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Modeling Impact of Project Management Performance with Among Roles of Project Risk Management and Organizational Culture on Project Success

Baker Ibrahim alkhlaifat* Abdul Aziz Abdullah Sekou Marouf Magassouba
Faculty of Business and Management , Universiti Sultan Zainal Abidin, Terengganu- Malaysia

Abstract
Projects do experience cost overruns, delays, or poor quality performance. There are few studies conducted to measure the influence of Project Management Performance (PMP) on Project Success (PS). Therefore, this paper aims to review the previous studies on the moderating impact of Organizational Culture (OC) and the mediating impact of Project Risk Management (PRM) and the correlation between PMP and PS. A rigorous review of the literature will be conducted to establish these relationships. As a result, this paper provides meaningful theoretical framework on PMP and its connection with project success. The findings would establish the nature of the relationship between PMP and PS as well as to determine the direct or indirect effects of OC and PRM on them. Also, further researches would be beneficial to fill the current research gap for future successful projects implementation.
Keywords: Project Management Performance, Project Success, Organizational Culture, Project Risk Management
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1. Introduction

In the last two decades, increasing discussions had been carried out on the issue of project success, and it has been the most researched topic in project management field (Atkinson, 1999; Cooke-Davies, 2000; Muller, Jugdev, 2012; Müller & Turner, 2007; Munns & Bjeirmi, 1996). As the term "*success*" differs noticeably among scholars (Joslin & Muller, 2015; Muller, Jugdev, 2012), the conventional "*Iron Triangle*", "*Golden Triangle*", the "*Triangle of Virtue*" or the "*Holy Trinity*" criteria of time, cost and quality have been regarded as the most important link to project success (Atkinson, 1999; de Carvalho et al., 2015, Gauthier &Ika ,2012; Westerveld, 2003). However, several projects have often been delivered at the expected time, within the cost and quality, but still considered as failures (see…Gauthier &Ika, 2012; Shenhar et al., 2001), while number of projects have exceeded the expected time or cost but generally regarded as success (Pinto &Slevin, 1987; Shenhar et al., 2001).

These mixed reactions and judgments about the conventional view of success have led to various dimensions and evaluations of project success (de Carvalho et al., 2015; Gauthier &Ika, 2012; Jugdev& Muller, 2005). This implied that there is no single definition of project success as it is given by different stakeholder groups (Chou & Yang, 2012; Davis, 2014, Toor & Ofori, 2008). Therefore, the measurement of project success can differ based on types of projects, perceptions, stages, and in relative or absolute terms (Carvalho et al. 2015). However, the achievement of these project success criteria might be impacted on throughout the life cycle of the project by success factors (Joslin &Muller, 2015; Müller & Turner, 2007). Project management performance is one of these factors (Bryde, 2003a; Luu, Kim & Huynh, 2008; Mir & Pinnington, 2014; Qureshi, Warraich, & Hijazi, 2009) which is meant to improve the effectiveness of the project management in order to increase the likelihood of success (Badewi, 2016;Din, Abd-Hamid &Bryde, 2011; Fernandes, Ward & Araújo, 2015).

Furthermore, the high rates of project failures calls for more concern and indicates that the essential elements that constitute the success of a project are flexible and need more understanding (Judgev & Muller, 2005). These elements cannot be accomplished as guidelines in a standard template or through upgrading tools since prior evidence have shown that they might not improve project success in other context (Davis, 2016; Rasheed, 2015).

However, project management (PM) has evolved alongside with other management discipline such as operations management, information technology (IT), or finance (Kenny, 2003) and researches in these fields are extensive and ever growing (Besner and Hobbs, 2006; Thomas and Mullaly, 2007). Although, extensive researches have been developed to examine the relationship of PM with project success in various industries and organizations, there is still a lack of relevant studies on project management performance impact on project success.

Also, despite several measures provided and tested to improve project management performance towards enhancing project success, the quantity of successful projects is disturbingly small. According to the Standish Group (2012) report, 18% of projects carried out failed, while 43% face challenges. KPMG stated in their (2013) survey that "project activity is on the increase, and so are failure rates." (Davis, 2016; Flyvbjerg et al., 2009;

Khan& Rasheed, 2015). Many projects still fail to achieve their objectives (Joslin & Muller, 2015; Lehtonen & Martinsuo, 2006; Ojiako et al., 2012; Wells, 2013) as projects outcomes are yet under stakeholders' expectations (Cooke-Davies, 2000, 2002; KPMG, 2013; Standish Group, 1995; 2012).

Meanwhile, project management performance (PMP) is the actual practices used in managing a project (Din et al., 2011). Since project management serves mainly as an essential task, consequently it is also vital to measure its performance (Qureshi et al., 2009). Many studies have provided different measures to improve PMP such as key performance indicators (KPIs) and to benchmark (Luu et al., 2008; Yun et al., 2016), assessment models (Bryde, 2003a; Din et al., 2011; Qureshi et al., 2009), embedding project management practices (Badewi, 2016; Fernandes et al., 2015), and project management methodologies (Joslin & Muller, 2015; Vaskimo, 2011).

This paper is related to many areas namely project success (PS), project management performance (PMP), organizational culture (OC) and project risk management (PRM). The interest in these fields has exploded as they emerged in the corporate strategies and on the policy agenda. Internationalization and the globalization have increased the competitive stress on the business organization. Moreover, project management has been widely adopted and implemented in many industries especially those who able to deal with megaprojects.

Therefore, this paper aims to identify and to examine the factors that influence project success through project management performance during using organizational culture (OC) as moderating variable and project risk management (PRM) as mediating variable (Carvalho et al., 2015; Cooke-Davies, 2002; Joslin & Müller, 2016; Khan & Rasheed, 2015; Mir &Pinnington, 2014; Müller &Jugdev, 2012; Müller & Turner, 2010; Shenhar et al., 2001). So the specific objective of this paper would be to examine the moderating impact of organizational culture (OC) and mediating impact of project risk management (PRM) on the relationship between project management performance (PMP) and project success (PS).

2. Literature Review

Investigating the influence of project management performance on project success, and establishing the relationship between them through the moderating and mediating impact of variables such as organizational culture and project risk management will constitute the main objective of this review in general.

2.1 Development of Hypotheses

The development of hypothses aims to shed light on the contructs involved in the study and to find out how organizational culture and project risk management moderate and mediate the relationship between project management performance and project success. To improve the likelihhod of project success, the following hypotheses are proposed:

2.1.1 Project Management Performance and Project Success

Different studies, such as (Mir & Pinningto, 2014; Sarwar & Amin, 2016; Fernando, Walters, Ismail, Seo & Kaimasu, 2018) investigated the impact of Project Management Performance (PMP) and project success across industries. Mir & Pinnington (2014) also examined the relationship between individual PMP and individual Project Success elements. Therefrom, the contribution of PMP in making unequivocal targets, defining objectives and procedures brings the project through its lifecycle to a fuitful and successful implementation (Cleland & Ireland, 2006).

The project management literature argues that there is a positive relationship between PMP and Project Success (Bryde, 2008; Munns and Bjeirmi, 1996). Accordingly, Munns and Bjeirmi (1996) claim that Project Success is dependent on the appreciation of the importance of PMP. They further emphasized on the role regarding the broader organizational strategy and the long-term results of the projects. Moreover, Aftab, Sarwar, Sarwar & Amin (2016) determined the impact of different elements of project management performance indicators and project success. Thus, keeping in view these relationships and alongside of the literature review, the following hypothesis is proposed:

Hypothesis1. *Project management performance has significant and positive impacts on project success.*

2.1.2 Project Management Performance and Project Risk Management

As projects have multifaceted nature and size, and adopting a multidisciplinary strategy in managing projects requires a giving legitimate regard for risk management. A primary hazard management instrument can be useful in overseeing venture chances and enhancing venture success. (Carbone & Tippett, 2004). On the other hand, Girardi, Rebechini & Moutinho (2018) found that the analysis of the presence of risk factors in projects is an important step to prevent damage in the performance, as the impact of risk factors in the performance of projects depends on risk management intensity and the skills of risk managers, but it does not vary with project complexity.

Further, there is an urgent need to discuss risks associated with the project, and to learn how to address those risks with any type of projects in order to improve the project management and project success at all. These results are supported by the findings resulted in (Wu, Nisar, Kapletia & Prabhakar, 2017) studies, which proved that there is a direct relationship between effective PRM and the achievement of project success factors.

Keeping in view these relationships and beside of the literature review, the following hypothesis is proposed:
Hypothesis2*. Project management performance has significant and positive impacts on project risk management.*

2.1.3 Project Risk Management and Project Success

A project risk could be thought to be a conceivable unsettling influence, and its emergence could bring about take-offs from pre-set up framework targets, for example, arrangements, quality, and effects, et cetera. It can be found in many acknowledged writing that the importance of project risk in successful projects is identifying any deviation from the pre-defined project goals (Zhang, 2007). A project risk is characterized as "a dubious project chance occasion or condition that, on the off chance that it happens, has a positive or negative impact on a project's targets" (Duncan, 2005). "Successful project completion depends to a great extent on the early identification of immediate risks." (Datta & Mukerjee, 2001).

Other studies explored the impact of the Project Risk Management (PRM) on the project success, like (De Bakker, Boonstra & Wortmann, 2011; Rabechini & de Carvalho, 2013; Al-Shibly, Louzi, Hiassat, 2013; Carvalho & Rabechini, 2015; Doskočil & Lacko, 2018).Rabechini& de Carvalho (2013) determined the impact of PRM on project success. The experimental results showed that adopting risk management practices has a significant and positive effect on project success.

Moreover, Al-Shibly et al. (2013) determined the impact of PRM on construction projects success from the owners' and employees' perspectives in Jordan. The empirical results showed that there is positive impact of both Risk identification and Risk assessment on project success. The above results are the same results of the study proposed by De Bakker et al. (2011), which investigated the potential influence of various PRM activities on project success in the context of ERP implementation projects. Therefore, keeping in view these relationships and beside of the literature review, the following hypothesis is proposed:
Hypothesis3. *Project risk management has significant and positive impacts on project success.*

2.1.4 Mediating impact of Project Risk Management

Project risk management is a continuous process of identifying, analyzing, organizing and mediating threats project activities and regarding cost, plan, quality, wellbeing and specialized execution (Sadgrove, 2016).

The primary purpose of using a project risk management is to increase organizational value (Dalcher, 2012). The critical question to ask is to what extent social contrasts affect the successful management of projects that traverse crosswise over cultures. Specifically, multifaceted issues are probably going to wind up distinctly an important element, as they have in the management of global joint tasks. It is to get it the cultural differences for projects to be successful (Brannen, & Salk, 2000). The organization can benefit from using a project risk management framework by increasing the effectiveness of human effort in the organization while increasing the efficiency of these efforts. Therefore, project success is measured by its efficiency in the short term and its effectiveness in achieving the expected results in the medium and the long-term (Jugdev et al., 2001; Muller &Jugdev, 2012).

Moreover, De Bakker et al. (2014) examined the influence of risk identification on project success. The findings demonstrated that risk identification significantly and positively influences project success. Also, Junior and Carvalho, (2013) conducted a study that aimed to investigate the effect of project risks management on the project performance in Brazilian companies. They concluded that implementing effective risk management practices has a significant positive impact on the success of the project. They also found that the business environment and risk management techniques are critical factors affecting the project success.

Fernando et al. (2018) used structural equation modeling to investigate the impact of project risk management (PRM) and PMP on the Project Success. The obtained results showed that the PRM has a positive association with PMP and the project success. Also, PRM is a critical component of PMP and project success. According to the existing literatures, there are wide gaps between risk management in theory and practice inside in the organizations, as there is a conflict between the findings of studies which proved the low impact of PRM on project performance. Keeping in view these relationships and beside of the literature review, the following hypothesis is proposed:
Hypothesis4*. Project risk management mediates the relationship between project management performance and project success.*

2.1.5 Moderating impact of Organizational Culture

Organization Culture (OC) is considered as one of the factors that affect the project management performance and project success. The existing studies investigated the impact of the OC on the PMP and project success (Stare, 2011; GU, Hoffman, Cao & Schniederjans, 2014, Lee, Shiue, & Chen, 2016; Mburugu, Mulwa & Kyalo, 2017, Nguyen & Watanabe, 2017). Ochiel et al. (2017) assessed the impact of organization culture on project management performance and defined how project success is reflected by the OC. They concluded that organizational culture impact the project management performance and that would be reflected in its success. They also revealed that projects that exceed the initial planned time and cost usually have poor project outcomes, fewer benefits and a lower degree of success.

Moreover, Bititci et al., (2006) used the dynamic OC to improve the project performance by studying the

performance measurement system. The interrelated studies on management control, management information systems, and performance measurement under the organizational culture perspective led to developing a structure which represents the interaction between the three aspects above. The findings show that organizational culture and management system seem to depend on the development of the performance measurement system. Then organizations need to developed project performance measurement system that enhances the organizational culture.

However, the findings of these studies cannot be generalizable because every organization has different organizational culture and every country have a different culture. And there are several characteristics where some of the organizational factors such as project type and organization size did not take into considerations. Hence, this type of studies should be applied in developing countries, where there are no high levels of organizational culture. Also, the results of prior research found that multiple organizational cultures characterize most projects and the cultures are not always compatible with the culture that the project managers desire. Keeping in view these relationships and beside of the literature review, the following hypothesis is proposed:
Hypothesis5*. Organizational culture moderates the relationship between project management performance and project success.*

3. Conclusion

This paper reviewed the empirical literature in project management. The primary concern of project management is to improve its conceptual foundations. Project management performance has a positive effect on project success. The empirical reviewed results conclude that Project performance (PMP), organizational culture (OC) and project risk management (PRM) have a significant influence on successful projects. These factors cannot be ignored while working on any type of projects. The finding expected from this paper would help project managers, team and employees who are working in project management field to improve their performance and to be more efficient and effective in managing projects. The study will be useful for making changes in employees' behaviors in a way that can be reflected positively on the project success. Also, it is expected to provide useful information for stakeholders. Such results will contribute in framing a new visions and developing new strategies. Findings would make more interesting the investigation of the moderating impact of Organizational Culture (OC) and mediating impact of Project Risk Management (PRM) and the relationship existing between PM Performance and the project success. Therefore, it is expected to fill the gap in the relevant literatures in improving the success of projects.

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