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GAINING KNOWLEDGE FROM POSTMORTEM ANALYSES TO ELIMINATE ELECTRONIC COMMERCE PROJECT ABANDONMENT

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ABSTRACT

This paper serves as a stimulus to investigators to examine the role project postmortem analyses plays in learning from abandoned electronic commerce (e-commerce) projects. While prior research has identified the importance of the review process, there has been very little research on project postmortems on abandoned e-commerce projects. The case demonstrates six critical factors to conduct successful project reviews and offers several important managerial guidelines. Finally, when analysing mistakes and their principal causes, there is one important lesson that we should learn. That is, all organisations make mistakes and there is the potential for learning from abandonment experiences.

Keywords: *Electronic commerce project abandonment, postmortems analyses.*

1. INTRODUCTION

After a phase of intense Internet hype, the world of electronic commerce seemed to have imploded and fallen abruptly from grace. There are many abandonment stories with only few dot-com companies left struggling to survive. Barrons (May 18, 2000) reported that 25% of internet companies surveyed would run out of cash within 12 months, and that 74% had negative cash flows. But more importantly, did companies learn anything from their failed adventures or better put “abandonment” experiences? There are many resemblances between information systems (IS) project failure and IS project abandonment. “IS project failure may be the consequence of failing expectations of the implemented system and IS project abandonment is concerned with the anticipated failure of the project prior to its full implementation. Project abandonment can be said to have occurred when the management decides to discontinue temporarily or permanently a project under development” (Ewusi-Mensah and

Przasnyski, 1991). The study of abandoned e-commerce projects is no longer a taboo but is publicly debated from time to time and interest is bound to gather momentum in the near future. It should lead to improved management of future projects. Lessons can and should be learned from one project to another, from one organisation to another.

The truth is if organisations want to avoid project abandonment, they need to start paying more attention to examine past mistakes and shortcomings in order to gain more knowledge, which would bring about future project success. Berghel (2001) stated that the key snag that caused the e-commerce meltdown is still with us - an over-reliance on technology in an aim to overcome the weakness of a bad business model. It shows that organisations just simply abandon their e-commerce projects without conducting any postmortem analysis or learning from past oversights. Therefore, unless blunders are re-examined and learned, project abandonment would still occur with alarming regularity.

According to Collier et al (1996), project reviews are activities carried out for the purpose of reviewing the events that occurred, evaluating not only what happened, but also why those events happened and determining the correct actions to take to improve the results of the next project. Boddie (1987) and Roman (1983) have suggested that project postmortems might be the best precaution against future failures. Formal reviews must be conducted to provide a learning experience which is needed to avert the frequent abandonment decisions experienced industry wide on e-commerce development projects (Ewusi-Mensah, 1997).

It is therefore imperative for organisations to view failures as opportunities to learn rather than uneasy incidents to forget. It is a common fault for people to hide errors rather than report and evaluate them (Gaynor, 1996). Individuals are deterred from discussing with their management on what went wrong and why in the aftermath of the abandonment decision because of potential threat to their careers. Murray (2001) stated that the goal of the assessment should not be a blame-fixing mission but rather to identify causes of the difficulty and to determine areas of responsibility for the various components of the failure. In order to provide an environment that fosters openness and honesty, senior management must be prepared to take specific actions to reassure the project members that the reviewing process will be positive and blame-free. This is especially critical as maintaining social relationships typically matters more to most people than accurate diagnoses of isolated events. People can be reluctant to engage in activity that might lead to blame, criticism or recrimination (Argyris, 1977).

In order to transform failure into a smooth learning experience, Jacobs (1999) has developed a three-step reviewing process: 1) gather feedback from everyone involved about what went right and why went wrong, 2) organize the comments into a list of four categories: bad decisions, mistakes, unforeseen events, and good decisions, and 3) analyze project skills to assess and correct the weaknesses. In the same manner, Lowes (1999) suggested the running of a risk-management workshop as a first step to project implementation, which could also be usefully combined with a project team meeting in order to identify and manage project risks.

This article highlights issues critical to successful postmortem analyses in abandoned e-commerce projects. What are the critical success factors? How should postmortem exercises be carried out? Finally, what are some of the managerial implications for organisations? The contents of this paper are: research methodology, research context, results and discussions, and summary, limitations and conclusions.

2. RESEARCH METHODOLOGY

2.1 *Research Strategy*

As an employee of TechCo and a project team member, the author collected the data and was perceived as a participative researcher by the case company. Case study is adopted because one of the advantages of using case study methods is that they can “explain what goes on in organisations” (Avison et al, 1999). Case studies are deemed to be particularly good for answering the ‘how’ and

‘why’ questions (Yin, 1989). To justify the use of a single case study, Yin (1989) argues that single case study design is eminently justifiable in this particular situation because the case serves a revelatory purpose.

2.2 Data Collection

A period of three months of participatory research (Argyris and Schon, 1991) was spent where information was collected from the initial project study to the project postmortem of the abandoned project at TechCo (a pseudonym) in Singapore. Primarily, semi-structured interviews and informal discussions were conducted with all the stakeholders. They were selected in order to cover a range of possible viewpoints and they included the information technology (IT) manager, the purchasing manager, project team members, users, suppliers and directors. Thirty-nine interviews were conducted, each lasting an average of one and a half hours. From these interviewees, information about the postmortem analyses of the e-purchasing project was collated. Secondary data were also gathered to supplement the information obtained through interviews. The questions were open-ended and exploratory in nature. Observations on major stakeholders were also made during meetings, interviews and discussions.

We were able to collect data of all types, ranging from minutes of meetings, focused interviews with individuals, and materials from the company records. Researching one’s own organisation involves undertaking research in and on your own organisation while a ‘complete member’ (Adler and Adler, 1987). One advantage of our research over any ‘outside-researcher’ was that we possessed valuable knowledge about the cultures and informal structures of the organisation, though as ‘insiders,’ members found it harder to give us the kind of formal explanation for their behaviour that they might have given to an ‘outside researcher.’ To support the use of a participatory research, Riemer (1977) argued that rather than neglecting ‘at first hand’ knowledge or expertise, researchers should turn familiar situations, timely events and special expertise into objects of study.

2.3 Analysis of Data

A common problem shared by all researchers is that of the vast amount of data generated and the problem of deciding what is important. Our analysis of the interview data consisted of three separate activities. Firstly, we compared the content of the interviewees’ remarks that identify the key abandonment issues against the supplier’s criticism and the director’s commentary on the cancellation of the project. Secondly, we used other data such as minutes, memos, seminar notes and informal discussions to construct inferences regarding the project development process. Finally, we made inferences about the implications of conducting project postmortem analyses, which might enhance learning process.

With the data collection and coding established, thematic analysis was introduced to provide an inductive study of these themes. Multiple source triangulations provide internal validity checks of the data. Stake (1995) defined triangulation as the protocols that are used to ensure accuracy and alternative explanations. Triangulation methodology (Denzin, 1978; Jick, 1979) was also used to gather different types of data that could be used to crosscheck for reliability. The external validity checks were done through participative discussions on the codified data and the analysis of the research.

3. RESEARCH CONTEXT

TechCo was established in 1990 in Singapore, as a wholly owned subsidiary of a Japanese conglomerate, to produce electronic components. The project we studied concerned the development of an electronic purchasing (e-purchasing) system. The system was planned to help the purchasing department in a number of ways, including increasing the efficiency of the purchasing function,

reducing the mounting load of paperwork and most importantly, inducing price pressures through the introduction of new suppliers via the world-wide web. The project had gained support from both the IT manager and top management. The purchasing manager, who was eager to perform a re-engineering in the purchasing process, mooted the project. The e-purchasing system would be implemented between the purchasing department of TechCo and its suppliers.

Unfortunately, the suppliers saw the new system as a threat that could dampen their businesses. They were deeply concerned about the competition they might face once new suppliers were being introduced. They had several clashes, including heated arguments with the purchasing manager regarding the implementation of the new project. However with the new system almost completed in its development, the purchasing manager had simply ignored the dissatisfaction of the suppliers. The purchasing manager lamented, *“We have the right to implement any system that deemed beneficial to the company. If they wish to do business with us, they should comply with our terms and not try to meddle with our internal affairs. This has never happened and it never will. I will never give in.”* In the end, the directors of TechCo canceled the project unexpectedly. Apparently, the suppliers pleaded to them for a cancellation of the project. They imposed immense personal influences over the directors and had exerted mounting loads of pressure. In the end, this political tussle cost the company huge project losses.

3.1 *The Project Postmortem*

The company has a policy of conducting project reviews at the end of every project. The objective of the review is to re-evaluate the project development and implementation process. The purchasing manager, who was also the project manager conducted the postmortem session. During the session, half of the project team members including the directors failed to turn up. The main reason for the low turnout was that the programmers were already involved in other overdue projects. One of the programmers explained during the interview, *“Every one of us is involved in at least three other concurrent projects. Where do we find time to attend the project review session?”*

Even though project postmortems have been carried out over the years, such sessions are actually insignificant to most of the project members. One of the informants who have attended several project postmortems explained, *“The senior managers and directors have never attended the meeting and they never seem to be interested. All they want to see is the end result from the project. They are not too keen to promote learning from mistakes or successes. They are purely result-oriented.”* Another close informant added, *“Besides, we are not rewarded for being participative and sharing our experiences during such meetings. Our performances are measured against our project outcome and not the postmortem exercise. That is the reason why few people attend such sessions.”*

The purchasing manager was still brooding over the project being abandoned at a time when the development was almost completed. Instead of trying to identify any wrongdoings for the project, he was seen blaming the suppliers throughout the session. On top of that, he was also pointing his fingers at the programmers for their delay during the development stage, which had provided the suppliers with ample time to stop the project before it was launched. He commented during the meeting, *“Part of our failure was due to some delays from our programmers. If they had followed the project schedule closely, the software development would have been completed before any outsiders could intervene.”* His blunt accusation had clearly angered the IT manager who was seen leaving the meeting after the comment. It was observed however that most of the members who attended the review session had remained quiet throughout the session. One of the attendees commented, *“What can we say? If we made any negative comments, the purchasing manager would offer several excuses for it. It is better to keep quiet than to risk offending him.”*

In a later interview, the IT manager offered his perspective on why the project was cancelled, *“There were basically three problems. Firstly, the purchasing manager should have communicated the benefits to the suppliers and allayed their fears instead of clashing with them. Second, the purchasing*

manager failed to market the project effectively to the top management. Even though initial approval was obtained, the purchasing manager ignored maintaining and further strengthening of his relationships with the directors. There was no periodic update from him regarding the progress of the project during the development. He could have marketed his project more aggressively to the directors. If he had portrayed the project as one that would bring about drastic improvement to the company's bottom-line, then the directors might not relent to the supplier's pressure and abandon the project so easily. Lastly, there was no proper documentation for minutes and memos in project meetings. Often, there seemed to be communication breakdown between my programmers and the purchasing department."

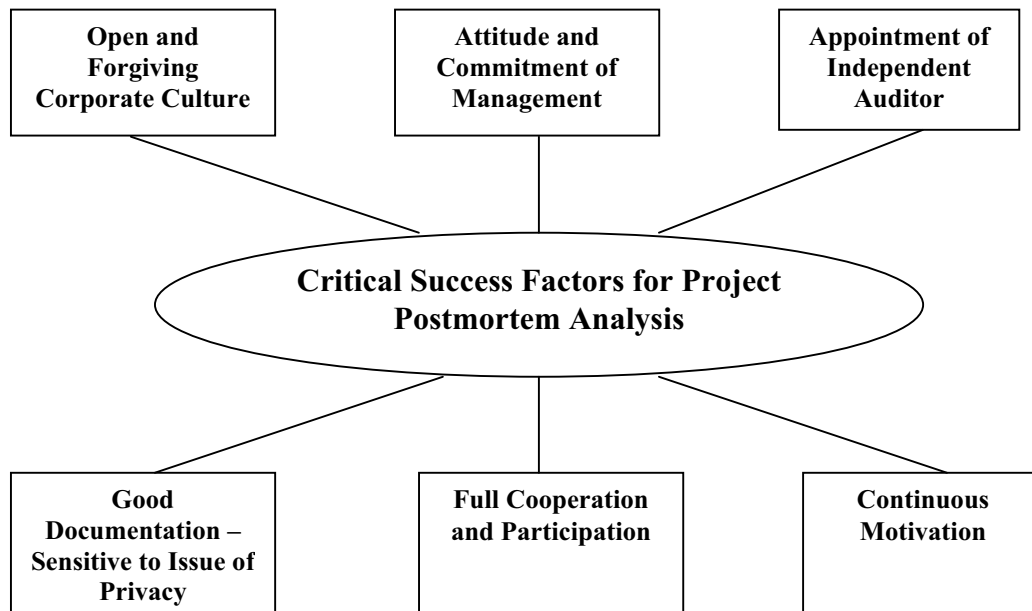
Even though there seemed to be many problems, the IT manager did not bring up those issues during the postmortem session. He explained, "In our environment, we have to be cautious with our criticism. If I bring up those issues, the purchasing manager is going to be unhappy with me. I do not wish to have any enemies in this company." In a separate interview, the directors had denied that they caved in to the suppliers' pressures. One of the directors commented, "The purchasing manager had mishandled the whole situation. We should maintain close relationships with our suppliers as we view them as our partners. We ought to explain and assure them that the objective of the new system is to enhance the whole purchasing efficiency, which might benefit them as well. The project was cancelled because it would never have worked without the support of the suppliers."

4. RESULTS AND DISCUSSIONS

4.1 Critical Success Factors for a Postmortem Analysis

The following discussions seek to describe the role project postmortem analyses plays in learning from abandoned e-commerce projects. The factors critical to successful postmortem analyses as emerged from the case are summarized in figure 1 below.

Figure 1: Critical Success Factors for a Project Postmortem Analysis



Open and Forgiving Corporate Culture It is important for organisations to nurture an open and forgiving corporate culture. Efforts must be made to reinforce the good intentions of learning from failures, so that project members are willing to share their experiences. The impact of the decision on individual careers should be minimized whenever possible so as not to create an atmosphere in which individuals would not be willing to discuss with management what went wrong and why in the aftermath of the decision (Ewusi-Mensah, 1997).

Attitude and commitment of senior management The senior management must be committed to the postmortem exercise (Harris, 1994). The importance of the exercise must be emphasized and made known to every member of the project group in order to guarantee full participation from them. In the case, if the senior management had recognized the importance of learning from past mistakes, they would have been more committed and placed more emphasis in such sessions. This would create more interests and encourage active participation among the members. It is only through such avenue that the postmortem analyses would become beneficial. The senior management should also establish a culture of trust throughout the organisation - for example, if it deals with project grievances and maintains open communication - there is less likely to have resistance from the members. However, if senior management remains aloof with group antagonisms perpetuated at work, effective implementation would then be hindered.

Appointment of independent auditor An independent auditor should be appointed with an objective to protect the interests of the organisation as a whole. It could either be an internal or an external auditor who does not have a stake in the project being audited and is with vast relevant project management experience. The appointee should act as a facilitator to encourage participation among the members. To insure that auditors' recommendation would avoid any accusation from the project team members, the appointee should report directly to the top management. It was a mistake to assign the purchasing manager to conduct the postmortem meeting in the case. Being a leading character in the project, his opinions might have already been swayed by his emotions. It would be difficult for him to offer an objective opinion in the project reviews when facing an outcome of project failure.

Good documentation throughout the project and during postmortem process Minutes, memos and activities conducted during the project development must be well documented (Busby, 1999). This is to ensure that any mistakes made during the project can be easily traced and clearly identified during the project review process. At the same time, findings concluded after the postmortem exercise are extremely valuable to the organisation for learning and might be utilized as guidelines for future software development projects. However, organisations have to be sensitive about the issue of privacy because people tend to avoid admitting their own mistakes and are only willing to reveal the truth when their identities remain anonymous.

Full cooperation and participation among project manager and team members People tend to hide mistakes rather than report and evaluate them. But there are some who chose to keep mum because of risks to their own careers. The prospective whistle blower needs to face the reality that the critical audit report may contradict the best judgment and vested interests of the powerful players in the project group (Keil and Robey, 2001). Overcoming the fear is critical and is a challenge for all project teams in their attempts to learn from past experiences and improve future project management. In the case, project members were seen keeping quiet throughout the session and hardly provided or shared any experiences gained from the project. The purchasing manager, when conducting the review session should have encouraged more participation from the team members and assured them that such learning session would not inflict any ill feelings within the group.

Continuous motivation is needed throughout the process The postmortem exercise acts as an internal group relationship process, which regulates and strengthens internal group interactions. By examining the mistakes together, it helps to create an environment in which team members share positive, friendly feelings as well as a sense of loyalty and responsibility towards each other (Swanson 1998). Value is placed on open communication, supportiveness, commitment to the team and positive

interpersonal relations. Thus relationship process may prove to be a particularly important contributor to the cause of building better systems.

4.2 *Implications for Practitioners*

Some managerial guidelines are recommended for managers to adopt when conducting their project reviews. While individuals play an important role in the project development process, much of what causes abandonment is in the nature of organisations, not people. The organisational context into which a postmortem analysis is introduced has a crucial bearing on its acceptability and subsequent effectiveness. Organisations may face with resistance to learn from past mistakes. Resistance should not be seen merely as a problem to be solved. In fact, resistance is a good clue as to what is going wrong and what can be done about it. The main reasons for individuals to resist project reviews are feelings of embarrassment from failure or facing the unknown to their job security, disturbance of social relationship among project group and lack of understanding of the review purposes. There are many steps, however, that organisations can take to create an environment in which managers and project team members are encouraged to learn from the postmortem results that can avoid or diminish future project abandonment. However, without any incentives, it is naïve to expect that all managers and members will be motivated to learn (Bowen and Clark, 1994). One suggestion is to **link project members' performance evaluation against their initiatives and commitment towards learning from postmortem analyses**. In that way, project members would be more committed and participative in postmortem analyses.

Organisations should create a **tracking system** that gives senior management a full account of all on-going information systems projects and their current stages. Clear guidelines should be established to mark the point at which projects move from one stage to another. After every stage, project managers should review their progress to see whether there are any serious problems they will face in continuing pursuit the project (Gaynor, 1996). Managers must be made aware that there are many advantages in pursuing such a staged and incremental approach to reviewing projects so as to ensure that managers fully utilize such tracking system.

Finally, **reviews should be held both during project development and project postmortems** (Jacobs, 1999; Schmidt et al, 2001). The exact timing and frequency would depend on the scale of the project and should differ among individual companies. Organisations ought to be focused on whether the progress made is moving towards meeting the project goal. The review should also uncover any potential project obstacles (Chikofsky, 1990). Any deterioration in the project conditions should trigger re-evaluation to see if the troubled project should be abandoned to avoid any escalation of commitment.

5. SUMMARY, LIMITATIONS AND CONCLUSIONS

In this paper, we have used a case study of the short-lived e-purchasing project experience as a vehicle for exploring issues critical to successful project postmortems, which might help organisations in their learning process and prevent future project cancellations. Through the interviews with the stakeholders, we gathered qualitative data about the project postmortem practices in the company. Our findings revealed six factors that were critical to whether or not a project postmortem would be successfully carried out. We found that creating a healthy climate for successful project postmortem is essential for reducing project abandonment. Postmortems should not be for the purpose of seeking scapegoats and assigning blame, but to help first the project in distress and those who follow after. Our objective is to encourage one to broaden the experience by laying hold of the experiences of others, reluctant though they were to, discuss them at times and so learn with them the lessons that they had to learn the "hard way". Experience is undoubtedly the key to success. If one is to learn from the past, one must listen. It is most difficult to get people to listen, let alone learn. It is therefore our sincere hope that the recommended factors and managerial guidelines can help organisations to re-examine

their project postmortem processes and at the same time, create more awareness on the importance of learning from past experiences.

Given that abandonment is a common and costly problem among IS projects (Ewusi-Mensah, 1997), there can be no question about the importance of understanding the nature of abandonment and hence try to avoid it if necessary. As there are very few empirical studies on e-commerce project abandonment, this study represents a contribution to knowledge in this field as it complements the existing studies by demonstrating the importance of learning from past experiences, which could enhance future project management practices. One particular feature that distinguishes this study clearly from previous research is that we have developed a learning perspective by providing prescriptions to avoid future projects from being cancelled. Managerially, the result could provide managers with better knowledge in managing project development process. Moreover, the factors that we discussed could be of great value in terms of guiding management in making decision throughout their development process, especially with regard to managing relationships with stakeholders.

Finally, even though we are convinced that the findings of this study will prove useful to both academics and practitioners, we believe there are many avenues for further research into IS project abandonment. The study breaks new ground in providing systematic evidence that could help explain the need to understand the process of learning from past project experiences. Another direction for future research could be to investigate and understand the dominant factors and their relative influence in the learning process to stamp out project abandonment.

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