



Influence of Benefits Realization Management on Business Strategies and Project Success in Pakistan's Construction Projects

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ABSTRACT

Benefits realization management (BRM) practices are supposed to be the one of the key promising solution for developing business strategies and for project success. This concept is evaluated in the perspective of Pakistan's construction industry where the project managers keen to develop the business strategies in order to reduce the gap between effective planning and project executions. The objective of the study is to examine the impact of BRM practices on business strategies and project success in the Pakistan's construction industry. The project success measured by the project output, project goals and the project customer, while BRM practices measured by the project planning, project review, project realization and project strategy. The results of Model-1 show the influence of success dimension factors on project success which reveals that, out of four dimension factors, 3 success factors positively associated with the project success, while schedule goals have a negative relationship with the project success. The results of Model-11 show the influence of BRM practices on project success in three different regression paths. In the first regression path, 7 BRM item shows their significant relationship with the project success, out of which 2 of them having a negative relationship with the project success while remaining 5 of them having a positive relationship with the project success. In the second regression path, out of four BRM factors, three have a positive relationship with the project success, while the remaining BRM factor shows a negative association with the project success. Finally, in the third regression path, the aggregated value of BRM practices tends to show the positive relationship with the project success in the Pakistan's construction projects. The results of Model-111 indicate BRM practices have a positive relationship with the business strategy in the construction industry; however, the intensity of BRM practices is comparatively low to influence business strategy as compared to larger influence of BRM practices on project success. The study conclude that BRM practices deem desirable for project success i.e., there is required a strong policy vista to device policies in order to strengthen the capabilities of project managers to fore see the future challenges across the construction industry.

Keywords: Benefits Realization Management, Project Success, Business Strategy, Construction Industry

JEL Classifications: C83, M11

1. INTRODUCTION

Benefits realization management (BRM) is one of the widely concerned area for the project management success. It is the set of the structured processes that contained the four utmost factors including project planning, project review, project realization and project strategy that close the gap between strategy planning and its execution (Serra and Kunc, 2015). The implementation of BRM practices on construction industry is the need of the time as the Project Managers faces different multiple tasks in

order to complete projects successfully. The main hurdles are energy shortages, low government priorities and price hikes of the construction raw material. Construction industry is one of the growing industries of Pakistan that contributed 12% share in the industrial sector and contributed around 2.4% in the total share of GDP in 2014-2015. Construction sector contained more than 7% of total labour force (GoP, 2015).

Pakistan's construction industry is considered one of the largest industries that associated with the Pakistan's economic

growth. This sector is neglected due to political instability and Government ignorance, besides that there are no formal procedure is available to secure bank loans, as financing available on housing is on very high interest rates. There are the following facts and figures for the years 2014-2015 are as follows i.e., there is a momentous growth is recorded for the year 2014-2015 in the large scale manufacturing (LSM) industries from 2.5% to 4.6% from the previous year. If we compared the year on year growth rate of LSM industries, it was far higher than the previous year i.e., in March 2014, the LSM growth rate was 1%, while in the year 2015 March, the growth rate is around 4.5%. Automobile sector shows the tremendous growth over the previous year's i.e., percentage growth in the trucks are 53.9%, growth in the cars are 44.6%, Jeeps increases by 23.1% and LCVs registered growth of 31.2%, respectively. There is a significant increase in the mining and quarrying sector which grew by 3.8% in 2014-2015 as against 1.6% in 2013-2014. Soap stone 41.68%, crude oil 14.03%, gypsum 8.11%, coal 4.12% and lime recorded the growth of 3.73% respectively. There are some negative growth rates in different items including phosphate, dolomite, sulphur, bauxite and magnesite are 47.75%, 46.87%, 42.06%, 25.69% and 7.44% respectively (GoP, 2015).

1.1. Research Question(s)

Project success and project failure is the two sides of the same coins. Pakistan's construction industry has no exemption from them. There are numerous factors that affected the Pakistan's construction industry including massive urban population, low social development, low priority of Government and hike in real estate prices, all are badly affected the middle and lower strata of society to afford the decent housing unit. For this purpose, the present study selected the Pakistan's construction industry and evaluated the perceptions of construction managers regarding the BRM practices, project success and business strategies. The following are the prescribed research questions for the study i.e.:

1. Whether the BRM practices improve the skill of the project managers in order to complete the project on time,
2. Whether the BRM practices useful for the project managers in order to device sound business strategy, and
3. Whether the BRM practices amplify the success dimension factors in order to complete the project successfully.

These research questions required in depth knowledge regarding the BRM practices, business strategy and project success, which are able to highlight the sound and imperative policy conclusion for Pakistan's construction projects.

1.2. Research Objective(s)

The main objective of the study is to examine the impact of BRM practices on project success and business strategies. For this purpose, the study selected the Pakistan's construction industry projects and evaluated the following sub-objectives, which are as follows:

1. To examine the extent of different success dimensions on the project performance,
2. To examine the impact of BRM practices on project success, and

3. To examine the impact of BRM practices on success dimensions.

1.3. Significance of the Study

BRM practices are one of the widely used indicators that measured the effectiveness of project management practices across the countries. Pakistan's construction projects required sound and effective business strategies to compete with the globalized World, therefore, the BRM practices is one of the promising solution for the country. This study has a significant contribution both in the theoretical and empirical considerations. Theoretically, this study evaluates 12 BRM practices items which encompasses 4 main factors including project planning, project review, project realization and project strategy. These factors influenced the project success and business strategy that are deem desirable for empirical perspectives. Further, the study assesses the different success dimension items on project success which indicates the importance of project trajectories in the successful project management procedures. As far as empirical contributions of the study, this study employed sophisticated statistical techniques, including Cronbach's alpha, Factor analysis, multiple correlation and regression.

2. LITERATURE REVIEW

BRM is one of the crucial factors that facilitate to develop the successful business strategies, which helpful to reduce the project costs and finished it on the desired time period. There are number of scholarly literature available on key business strategies, however, there is a clear missing link of BRM practices in their developed business strategies.

2.1. BRM Practices and Project Success

Munns and Bjeirmi (1996) argued that the role of project managers circling around the different established areas including project planning, project control, project cost and project quality. This study focused on the relationship between individuals project and its management and identified the different roles performed the economic agent for the profitable payoff of their projects. The study demonstrates the key successful project benefits areas for the project managers to developed strong business strategies. The study focused only on the four components of conventional project management tools that required extensive work on BRM practices and its impact on the business strategy and overall business performance in a project. Belout (1998) emphasized the role of human resource factor in the planning, execution and success of the project coupled with the project budge, project completion and project quality. The study argued that there are clear missing link of human resource factors in the project management process that deem desirable for including personnel factors in the business strategies. The study included human resource factors and evaluated the project success and confined that personnel factors played a vital role for formulating the business strategies. The human resource management (HRM) practices have a consistent role in decision making policies that should be considered with the project success dimension factors in a project. Atkinson (1999) discussed the different aspects of information technology success criteria for developing the project strategies. The Iron

triangle is evaluated to measure the project management success that includes the three main parameters including project cost, project time and project quality. Project quality is the subjective and it might be the normative concepts, however, there is no such confusion between the project time and project costs, both should have to be on time and on the designated limits. The project success is evaluated in the perspectives of stakeholders and proposed the new success criteria that work better as Iron triangle. The study focused on triangular relationship between project success, project quality and project cost that should be aligned with the BRM factors for making their project outcomes more feasible in their running projects. Edum-Fotwe and McCaffer (2000) stress the importance of knowledge, training and experience, that prerequisite for developing the project strategies and for project success. Training enables project managers to think beyond the box and modified their strategies according to the current market demand. The study focused on the professional skills of the project manager that may be affected by the market situations. The study argues that project management certification is one of the basic requirements that should have to fulfill the project managers for practical knowledge. The study identified through the survey that knowledge, skills and competencies played an important role for project success. Chan et al. (2002) argued that conventionally project time, project cost and project quality are considered be the project success criteria, however, these success factors still be in the debate of project development process. The study builds the proposed framework to evaluate the critical success factor for construction industry which are in value of education and for practical purposes. The study still around the conventional parameters of project management tools, that should be well versed with the project planning, project review, project realization and project strategy for the construction projects.

Westerveld (2003) highlighted the different dimensions of project management including success criteria of the project and critical success factors, both have a conceptually differ with each others. The study adopted the "project excellence model" in which both the success factors and critical success factor incorporated to evaluate the project performance. The results concluded that the project excellence model outweigh the previous project management process. The study successfully launched the "project excellence model;" however, it does not account the elements of business strategy that would helpful to receive the desired project outcomes. Belout and Gauvreau (2004) focused on the human resource factor for project success and found the following conclusive results, i.e., personnel factors have an established link with the project success, however, in the correlation analysis of this study, the result failed to express any significant relationship between them. Further, the significant factors that affect the project success are the management support and trouble - shooting variables. The study recommended human resource management in the project management process. It has no doubt about that personal factors and HRM practices both necessary for launching the project success phase, however, project goals, and return on investment both feasible for long-term project success that should be included in the project management policies. Li et al. (2005) examined the key critical success factors for public-private partnerships and/or private finance initiative in the context of UK and found that

sound private consortium, risk factors and financial resources are the three critical success factors derived through the questionnaire surveys. The remaining success factors drawn from the factor analysis i.e., project procurement, project feasibility, economic stability and government guarantee respectively. These factors influenced on the private financial initiative about the development of the projects. The study drawn some feasible success factors from their survey, however, the study should have to be considered some business realization concept for evaluating the project success. Pheng and Chuan (2006) examined the working environmental factors on the project manager's performance in the public-private sectors. The study sample out 30 project managers from the public and private sector and found that the difference in opinions both in the consultant project managers and the contractors. The results reveal that working hours, project site condition, project complexity, supplied and material, size of the project, project duration and project time significantly affected the project manager's performance in the public-private sectors. The public-private mutual partnership is one of the desirable ways to evaluate and promote the desirable project outcomes.

Muller and Turner (2007) comprehensively surveyed the 959 project managers from different types of projects and industries, and evaluated the project success criteria's that differed by the particular industries, project complexities and demographic characteristics of the project managers. Both the theoretical and managerial implications have been discussed for project success. The study is well place in the existing literature, however, without evaluating the business strategies and its impact on project success indicate the new era of working for the long-term project success. Scott-Young and Samson (2008) examined the 56 newly completed capital projects by 15 fortune 500 companies in the process industries and found that project team collaboration, cross-functional project teams, project team structure, and virtual office usage significantly affected the project cost. In addition, project leadership, project teams and incentives are the major elements that positively affected on the project construction schedule. While, project goals and office design are the main predictors of plant operability. The study mostly evolved around the ergonomics of the projects where the tangible items associated with the project goals and its success, however, there is a missing clue in the form of effective business strategies and business realization management practices for the long-term project success. Muller and Turner (2010) investigated the project manager's competency profiles in different types of projects. The survey from 400 respondents were evaluated on leadership development questionnaire and found that critical thinking and motivation level both were the strong predictor that have been in the successful managers. The study mostly linked with the perceptions of project managers and their critical thinking about their project, however, it would be more confined if they included and evaluated different success dimension factors in their study for projects' desirable outcomes. Mir and Pinnington (2014) investigated the interrelationship between project success and project management performance in the context of United Arab Emirates based project organizations. The data of 154 respondents confirmed the positive impact of project management performance on the project success. This study prescribed the number of policy implications to the project

managers that enable the project managers to develop the project quality accordingly. The study does not account for business strategy that would be necessary for evaluating the projects' desirable goals and associated outcomes. Kaiser et al. (2015) considered the case study of German construction industry and evaluated the relationship between project selection and organization structure that are the component of project portfolio management (PPM). The success criteria is established with the theoretical knowledge and found that PPM facilitates to align the project portfolio with strategic goals. The PPM is one of the critical notion to evaluate the project success factors that would be the need for this current era.

2.2. BRM Practices and Business Strategy

The previous literature unfolds the relationship between BRM practices and business strategy. Lin et al. (2005) stress the importance of IT that generate sufficient payoffs for the organization. The study argue that how IT system in many organizations rapidly over the period of time which lead to managed the IT related projects' costs and scheduling costs. This study managed the detailed survey of the two largest governmental departments which operated the IT related projects. The results show that BRM practices considerable impact on the IT projects which considered be one of the important part of the business strategy. The study sufficiently covered the BRM practices, success factors and project success, while business strategies were absent from their analysis. It is a matter of fact that sound business strategies minimize the losses and provide a way of thinking for future outcomes. Gregor et al. (2006) examine the information technology enabled organizations which considered be the project realization value at the firm level. The study used standardized questionnaires and sent them around 1050 project managers in different IT based firms which are quite different in terms of size of the firm and across the other industries. The results show that there is a significant and positive relationship between firms' transformational benefits and IT-generated business benefits. These findings facilitate to develop the IT based model for managerial practices. The study is well equipped with the IT generated business benefits; however, it should be more interlinked with the BRM practices and business strategy that would be helpful to draw a long-term project success with desirable outcomes. Standing and Lin (2007) examined the interrelationship between project constraints, project evaluation practices, project benefits and its resulting impact on the B2B e-commerce investments. The results show that the project constraint significantly affected the degree of project evaluation, while the project evaluation methodologies significantly affected the project benefits which derived from B2B e-commerce. The study conclude that B2B e-commerce model further may used for project evaluation methods that may help to strengthen the organizations net returns investment. It has no doubt that B2B e-commerce amplify the projects' financial performance, it would be further well equipped with the project planning, project review, project realization, and project strategy for sustained payoffs. According to Trkman (2010 p. 125), "Although business process management ('BPM') is a popular concept, it has not yet been properly theoretically grounded. This leads to problems in identifying both generic and case-specific critical success factors of BPM programs."

Young et al. (2012) examined the relationship between project management effectiveness and project investment framework in Victoria State and found that both the techniques are considered be the best practices that show one of the successful business strategies. However, it may be noted that both the factors may have a necessary condition for the project success, while it would not be the sufficient condition, as project strategy played a key role to enhance the projects' applicability for long-term project success. Forcada et al. (2013) examined the knowledge management procedure in the Spanish construction sector and found that knowledge management played a vital role to strengthen the Spanish construction industry, however, there is still required sound policy implications related with the business strategy and project success at country level. Love et al. (2014) presented the BRM framework for evaluating building information modeling (BIM) in terms of strategic business outcomes and concluded that BRM practices significantly strengthen the BIM processes in the learning organization. The asset ownership and role of information technology also argued parallel to the BRM practices and confined that information technology alone may not resulted in to the desirable business outcomes, therefore, the BRM practices for business change is the desirable option to evaluate BIM process of automation in construction. Reich et al. (2014) examined the relationship between knowledge management and project success in 212 - IT enabled business projects and found the significant positive association between the components of knowledge management and project success. It is desirable to interlinked business strategy and BRM factors with the knowledge management in order to improve the project performance towards future project goals. Doherty (2014) examined the potential impact of social and technical design on IT based organization and argued that BRM practices provide not only desired business outcomes, while it provide a technical support to design effective business system in organizational setup. Too and Weaver (2014) discussed the role of management under governance framework to make a strategic decision regarding the effective support governance for their business setup and found four critical factors of effective management, i.e., project sponsorship, portfolio management and effective project management with BRM practices.

Winch and Leiringer (2015) presented the key concept regarding the infrastructure development and capabilities of owner project. For this purpose, the study used different concepts and measurement in order to develop the "strong owner" concept and found that project owner are more strategic planner to developed project infrastructure. The project owner should be well versed with the project management tools and techniques that would be helpful to critical thinking about the different project success factors, BRM practices, and business strategy for long-term project success.

The above cited literature indicates the importance of BRM practices which significantly influenced the business strategy and project success across the globe. Pakistan's construction industry has no exemption to avoid the BRM practices in a country; therefore, this study initiates to examine the influence the impact of BRM practices on the project success and business strategy in the Pakistan's construction industry.

3. THEORETICAL/CONCEPTUAL FRAMEWORK

3.1. Research Framework

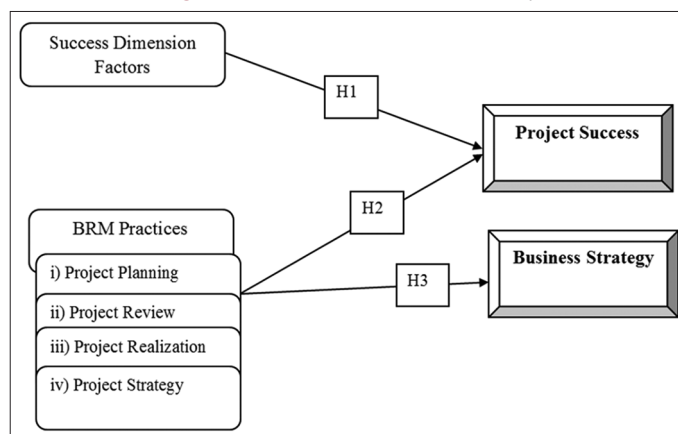
Research framework is one of the important element in order to design the systematic flow of work related with the theory. The study adapted the research structure from the work of Serra and Kunc (2015) that facilitate to analyze the influence of BRM practices on project success and business strategy. Previously project management system comprises three conventional factors including project costs, project schedule and project scope, however, at the later stages of project development, these factors amalgamated with the more key performance indicators including project outcomes, return on investment and business case. The modern project management comprises the BRM practices factors and success dimension factors that evaluated the project success under the guideline of the business strategy. In this study, there are 12 BRM items which are grouped in to four main factors including project planning (4-items), project review (3-items), project realization (3-items) and project strategy (2-items) respectively. The study examined the impact of either 12 BRM items, or 4 factors and/or average of the concerned items on the project success. There are number of previous literature also confirmed the positive influence of BRM factors on project success including Bradley (2010), Melton et al. (2008), Zwikael and Smyrk (2011) etc. These studies also confirmed the BRM items in different traits of the industries. In addition, the study used project success dimension factors that indicate the importance of success factors on project success. Finally, the business strategy is one of the focal point to raise the concern on the effectiveness of the project, therefore, the BRM practices enables the project managers to foresee the future business challenges with the execution of sound business strategy for their project.

3.2. Research Model

The study proposed the following research model in order to achieve the study's objective.

Figure 1 hypothesize the positive relationship between BRM practices, project success and business strategies, as BRM practices is the effective performance measure in order to evaluate the development of successful projects. The previous literature supported the positive relationship between BRM practices on project success and business strategies. Munns and Bjeirmi (1996) emphasize the importance of success factors in the project success and critical evaluated these factors to link with the company's business strategies. Shenhar et al. (2001), Westerveld (2003), Li et al. (2005) and Raymond and Bergeron (2008) all studies strongly indicate the positive connectivity between different success factors and its resulting impact on the project success. In the second stream of analysis, Budayan et al. (2015), Srivannaboon and Milosevic (2006), Teece (2012) and Young et al. (2012), all studies endorse the significant relationship between BRM practices and business strategy. Finally, the positive relationship between BRM practices and project success has been found in the previous studies of Hughes et al. (2004), Love et al. (2014), Mossalam and Arafat (2015) and Serra and Kunc (2015).

Figure 1: Research model for the study



Source: Adapted from the work of Serra and Kunc (2015)

All of the studies strongly correspond to the positivity between BRM practices, project success and business strategy across the different countries and industries settings.

3.3. Hypothesis of the Study

The following hypothesis is being formulated on the basis of research framework and objectives of the study i.e.

- H₁: There is a significant and positive relationship between success dimension factors and project success, ceteris paribus.
- H₂: There is a significant and positive relationship between BRM practices and project success, ceteris paribus, i.e.
 - H_{2a}: There is a significant and positive relationship between project planning and project success.
 - H_{2b}: There is a significant and positive relationship between project review and project success.
 - H_{2c}: There is a significant and positive relationship between project realization and project success.
 - H_{2d}: There is a significant and positive relationship between project strategy and project success.
- H₃: There is a significant and positive relationship between BRM practices on business strategies, ceteris paribus.
 - H_{3a}: There is a significant and positive relationship between project planning and business strategies.
 - H_{3b}: There is a significant and positive relationship between project review and business strategies.
 - H_{3c}: There is a significant and positive relationship between project realization and business strategies.
 - H_{3d}: There is a significant and positive relationship between project strategy and business strategies.

These hypotheses have been formulated on the basis of objectives of the study, and it would facilitate to interpret the results in an efficient manner.

4. RESEARCH METHODOLOGY

4.1. Research Design

This is the survey data which quantified through the standardized questionnaires adapted from the work of Serra and Kunc (2015). The main objective is to examine the relationship between BRM practices and project success in Pakistan's construction projects.

Different dimensions of success also evaluated in order to examine the influence of BRM practices on it.

4.2. Sample Design

4.2.1. Population frame

The population or universe of the current study consists of all the construction projects and the construction managers that are actively operating and working in Pakistan.

4.2.2. Sample size and sample selection

The sample of the current study comprises 20 construction projects in which 200 project managers are working in it, considered as the sample of the study. The project managers working in different sites of the construction projects are the target audience of the study. The simple random sampling technique is used for project managers' selection. The study determined sample size by the following formula proposed by Krejcie and Morgan (1970, p. 670) i.e.

$$s = X^2NP(1 - P) \div d^2(N - 1) + X^2P(1 - P).$$

Where, "s = required sample size, X^2 = the table value of Chi-square for 1° of freedom at the desired confidence level (3.841), N = the population size, P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size) and d = the degree of accuracy expressed as a proportion (0.05)."

4.2.3. Pilot study

The study used standardized questionnaires to obtain the desired data set from the project managers. Before sending the questionnaires, the study conducting a pilot study to confirm the validity, content analysis, relevancy, and accuracy of the questionnaires and distributed 10 questionnaires to the academic professors that were previously served in the construction projects in order to check the relevancy of the questionnaires' items and their appropriate constructs. After receiving the feedback, the study was made appropriate changes in the questionnaires and then sends them to the project managers.

4.3. Instrument Development

4.3.1. Variables and their measures

There are three main variables with different sub-variables used to assess the impact of BRM practices on project success and success dimension factors. The study adapted the standardized questionnaire from the work of Serra and Kunc (2015). The questionnaire consists of four main variables i.e., (i) Project success, (ii) success dimension factors, (iii) business strategy, and (iv) BRM practices.

- I. Project success: It comprises three questions i.e.,
 - Q1. Whether the project was successful in all dimensions?
 - Q2. Whether the project met the set budget goals?
 - Q3. Whether the outputs received from the project is desirable?
- II. Success dimension factors: It contains four questions i.e.,
 - Q4. Whether the project's outputs have supported the business to produce the expected outcomes?
 - Q5. Whether the undesired outcomes were properly administered?

- Q6. Whether the project has offered the expected payoffs? And
- Q7. Whether the project's outcomes in line with the planned business strategies?

III. Business strategy: Business strategy is the average of project success and success dimension factors, as project success criterion is one of the desirable option to evaluate the business strategy in any of the project, therefore, the study adopted the same idea, and construct the same variable by using the project success and its dimension factors in Pakistan's construction projects.

IV. BRM practices: BRM consists of twelve items under the four sub-variables including project planning, project review, project realization, and project strategy. The BRM practices consist of the following 12-items i.e.

- A. Project planning
 - Q1. Whether the expected project outcomes were clearly described?
 - Q2. Whether the value created to the particular organisation by project outcomes was clearly measurable?
 - Q3. Whether the strategic objectives were clearly defined by the project outcomes?
 - Q4. Whether the project idea was approved before the project execution including all inputs, outputs, expected returns etc.?
- B. Project review
 - Q5. Whether the project related matters were timely reviewed?
 - Q6. Whether the stakeholders were aware from all the project related matters?
 - Q7. Whether the actual project outcomes in line with the planned expected outcomes?
- C. Project realization
 - Q8. Whether the training, support, monitoring, and outcomes evaluation were properly executed?
 - Q9. Whether the organisation kept monitoring project outcomes after project closure?
 - Q10. From the first delivery to the project's closure, whether the organisation performed a pre-planned, regular process to ensure the integration of project outputs into the regular business routine.
- D. Project strategy
 - Q11. Whether the project benefits management strategy is applied throughout the company?
 - Q12. Whether the project benefits management strategy was applied for the project under analysis?

The 5-point Likert scale is used to assess the perceptions of project managers regarding the set questions from the rating scale of 1 - Strongly disagree to 5 - Strongly agree

4.3.2. Treatment of scales

The study used 5-point Likert scale for quantified the data ranging from 1 - Strongly disagree to 5 - Strongly agree.

4.4. Data Collection Procedures

The study adopted simple random sampling procedure in order to select the Pakistan's construction projects and the project managers

working in it. The study evaluated only those project managers in the sample firms that at least successful finished their first project and has at least 2 years of experience.

4.5. Level of Analysis

The study construct three main models in order to achieved the study's objectives i.e.

Model-1: Influence of success dimension factors on project success

- Dependent variable: Project success.
- Independent variables: Success dimension factors.

Model-11: Influence of BRM practices on Project Success

- Dependent variable: Project success.
- Independent variables: BRM factors.

Model-111: Influence of BRM practices on Business Strategies

- Dependent variable: Business strategies.
- Independent variables: BRM factors.

4.5.1. Respondents

The respondents are the Project Managers of the sample firms. The study selected 20 construction firms and 200 project managers that are actively working in these firms. At least 10 questionnaires send to each of the firms. The study used social media like LinkedIn, to gather the information about the construction firms and Project Managers, while them approach to send questionnaires via emails and hard copies where required.

4.5.2. Study area

The study area covered the Pakistan's construction industry, followed the 20 firms from it on the basis of random sampling technique (Khan et al., 2014; Kaiser et al., 2015). The list of the sample firms are as under:

1. M/s. Jacobs Engineering Group Inc., Pakistan
2. EA Consulting (Pvt.) Ltd.
3. Descon Engineering Limited
4. Bahria Town (Pvt.) Ltd.
5. ICI Pakistan
6. M/S.Zishan Engineers (Pvt.) Ltd.
7. Malka Protein Farms and Constructions industry Veterinary
8. Mughals Pakistan (Pvt.) Ltd.
9. Byco Petroleum Pakistan Limited
10. AHC and amp; Company (Pvt.) Ltd.
11. SEFEC Engineering Pvt. Limited
12. Eden Housing Ltd.
13. Mian Builders (Pvt.) Ltd.
14. Service Masters
15. Maaksons (Pvt) Ltd
16. Swiss Agency for Development and Cooperation
17. KSS Engineering (Pvt.) Ltd.
18. Al-Masila Est. Construction and Oil Field Services
19. Hashoo Group Pearl Real Estate Holding (Pvt.) Ltd.
20. Habib Rafiq(Pvt.) Ltd.

4.6. Data Analysis Techniques

4.6.1. Reliability and validity

The reliability of the questionnaire is detected from the Cronbach's alpha, while the construct validity of the questionnaire is evaluated from the Kaiser-Meyer-Olkin (KMO) value in the factor analysis,

as higher value of KMO indicates the higher correlation factor between the variables. The value of KMO is greater than the value of 0.5, it would justified the use of factor analysis in this study.

4.6.2. Correlation matrix

The following possible relationship expected from correlation technique including positive correlation (direct relationship between the two variables), negative correlation (indirect or inverse relationship between the variables), zero correlation (no correlation between the variables), High correlation (either positive or negative, mostly the correlation value greater than the value of 0.5), medium correlation (either positive or negative, mostly correlation value is >0.25 to <0.50), and low correlation (either positive or negative, mostly value is >0 but <0.25 value). Correlation coefficient is used to measure the strength and direction between the BRM components, project success and business strategies.

4.6.3. Multiple regression

Regression technique is one of the widely used statistical techniques that examined the relationship between more than two variables. The regression technique used to measure the functional relationship between BRM practices and project success in this study.

4.6.4. Software

The study used Statistical Packages for Social Sciences (SPSS, v.19) software to estimate the coefficients.

5. RESULTS AND DISCUSSION

This section presented the results of the survey. The study selected the 20 construction firms that are actively working in Pakistan, and send them questionnaires to the 200 project managers. The received questionnaires were 127 which around 63.5% response rate. The response rate was highly acknowledging as the project managers remain busy in their schedule work, and they spend time to participate in this study to given response to the prescribed questionnaires is appreciated.

5.1. Demographic Survey

The study first described the respondent's demographic characteristics that are related with their gender, age, education, and income of the respondents. Table 1 shows the demographic characteristics of the program managers. The demographic results show that only 7 females are working as a project manager, while the remaining 120 are males in the sample firms. This job is male dominant and very few female opt this profession. Only 5.5% of the female participation rate in the field of project managers in the selected construction firms. As far as age of the project manager is concerned, the major chunk shows is in the age bracket of 37 years to 43 years which considered be the mature age of the respondents. The sense of work achievement is more visible in this age bracket. Subsequently, 33 project managers are within the age range of 44-50 years, followed by 16 project managers are lie in between the range of 25-30 years of age, 10 program managers are more than the age of 50 years, and finally, only 9 program managers are belong to the age range between 31-36 years respectively.

The academic profile of the program managers mostly hold the Masters degree i.e., about 76.4% have a Masters degree, 12.6% have MPhil/MS degree, 8.7% have bachelors degree and only 2.4% program managers have a PhD degree. There are more than 50% of the program managers (i.e., 54.3%) drawn the salary in between the PKR 50,001-PKR 60,000, while 22.8% program managers earned around PKR 40,001 to PKR 50,000. There are about 11.8% program managers received the salary is in the range of PKR 60,001-PKR 70,000, while 7.9% and 3.1% program managers received the salary between PKR 30,000-PKR 40,000, and more than PKR 70,000 respectively. The demographic survey shows the respondents profile for ease to understand the maturity of the selected sample.

5.2. Descriptive Statistics, Reliability and Validity Analysis

Table 2 shows the descriptive statistics, items reliability and validity. The results show that the Cronbach's alpha value exceeds the value of 0.50; therefore, we may safely conclude that the questions considered reliable and appropriate.

The survey results show that the 'project planning' has a mean value of 3.683, with the standard deviation of 0.490 and have a variance of 0.241 respectively. These statistics show that on an average, the project managers mutually agree with the project planning phase. The second component of the BRM practices was the 'project review' which has a mean value of 3.813, with

the standard deviation of 1.347 and has a large variance of 1.816 respectively. These statistics show the dispersion of the value around the mean value. The third component is 'project realization' which has a mean value of 3.417 with the standard deviation of 0.612, and has a variance of 0.376 respectively. The result indicates that the project managers generally not express their views regarding the "project realization phase" which should have to be more precise to evaluate the project success through project realization. The forth and last component of BRM practices are the "project strategy." The survey results show that the mean value of "project strategy" is 2.669 with the standard deviation of 0.802 and have a variance of 0.644 respectively. The average of all 12-items of BRM practices indicates the mean value of 3.480, with the standard deviation of 0.392, and having a variance of 0.154 respectively. Table 2 further indicates the validity of the construct through KMO test. The result shows that all the constructs have a higher KMO value i.e. exceed the bench mark value of 0.5; therefore, there is good justification to proceed for factor analysis in the subsequent section.

5.3. Correlation Matrix

Table 3 shows the correlation matrix between the variables. The results show that project success has a positive correlation with the two components of BRM i.e., planning and review, while, there is negative relationship with the other two components of BRM i.e., realization and strategy respectively. The overall value of BRM practices has a low correlation with the project success. The relationship between the project success and business strategy has a positive correlation between them, as the correlation coefficient value is 0.341 which significant at 1% level. BRM practices have a positive and significant association with their counter parts. The correlation matrix however, shows the low correlation between the variables. One of the possible reasons is due to the dispersion of the responses, therefore, the correlation coefficient value is low, however, we may assess the results of multiple regression where the functional relationship between the variables assessed and interpreted accordingly.

5.4. Multiple Regression

Table 4 shows the multiple regression result for Model-1 which examined the impact of four success dimension factors on project success. These factors include project goals, undesired outcomes, return on investment and business case. The results show that there is a significant and positive relationship between project goals and project success which imply that project goals enhance the project's acceptability and it met the set of desired budget goals. The second success factor i.e., schedule goals have a significant and negative relationship with the project success, which implied

Table 1: Demographic survey of the program managers

Respondents' characteristics	Frequency (%)
Gender	
Male	120 (94.5)
Female	07 (5.5)
Age of the respondents (years)	
25-30	16 (12.6)
31-36	09 (7.1)
37-43	59 (46.5)
44-50	33 (20.0)
More than 50 years of age	10 (7.9)
Academic profile	
Bachelors degree	11 (8.7)
Masters degree	97 (76.4)
MPhil/MS degree	16 (12.6)
PhD degree	03 (2.4)
Salary	
PKR 30,000-PKR 40,000	10 (7.9)
PKR 40,001-PKR 50,000	29 (22.8)
PKR 50,001-PKR 60,000	69 (54.3)
PKR 60,001-PKR 70,000	15 (11.8)
More than PKR 70,000	4 (3.1)

Table 2: Descriptive statistics, reliability and validity analysis

Variables	N	Mean±standard deviation	Variance	KMO test	Cronbach's alpha
Planning	127	3.6831±0.49043	0.241	0.761	0.812
Review	127	3.8136±1.34758	1.816	0.828	0.799
Realization	127	3.4173±0.61287	0.376	0.671	0.701
Strategy	127	2.6693±0.80233	0.644	0.778	0.897
BRM practices	127	3.4803±0.39276	0.154	0.901	0.712
Business strategy	127	3.5062±0.48051	0.231	0.801	0.901
Project success	127	3.6693±0.89136	0.795	0.667	0.887

BRM: Benefits realization management, KMO: Kaiser-Meyer-Olkin

Table 3: Multiple correlations

Project factors	Project success	Planning	Review	Realization	Strategy	BRM practices	Business strategy
Project success							
Pearson correlation	1						
Significate (two-tailed)							
N	127						
Planning							
Pearson correlation	0.103	1					
Significate (two-tailed)	0.248						
N	127	127					
Review							
Pearson correlation	0.098	-0.158	1				
Significate (two-tailed)	0.273	0.076					
N	127	127	127				
Realization							
Pearson correlation	-0.055	-0.060	0.030	1			
Significate (two-tailed)	0.537	0.500	0.740				
N	127	127	127	127			
Strategy							
Pearson correlation	-0.176*	-0.142	-0.092	0.111	1		
Significate (two-tailed)	0.047	0.110	0.305	0.215			
N	127	127	127	127	127		
BRM practices							
Pearson correlation	0.045	0.209*	0.772**	0.428**	0.246**	1	
Significate (two-tailed)	0.612	0.019	0.000	0.000	0.005		
N	127	127	127	127	127	127	
Business strategy							
Pearson correlation	0.341**	0.061	0.163	0.050	-0.089	0.154	1
Significate (two-tailed)	0.000	0.498	0.068	0.580	0.321	0.084	
N	127	127	127	127	127	127	127

*Correlation is significant at the 0.05 level (two-tailed), **Correlation is significant at the 0.01 level (two-tailed), BRM: Benefits realization management

Table 4: Multiple regression for Model-1: Influence of success dimension factors on project success

Variables	Coefficient	P value	Tolerance	VIF
Constant	3.193*	0.000	-	-
PS4	0.125**	0.034	0.958	1.044
PS5	-0.163***	0.057	0.875	1.143
PS6	0.037***	0.086	0.819	1.056
PS7	0.007	0.198	0.947	1.221
Statistical tests				
R ²	0.576			
Adjusted R ²	0.501			
F-statistics	4.092*			
Durbin watson	1.891			

Dependent variable: Project Success. Independent variables: 6 – success dimension factors. *, ** and *** indicates significance level at 1%, 5% and 10% level, VIF: Variance inflation factor

schedule goals is not clear and not lead to the project success. The return on investment significantly lead to increase project success in the construction projects, as project managers perceived both the factors in terms of financial perspectives and business strategy are the important determinant of project success. The results are consistent with the previous studies of Munns and Bjeirmi (1996), Li et al. (2005) and Koskela and Howell (2002) respectively. The overall results conclude that among four success factors, two of them are positively lead to increase project success including project goals and return on investment, while schedule goals have a significant and negative relationship with the project success in the context of Pakistan's construction industry. The value of tolerance and variance inflation factor (VIF) both are in between the desired range of the statistics which confirmed that there is no problem of multicollinearity in the given model. The tolerance

value is less than the value of unity, while VIF value is less than the threshold value of 10.

The remaining statistics for the Table 4 indicates the goodness of fit of the model, as the value of adjusted R² is 0.501 which show that around 50.1% variations has been explained by the success factors to the project success. The value of F-statistics is empirically acceptable and significant at 1% level. The Durbin Watson statistics is less than the value of 2, therefore, we may not find any serial correlation problem in the given modeling frame.

The study further analyzed the impact of BRM practices on project success. The study evaluated the three different types of estimations under the main domain of BRM practices and project success. In the first regression analysis of Table 5 shows the component wise analysis of BRM practices and their impact on the project success, while in regression 11 and regression 111 considered the factor wise (including four factors that comprises 4-items of project planning, 3-items of project review, 3-items of project realization, and 3-items of project strategy) and aggregated (average of all 12-items or average of all four factors) BRM practices respectively.

The results of Table 5 show that the following are the items which are positively associated with the project success including BRM-IV, BRM-V, BRM-VI, BRM-VII and BRM-IX, while there are only 2-items that shows the significant and negative association with the project success including BRM-VIII, and BRM-XI respectively. The result conclude that among 12 BRM items, only 7-items significantly explain their relationship with the project

Table 5: Multiple regression for Model-11: Influence of BRM practices on project success

Variables	Coefficient	P value	Tolerance	VIF
Regression 1: Benefits realization management (BRM) items				
Constant	3.680*	0.000		
BRM-1	-0.093	0.124	0.937	1.067
BRM-11	-0.031	0.217	0.923	1.083
BRM-111	0.034	0.110	0.904	1.107
BRM-IV	0.165*	0.004	0.831	1.203
BRM-V	0.032**	0.034	0.888	1.126
BRM-VI	0.034**	0.029	0.976	1.024
BRM-V00II	0.045***	0.078	0.945	1.058
BRM-VIII	-0.127*	0.000	0.943	1.060
BRM-IX	0.123*	0.009	0.905	1.106
BRM-X	-0.070	0.131	0.933	1.072
BRM-X1	-0.198*	0.000	0.943	1.060
BRM-X11	0.049	0.189	0.958	1.044
Regression 11: Benefits realization management (BRM) - 4 factors				
Constant	3.397*	0.000		
Planning	0.174*	0.008	0.949	1.054
Review	0.067**	0.045	0.961	1.041
Realization	-0.052	0.171	0.985	1.016
Strategy	-0.166*	0.010	0.955	1.047
Regression 111: Benefits realization management (BRM) - average items				
Constant	3.310*	0.000		
BRM (Average)	0.103**	0.018	1.000	1.000
Statistical tests				
	Regression 1	Regression 11	Regression 111	
R ²	0.642	0.776	0.868	
Adjusted R ²	0.598	0.699	0.810	
F-statistics	4.667*	5.012*	5.998*	
Durbin Watson	1.910	2.001	1.989	

Dependent variable: Project success. Independent variables: 12 –BRM factors. *, ** and *** indicates significance level at 1%, 5% and 10% level, BRM: Benefits realization management, VIF: Variance inflation factor

success, however, 5 of them have a positive association with the project success while remaining 2 have a negative association with the project success. The remaining BRM item does not show any significant relationship with the project success in the construction industry. The statistical test for Model-1 shows that around 59.8% variations have been explained by BRM items on project success. The F-statistics value is significant at 1% level, while Durbin Watson statistics value is around 2.

In regression 11 for Table 5 shows that except project realization factor of BRM does not specify any significant association with the project success, while remaining three factors significantly explain their relationship with the project success in construction industry. Two of them including project planning and project review have a positive relationship with the project success that specific the importance of both the factors in the BRM practices, while remaining one i.e., project strategy have a negative relationship with the project success that indicate that project managers are not satisfied with the project strategy adopted during the phase of construction projects. The remaining statistics show that around 69.9% BRM factors explained their impact on project success. The value of F-statistics is empirically accepted, while the value of Durbin Watson is around the threshold value of 2 which indicate there is no serial correlation problem in the given regression model.

Finally, in third regression model, where all items of BRM practices has been taken average and consider a single

element i.e., BRM practices on project success and found that there is significant and positive relationship between BRM practices and project success. The results conclude that project managers adopted the BRM practices which lead to enhance the acceptability of project success in their construction projects. The results are consistent with the previous studies of Raymond and Bergeron (2008) and Pheng and Chuan (2006) respectively. The value of adjusted R² is around 0.810 which specify that about 81% BRM practices affected project success in the construction industry. The remaining F-statistic and the value of Durbin Watson both are in the desired range shows the model stability and no serial correlation problem in the model. The overall in three regression models, the value of tolerance and VIF, both are in the range of less than the value of unity and less than the value of 10 respectively, which shows that there is no possible multicollinearity problem in the given regressions.

Finally, the study evaluated the impact of BRM practices on business strategy via three different regression paths in Table 6.

In the first regression path, only 5 BRM items significantly associated with the business strategy, in which four of them have a positive association with the business strategy while remaining one of the items, have a negative relationship with the business strategy. The result shows that project managers required intensive business strategies training in order to evaluate and assess the BRM practices in the construction projects. The statistical tests further

Table 6: Multiple regression for Model-111: Influence of BRM practices on business strategy

Variables	Coefficient	P value	Tolerance	VIF
Regression 1: Benefits realization management (BRM) items				
Constant	2.776	0.128	-	-
BRM-I	-0.053	0.110	0.937	1.067
BRM-11	-0.022	0.989	0.923	1.083
BRM-111	0.039**	0.049	0.904	1.107
BRM-IV	0.080***	0.089	0.831	1.203
BRM-V	0.013	0.177	0.888	1.126
BRM-VI	-0.015	0.098	0.976	1.024
BRM-VII	0.140*	0.010	0.945	1.058
BRM-VIII	0.087	0.991	0.943	1.060
BRM-IX	0.005	0.198	0.905	1.106
BRM-X	-0.040	0.112	0.933	1.072
BRM-X1	-0.078***	0.068	0.943	1.060
BRM-X11	0.035***	0.071	0.958	1.044
Regression 11: Benefits realization management (BRM) – 4 factors				
Constant	2.943	0.100		
Planning	0.079*	0.010	0.949	1.054
Review	0.019	0.131	0.961	1.041
Realization	0.005	0.102	0.985	1.016
Strategy	-0.041***	0.069	0.955	1.047
Regression 111: Benefits realization management (BRM) – average items				
Constant	2.851	0.120		
BRM (Average)	0.018***	0.086	1.000	1.000
Statistical tests				
	Regression 1	Regression 11	Regression 111	
R ²	0.498	0.512	0.672	
Adjusted R ²	0.456	0.467	0.601	
F-statistics	2.434**	2.771**	3.412*	
Durbin Watson	1.564	1.621	1.796	

Dependent variable: Business strategy. Independent variables: 12 –BRM factors. *, ** and *** indicates significance level at 1%, 5% and 10% level, BRM: Benefits realization management, VIF: Variance inflation factor

show the low adjusted R² value i.e. around 45.6% BRM practices items explained their relationship with the project success. F-statistics show the 5% level of significance and indicated the stability of the model, while Durbin Watson value is less than the value of 2.

In the second regression path, only 2 BRM factors including project planning and project strategy significantly affected the project success, in which project planning have a positive relationship, while project strategy have a negative relationship with the project success in the construction projects. The remaining two BRM factors insignificantly explain their relationship with the business strategy. The results enforced the finding of BRM factors in order to provide the business strategies related trainings that increase the project managers' ability to foresee the future dimensions of the projects. The remaining statistics indicate that 46.7% BRM factors explain their relationship with the project success.

Finally, in third regression phase, the result shows that there is a positive and significant relationship between BRM practices and project success, however, the intensity of significance at 10% level. The result confirmed the importance of BRM practices in the construction industry that required specialized training to the project managers in order to make appropriate business strategies during the project execution. The results are consistent with the previous studies of Westerveld (2003) and Zwikael et al. (2014) respectively. The remaining statistics including adjusted

R² and F-statistics indicate the goodness of the fit and stability of the model accordingly. The value of tolerance and VIF indicate that there is no multicollinearity problem in the given regression models.

6. CONCLUSION, POLICY IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

6.1. Conclusion

BRM practices is one of the viable project solutions for business strategy and project success. This concept is examined by the number of success dimension factors, BRM practices and business strategies. This study quantified by 5-point Likert scale. The study had drawn the results on the basis of 127 project managers' survey that were actively working in the 20 construction firms. The questionnaire contained 12 BRM items, 3 project success items, and 4 successful dimension items in order to evaluate the BRM practices, project success, and business strategy in the Pakistan's construction industry.

The study adopted 3 models in which first model described the influence of success dimension factor on project success, the second model shows the influence of BRM practices on project success, while final and third model shows the influence of BRM practices on project success in Pakistan's construction industry. The results of Model-1 show the impact of 4 success dimension factors on project success and reveal that 2 success factors

including project goals and return on investment have a positive relationship with the project success, while one of the success factor i.e., schedule goals have a negative association with the project success in Pakistan's construction industry.

The results of Model-11 show the impact of BRM practices on project success by three different regression paths. In the first regression path, out of 12 BRM items, only 5-items show positive association with the project success, while 2 of them shows negative relationship with the project success. In the second regression path, project planning and project review both have a positive relationship with the project success, while project strategy shows a negative association with the project success. Finally, in the third regression path, the aggregated value of BRM practices tends to show the positive relationship with the project success in the Pakistan's construction projects.

The results of Model-111 indicate that 5 of the BRM items significantly associated with the business strategies, among which 4 have a positive relationship with the business strategies, while remaining one of the BRM item indicate their negative relationship with the business strategies. In another regression framework, out of the four BRM factors, only two have a significant relationship with the business strategy including project planning have a positive relationship, while project strategy have a negative relationship with the business strategy in the construction industry. Finally, in an aggregate -BRM variable, the result shows the positive and significant relationship with the business strategy. The overall results stress the importance of BRM practices that significantly increases the project performance and business strategy in the Pakistan's construction industry.

6.2. Policy Implications

The overall results confirmed the strong relationship between BRM practices, project success and business strategy in the Pakistan's construction industry. The policy framework is required to enhance the ability of project managers to face the future challenges of the projects. The following policies have been proposed under the domain of study's result i.e.

- The policy makers should have to device the long-term policies that may able to increase the efficiency of project managers by adopting BRM practices in their projects.
- Project success is one of the crucial task for the project managers that depends upon the different success factors including budget goals, schedule goals, required outputs, undesired outcomes, expected outcomes, return on investment and business case. These factors either may increase or decrease the project success. Policy makers should have to be careful while devising the appropriate policies for project success.
- The effective business strategy would enhance the abilities/capabilities of the project managers to face the future project challenges.
- Project planning is one of the BRM practices factor that may helpful to reduce the project costs and undesired outcomes. The effective policy strategies to develop the project may require sound project planning to give the required payoffs.
- Project success depends upon the timely review of the project

which may facilitate the entire process of the project. The policies for project review should be clearly defined and stakeholders would be aware of the project activities.

- The project activities should be integrated that supports the overall project by all means.
- Project strategies should be formulated in order to evaluate the BRM throughout the company and for the project under analysis.

These policies may strengthen the components of project success with the sound business strategy and BRM practices in the Pakistan's construction projects.

6.3. Limitations

The study has the following limitations, i.e.,

1. This study particularly focused on the Pakistan's construction industry, therefore, the results of the study does not generalize to the other industries.
2. The low sample size may also affect the degree of freedom.
3. The limited knowledge of the project managers regarding BRM practices is one of the main obstacles for obtaining the sufficient data, and
4. The dearth of the previous literature on the topic is also one of the limitations of the study.

6.4. Future Research

The future research based on the limitations we faced during the study, i.e.,

1. The future research should be included more sectoral analysis which would facilitate to generalize the study's result.
2. The larger sample size would helpful to strengthen the degree of freedom which would present more robust results between the variables.
3. To enhance the ability of project managers, there is prerequisite to train the managers with the latest techniques used in the project management. BRM practices should be realized in order to obtain the desired project outcomes.

There is a need to scholarly work done on the said topic, which would facilitate to the new researchers to find the sufficient literature on the topic.

REFERENCES

- Atkinson, R. (1999), Project management: Cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. *International Journal of Project Management*, 17(6), 337-342.
- Belout, A. (1998), Effects of human resource management on project effectiveness and success: Toward a new conceptual framework. *International Journal of Project Management*, 16(1), 21-26.
- Belout, A., Gauvreau, C. (2004), Factors influencing project success: The impact of human resource management. *International Journal of Project Management*, 22(1), 1-11.
- Bradley, G. (2010), *Benefit Realisation Management*. 1st ed. UK, Farnham: MPG Books Group.
- Budayan, C., Dikmen, I., Birgonul, M.T. (2015), Alignment of project management with business strategy in construction: Evidence from the Turkish contractors. *Journal of Civil Engineering and Management*, 21(1), 94-106.

- Chan, A.P., Scott, D., Lam, E.W. (2002), Framework of success criteria for design/build projects. *Journal of Management in Engineering*, 18(3), 120-128.
- Doherty, N.F. (2014), The role of socio-technical principles in leveraging meaningful benefits from IT investments. *Applied Ergonomics*, 45(2), 181-187.
- Edum-Fotwe, F.T., McCaffer, R. (2000), Developing project management competency: Perspectives from the construction industry. *International Journal of Project Management*, 18(2), 111-124.
- Forcada, N., Fuertes, A., Gangoellis, M., Casals, M., Macarulla, M. (2013), Knowledge management perceptions in construction and design companies. *Automation in Construction*, 29, 83-91.
- GoP. (2015), Economic Survey of Pakistan, 2014-2015. Islamabad, Pakistan: Planning Commission Wings, Statistical Bureau of Pakistan.
- Gregor, S., Martin, M., Fernandez, W., Stern, S., Vitale, M. (2006), The transformational dimension in the realization of business value from information technology. *The Journal of Strategic Information Systems*, 15(3), 249-270.
- Hughes, S.W., Tippett, D.D., Thomas, W.K. (2004), Measuring project success in the construction industry. *Engineering Management Journal*, 16(3), 31-37.
- Kaiser, M.G., El Arbi, F., Ahlemann, F. (2015), Successful project portfolio management beyond project selection techniques: Understanding the role of structural alignment. *International Journal of Project Management*, 33(1), 126-139.
- Khan, A., Lodhi, M.S., Qureshi, M.I., Naseem, I., Javed, Y., Zaman, K. (2014), Management of project changes in construction companies: Case of Pakistan. *World Applied Sciences Journal*, 29(2), 252-261.
- Koskela, L., Howell, G.A. (2002), The theory of project management - problem and opportunity. Working Paper, VTT Technical Research Centre of Finland & Lean Construction Institute.
- Krejcie, R.V., Morgan, D.W. (1970), Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Li, B., Akintoye, A., Edwards, P.J., Hardcastle, C. (2005), Critical success factors for PPP/PFI projects in the UK construction industry. *Construction Management and Economics*, 23(5), 459-471.
- Lin, C., Pervan, G., McDermid, D. (2005), IS/IT investment evaluation and benefits realization issues in Australia. *Journal of Research and Practice in Information Technology*, 37(3), 235-251.
- Love, P.E., Matthews, J., Simpson, I., Hill, A., Olatunji, O.A. (2014), A benefits realization management building information modeling framework for asset owners. *Automation in Construction*, 37, 1-10.
- Melton, T., Iles-Smith, P., Yates, J. (2008), *Project Benefits Management: Linking Your Project to the Business*. 1st ed. London: Butterworth-Heinemann.
- Mir, F.A., Pinnington, A.H. (2014), Exploring the value of project management: Linking project management performance and project success. *International Journal of Project Management*, 32(2), 202-217.
- Mossalam, A., Arafa, M. (2015), The role of project manager in benefits realization management as a project constraint/driver. *HBRC Journal*, 1, 1-11.
- Munns, A.K., Bjeirmi, B.F. (1996), The role of project management in achieving project success. *International Journal of Project Management*, 14(2), 81-87.
- Muller, R., Turner, R. (2007), The influence of project managers on project success criteria and project success by type of project. *European Management Journal*, 25(4), 298-309.
- Muller, R., Turner, R. (2010), Leadership competency profiles of successful project managers. *International Journal of Project Management*, 28(5), 437-448.
- Pheng, L.S., Chuan, Q.T. (2006), Environmental factors and work performance of project managers in the construction industry. *International Journal of Project Management*, 24(1), 24-37.
- Raymond, L., Bergeron, F. (2008), Project management information systems: An empirical study of their impact on project managers and project success. *International Journal of Project Management*, 26(2), 213-220.
- Reich, B.H., Gemino, A., Sauer, C. (2014), How knowledge management impacts performance in projects: An empirical study. *International Journal of Project Management*, 32(4), 590-602.
- Scott-Young, C., Samson, D. (2008), Project success and project team management: Evidence from capital projects in the process industries. *Journal of Operations Management*, 26(6), 749-766.
- Serra, C.E.M., Kunc, M. (2015), Benefits Realisation Management and its influence on project success and on the execution of business strategies. *International Journal of Project Management*, 33(1), 53-66.
- Shenhar, A.J., Dvir, D., Levy, O., Maltz, A.C. (2001), Project success: A multidimensional strategic concept. *Long Range Planning*, 34(6), 699-725.
- Srivannaboon, S., Milosevic, D.Z. (2006), A two-way influence between business strategy and project management. *International Journal of Project Management*, 24(6), 493-505.
- Standing, C., Lin, C. (2007), Organizational evaluation of the benefits, constraints, and satisfaction of business-to-business electronic commerce. *International Journal of electronic commerce*, 11(3), 107-134.
- Teece, D.J. (2012), Business models, business strategy and innovation. *Long Range Planning*, 43(2), 172-195.
- Too, E.G., Weaver, P. (2014), The management of project management: A conceptual framework for project governance. *International Journal of Project Management*, 32(8), 1382-1394.
- Trkman, P. (2010), The critical success factors of business process management. *International Journal of Information Management*, 30(2), 125-134.
- Westerveld, E. (2003), The Project Excellence Model®: Linking success criteria and critical success factors. *International Journal of Project Management*, 21(6), 411-418.
- Winch, G., Leiringer, R. (2015), Owner project capabilities for infrastructure development: A review and development of the "strong owner" concept. *International Journal of Project Management*, Forthcoming Issue.
- Young, R., Young, M., Jordan, E., O'Connor, P. (2012), Is strategy being implemented through projects? Contrary evidence from a leader in New Public Management. *International Journal of Project Management*, 30(8), 887-900.
- Zwikael, O., Pathak, R.D., Singh, G., Ahmed, S. (2014), The moderating effect of risk on the relationship between planning and success. *International Journal of Project Management*, 32(3), 435-441.
- Zwikael, O., Smyrk, J. (2011), *Project Management for the Creation of Organizational Value*. 1st ed. London: Springer-Verlag London Limited.