Enhancing Project Performance through Integrated Risk Management

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Abstract: - This paper provides a systematic and plastic guideline for identifying, classifying, and evaluating of either potential or active risk factors in project management concept. It concludes that risk management is essential to project-oriented activities in minimizing losses and enhancing project performance through integrated risk management and condition-transition-consequences format as a crucial triple helix. The (Zwikael and Ahn 2011)objectives, time and quality. Risk analysis and management in projects depend on the phase of uncertainty, intuition, experience and integrated risk management performance.

Key-Words: - Risk Management, Project Management, Risk Mitigation, Project Performance, Potential and Active Risks and Risk Assessment

1 Introduction

Central to debate on the significance of risk management is the question of, is risk good or bad instinctively? To answer to this question (Van Scoy 1992) indicated that Risk in itself is not bad; risk is essential to progress, and failure is often considered as a key part of learning. But we must learn to keep balance between the possible negative consequences of risk against the potential benefits of its associated opportunity in all. In other words, a risk is perceived as a potential future harm that may generate from some present action. Project mangers proactively and reactively involved in the process of risk management and its mitigation through risk identification, risk classification and risk evaluation (Taherdoost and Keshavarzsaleh 2015).

Moreover, the aforementioned cognitive risk processes are defined respectively; firstly, risk identification is identifying potential factors that have a negative impact on project outcomes. Secondly, Risk classification involves explicit or implicit categorization of these variables. Last but not least, Risk evaluation is about assessing the likely impact of these variables or events on project outcomes. Furthermore, the importance of risk factors considering identification and classification are studied widely in several researches (Boehm and Ross 1989; Barki, Rivard et al. 1993; Keil, Cule et al. 1998; Ropponen and Lyytinen 2000; Tiwana and Keil 2004; Wallace L., Keil M. et al. 2004; Kappelman, McKeeman et al. 2006; Taherdoost and Keshavarzsaleh 2015). According to project management institute's PMBOK, risk is central to an uncertain event or condition that, if occurs, has a positive effect or negative effect on a project's objectives. Risk management has been one of the major concerns of executives and professionals involved with projects today in which triggered by globalization and competition. Risk management is one of the greatest needs in project management. However, it is recognized that has been ignored in some aspects (Ibbc and Kwak 2000; Raz, Shenhar et al. 2002; Zwikael and Globerson 2006; Zwikael and Ahn 2011).

Ibbs and Kwak (2000) introduced for the first time the importance of risk management in various sectors such as telecommunication, manufacturing high technology products, information technology, and construction engineering. By eliminating downside risk and reducing the cost of financial trouble, risk management also can help a company to achieve optimization in terms of optimal capital and ownership structure. The significant discipline of project risk management is pinpointed based on theoretical literature review. It is pinpointed as an attempt to systemize the risk-oriented correlates of success into an eagerly considerable set of principles and guidelines. This paper represents systematic guideline in order to identify, address and eliminate risk items before they arise as a threat in project scope. Also the research implications are provided.

2 Risk Management

Risk management can be broken down into, firstly, risk assessment including; risk identification, risk

analysis, and risk prioritization and secondly, risk control encompassing involves risk planning, risk mitigation, and risk monitoring (Boehm and Ross 1989). Risk management steps are as clarified as follows (Figure 1).

- Risk management planning; is the systematic process of deciding how to approach, plan, and execute risk management.
- Identify risk events; involves determination which risks might affect the project.
- Qualitative risk analysis; assesses the impact and likelihood of identified risks and provides prioritized lists.
- Quantitative risk analysis; is a way of numerically estimating the probability of project success or failure in terms of meeting cost, and time objectives.
- Risk response; is the process of developing options and determining actions.
- Risk monitoring and control; this step tracks identified risks, monitor residual risks, and maybe identify new risks.

The challenges of defining project failures significantly illustrated by (Boehm 2000), where he makes the reasonable assert that all cancellations should not be considered as failure projects. Additionally, Baccarini (1999) perceived that it is important to separate project failure from a product failure. The importance of reducing the waste of resources on project failures motivates the high number of studies concerning the reasons for project failures and ultimately , these studies led to creation of methods to cut down on failure rates according to an extensive survey of what the stakeholders, such as the software developers, project managers, clients and users, perceive are the main failure and success factors of software projects (Linberg 1999; Schmidt, Lyytinen et al. 2001; Charette 2005; Fabriek 2008; Verner, Sampson et al. 2008; Al-Ahmad, Al-Fagih et al. 2009).

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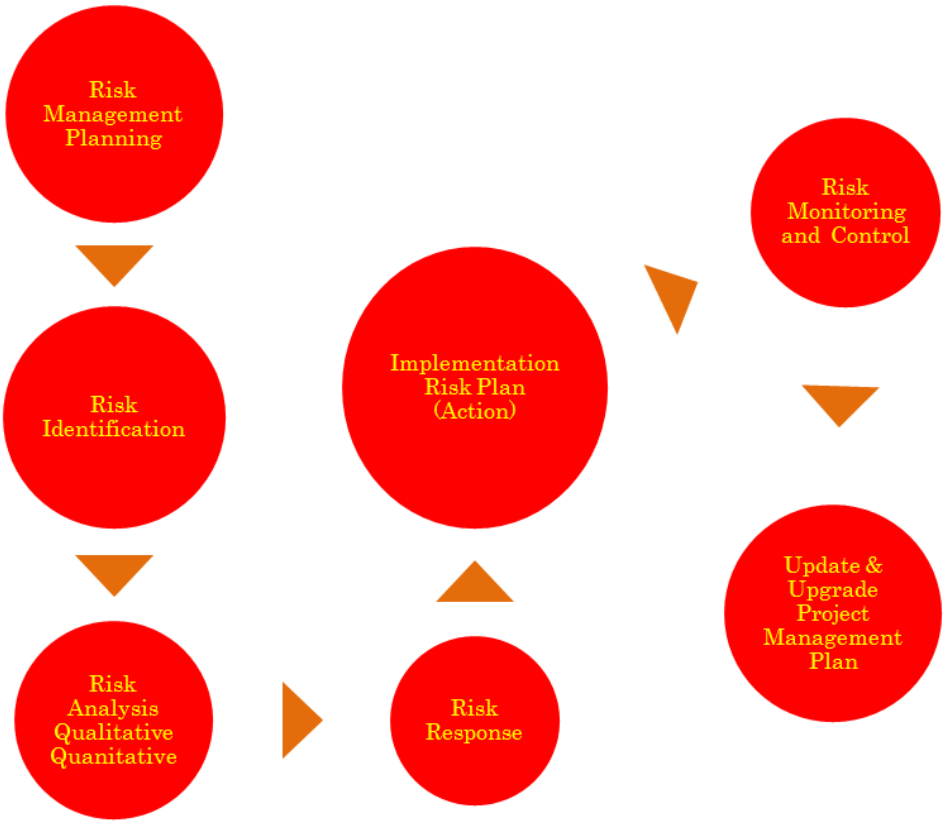

Figure 1. WSDOT Project Management Online Guide (PMOG) Risk Management Steps

In addition, risk factors are inherently linked to negative consequences. The risk management framework is defined, reviewed, sorted iteratively and interpreted by Aubert, et al. (2001) which encompasses; Risks related to the client as members of the project team, as an organization, as part of management and as users of the completed system, risks related to the vendor as members of the project team and as an organization entrusted to provide a service; Risks relating to elements and activities of the outsourced strategic IT development project itself, from pre-contract to post contract (L.M. Abdullah 2008; L.M. Abdullah 2009). Preventing risk events at third party providers has always been a challenge. Therefore, Client and vendor risk factors are identified by Verner and Abdullah (2012) including organizational environment, team, technical and user comprehensively.

Real fail is perceived as any negligence in stockholders management, because the stakeholders incurred the cost and the final results are not fully satisfied in terms of not only it does not match to stakeholders expectations but also not it does not satisfy customers/users perceptions. A risk factor in itself does not cause you to miss a product, schedule or resource target in projects themselves. Accordingly, Verner and Abdullah (2012) recognized project risk factors in complex projects especially information system projects in details of complexity, contract, financial, legal, scope and requirements, planning and controlling and execution respectively.

Central to importance of IT projects risk assessment, the six-item risk perception scale was created by Keil, et al. (2000) likelihood that the project will meet the budget goal, likelihood that the project will meet the schedule goal, estimate of cost overrun, estimate of schedule overrun, and probability of project success and overall risk. The fact of the matter is that, the first two items tap into the probability of negative outcomes considering dimension of risk whereas the next two items tap into the 'magnitude of potential loss or negative outcomes' dimension of the risk construct. All in all, information technology project managers may have limited capacity to influence the organizational environment risk (e.g. factors like politics, organizational support for the project) and requirements risk (change in requirements). Wallace et al. (2004) is recognized User risk, project complexity risk, planning and control risk and team risk as endogenous risk factors because these factors are mostly internal to the project and project managers will have greater degree of control over these factors.

3 Risk Mitigation

Once the risk has been identified, the project teams that have well risk management plans then proceeded with evaluation to quantify the risk exposure of their project. A generic risk area are categorized as technology, planning/scheduling, organizational, market/commercial, scope definition, procurement and materials, commissioning and start up, last but not least health, safety and environment. Mitigation should cover all risk aspects of generic (any uncertainty that, if occurs, would affect one or more objectives), project risk management (an uncertainty that, if it occurs, would affect one or more project objectives), business risk management (any uncertainty that, if occurs, would affect one or more business objectives), safety risk management (any uncertainty that, if occurs, would affect one or more safety objectives), technical risk management (any uncertainty that, if occurs, would affect one or more technical objectives), and security risk management (any uncertainty that, if occurs, would affect one or more security objectives) (Hillson 2002) see Figure 2.

4 Research Implications

It is known that sporadic and spontaneous risk assessment is not solely sufficient. We proposed following techniques that the team can reactively, proactively and systematically apply in the project development cycle respectively to reduce risk tension and mange it in a proper way (WSDOT 2014):

- First; integrated project risk management which encompasses initiate and align including; project description, boundaries, team identification, team mission, milestones, roles and responsibilities, measure of success and operating guideline.
- Second; planning the work which comprises enterprise project structure, work breakdown structure, estimate and budget, risk management plan, change management plan, communication plan, quality plan, and last but not least transition and closure plan.
- Third; endorse the plan which includes endorsement.
- Fourth; work the plan which consists of managing scope, schedule, budget, risk, change, and communicate progress, issues and lesson learned.

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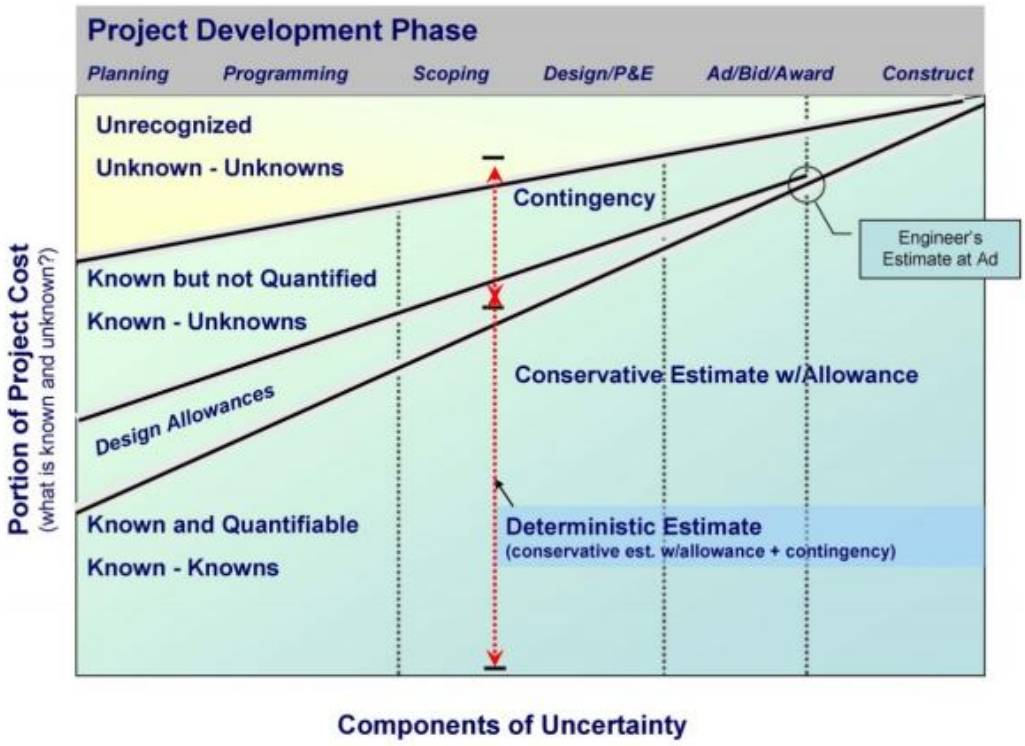

Figure 2. Project Development Phases and Risk Management

- Fifth; transition and closure which refer to transition and closure, lesson learned, rewards and recognition and finally archiving.

All in all, project participants can be reluctant to communicate potential failures of shortcomings and can be optimistic about future. It is significant that all participants are encouraged to report risks and should be rewarded for recognizing that risks and problems as early as possible in an infant stage. We expect to see additional future research concentrating on corporate risk management and its mitigation.

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