

Risk evaluation of ICT investments in Organisations

Written for Idea Bazaar

Abstract: ICT investments are perceived as a high-risk complicated project that is prone to failure and to escalate disruptive states. Choosing proper risk evaluation frameworks is highly important for stakeholders and decision makers. The main objective of this study is to explore and understand risk evaluation of ICT investments within organisations. Adopting the integrative contingency model in managing project risk, this study will investigate the influence of fit between characters of project's risk dimensions (*Risk Dimension*) and characters of ICT risk evaluation methods (*Risk Evaluation Method*) to the outcome of ICT investment projects (*Performance*).

Introduction: ICT investment expenditure has globally grown and represented 40-45% of firm spending (Cha, Pingry, & Thatcher, 2009). To sustain their competitive advantage, organisations need the ability to grasp the changes in realising the business value from successful ICT investments (Peppard & Ward, 2004; Porter, 1996). Nonetheless, survey of the Standish Group (2009) shows low success rate of ICT projects with 44% of the projects exceed their initial budget and 24% were cancelled or never delivered.

ICT investments are believed as high-risk complicated projects that their implementation are subjected to failure (Bannerman, 2008; Parent & Reich, 2009). Beside the challenges in implementing ICT in organisational and social context, multiple project dimensions, e.g. size, structure and novelty, multiple stakeholders involved, and the complexity requirement of today business are also suspected as the reason of difficulty in ICT investment project.

Large and expensive ICT investment project frequently lead to disruptive states and might spell disaster and nightmare for organizations which in worse case ended as abandon system due to inappropriate earlier risk identification and mitigation such as user resistance escalation or unmanageable cost rises from such investment (Christensen & Overdorf, 2000; Davenport, 1998; Parent & Reich, 2009). Almost half of the ICT spending was put on underperforming projects which make failure rates for ICT investment projects remains high (2009; El Emam & Koru, 2008; Keil, Mann, & Rai, 2000; Tiwana & Keil, 2004).

Despite this, our understanding of ICT investment evaluation remains unsystematic. There is ambiguity to what types of methods should be used and uncertainty about the accuracy and the validity of evaluation outcomes. Previous research has shown that the major problem of evaluation frameworks is the lack of underpinning theory (Berghout & Remenyi, 2005). Consequently, there is minor agreement of the accepted understanding of which theories might be used appropriately (Farbey, Land, & Targett, 1999; Melville, Kraemer, & Gurbaxani, 2004). For example, a speculative heuristic matrix to guide the selection of evaluation methods within different condition was made by Farbey, Land, & Targett (1992); however, this matrix used no theoretical underpinning.

Risk evaluation is regarded as an instrument to help organisations preventing and restricting the impact of project failure or any unexpected events as well as grasping successfully the changes involved in ICT investments (Bannerman, 2008; de Bakker, Boonstra, & Wortmann, 2011). The complexity and the importance of risk evaluation in ICT investment gain its relevance over time since performing the project successfully as well as meeting the project's objective is nowadays still a

challenge for organisations; therefore, study of various factors influencing project performance is still needed to improve our knowledge of ICT risk evaluation.(Barki, Rivard, & Talbot, 2001; de Bakker, Boonstra, & Wortmann, 2010; Gemino, Reich, & Sauer, 2007).

Furthermore, current risk evaluation research has recognized enormous amount of risk dimensions which need different risk evaluation method to structuring and managing the project risk (Clemons, 1991). This study will synthesize previous literature of risk dimensions as well as risk evaluation method to identify their underlying characters. Based on the integrative contingency model developed by Barki et al (Barki et al., 2001), this study will investigate the affect of fit between characters of project's risk dimensions and characters of ICT risk evaluation methods to the performance of ICT investment projects. Organizations need to handle the changes involved in implementing such technology by understanding the characters of risk inherent and the characters of risk evaluation method used. Proper understanding of the risk evaluation method used is needed to recognize the evaluative ability of certain method as well as to improve ICT investment project completion. The question that this study will address is:

How the fit between Risk Dimension and Risk Evaluation Method will affect performance of ICT investment project

The novelty of this research is its synthesis of risk dimension and risk evaluation characteristics as well as its empirical work on the relationship between fit and project performance in ICT investment project. This study will contribute to the development of integrated approach which is needed to study ICT risk evaluation (Barki et al., 2001). This study might contribute as foundation for designing control to mitigate risk in ICT investment. This study's empirical finding of project performance determinant is important for project manager in refining prior identification and estimation of ICT investment project's risk.