ORGANIZATIONAL CHANGE MANAGEMENT: A CASE STUDY OF ACADEMIC INFORMATION SYSTEM IMPLEMENTATION IN UNIVERSITAS SURABAYA, INDONESIA

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Abstrak

Perubahan organisasi (Organizational Change) adalah munculnya perubahan berdasarkan persepsi penggunanya (Cao dkk, 2000). Menggunakan sebuah studi kasus pada pengembangan sistem informasi akademik di Universitas Surabaya, Indonesia, artikel ini bermaksud untuk menjelaskan bagaimana sebuah perubahan organisasi dapat diimplementasikan dengan baik menggunakan 8 (delapan) faktor sukses yang dikemukakan oleh Kotter (1996) sebagai dasar analisa. Tanpa bermaksud untuk mengabaikan pentingnya faktor sukses tertentu, studi kasus pada artikel ini menemukan empat faktor sukses memiliki level kepentingan yang lebih dibandingkan faktor sukses lainnya. Studi lebih lanjut dibutuhkan untuk mengkonfirmasi temuan ini dan apabila memungkinkan, mengklasifikasi bobot kepentingan tiap sukses faktor sukses dalam mengimplementasikan perubahan dalam sebuah organisasi.

Keywords/Kata kunci: Organizational, Change, Success, Factor.

1. Introduction

Universitas Surabaya (often abbreviated as UBAYA) is a leading private university located in Surabaya, East Java, Indonesia. With more than 8.000 students, including international students from various countries, UBAYA has become a home to a diversity of cultures and gained a distinctive recognition from various organizations such as the best private university in East Java Province and listed within the top ten private universities in Indonesia (Priyambodo, et al., 2010).

In 2009, the university mandated its management of information system department (which is later reformed to a directorate of information system management) to develop an information system which could smoothly integrate the whole academic processes. Academic processes includes diverse and wide range of processes starting from admission of the new student, tuition fee payment, recording academic results up to administering the student graduation ceremony and many other minor yet important processes. Therefore, the system implementation is expected to change and improve the work of various units involved in the academic processes namely: Directorate of Finance, Directorate of Information System Management, Bureau of Academic Administration, and Bureau of Student Activities Administration. After a year of implementation, the system is going live and has successfully improved how the four involved units' works. Its successful is worth to be examined as, though IT implementation offers both strategic and tremendous advantages when successfully done(Parr & Shanks 2000), IT implementation also always seen as a high risk process (i.e. Legris et al. (2003) argued that only 23% of large information system implementation were completed on time, on budget, and on scope).

The aim of this paper is to carefully examine change management processes during the information system implementation at Universitas Surabaya in 2009. Based on the examination result, this paper will then critically identify compare key success factors as promoted by literatures and as occurs in the case.

This paper will begin with a thorough analysis of current literatures on organizational change, success definition and success factors to achieve the success. Following the literature review is a brief description over the case of academic information system implementation at Universitas Surabaya and discussion to identify major key success factors as occurred in the case compared to key success factors as found in the literatures. Lastly, limitation and summary of findings will conclude this paper.

2. Literature Review

Organizational Change is the occurrence of change subject to people's perceptions (Cao et al. 2000). Using such definition, stating an event of change as an organizational change or just a minor change would heavily depend on the person in view. Despite its ambiguity, such changes are considered as mandatory to survive the business competition which, on the other hand, also promotes hazardous condition (Barnett and Pontikes 2006). Further, Cao et al. (2000) suggest putting more focus on the diversity of change than the type of change. The diversity of

change can be classified into four types of change: Changes to organizational processes, Changes in organizational functions, Changes in values, and Changes in power distribution and the way organizational issues are influenced.

Secondly, prior acknowledging the success rate of the case used, it is important to get a clear definition on what success is. From the perspective of IS and IT project management success, the case's success will be justified using the iron triangle (see figure 1) of time, cost, and quality. Such approach is preferred as it has been used to determine a project success for over the last six decades (Atkinson 1999). In addition, it is also important to rationale the case success based on its impact to the university. For such purpose, the devil's quadrangle (see figure 2) as proposed by Van der Kolk (1995, cited in Reijers & Mansar, 2005) to determine the effect of a business redesigning process will be used. The devil's quadrangle stated that business redesigning processes are expected to deliver improvement in the following four dimensions: cost reduction, quality, time effectiveness, and flexibility.

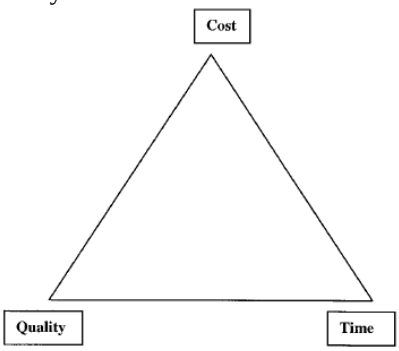

Figure 1. The Iron Triangel (Atkinson 1999, p. 338)

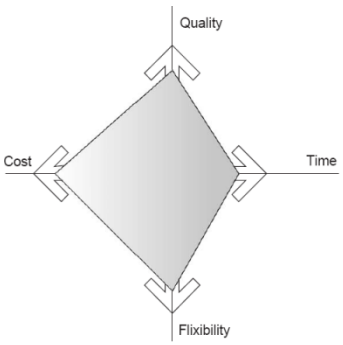

Figure 2. The Devil's Quadrangle (Reijers & Mansar, 2005, p. 294)

Now that the definition of success has been defined, it will be sensible to look for key success factors on change management as a pattern to identify favorable and unfavorable factors that occurs within the case. In term of success factors, Kotter (1996, pp 21-22) argues that there are eight steps to a successful change implementation: "establishing a sense of urgency, creating the guiding coalition, developing a vision and strategy, communicating the change vision, empowering a broad base of people to take action, generating short-term wins, consolidating gains and producing even more change, and institutionalizing new approaches in the culture". These steps can then be clustered based on their occurrence sequence according to the the Lewin's 3 stages change model (Jones, 1968, cited in, Kanter, et al., 1992). The clusters are as follow: the first four steps relate to the "unfreezing stage", steps five to seven relate to the "changing stage" and the last step relates to the "freezing stage".

3. The Case Study

Using Cao et al.'s (2000) classification, organizational changes occurred during the information system implementation in UBAYA can be classified as changes to organizational processes. Such classification was considered as such since the IS implementation primarily focus on improving the current business process without changing the organizational structure, without changing the university's beliefs, and without changing how power is distributed over the university's stakeholders.

In term of The Tempo of Change, using Weick and Quinn's (1999) dichotomy on the tempo of change (i.e. characteristic rate, rhythm, or pattern of work or activity related to the organizational change), organizational changes experienced by the university during the new system implementation is considered as an episodic change. Although the new information system continuously stimulates and triggers many other changes up to the date this paper is written, those following changes were never meant to change the processes that has been changed during the initial information system implementation. Such nature contradicts the continuous changes which continuously modify the organization's work practice and conforms the episodic change definition where change is as occasional disruptions to current steady state.

Next, the case of organizational change occurred during the Academic Information System Implementation in Universitas Surabaya, Indonesia will be unfolded in three sequential stages: unfreeze, transition, and refreeze as suggested by Weick and Quinn's (1999). Sequentially, justification towards the case success from both the project management and the change project impacts will be made.

3.1 The Unfreezing Stage

The early period of the implementation begun with the vice rector on academic affair dictate of an information system that could consolidate various processes within the university especially in the area that relates to

students' activities, tuition fee and teaching sessions. Such demand were based on discrepancies of data provided by different but still related units, lack of agility, and lack of flexibility to provide the required level of services to improve the university's competitive advantage and conform various external stakeholder such as the government.

At about the same period, Indonesian Government through the ministry of Education opened an opportunity for Indonesian universities to propose grant to improve the quality of universities in Indonesia. Universitas Surabaya used this opportunity to propose a three years grant to fund the implementation of information system required by the university. The government accepted the proposal and Universitas Surabaya received more than a half billion Rupiah to realize the integrated information system in three consecutive years with condition that the second year grant will be fetched once the work of the first year is appraised as successful and similarly, the realization of the third year's grant is determined by the second year's achievement.

The first year's works were to implement an academic information system which will become the foundation of all works in the second and the third year. After considering various factors especially the complexity and the criticality of this phase, UBAYA decided not to outsource the first year's works, let go the first year's grant, and implement it independently in one year time. Such decision means that the independent implementation team was urged to successfully implement the system on time as the university was still expecting the second and the third year's grant.

The case in this paper is focusing on changes related to the implementation of those first year's works which is fully funded by the Vice Rector of Academic Affair Budget. Having sponsored by the Vice Rector, an implementation team led by the Manager of Information System Management unit was formed. The team included the Head Bureau of Academic and two lecturers from the computer science department as its primary forces supported by several system developers. Vice Rector of the Academic Affair then announce the team along its mission to the all stakeholders related to the academic information systems.

3.2 The Transition Stage

After the announcement, the team starts the journey through the whole system development lifecycle. The analysis phase was done by including various key persons from related units including the Director of Finance and the Head Bureau of Student Activities Administration. Having direct access to such key persons has enabled a better and more accurate analysis results.

Following the analysis phases is the design and development phase where more people are included to verify fitness of the designs compared to the users' requirements. The top management including Vice Rector of Academic Affair, Deans, Directorate of Finance, etc. was involved to validate the business process design. On the other end, operational staffs from all related units were involve to validate the user interface, further specify the business process in detailed, and test the new system. Such processes have raised lots of stress and increased the workload of all staffs and top management involved since each still obligated to run their role within the university's business as usual.

Under such nature, it is necessary to stimulate the stakeholder's morale by delivering small and fast yet significant changes to the users. The first change was made within the graduation certificate printing process. Time required to build the new graduation certificate printing is less than a fortnight yet it could significantly increase the printing quality, increase the data accuracy, reduce work load and reduce production time. Those initial changes were then followed by the delivery of various other small changes such as the student leaving permit for a particular semester administration. Success stories on those small achievements have spread across various levels of management and units which ultimately increased the confident and morale of all stakeholders. Such leverage is considered crucial to motivate stakeholders to work on implementing bigger changes such as changing student's transcript management.

While delivering changes pieces by pieces could stimulates continuous winning sensation and increase the stakeholders' morale, it is also prone to raise confusions among the affected users. To minimize it, the project team held a weekly meeting inviting representation from all involved units for six consecutive months to discuss the progress, capturing issues, informing latest update on fix of the previously discovered issues or the newly added features, upcoming features, and so on. Depending on topic of discussions, each meeting could last between one to four hours. Those frequent meetings are excluding the project team internal meetings. Such long and exhausting meetings are considered necessary to ensure that all issues and requirements were fully noted, promptly delivered, well informed and properly used.

3.3 The Re-Freeze Stage

By the end of the twelfths month, most of the mandated changes have been successfully implemented. Forms, infrastructures, standard operating procedures, ISO clauses and many other things were updated to adapt the

organizational process changes occurred following the IS implementation. However, at this moment various critical processes were still under parallel session as part of the parallel cutover process. About six months after the implementation, in mid 2010, after the parallel session produced the expected results, the old systems were completely terminated.
A good example of the university's effort to stick the new business processes is the Academic Administration Bureau which had changed their entire 11 (eleven) ISO standardized operating procedures during the first year of the IS implementation. Further, in early 2012, one among the eleven standards is about to be erased as the IS implementation has radically simplified the system so much that makes the new system is considered as too short and too simple to be externally standardized. By registering the new standards to external auditors such as ISO auditors, the university has gain a neutral and professional assistance to ensure that the business is being managed using the most current and effective standard operating procedures.

3.4 The Case's Success Rate

The change implementation shown in this study is considered successful from both the project management and the impact to the University's performance. Given a tight schedule, the implementation team successfully delivered the required solution (on scope) in twelve months as scheduled (on time). Such promptness has enabled the university to engage the second year works with a third party using the government's grant. The change project is also completed on budget which is the focus of the last dimension of the iron triangle assessment. As the project was done on time, on scope, and on budget, it can be said that the project was a success from the project management perspective.

The implementation of the academic information system is also considered as a success in term of its impact to the university's performance as it successfully delivered positive impacts to the university in all four dimensions of the devil quadrangle. The new academic information system has significantly improves the university's performance by reducing time and cost to administer its activity. Improvement on the student's study card system is one good example showing how the new system has drastically reduced the university's administrative time and cost. Study card was a half A4 sized paper which contain list of courses taken by a particular student in particular semester. Prior the new system implementation, UBAYA have to printed more than 8,000 of those cards and distribute them to each student. After the new system implementation, list of courses for a particular student can be viewed online through the university portal system in a real time manner hence no paper, no printing and no distributing processes are required. Such radical improvement has made the new system as a cheaper, faster, and better environmentally friendly system than the old one.

The above example also became evidence on how the new system increased the university's quality of service and flexibility. For various issues, students often need to change his or her subjects during the early semester. Such adjustment is allowed since the old system was still running. However, during the old system era, students will not be able to confirm the course modification confirmation until the bureau of academic administration reprinted their new study cards. The new system has allowed students to monitor the result of his or her course list adjustment process quickly through the student portal system. Such quick monitoring system enabled students to further respond when more adjustment on his or her course is needed. For that reason, the new online study card system is considered able to deliver better service and flexibility for students who need to adjust their course.

The above student's study card is only a small example of many other greater benefits gained by the university after successfully implementing the academic information system. It is important to note that many strategic benefits of the new system implementation were gained months or even years after a continuous system improvement of the one year initial implementation. For example, benefit gained after implementation of the above new study card system were experienced on early 2011 which is about one year after the implementation. Such phenomena conforms Ross & Vitale (2000) argument which stated that better performance of a new system could only be experienced after continuous improvement of the initial new system implementation.

4. Discussion

The above success case shows how an organizational change in a university is successfully enabled through successful IS implementation. Within the success story, all Kotter's (1996) eight key success factors can be identified. The following are brief samples of occurrence of each success factor within the case:

- **Establishing a sense of urgency**. The academic information system project was initiated to answer the increasing demand and to gain competitive advantage over the university's competitor. In addition, it has been proposed as the first year part of a three years grant scheme which its success will directly determine the success of the whole three years grant. Both of those conditions have urged the organization to somehow be able to finish the project promptly.

- **Creating the guiding coalition**. The project team is sponsored by Vice Rector of Academic which posses the necessary resources to realize the new academic information system internally and the project team itself consist of top management from various related units. On top of it, the team always includes all related operational staffs during the implementation processes.
- **Developing a vision and strategy & communicating the change vision**. Vision to improve the university performance through the IS implementation is well announced to all units within the university.
- **Empowering a broad base of people to take action**. Top managements were involved to provide contribution during the business process design processes and all related operational staffs were intensively involved during user interface design and migration processes.
- **Generating short-term wins**. Simple and yet, helpful solutions such as the graduation certificate printing system were introduced first before the more demanding systems.
- **Consolidating gains and producing even more change**. Success stories of the simple solutions were used to gain support and increase confidence of all stakeholders upon the benefit of the new systems.
- **Institutionalizing new approaches in the culture**. Forms, infrastructures, standard operating procedures, ISO clauses were adjusted to both adapt the new system and create a good solid barrier from reviving the old system.

With no intention to reduce the significance of other key success factors, four factors are considered as the most critical factors toward the case's success: establishing a sense of urgency, creating guiding coalition, generating short term wins, and institutionalizing new approaches in the culture. Organizational inertia is long known as great barrier for an organization to successfully implement an organizational change. Prior to this case, several attempts to upgrade the university's information system have been made and all were prematurely terminated due to their inability to deliver the expected results. A significant difference between this success case and those failure cases is the status of this case as the first year part of a three years contract between the university and the Indonesian government. Success in successfully realizing each year of the contract is a must to gain grants from the government and ultimately, improves the university's credibility. Such condition made the university realize that at that time there is no turning back and the project has to be finished promptly.

Secondly, strong sponsor is not only important to provide financial support but also to provide easy access and most importantly acceptance from all related stakeholders. User acceptance is very crucial to achieve success in term of realizing the expected impacts to improve the organization's performance. Without user acceptance, the system might be finished on time, on scope and on budget (i.e. success from the project management perspective). However, if the users are not accepting the system, they will not use the system as it should thus it will never be able to provide the expected impacts for the organization.

Sequentially, generating short term wins is considered as an utter success factor as it will significantly increase the team's and the system's credibility among both the end users and the sponsors. In line with Ross & Vitale (2000) findings, greater benefits of the academic information systems implementation in UBAYA are realized months after continuous improvements of the initial twelve months implementation. Such long journey is very demanding for most top management and users as they were asked contribute on the new system implementation and at the same time, they still need to do their part within the business of usual. Thus, it is only logical that an increase of morale by delivering short terms win is very important in a long term project similar to the case in this paper.

Lastly, as any other information systems, problems and issues do occurs while using the new academic information system. It is important to ensure that when issues occur while using the new system, users are expected to raise the issue to be fixed instead of reviving the old system which might open the possibility for the old system to regain its status quo. Changing forms and standard operating procedure as done in the case could help to kept away user from using the old system again.

5. Limitation and Further Study

While findings on this case might provide insights to other change projects in similar environment, it is unlikely that any organization could experience the exactly same nature of change. Indeed such issues will definitely reduce the generality of findings presented in this paper. Therefore, more cases on higher education institution change project are required to further confirm findings in this paper.

An interesting direction for future study would be to identify level of significance for each key success factors. As identified in the above case, some success factors are considered significantly more critical than other factors. It is hoped that such classification could provide further guideline for managing a change project.

6. Conclusion

This paper reveals how an organizational change as impact of an information system implementation can be successfully implemented in a university. Primary contribution of this paper is, although each success factors as proposed by Kotter (1996) were discovered within the case, some factors are considered to be more important than the others. Without any intention to ignore the significance of other success factors, the following four factors are considered as the utmost success factors in the case: establishing a sense of urgency, creating guiding coalition, generating short term wins, and institutionalizing new approaches in the culture. It is likely that other cases of organizational change might have different stressing on the eight success factors. Therefore, it will be fruitful for further study to identify level of necessity of success factors in managing an organizational change.

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