Article

Deficiencies in Project Governance: An Analysis of Infrastructure Development Programme of Multi-Projects

Muhammad Waris [1*], Asadullah Khan [1*], Ishak Ismail [1], Mehfooz ullah [1] and Ammar Hussain [2,]

[1] Faculty of Industrial Management, Universiti Malaysia Pahang, Gambang, Pahang, Malaysia
[2] Business Management Research Institute, University of Bedfordshire, Luton, United Kingdom; ammar.hussain1@study.beds.ac.uk
* Correspondence: waris@ump.edu.my; asad@kiu.edu.pk

Abstract: The governance of public sector infrastructure projects became an important topic of interest in the project, programme and portfolio management literature during the last decade. Today, it is becoming a central focus for policymakers seeking to ensure success in selecting, designing and implementing government-sponsored programme of multi-projects. Due to the multiple underlying risks and complexities, the governance of infrastructure programme constitutes a critical element in strategic planning in developing countries. This paper has analyzed infrastructure development programme and revealed shortcomings in the areas of appraisal, decision-making, quality assurance and stakeholder management. Approaches to remedy these shortcomings have been proposed.

Keywords: project governance; programme; infrastructure development; developing countries.

1. Introduction

Project governance has become an important topic for debate in project literature and organizations have used this approach to meet organizational goals and objectives. Organizations initiate projects with the best of intentions to succeed, but due to the governing and managing issues, many projects fail, and the reasons are often unclear. Traditionally, the outcomes of projects have been measured in terms of completing them within the constraints of scope, time, cost and quality. However, increasingly, assessments of projects are being expanded to governance, to include their ability to achieve strategic goals over considerable periods of time.

Effective governance is imperative f or infrastructure development projects [1]. The failure of large capital projects has highlighted the consequences of ineffective governance [2]. Furthermore, Guo, et al. [3] have concluded that in infrastructure projects, complexities and uncertainties are very common and the distinctiveness and individuality of infrastructure projects arise from their unique social and environmental requirements. Reconciliation of projects' internal management and governance with strategic objectives have presented organizational challenges [4]. The components of project governance include a quality management system and project and company strategy with regards to project selection. Levitt, et al. [5] have discussed the ownership and commitment of the project's sponsor vis-a-vis the project executor in long-term infrastructure development projects. Levitt, Henisz and Settel [5] have also suggested specific approaches for dealing with the governance challenges arising at different project phases in public and private organizations. Miller and Floricel [6] have stated that there is a high level of ambiguity and unpredictability during the project life cycle of Public-Private Partnership infrastructure development projects. These ambiguities and instabilities can be observable as numerous governance issues in the form of political and legal issues on projects [7].

The purpose of this study is to identify the problems that have contributed to unsatisfactory outcomes for public sector infrastructure development programme of multi-projects in Northern Pakistan. However, no detailed review on the issues of project governance in the context of Northern Pakistan has been found in the literature. This review paper is to fill this gap and provide a future direction for effective planning and policy formulation and recommendations. The study is noteworthy for the government officials, researchers, professionals, politicians and nongovernmental organizations.

This review paper aims to give a comprehensive understanding of the project governance issues, approval process and means for improving the implementation of development programme. The study has been conducted through a systematic analysis and the findings are relevant for current and future public sector infrastructure programme in Northern Pakistan. Gilgit-Baltistan is located in the north of Pakistan at the confluence of three gigantic mountain ranges – the Karakoram, Hindukush and Himalaya ranges – and shares its borders with China, Afghanistan and India. The famous Karakoram Highway connects Gilgit-Baltistan with China's Xinjiang Uyghur region and traces one of the many paths of the ancient Silk Road. The territory became a distinct administrative unit of Pakistan in 1970 under the name "Federally Administered Northern Areas". It was formed by the amalgamation of the Gilgit Agency, Baltistan and the states of Hunza-Nagar [8]. Since then, the region has been administratively controlled by the Government of Pakistan without being formally integrated or fully participating in Pakistan's constitutional and political affairs. In 2009, the federal government implemented legislative reforms entitled the "Gilgit-Baltistan Empowerment and Self-Governance Order" which granted self-autonomy to the native people by establishing an elected legislative assembly and council. With this governmental transformation, Gilgit-Baltistan acquired the status of a de-facto province having three divisions and ten districts, and occupying an area of 72,971 Km^2 [9]. These new reforms in the Gilgit-Baltistan government have provided autonomy in terms of administration, regulations, governance and functioning of government departments. However, the government of Gilgit-Baltistan remains dependent on Pakistan's federal government for sponsorship of development projects.

The Planning Commission of Pakistan is a federal institution, which undertakes policy development and planning initiatives for the growth of the national economy in collaboration with the Ministry of Finance. Since its inception, a number of planning agencies have come into existence at different levels in the country. At present, the planning machinery is operated at three levels:

- Planning Commission at Federal Level
- Provincial Planning and Development departments (P&D)/Board
- Planning agencies at the divisional/district level

The present method for planning, executing and reporting on development projects is based on the "Rules of Procedure for Economic Council", Planning Commission 1952 Act [10]. The types of plans formulated by the PC for development projects in Pakistan are generally categorized in terms of time. Plans are divided into three types – short-term, medium-term and long-term plans [10].

- A short-term plan has a very brief and limited horizon. It is formulated for a fiscal year and also known as an Annual Development Plan.
- A medium-term plan covers 4-7 years, with five years being the most popular choice. The first Five-year Plan was made in 1955 and since then, 11 Five-year plans have been formulated. All these plans have been advisory documents, which have steered the economic strategy of the government and provided a reference point for policy decisions.
- The long-term plan is also known as the "Perspective Plan" which covers a period of 15-25 years, subject to the country's specific economic conditions.

Over the last decade, the government has initiated a program of economic transformation that undertakes mega projects with the help of foreign direct investment. As in other parts of Pakistan, the rapid pace of transformation has created an enormous market for the infrastructural development projects in Gilgit-Baltistan. In Gilgit-Baltistan, the Planning & Development Department assumes the lead responsibility for planning and implementing public sector infrastructural projects.

This region is also the gateway of the "China - Pakistan Economic Corridor (CPEC)" agreement, a program of 46 billion USD infrastructure projects that aims to improve the socio-economic conditions of Gilgit-Baltistan and Pakistan (Ahmar, 2014). The purpose of the CPEC is to promote trade and commercial ties through connectivity in the region. The CPEC program will stimulate substantial development in Pakistan, including the building of a network of roads, highways, railways and power generation plants all the way from Gilgit-Baltistan to the strategic port of Gwadar, Pakistan. If this program is successfully planned and implemented, it will significantly advance regional and national economic development.

Taking a close look at different government bodies involved in the CPEC program has revealed that the Gilgit-Baltistan Public Works Department has had a central role in planning and executing the CEPC program. Mostly due to the governance issues, infrastructure project construction has been delayed, disrupted and canceled, producing enormous impacts on cost. Insufficient governance may also promote the culture of corruption, which is a dilemma for developing countries like Pakistan. This is a sign of failed governance and negatively influences the returns on investments for project sponsors.

The following sections of this review effort include methodology, literature review, discussion as part of the analysis, conclusion and suggestions. The historical background and mechanism of the approval process are discussed to have an insight for the analysis of the planning process in Pakistan. The study has also highlighted the importance of the China-Pakistan Economic Corridor (CPEC) project.

2. Literature Review

The conventional approach to evaluating project management has assessed outcomes in terms of project scope, budget and schedule [11]. However, increasingly, evaluations are being expanded to include project governance.

The term 'governance' is derived from the Greek verb 'Kubernao', which means to steer. It is defined as the "act of governing or directing the policies, management and activities of an organization at the highest level, with the authority, credibility and responsibility to do so". Governance structures and processes define and create sub-systems for operating procedures and are devised to ensure the common direction of the distributed effort [12]. An attribute of good governance has the aptness to navigate the projects through different uncertainties and unexpected events [6]. Garvin [13] has stressed the motivation of stakeholders for project goals towards achieving good governance. Meso, et al. [14] have further emphasized that governance raises the issues associated with economic and social responsibilities and collective actions for power dependence among related institutions. In an international context, governance means the ways in which legitimate authority is used to cope with the country's social and economic resources for development [15].

[16] have described project governance as "the system by which a project is governed, directed and controlled. Project governance is involved in management and governance functions for individual projects and their deliverables [4]. Bekker and Steyn [17] have identified that "Project governance is a set of management systems, rules, protocols, relationships and structures that provide the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation". So, project governance can support a good operational environment and provide a guarantee for project success. In early stages, neither the plans nor the formal contracts to govern the actions and relationships of the parties are involved, but there is still a belief that some kind of governing processes is at play [18].

The academic-research perspective has also befitted that governance is an important concern of sponsors for mega investment and, subsequently, it affects the project outcomes [19]. Project governance is considered as a critical success factor in project execution [20]. Later, this argument was also supported by Pinto [21] who stated that governance of projects provides structure to execute the projects, thus resulting in an increase in the probability of project success. Furthermore, [22] identified two different types of challenges in infrastructure project governance, which appears

during the project initiation, implementation and operational phases. The first is "opportunism in the presence of displaced agency – i.e., conflicts between the incentives of the parties leading the decision-making in each of the successive and interdependent phases of design, construction and operations that lead to sub-optimal investment and may lead them to pursue their self-interest with guile. The second is political and regulatory risk – i.e., ex-post political interventions in operational decisions". According to Zhai, et al. [23], key features of mega infrastructure projects include longer life cycles, uncertainty, complications and a large number of stakeholders, as well as their effect on the economy, community, technological development and the environment.

Jonny Klakegg [24] has argued that the presence of governmental stakeholders may create further political uncertainties for the project. The Project Governance prerequisite is to explore how resources and risks are to be assigned among stakeholders to define the control measures for achieving targeted objectives, which are defined by legal and regulatory mechanisms with the aim of ensuring better utilization of public funds [25]. There are several cases where big infrastructure projects provide common examples of cost overruns due to unique site conditions, delays, hidden costs and conflicts among the groups [26, 27]. Guo, Chang-Richards, Wilkinson and Li [3] have suggested that empirical studies of management systems in large infrastructure projects design appropriate forms of governance for managing risks to better understand existing circumstances. There are two features of infrastructural development projects which have made them ideal for the understanding of socio-political governance. Firstly, the infrastructure projects are produced by multiple counterparties through a complicated series of interlinked transactions and secondly, the significance with respect to catalytic functions in the development process and nations security and comfort has made infrastructure development process politically salient [5]. China's socio-economic and environmental conflicts in public infrastructure and construction (PIC) projects are handled through public participation [28]. Participation is a process through which stakeholders motivate and share control over priority-setting, policy-making, resource allocation and access to public goods and services [29].

Infrastructure projects in developing countries are more likely to be affected by unstable political and economic environments [30]. Infrastructural needs are critical for the economic growth of developing countries. To achieve this, effective governance of the infrastructure development projects has become a need and significant challenge, which defines the success of these projects. In a nutshell, governance is a function for developing strategies, overseeing needs and objectives, making decisions concerning projects and following up on performance across the organization.

The conceptualization of project governance has been driven from a 'project management' point of view and the majority of authors on project governance, who are from the project management background, are attempting to construct a project governance framework through a bottom-up approach [31]. Abednego and Ogunlana [32] have advocated for the integration of concepts pertaining to good project governance and the project management approach. They further proposed the characteristics for good project governance, which are as follows:

a) Active participation, which is the right decision at the right time;
b) Contract fairness- meaning a rule of law to be enforced impartially;
c) Transparency, where information must be freely available and implementation of the decisions must be according to the rules and regulations;
d) Responsive, decisions made must be implemented within a stipulated time period;
e) Project monitoring and control in order to achieve strategic goals to meet and exceed the satisfaction of all the stakeholders;
f) Equality between all involved parties, where all parties have the same opportunities to improve and maintain their well-being;
g) Effectiveness and efficiency through optimal utilization of resources and through sustainable utilization of natural resources; and
h) Accountability must be enforced through rule of law and transparency and should be in the form of public participation and user's satisfaction.

198 Garland [20] identified 4 key principles to achieve these characteristics and to ensure good
199 governance, where the correct person holds the correct position. The four key principles are the
200 identification of single point accountability, explicitly; service delivery focus of project governance;
201 separation of project governance from organizational governance and the separation of stakeholder
202 management from project decision-making [20]. The identification of single point accountability
203 safeguards the clarity and timeliness of the decision-making. Service delivery focus and ownership
204 regulate project ownership. Separating the stakeholder management from the decision-making
205 activities will prevent ineffective decision-making and possible chokehold between decision-making
206 bodies and stakeholders. Separating the structure of project governance from organizational
207 governance will decrease the number of project decision layers, as the project decision path will not
208 be mingling with the organizational line of command.
209 Furthermore, the overall success of the project delivery can be achieved through the
210 synchronization and control of the processes, engaging all the stakeholders and resolving their
211 conflicts of interest; also by recognizing the value of the project and forming a link between the
212 stakeholders in the light of their rights, responsibilities and interests.
213 Narayanan and DeFillippi [33] have characterized five elements which are incorporated in the
214 structure-based governance, i.e., stage gate approval process, stakeholder representation, formal
215 roles and responsibilities, quality assurance and contracts and sign-offs. Each one of these elements
216 can reveal disparities across organizations and among project classes within the same organization.
217 Relationship-based governance typically focusses on non-hierarchical elements, such as:
218 Leadership, motivation, incentives, resource allocation, alliances, stakeholder's engagement,
219 informal relations and communication. Patanakul, et al. [34] have recommended the managerial
220 focus on stakeholder engagement can enhance project performance of the public sector projects.
221 According to Hjelmbrekke, et al. [35] governance is basically about leadership selection, incentives,
222 control systems and monitoring.
223 Müller, et al. [36] have also recommended standardized approaches of project governance for
224 successful completion of the projects and the project-based part of the organizations. By the
225 augmented use of project governance from a strategic perspective, the efforts for aligning project
226 outputs to a general strategy can be easily secured [35].
227 Table 1 has summarized the findings of contemporary researchers with a specific focus on the
228 project governance mechanism, issues and its indispensable role in delivering mega projects. The
229 findings show that the unsatisfactory performance and failure of large-scale government projects is
230 due to the missing governing surveillance; vague project outcomes; intricate nature of stakeholders;
231 weak project governance mechanism, multi-layered organizational structure and ineffective
232 management control. Beside this, governments are vital stakeholders for development projects, often
233 their role as owner or initiator. Researchers have recommended The finding shows that project
234 governance helps in aligning project output to the strategy of the organization which will help in
235 enhancing the project performance.

236

237 **Table 1.** Summarized findings on the role of project governance

Sources	Focus of Study	Key investigations and findings
[37]	Governmental governance of mega projects	Encouraging accountability of the project leaders Supporting cultural control
[38]	Project governance of infrastructure projects	Project governance model for infrastructure projects Model consider the project governance aspects of the relationships between the contracting party and contractors i.e. involvement of the contractor in the design and estimation of costs, procurement procedures, integration of design and construction, the incentives and disincentives regime, risk allocation, contract flexibility, and actions that allow the contracting party to maintain bargaining power during possible renegotiations.
[36]	Governance and governmentality of projects	Governance is a structural context, within which governmentality is implemented Governance moderates the governmentality's impact on the success Successful projects tend to use standardized combinations of governance approaches
[39]	Project governance as value addition in building projects	Aligning project output to the strategy of the organization Governance is primarily about monitoring, leadership selection, incentive and control systems
[34]	Large-scale government projects	Complex organizational structure Communication issues with competing interests
[40]	Governance framework for major public projects	Three propositions on the governance dimensions, i.e. efficiency, legitimacy, and accountability
[41]	Implementation of project governance	Processes and structures to govern multiple projects and to manage strategic objectives
[42]	Framework for governance of projects	Projectification of the organization as a variable for the framework of governance
[43]	Project governance-balancing control and trust in dealing with risk	Ethical decision-making and managerial action within an organization that is based on transparency, accountability and defined roles
[44]	Project Indicators for enhancing project governance	Failure of projects is due to: The missing governing surveillance Vague project outcomes Waste of money and effort Sustainability and social responsibility problems
[45]	Critical Success Factors of Project Governance in China	Project governance is a framework for decision-making, including a series of structures, systems, and processes, rules and methods to support and complement the functional goals of project management.

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3. Method

We followed the case study methodology because the research was exploratory in nature and the previous research on the project governance of infrastructure projects was also limited. To study a contemporary phenomenon and how and why research questions, case studies had been considered suitable [46]. We designed a holistic case study setting to identify the issues related to projects. Table 2 shows a programme comprised of 126 public sector infrastructure projects chosen for the analysis. This study has assessed 126 projects from three districts of Gilgit-Baltistan (i.e., Diamer, Gilgit and Baltistan). The projects were taken from different sectors, which included housing, water & power, natural resource management, education, health, transportation and rural development. The total costs of the projects were estimated at PKR 6,959.00 million (66 million USD, approximately). These projects had a significant influence on the inhabitants and the projects' progress had been communicated broadly to the public, which enabled an in-depth document-based study. Three main partners, i.e., Planning & Development Department, Public Works Department and Contractors had been involved in these projects.

This case research design was a document-based study which was supplemented with key informant interviews. We began by conducting an in-depth review of prior scholarly work addressing the management and governance of large-scale infrastructure projects. In order to gain an understanding of the study's empirical context, we gathered archival and document-based data, including government planning manuals, a master development plan, appraisal reports, contract documents, monitoring documents and evaluation reports. The collected documents were the primary data for project governance, and they were systematically analyzed and categorized under the aspect of project governance issues.

A summary was formed from the categorized documents. We cross-tabulated the main findings to illustrate and enrich the key findings. This primary analysis was used to develop an outline for the interviews. Interviews with five key officials of the Planning & Development Department was carried out. The average duration of the interview was about one hour. All the interviewees had the job title of "Research Officer". The interviewees were chosen on the basis of their expertise and central role in the project. The respondents had an average of 20 years of experience in the public sector (ranging from 10 to 30). The interview outline was developed based on the literature review and the initial findings of the document analysis. The topics outlined in the interview were related to the project governance issues in the public sector infrastructure projects and the remedial measures. The approach enabled the interviewees to share their experiences and opinions openly and broadly. Key points were noted during the interviews. The interviews were analyzed through the ordinary thematic approach and rough content-based coding. While writing up the results, we verified and compared the document-based data and the interviews, repeatedly, as a means of data triangulation. Fig. 1 clarifies the overall approach and analytical framework that were used to examine the main concerns of this endeavor.

Figure 1. Methodological Framework

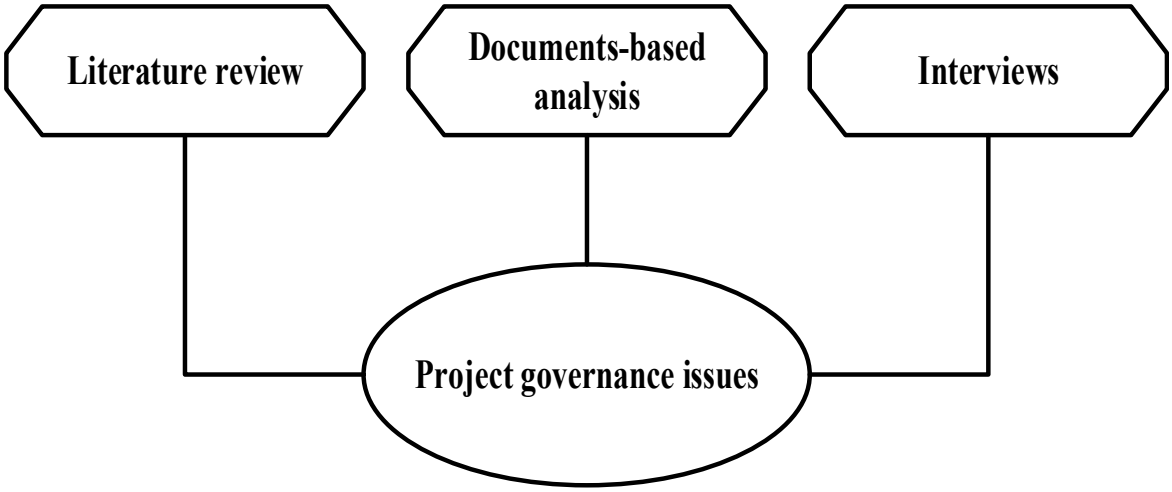

Table 2. Infrastructure Development Programme of Gilgit-Baltistan

Sector-wise projects	No. of Projects	Cost (PKR) Million
Housing	12	713
Water & Power	22	2806
Natural resource management	9	312
Education	25	1096
Health	12	422
Transport & Communication	40	1393
Rural & Urban Development	6	217
Total	126	6959

4. Results and Analysis

This section of the study has taken a close view of the governance issues in the government-sponsored infrastructure projects of the Gilgit-Baltistan region. We analyzed the document-based data and interviews in line with the methodological framework described in Fig.1 through a holistic case study setting. During this practice, we returned to the documents, literature and interview notes to gather additional data and information that could corroborate or elaborate our emerging lines of sight. We identified ten major governance issues in the public sector infrastructural development projects illustrated in Fig. 2. The projects were found to be problematic, inefficient, high time and cost overruns, and they revealed manifolds of complications; moreover, none of the projects had met its desired objectives. Based on the assessment of the documents and literature and the focus group discussion, the following prominent governance issues were observed and extracted:

- Appraisal Process
- Stakeholder Engagement
- Decision-making
- Management Commitment
- Political Interference
- Quality Assurance
- Human Resources
- Performance reporting
- Role ambiguity
- Legal disputes

The details of the identified project governance issues are described below:

Appraisal process

In the appraisal phase, the project needs are addressed and realistic alternatives for meeting these prerequisites are identified and assessed for their efficiency and effectiveness. Traditionally, a project charter is prepared to cover the specific business plan, risk analysis and budget constraints. The outcome of the appraisal phase is a formal document known as the 'Project Feasibility Study'. Later on, it is presented for administrative and management approvals. Moreover, the appraisal process not only establishes the boundaries of the project's triple constraints (i.e., time, cost and quality) and gives team members a three-dimensional limit where they have to work on the project, but it also helps the clients to know about the project and expected results. In the context of the Gilgit-Baltistan development program, the project requirements were planned without any formal appraisal phase. The project's triple line expectations were prepared simply on assumptions rather than perceiving the technical, socio-economic, financial, political and environmental components of the appraisal. Beside this, backup plans and requirements to handle potential problems and challenges, which might occur during the development phases, were not considered in the assessment process. As a result, the projects were not envisaged in a thorough manner in the early stages of the project conceptualization. Ambiguities in the appraisal process have caused irregularities in PC-1, thus, capturing wrong information, decision-making biases and improper engineering designs. A practical example of this indiscretion in the technical appraisal process is the proper survey of project sites and the subsequent selection for starting-up the actual work. Due to this, projects had missed their implementation schedule and completion deadline because of the wrong site selection, which caused an escalation in the project cost and, ultimately, a revision of the scope of the work.

Stakeholder engagement

Projects excel in achieving their designated objectives when the external stakeholders are engaged wisely and their interests are streamlined in a productive manner. In Gilgit-Baltistan, the affiliation and concern of the outer stakeholders (i.e., political and tribal leadership, ethnic groups along with the local community) remained problematic throughout the phase of the implementation. They had not been acknowledged or supported during the development schemes at any point of time and were even irrationally criticized for their vested interests resulting in the deceleration of the physical progress. Although their involvement in the decision-making and problem-solving would have improved the delivery of the projects. Ignoring this underlying fact, the executing agency has not made any preventive measures or reviews for resolving these issues and ensuring the completion of the dead or slow-moving schemes in a timely manner. This phenomenon became more chronic during the last decade and, unexpectedly, it was not addressed by the provisional government either. Thus, articulating a lack of commitment and participation by all of the external stakeholders.

Decision-making

The process of decision-making is helpful as it permits analysis and a combination of a unilateral objective with many alternatives. It encompasses the evaluation criteria and corresponding weight of every alternative for a meaningful output. In addition to this, it also makes it possible for the decision makers to compromise or make tradeoffs among the different available options. Hence, the quality of judgment is consequently improved. There is a consensus among the experts that a well-defined decision-making process is paramount for governance. It is important to understand the dynamics of local politics and groups for effective decision-making. In the projects of Gilgit-Baltistan, it was observed that policy decisions were made by people who lacked the subject matter expertise. The decisions were made without considering and identifying alternatives and expert advice was never solicited during the course of the decision-making. As an example, in many cases, it was observed that budgeting decisions were based on insufficient information and analysis. In fact, the expert's role was abandoned during the financial decision-making process, resulting in the cost overrun of projects. In some of the cases, the cost had increased by more than 200 per cent because of project revisions.

Management commitment

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The management's commitment during the project life cycle is pertinent to ensure the strategic objectives. Their continual involvement in the decision-making as well as in problem-solving tends to improve work processes. Because of this, project teams are expected to be more committed and productive to perform their tasks. In Gilgit-Baltistan, it was observed that the management of the executing agency had shown a lack of interest and failed to take ownership of their responsibilities. They had appointed an incompetent team who had a shortage of skills, experience and expertise to perform the assigned roles effectively. As a backlash, it has been noted that the progress and payment records were not available which caused improper verification and monitoring. Failure to maintain the project's financial database resulted in the loss of key information, violation of government regulations and disrupted the pace of the progress. As an example, it was found that development funds were not utilized as per the schedule of expenditures, which may not only have lapsed, but it would have further reduced the volume of the budget in the future plans. Non-utilizations of the funds, failure to maintain the record and the shortcomings in the management commitments eventually impacted on the overall team performance.

Political interference

In developing countries, political interference is a major hindrance for the smooth execution and delivery for infrastructure development projects. The geopolitical context of Gilgit-Baltistan has greatly influenced the progress of development projects by making it more complicated, slow-moving and sick due to political and tribal lord's interference. The nexus of the elected parliamentary representatives, tribal elites, executing agencies and contractors were the major cause of nepotism and exploitation. Usually, these intrusions were found during the tendering phase of the projects. In most of the cases, the executing agencies had awarded the contracts on the basis of political affiliations rather than a performance-based system. As a consequence of this embedded corruption and favouritism, the life of the local residents was badly affected through fewer returns on the resource use and had an increase in their cost of living.

Quality assurance

The quality assurance and standard are one of the critical success factors of projects. Unfortunately, there was a lack of a proper mechanism for the quality assurance of the development infrastructure projects in Gilgit-Baltistan. In the vagueness of any defined standards, the client, consultant and contractor had used their own plans and quality standards, which were not compatible with the techno-environmental constraints of the region. The contractors had limited planning capabilities and would generally operate with the very basic systems. The quality of projects and project success can be considered as the fulfilment of the expectations of the stakeholders.

Human resource

Human resource planning is vital and has a tactical importance in project-oriented organizations. Lack of competent human resources has been one of the major constraints compromising the effectiveness of the infrastructure projects in Gilgit-Baltistan. Due to the inadequate skills and manpower, there is an increase in the overall cost of the projects, rework and other multiplier effects during the construction and operational stages. By appointing the right person at the right time in the right place, executing agencies can create a great opportunity to reduce the construction, maintenance and operational cost. Professionals, whether internal or external, must have the required skill, experience and no conflicts of interest.

Performance monitoring

The review of the Gilgit-Baltistan development schemes revealed that the executing agency was not very motivated by the potential benefits of a formal performance monitoring system. Yet, the emphasis on the performance measurement greatly contributes to the effective delivery of projects. It can also help organizations involved in public procurement to improve their performances by identifying good practices and cut down the weaknesses in their process. The performance measurement can also ensure that the organizations are focused on their key priorities and the areas of poor performance are questioned. The process includes collecting, measuring and distributing performance information, and assessing measurements and trends to effect process improvements.

It also gives the project's management team insight into the health of the project and identifies any areas that may require special attention. Furthermore, it helps to determine corrective or preventive actions or re-planning and follow up to determine if the actions taken resolved the performance issue.

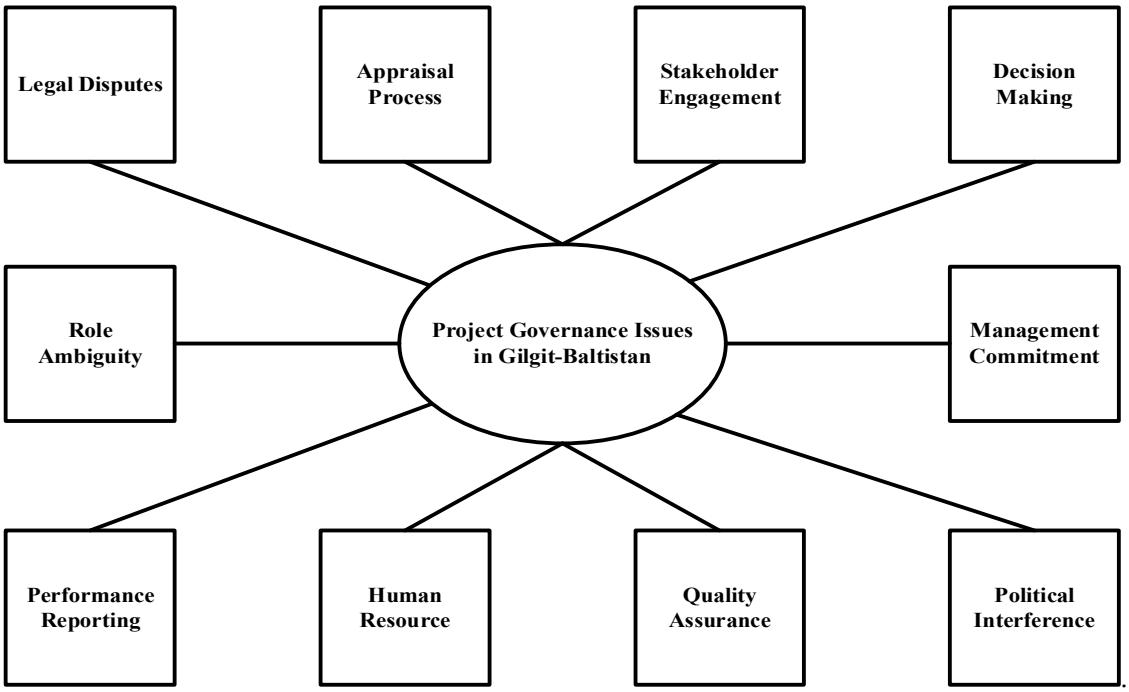
Role ambiguity

Role ambiguity can be defined as when a member of the team does not have a clear direction of the expectations of his/her role in the organization. A clear role framework will help the team to know their job descriptions and the rules of the game before entering into the process. It will also reduce the conflicts that may develop in the lateral stages of the project life cycle. In Gilgit-Baltistan, this phenomenon has turned into non-professional attitudes, misunderstandings, embezzlement and frequent blunders in performing assigned responsibilities.

Legal disputes

It is generally recommended that litigation should be avoided and considered as the last option to resolve disputes. The progress of the Gilgit-Baltistan development scheme has tremendously suffered due to legal issues. Physical work had been halted periodically at many occasions mainly due to site disputes, which resulted in court stay-orders filed by different parties. These disputes led to litigation expenditures and time lapses. A good example was the delay of the approved land compensation scheme in the province. Due to this, landowners had created legal hurdles and demanded the payment of the land reimbursement price on the current enhanced rates. The owners of the land did not allow the executing agency to start groundwork due to the partial payments of land compensation and this led to legal consequences, which further derailed the development process.

Figure 2. Project Governance Issues in Gilgit-Baltistan



5. Discussion

In this study, we explored and identified the project governance issues in public sector infrastructure projects. The case projects were examples of highly challenging project contexts in which the stakeholders and political and regulatory authorities were actively involved and could have played a central role. Below, we discuss the existing condition of the projects and remedial measures, in light of the empirical findings and previous research.

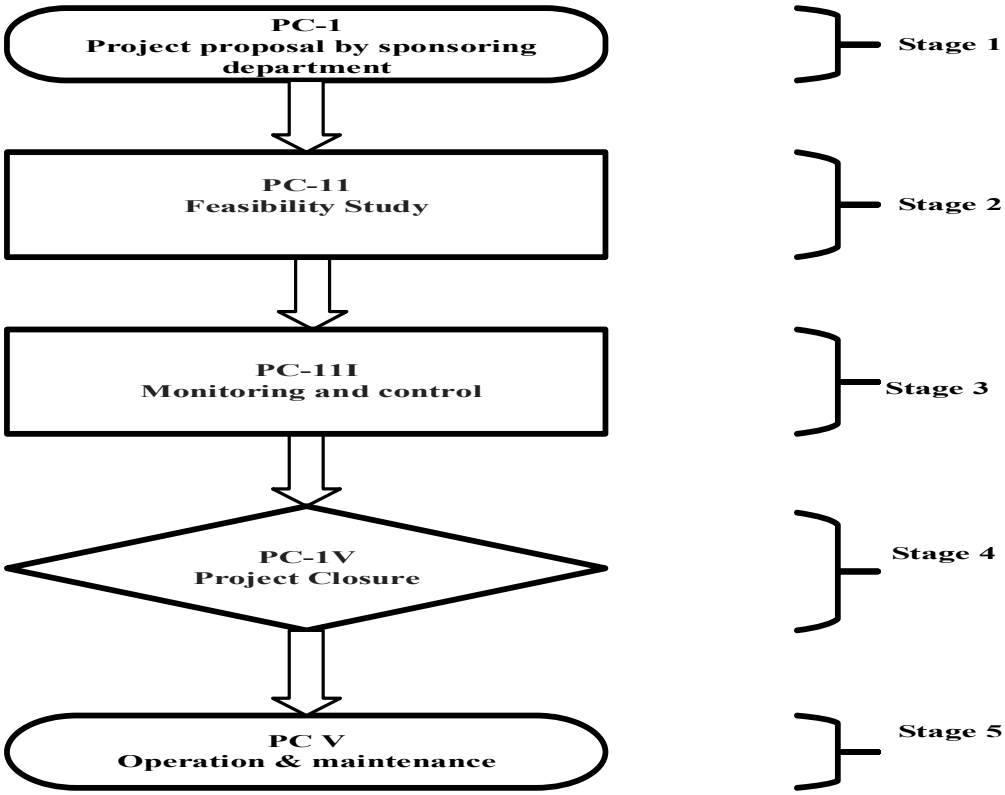
The Planning Commission of Pakistan has devised standard planning procedures and guidelines for the conception, planning, execution, monitoring, controlling, closing and operational phases of the projects. As a statutory requirement, all federal and provincial government departments

need to implement them for the lifecycle management of the development projects. Likewise, it is also inevitable that the P&D department of Gilgit-Baltistan must practice these regulations. Gilgit-Baltistan Public Works Department is acting as an executing agency for public sector infrastructure projects. Fig. 3 describes the public sector project lifecycle management in Gilgit-Baltistan. These guidelines are known as the Planning Commission guiding manuals and are abbreviated as PC I, PC II, PC III, PC IV and PC V pro-forma.

A brief description of each proforma is as follows:

- PC-1 is the basic form on which all projects and schemes are required to be drawn up. It deals with the submission of project proposals and information for pre-investment appraisal. PC-1 are the detailed project documents from the project identification to project approval, which covers almost all aspects of the project. It provides a baseline for the monitoring and evaluation (M&E) performance measure.
- PC-II is a feasibility report that has to be prepared for mega projects. It is a prerequisite for conducting surveys and feasibility studies for larger projects. The document must show the full justification for undertaking the project, particularly when large resources are tied-up with it. PC-II tells whether it is feasible to initiate the project under consideration or not. In this stage, the expert's opinions and justifications are considered in regards to tying-up large resources in the projects.
- PC-III is a document that describes the progress and milestones of the ongoing projects. The pro-forma is designed to furnish quarterly progress reports of the projects. PC III gives the financial and physical progress of the schemes with information on any bottlenecks experienced during the execution of a project.
- PC-IV is a Project closure report that is mandatory to be submitted to the Planning & Development (P&D) Department on completion of each project. The project's outcomes, outputs and immediate impacts are measured through an internal analysis. A self-assessment of the financial and physical conduct of the projects is carried out in this stage.
- PC-V is an annual report regarding the operations and maintenance of the projects with regards to the project evaluation. It is the follow up of the terminal evaluation report. PC-V is submitted by the executing agencies to the P&D Department after completion of the project for a consecutive five-year period.

Figure 1. **Life cycle management of Development Projects and Programmes**



Now, at the provincial level of Gilgit-Baltistan, all of the development project planning is being carried out through the P&D Department. The main function of this department is the formulation of provincial government vision, policies, and strategies for economic planning and development in consultation with all stakeholders. It is also responsible for the development of appropriate cost and physical standards for the effective technical and economic appraisal of the projects. The preparation of the annual development plan is an important exercise carried out by the P&D Department, in collaboration with the Finance Department and other provincial departments. These exercises are based on the guidelines provided by the Planning Commission and the federal government in accordance with the national priorities and resource availability.

The monitoring section of the P&D Department looks into the financial and physical progress and probes the outcomes and impacts of the development programs. Although, an overall competitiveness of the public sector project can be achieved by ensuring transparency and efficiency in the administrative and planning procedures of the executing agency. Despite the aforementioned governmental reforms, the projects are still suffering from the serious governance issues discussed in the results section.

Our analysis suggests that the existing condition of public sector development projects is a matter of concern for the governing and implementing bodies of Gilgit-Baltistan as they are not very comparable to the performance of the other administrative units of Pakistan. The region is a typical example of misdirected public investments in infrastructure development projects. The poor performance of the infrastructure projects has been attributed to multiple stakeholders, lack of clear project governance structure, organizational structure, timelines and communication issues with competing interests. The root cause of these issues are the weak political and economic conditions of the region. The importance of the early stages of the infrastructure projects had been recognized earlier by a series of researchers. For the continuation and success, the initial approval process of the projects is critical. These problems can be addressed through the appropriate framework. Governance is an important issue in managing public sector projects and is gaining attention in theory and practical applications. It provides a mechanism for decision-making, defined roles, accountability and transparency. The main aim of project governance is to facilitate efficient and effective project

decision-making. The comparative analysis depicts that project governance offers a structured mechanism to detect and address the associated risks when they occur. It is pertinent to develop a good relationship with the relevant authorities for accomplishing construction works and smoothing the approval process simultaneously with improving competitiveness with advanced management techniques. The literature on project governance suggests that the first priority should be given to the selection of the relevant project concepts. Lack of relevance mainly arises from vague objectives and from missing links between the projects and the user's needs (Ralf Müller et al., 2014). Public participation, stakeholder engagement and empowering the workforce can also be used as effective instruments to enhance the aftermath of the decision-making and implementation of projects through governance. Developing countries have been using the public participation mechanism frequently to decrease the socio-economic and environmental conflicts since the 1990s.

Considering the political and other socio-economic environments of the region, stakeholder engagement has become a crucial factor in governmental projects. Stakeholder engagement is a process of identifying key stakeholders and evaluating and managing their impact on the project—including winning their support where possible. The project performance of the public sector projects can be enhanced through the managerial focus on stakeholder engagement. The mechanism of monitoring the progress of a project in implementation, besides being an important link in the project life cycle, helps in the identification, analysis and removal of logjams and expediting actions where projects are stalled or have fallen behind schedule. So, there should be a link between project monitoring and control functions to project governance because project governance provides a framework and structure to articulate and attain the objectives. A complete project governance environment requires strong management support and control for monitoring the overall project activities. Projects' inefficacy can be eliminated by executing the projects correctly again and again, and by a major focus on effective project governance. A consistent mechanism of project governance is needed for the successful accomplishment of the public sector infrastructure projects. By the improved usage of the project governance approach in the strategic perspective, the efforts for aligning project outputs to general strategy can easily be achieved.

Having multiple stakeholders is a characteristic of all the governmental projects. An administrative focus on stakeholder engagement can boost the performance of the ongoing and future projects. In addition to this, an establishment of cross-organization cooperation and agreement is also important. Stakeholder engagement can be addressed through the effective mechanism of project governance.

Irrespective of the industry or sector, establishing a governance process is important and ideally the first step in project development. Organizations embrace the project governance approach to meet organizational aims and tactical objectives, and to initiate projects with the best of intentions to succeed. Nevertheless, many projects fail due to the different challenges associated with governing and managing a project, and the reasons are often unclear. An effective governance process ensures input from the essential stakeholders and "confers legitimacy" upon project decisions and outcomes.

Hence, a proper project governance framework is essential for the public sector infrastructure projects in Northern Pakistan to attain the potential benefits. The project governance framework will help in overcoming the deficiencies and hazards related to the public sector infrastructural development projects.

6. Conclusion

Theoretical contributions

This paper contributes to the procedural discussion on the performance of public sector infrastructure development programme in Pakistan, which have long-lasting effects on our society. We identified the project governance issues from a governmental perspective which is a sensitive context and has a significant influence on various stakeholders. The findings show that the Gilgit-Baltistan government needs to take the appropriate action to overcome the ambiguities in the existing planning measures and come up with a stringent mechanism to ensure a more transparent and efficient governance system. Without a proper governance mechanism, only the loudest voices get

heard and the possibility of crises and project failures is also higher. The study suggests the project governance characteristics and principles within which the project governance issues and stakeholder's needs can be effectively addressed and will help in overcoming the deficiencies and hazards related to the infrastructure projects in Gilgit-Baltistan. Public sector development projects must follow the project governance process, formal planning and estimation processes, monitoring and controlling processes and the process to document the lessons learned.

In this regard, a holistic view of the existing governance issues in the policy and planning of the Gilgit-Baltistan development program provides a sound basis for exploring the enablers of project governance in this provincial administrative setup. A structured mechanism of the project governance approach is necessary to set the vision, project priorities, structure for planning and decision-making, and for defining the roles and responsibilities of all the stakeholders. This will be helpful in building an organizational structure to support planning, development, fiscal management, resolving the conflicts and monitoring, and evaluation of the projects. The mechanism will provide the representation of the minority's as well as the majority's viewpoints of the stakeholders and confer the legitimacy of the decisions related to the projects. Through a project governance mechanism, all of the stakeholders of the project become the concern of not only the project team, but also the project partners, thus enabling an integrated view of the project governance. Large-scale public sector infrastructural development projects involving multiple stakeholders are susceptible, and the study provides an example of how much intense planning governance is required in the project initiation and execution for the project's success. Hence, project governance of the public sector infrastructure development projects in the Gilgit-Baltistan region is necessary to gain the potential future benefits.

Managerial implications

This study emphasizes considering a project governance mechanism as an integrated approach for public sector infrastructural projects. Managers need to understand the project governance mechanism and identify the issues of the project governance for successful completion of the projects. To complement and implement the project governance mechanism, managers need to create a holistic control package.

The top machinery of the government has to establish a reliable, independent and comprehensive long-term planning mechanism to strengthen and implement the infrastructural development projects. A strategy must be evolved with a clear vision and commitment to the development of the public sector infrastructure project.

Limitations and future research

This study has been limited by the qualitative case design, as well as the method and data choices. We purposefully sought public sector infrastructure projects and have summarized the basic issues, to enhance the credibility of the findings. However, the findings cannot be generalized to the public sector infrastructure development projects more generally, but the project governance mechanism can assist further research and enable replication. The data collection methods are another limitation of the study. The planning manuals, documents and other archival documentation do not necessarily describe all aspects

of project governance. The limited number of interviewees has also limited the findings. As there is pressure to manage projects successfully and efficiently, the importance of project governance will definitely increase in the future; therefore, there is a need for further studies to find a suitable project governance framework.

A more pragmatic research is envisioned to encompass other large projects whose governance framework can differ from infrastructure projects due to different legal, institutional, organizational and financial conditions with the purpose of creating a common governance framework for these projects. This extensive research might be based on the quantitative approach, and an attempt made to deepen the understanding of these control process within project-oriented organizations. Researchers may probe the project governance practices in the private sector of less developing countries to have an insight of the management practices.

This review has opened many avenues for further research in project governance practices in the public sector of any other less developing countries. The foremost recommendation of this study is that the infrastructure development project should invest in and adopt a project governance framework to achieve its goals and success.

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References

1. Reside, Renato E, and Amado M Mendoza. "Determinants of Outcomes of Public-Private Partnerships (Ppp) in Infrastructure in Asia." Discussion paper//School of Economics, University of the Philippines, 2010.
2. Flyvbjerg, Bent, Nils Bruzelius, and Werner Rothengatter. *Megaprojects and Risk: An Anatomy of Ambition*: Cambridge University Press, 2003.
3. Guo, Feng, Yan Chang-Richards, Suzanne Wilkinson, and Ti Cun Li. "Effects of Project Governance Structures on the Management of Risks in Major Infrastructure Projects: A Comparative Analysis." *International Journal of Project Management* 32, no. 5 (2014): 815-26.
4. Too, Eric G, and Patrick Weaver. "The Management of Project Management: A Conceptual Framework for Project Governance." *International Journal of Project Management* 32, no. 8 (2014): 1382-94.
5. Levitt, RAYMOND E, WITOLD J Henisz, and DANIEL Settel. "Defining and Mitigating the Governance Challenges of Infrastructure Project Development and Delivery." Paper presented at the 2009 Conference on Leadership and Management of Construction 2009.
6. Miller, Roger, and Serghei Floricel. "Building Governability into Project Structures." *Miller R., Lessard, D* (2000).
7. Santosh Kumar Delhi, Venkata, Ashwin Mahalingam, and Seshanka Palukuri. "Governance Issues in Bot Based Ppp Infrastructure Projects in India." *Built Environment Project and Asset Management* 2, no. 2 (2012): 234-49.
8. Burki, Shahid Javed. *Historical Dictionary of Pakistan*: Rowman & Littlefield, 2015.
9. Kazim, Muhammad, Rukhsana Perveen, Abid Zaidi, Rafiq Hussain, Nadia Fatima, and Sherzad Ali. "Biodiversity of Spiders (Arachnida: Araneae) Fauna of Gilgit Baltistan Pakistan." *International Journal of Fauna and Biological Studies* 2, no. 4 (2015): 77-79.
10. PC. "Manual for Development Projects." edited by Planning Commission of Pakistan, 2010.
11. PMI. *A Guide to the Project Management Body of Knowledge : Pmbok Guide* 5ed. Newton Square, Pennsylvania, US: Project Management Institute, 2013.
12. Schroeder, Andreas, David Pauleen, and Sid Huff. "Km Governance: The Mechanisms for Guiding and Controlling Km Programs." *Journal of Knowledge Management* 16, no. 1 (2012): 3-21.
13. Garvin, Michael J. "Governance of Ppp Projects through Contract Provisions." Paper presented at the Conference of Leadership and Management of Construction 2009.
14. Meso, Peter, Philip Musa, Detmar Straub, and Victor Mbarika. "Information Infrastructure, Governance, and Socio-Economic Development in Developing Countries." *European Journal of Information Systems* 18, no. 1 (2009): 52-65.
15. Meso, Peter, Pratim Datta, and Victor Mbarika. "Moderating Information and Communication Technologies' Influences on Socioeconomic Development with Good Governance: A Study of the Developing Countries." *Journal of the American Society for Information Science and Technology* 57, no. 2 (2006): 186-97.
16. McGrath, Stephen Keith, and Stephen Jonathan Whitty. "Redefining Governance: From Confusion to Certainty and Clarity." *International Journal of Managing Projects in Business* 8, no. 4 (2015): 755-87.
17. Bekker, Michiel Christiaan, and Herman Steyn. "Defining 'Project Governance'for Large Capital Projects." Paper presented at the AFRICON 2007 2007.

18. Hellström, Magnus, Inkeri Ruuska, Kim Wikström, and Daniel Jåfs. "Project Governance and Path Creation in the Early Stages of Finnish Nuclear Power Projects." *International Journal of Project Management* 31, no. 5 (2013): 712-23.
19. Sharma, Chandan. "Determinants of Ppp in Infrastructure in Developing Economies." *Transforming Government: People, Process and Policy* 6, no. 2 (2012): 149-66.
20. Garland, Ross. *Project Governance: A Practical Guide to Effective Project Decision Making*: Kogan Page Publishers, 2009.
21. Pinto, J. K. "Project Management, Governance, and the Normalization of Deviance." *International Journal of Project Management* 32, no. 3 (2014): 376-87.
22. Levitt, RAYMOND E, WITOLD J Henisz, and DANIEL Settel. "Defining and Mitigating the Governance Challenges of Infrastructure Project Development and Delivery." Paper presented at the Conference on Leadership and Management of Construction 2009.
23. Zhai, Li, Yanfei Xin, and Chaosheng Cheng. "Understanding the Value of Project Management from a Stakeholder's Perspective: Case Study of Mega-Project Management." *Project Management Journal* 40, no. 1 (2009): 99-109.
24. Jonny Klakegg, Ole. "Pursuing Relevance and Sustainability: Improvement Strategies for Major Public Projects." *International Journal of Managing Projects in Business* 2, no. 4 (2009): 499-518.
25. Klakegg, Ole Jonny, Terry Williams, and Ole Morten Magnussen. "Design of Innovative Government Frameworks for Major Public Investment Projects: A Comparative Study of Governance Frameworks in Uk and Norway." (2007).
26. Khan, Asadullah, Ammar Hussain, Muhammad Waris, Ishak Ismail, and Muhammad Ilyas. "Infrastructure Project Governance: An Analysis of Public Sector Project in Northern Pakistan." *Journal of Governance and Integrity* 1, no. 2 (2018): 120-34.
27. Ogunlana, Stephen O. "Beyond the 'Iron Triangle': Stakeholder Perception of Key Performance Indicators (Kpis) for Large-Scale Public Sector Development Projects." *International Journal of Project Management* 28, no. 3 (2010): 228-36.
28. Xie, Lin-lin, Yu Yang, Yi Hu, and Albert PC Chan. "Understanding Project Stakeholders' Perceptions of Public Participation in China's Infrastructure and Construction Projects: Social Effects, Benefits, Forms, and Barriers." *Engineering, Construction and Architectural Management* 21, no. 2 (2014): 224-40.
29. WorldBank. "'"Social Analysis: Glossary of Key Terms"." World Bank, http://go.worldbank.org/HSXB13LCA0 (
30. Lizarralde, G, C Davidson, M De Blois, and A Pukteris. "Building Abroad: Procurement of Construction and Reconstruction Projects in the International Context." *Building Abroad: Procurement of construction and reconstruction projects in the international context, Montreal* (2008).
31. Bekker, Michiel C. "Project Governance–the Definition and Leadership Dilemma." *Procedia-Social and Behavioral Sciences* 194 (2015): 33-43.
32. Abednego, Martinus P, and Stephen O Ogunlana. "Good Project Governance for Proper Risk Allocation in Public–Private Partnerships in Indonesia." *International Journal of Project Management* 24, no. 7 (2006): 622-34.
33. Narayanan, VK, and Robert DeFillippi. "The Influence of Strategic Context on Project Management Systems: A Senior Management Perspective." In *Project Governance*, 3-45: Springer, 2012.
34. Patanakul, Peerasit, Young Hoon Kwak, Ofer Zwikael, and Min Liu. "What Impacts the Performance of Large-Scale Government Projects?" *International Journal of Project Management* 34, no. 3 (2016): 452-66.
35. Hjelmbrekke, Hallgrim, Ole Jonny Klakegg, and Jardar Lohne. "Governing Value Creation in Construction Project: A New Model." *International Journal of Managing Projects in Business* 10, no. 1 (2017): 60-83.
36. Müller, Ralf, Li Zhai, and Anyu Wang. "Governance and Governmentality in Projects: Profiles and Relationships with Success." *International Journal of Project Management* 35, no. 3 (2017): 378-92.
37. Zhai, Zhao, Tuomas Ahola, Yun Le, and Jianxun Xie. "Governmental Governance of Megaprojects: The Case of Expo 2010 Shanghai." *Project Management Journal* 48, no. 1 (2017): 37-50.
38. Cardenas, Ibsen Chivata, Hans Voordijk, and Geert Dewulf. "Beyond Theory: Towards a Probabilistic Causation Model to Support Project Governance in Infrastructure Projects." *International Journal of Project Management* 35, no. 3 (2017): 432-50.
39. Hjelmbrekke, Hallgrim, Hallgrim Hjelmbrekke, Ole Jonny Klakegg, Ole Jonny Klakegg, Jardar Lohne, and Jardar Lohne. "Governing Value Creation in Construction Project: A New Model." *International Journal of Managing Projects in Business* 10, no. 1 (2017): 60-83.

711 40. Brunet, Maude, and Monique Aubry. "The Three Dimensions of a Governance Framework for Major Public
712 Projects." *International Journal of Project Management* 34, no. 8 (2016): 1596-607.
713 41. Macheridis, Nikos. "Governance of Higher Education–Implementation of Project Governance." *Tertiary*
714 *Education and Management* 23, no. 2 (2017): 85-102.
715 42. Müller, Ralf, Li Zhai, Anyu Wang, and Jingting Shao. "A Framework for Governance of Projects:
716 Governmentality, Governance Structure and Projectification." *International Journal of Project Management* 34, no.
717 6 (2016): 957-69.
718 43. Zwikael, Ofer, and John Smyrk. "Project Governance: Balancing Control and Trust in Dealing with Risk."
719 *International Journal of Project Management* 33, no. 4 (2015): 852-62.
720 44. do Rosário Bernardo, Maria. "Performance Indicators for Enhancing Governance of Projects." *Procedia-Social*
721 *and Behavioral Sciences* 119 (2014): 55-64.
722 45. Xiang, Wenwen, Ying Li, and Yongyi Shou. "An Empirical Study of Critical Success Factors of Project
723 Governance in China." Paper presented at the Industrial Engineering and Engineering Management (IEEM),
724 2013 IEEE International Conference on 2013.
725 46. Yin, Robert K. *Case Study Research and Applications: Design and Methods*: Sage publications, 2017.