB-HR) System* for TELKOM; (2) to produce basic *Executive Information Systems (EIS)*; (3) to increase the efficiency and effectiveness of TELKOM management and its decision making activities through an automated process accommodated in an application system that is fully integrated; (4) to increase the speed and accuracy of reporting management, planning and control based on accurate information; (5) to improve business and IT capability and employees' knowledge involved in the human resources management.

There are four principles in the INSANI Project to guide the implementation project, they are: (1) The

INSANI system should be a complement to the Competence Based Human Resources concept which will be implemented by the CB-HR team as the new policy of TELKOM in human resources functions; (2) The new system should fit functionally with the current HR information system as this is a critical process in the design of the new CB-HR; (3) Data will be maintained in the SAP data architecture. This is done to maximize the long term benefits of the software by optimizing the integration of all data; (4) Source code from the SAP cannot be modified.

The organization structure is built based on project scope and the relationship of the project to TELKOM Management Information System and the CBHRM project. There are several key roles in this regard: (1) the role for Master Data Coordination was undertaken by a team member of TELKOM project. All effort to convert the data is coordinated by this person. Data conversion was done during the project life. The Data Conversion Coordinator was also responsible to develop and execute the data conversion plan. Magnus (consultant) project manager was acting as the mentor; (2) The SAP application team is led by consultant (Magnus) while TELKOM placed a project team member who will transfer the knowledge from consultant to manage the SAP-HR application after the project. The SAP Functional Coordinator was responsible for all SAP configuration settings required to realize the business needs of HR functions, which was determined by the CBHRM project team. In addition, he/she was also responsible in transferring the SAP configuration knowledge to TELKOM staff and undertake training on the use of SAP applications; (3) Technical team was led by a TELKOM Project team member together with the consultant. They are responsible in producing all the applications required in the project, including interfaces programs, data conversion programs and reporting programs; (4) Change management team was led by a TELKOM Project team member together with the consultant. The team has the responsibility in communicating the change process, and manage the changes that need to take place in relation to ERP application module implementation.

The implementation process was divided into 2 phases. In phase I, modules that were implemented are modules related to employee administration (Employee Administration, Organisational Management, Payroll Administration, Performance Management, Compensation Management, Personnel Cost Planning and Time Management). The phase I was also be divided into several activities: Project Preparation, Conceptual Design, Detailed Design, Conversion and Prototyping, Realization and Final

Preparation. In phase II, modules that were implemented are modules related to personnel development (Recruitment, Career and Succession Management, Training and Event Management). As is in phase I, this phase was also divided into several steps: Project Preparation, Conceptual Design, Detailed Design, Conversion and Prototyping, Realization and Final Preparation.

### Change Management Process

Senior management provides The INSANI Project with a change management team with the role of managing the organisational changes during the project. The responsibility for executing the planned communication strategy lies on the project manager and change management team. However, it was not clearly stated what strategy was adopted to change from the old system to the new system. What is stated in the change management plan document is only how to socialize the project and how training and education are performed to provide knowledge and skills in relation to the new SAP system implementation.

The actual communication was planned to be executed through formal communication, informal communication by the project team members, and events specially organised for stakeholders and users. Methods of formal communication which were used during implementation are newsletters, memos (through intranet), briefings, presentations, and regular departmental meetings. Based on interviews with the two change management team members it was concluded that there was no significant resistance although in the early stages there was confusions. After extensive training and formal and informal communication activities, the resistance diminished and the employees were becoming happier about the project. Good communication between project team and people directly influence the project.

The implementation documents and interviews with two change management team members showed that the need to have the users and other actors (stakeholders) involved understand how they will be impacted during the transition from the existing to the new processes and systems were not highly addressed in the change management plan. Interviews reported that the initiatives were more focused on communications targeted at users and interested parties involved about the existence of the project, and the functional or technical implementation aspects that is part of the normal work activities associated with IT implementation.

Interviews with project manager and HR managers reported that the senior management is committed

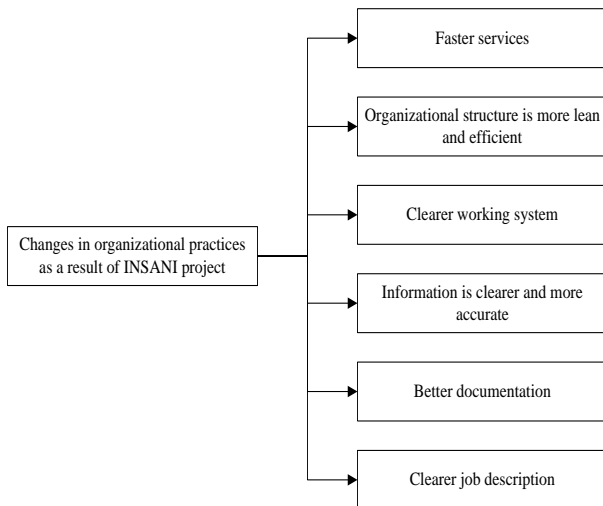
to the project in general. Senior management acts as the steering committee in the project organization structure. They provide ideas and suggestions on the project implementation, involved in policy formulation and in determining the scope of the project. Senior management also involved in project socialisation. However, most interviewees perceived low active change mobilization efforts from top management. It was found that top management put high reliance on the change management team was reported. As it is mentioned in the project plan, “the responsibility for making the planned communication strategy lies on the project managers and change management teams”.

Interviews with IT manager and two HR key users reported that change management process was not executed after the system go-live. In the post-project stage, the responsibility for system support, system changes, and system maintenance is given to IT Department. This way, basically it is IT Department who has the main role in deciding the changes that need to take place in relation to ERP system operation. Interview with HR managers reported that this situation had resulted in not an easy situation to get a fast and good solutions when the users faced problems regarding system operations.

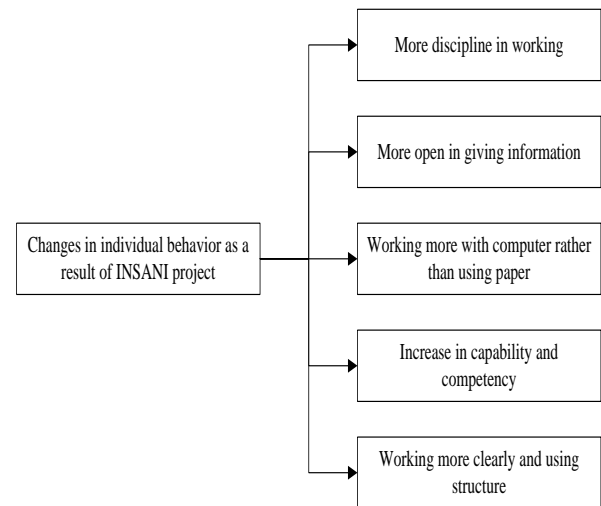
### Organisational Changes

In this study, the success of an ERP project from a change management perspective is studied by the following three different types of changes: (1) Changes in organisational practices that include organisational structure and business process, (2) Changes in individual behavior, and (3) Changes in organisational climate. Changes in the organisational practices related to the INSANI Project is very much seen in the business processes. The INSANI project directly changes the business process of TELKOM HR. Interview with IT manager and at PT Telkom has shown that the company had shown good results in term of quality of the new IS application implemented. However, besides aligning the organisational IS application to the tasks to be performed in the organization, interview with change management team members reported that other elements of the organization had been aligned to support the appropriate use and improvement of enterprise systems within an organization that include changes in organisational structure, job descriptions, work systems (procedures), and business process documentations. Those changes are described in Figure 2.

Interviews with HR managers and key users reported that there has been changes in the people within PT Telkom.

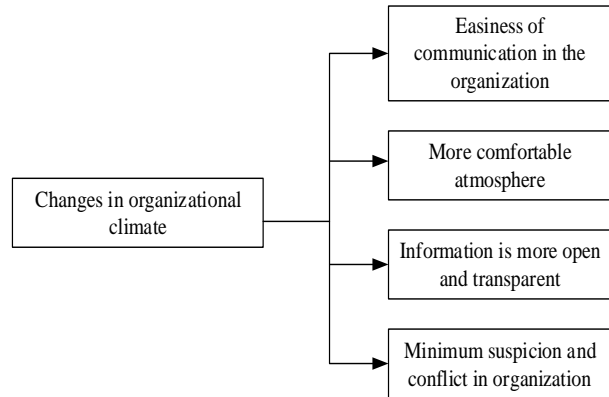


**Figure 2.** Changes in organisational practices



**Figure 3.** Changes in individual behavior

They use a more analytical approach while making decision. The discipline in the organization has increased considerably as a result of the implementation. Interview with IT manager suggested that the new system has strict procedures, protected information and has lowered the opportunity for unfair behaviour among the employee. About culture, one Human Resource manager remarked, “SAP allows for a much stricter control of the units. Behaviour has improved, since discipline is enforced. Discipline on the side of the people (individual level) and discipline on the processes (process level) are improved. This behavioural changes took quite sometimes, about 1 year”. But he mentioned also that though the standard use of the system such as system use for transaction processing and making reports is as expected, but creative use of the system (e.g. creating new reports for management) is below expectations. Overall changes in individuals related to the SAP implementation in the case company are depicted in Figure 3.



**Figure 4.** Changes in organisational climate

Related to changes in organisational climate, interview with two HR managers and key users reported that there is a change in the decision making process within the HR Department. As the information regarding the employees are more integrated, and the procedure is clearer, then an employee cannot be rotated or promoted carelessly without considering the requirements. This causes suspicion or perception that nepotism or collusion can be minimized. As a result there is a more conducive working situations and atmosphere. Openness and transparency of information resulted from the project have made a more conducive work atmosphere and increased eagerness of employees to move to the new system. Good communication between employees was found to be very helpful in building a more comfortable atmosphere. The changes are summarized in Figure 4.

Though organisational climate is improved through the implementation of HR module, some aspects of organisational climate are not sufficiently increased. Interviews with IT manager confirmed that there is a quite big gap between IT/IS people and business users. Boundaries between the business user groups and the IT specialists can be barriers to the high levels of collaboration needed to produce the beneficial system outputs later in the post-project (usage) stage. Interview with change management team members confirmed that this issue was not addressed during the preparation of the change management plan.

### Discussions

Results of case study found that there was no clear change strategy prepared in for the ERP module implementation and as the result, interviews confirmed that in general the change process was not properly prepared. The change management program in the INSANI Project only focused on the socialization of the project existence. Employees do not know why they need to change, what the impacts are and how the company will be changed in

order to get the overall benefits offered by ERP module. People in the organization were reluctant to support in the beginning of the project or clearly stated that they are against the changes. As a result, there is confusion in the early use of the system even though this problem is solved as time goes. This makes the changes happened very slow.

The case study at PT Telkom has shown that the company had shown good results in term of quality of the new IS application implemented and the quality of changes regarding organisational practices. However, besides aligning the organisational IS application to the tasks to be performed in the organization, there are other elements of an organization that must be aligned to support the appropriate use of ERP systems in the later stage. The focus of change management plan on communicating the project to the employees had made the change management team paid less focus on preparing the organization for a smooth operation during the post-project stage.

Motiwalla and Thompson [38] stated that organizations continue to underestimate the complexity, size and scope of ERP implementation throughout the life cycle. Occasionally, during the later stages organisational managers are not empowered to make strategic and operational decisions, do not either promote continuous commitment for system improvement during the operation (usage) stage, after the long effort in implementing ERP systems in the project stage. The fact that the case company did not pay enough attention to change management process during the post-project stage is in line with the statement of Motiwalla and Thompson [38]. Actually continuous improvement of the implemented systems and continuous learning by system users are very important for optimizing system usage during systems operation (post-project stage). For this, it is important that change management process is continued in the post-project stage.

To realise the expected changes related to organisational processes and practicess, in the project stage, new arrangement of organisational processes were made during system design process. However, to support a smooth systems operation, more changes can be needed considering the dynamics of organisation and business operations. To support a smooth systems improvement in the post-project stage, the collaboration between the user department and the supporting IT group needs to be facilitated. The case at Telkom had shown that effort towards aligning the organisational structure that would support better collaboration between IT and business was not found. Deloitte (accessed April 30<sup>th</sup>, 2016) stated that a successful ERP implementation

requires the development and implementation of a structure change management program. One way to do it is by applying a centrally decentralized IT organization structure (Grabski *et al.*, [20]) with IT specialist representation assigned in user departments can be used for facilitating IT-business collaboration. Achieving a smooth system operation and support in the usage stage is not just about the IT function's ability to provide the technical support, maintain and improve the systems, but it is a collaboration activity requiring a strong business/IT partnership. In the case study it was found that the failure in preparing a proper organisation structure had created barriers for the organisation to implement necessary changes related to organisational practices, in the post-project stage.

To facilitate the realisation of changes in individual behavior, change mobilization is an important part of change management process. Change mobilization is used to refer to efforts mainly aimed at gaining employees commitment (ownership) and support of the involved stakeholders. Individual resistance to change can be caused by factors such as selective information processing, habit, fear of the unknown, security, economic factor (Robbins [27]). For ERP implementations, individual resistance can be minimized if most of the users are involved and agree to adopt the changes. This condition can be achieved by having the users and team members participate in the right ways during the development of the systems. At Telkom case, it can be seen that there is a strong reliance of the management to the project team members for mobilizing the change process. Senior management involvement through communication and team building was perceived to be low. This situation didn't hinder the success of the organization to start working with the ERP system in daily operation due to the strong "follow the leader" culture of this organization, and in general Indonesian organization. However, low behavioral change enforcement by senior management may be the reason for low efforts from employees to use ERP on a higher level, more than transaction processing and standard report creations). Data-based decision making is one of the best-practices brought by the use of information systems in business operation. The use of ERP system for decision making and the creative use of data provided in ERP systems for new reports are highly encouraged if the company expect to realize more benefits from ERP usage.

The effort for aligning people (employee) orientation towards a more data-oriented decision making, more transparent way of working, and more innovative and creative working style as suggested by Davenport [39] was not present at Telkom case. Alignment of people orientation should be an



important part of change management process what should take place during “project” phase as well as the “post-project” phase. In the “project” phase, efforts for this may include clearly articulating new way of working expected with ERP usage, socializing the new way of working through communication and team building, and having senior management involved actively in the awareness creation programs. During the system usage (post-project stage), people alignment effort can be done by applying a control mechanism such as active control by super ordinate and regular measurement and evaluation of company key performance indicators (KPI).

Though the organisational climate has improved by the use of ERP system in the case company, one of the challenges for Telkom in realising more changes related to organisational climate is to utilize the new set technology infrastructure to be able to provide access of ERP systems to the employees via mobile devices such tablets and smart phones. This would extend the reach of ERP systems to employees, and hence would potentially increase the system usage. With this capability, employee productivity can be increased, decision making can be done faster, communication can be improved, working atmosphere can be enhanced, and all of these benefits will increase the company’s business performance. To support this initiative and also other initiatives for ERP system enhancement, change management team should be made available and active, also during the post-project stage.

Related to the organisational climate in the post-project stage, it was found that there is quite a big gap between IT/IS people and business users. Boundaries between the business user groups and the IT specialists can be barriers to the high level of collaboration needed to produce the beneficial system outputs in the post-project stage. To develop a strong business/IT partnership, alignment of the organisational structure is needed to facilitate the collaboration between the user departments and the supporting IT group.

There are a number of limitations found in this study. Firstly, there is a possibility that mistakes had been made in documenting and interpreting the results and observations and interviews, although an interview protocol was prepared and observation reports was reviewed by one person from the case company. Secondly, in this study, the situation during the project stage was studied by analysing the retrospective data collected partly from the interviews. The interviewees were asked to answer some questions regarding how things were arranged during the time the project was executed. the use of retrospective data may decrease the accuracy of the

study results. Future research can be directed into studying the change management process ERP implementation that is focused on the post project phase, aiming at identifying the way company can increase the ERP benefits realisation in the operation stage. By doing so, a more comprehensive model can be developed, combining the project and post-project change management issues

## Conclusion

The ERP module implementation project may cause lots of changes in different organization’s components, and on the other hand, the success in realising benefits from ERP module implementation involve the ability of the organization to change and re-organise the way organization works. The ERP project is successful when the project helps the company to implement changes in the individuals, changes in the organisational practices and changes in the organisational climate. Changes in individual behavior may include changes towards working and making decision more with data, increased willingness to share data and information, and increased transparency. Changes in the organisational practices include changes in the business process arrangements, organisational structure, and work systems. Changes in organisational climate include more comfortable atmosphere, more open and easier communication, and less conflict due to more transparency.

Though the technical capability of the system was shown to be adequate, however, the case study shows that organisational and people issues remain as central areas requiring better change management process. During the project stage, change management process did not address the need for future more intensive collaboration between business and IT. In the project stage, change management effort should be also be directed into preparing a good organisation structure to support IT-business collaboration in the post-project stage. Besides, alignment of employee orientation towards optimising system usage is also an important aspect of change that will determine the ability of the implementing company in realising the benefits offered by ERP usage. Finally, in order to avoid people and organization related implementation problems in an ERP module implementation, analysis of the issues based on a sociotechnical systems perspective needs to be undertaken when preparing a change management plan.

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