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# **THE MANAGEMENT OF TRANSPORT CONSTRUCTION PROJECTS: A SURVEY OF PUBLIC SECTOR ORGANISATIONS IN QUEENSLAND AUSTRALIA**

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# **THE MANAGEMENT OF TRANSPORT CONSTRUCTION PROJECTS: A SURVEY OF PUBLIC SECTOR ORGANISATIONS IN QUEENSLAND AUSTRALIA**

## **ABSTRACT**

Construction procurement organisations in the Australian framework provide broad guidelines on project management in setting benchmark performance measurements and processes for evaluating their projects. Despite this, little has been known in the project management practise in transport construction projects in Australia, in particular Queensland. Questionnaire data from 53 project management practitioners employed in State and City public sector organisations in Queensland, suggested that many practitioners in the public sector have little or a lack of understanding of government regulatory policies, which are used as economic evaluation tools for project options. Public sector project managers perceive socio-economic evaluation tools as inappropriate for public sector projects. The survey results also found conducting risk management analysis, developing a risk register and mitigation of risks were most effective way of managing risk. This study provides an opportunity for the public sector to review and provide training on project management practices and government regulatory policies governing public projects. This will improve project management practitioners' understanding and interpretation of government regulatory policies.

**Key Words:** Project management, transport construction project, government regulatory policies, Queensland, Australia.

## INTRODUCTION

The concept of project management has been adopted and applied to public sector construction projects for more than fifty years. Early project management approaches were governed by internal policies, procedures and practices formulated by the United States Department of Defence (Morris, 2001). During the early 1970s, the public sector in many countries experienced significant pressure to adopt changes to the management of government operations. In Australia, the Queensland government, on the other hand, adopted a more flexible approach - simply defining project management as a temporary course of action that involves the use of resources to achieve a defined outcome (Queensland Government Treasury, 2006). This implies that a project's status can easily change from achieving a '*defined outcome*' to being part of '*organisational normal operation*' and has allowed each agency in Queensland to develop its own process of project management.

The initial stages of public sector projects involve preliminary evaluations that facilitate the assessment of government priorities and project affordability. The purpose of government engagement of preliminary evaluation assessment is to provide sufficient information to government decision makers and other project-specific governing bodies (Queensland Government Treasury, 2006). However, many Australian public sector projects have been criticized and have received little support from the community. This criticism and lack of community support can originate from the premise of how the project was originally conceived, thereby rendering it unpopular. In such circumstances, government options are limited - either to save the project through an intervention process or abandon it completely. On the assumption that government will intervene, the process focuses on reaching a compromise to resolve any stalemates involved to the satisfaction of all parties concerned. This can lead to an amendment of the original project scope or use of a regulatory policy to

soothe community feelings by way of mandatory compliance. For example, a number of transport construction projects in Australia have experienced temporary abandonment and scope changes before their completion.

In the past few years, a substantial amount of research has been carried out to understand public sector project management, but little is known about transport construction projects in Australia, in particular, Queensland. For that reason, this study was designed to examine and investigate the management practices of public sector construction projects in one Australian state. The research aims to ascertain the perceptions of project managers in the public sector - in particular the effect of government regulatory policies on construction projects. The success criteria for the management of public sector projects and government policies and regulations, including the use of these policies in the evaluation and choice of public sector projects are also examined.

## **LITERATURE REVIEW**

### **Assessment of public sector construction projects**

Projects in the public sector are often referred to as mega-projects, as they are capital-intensive and usually implemented for social benefit, rather than commercial reasons (Rose, 2006). Regulatory policies tend to prescribe the terms of public-sector projects within regulatory frameworks, including the social and political responsibilities of government agencies. The Project Management Institute (2004) views government regulation as an imposed requirement, which specifies product, process or service characteristics, and applicable administrative provisions.

In Australia, government policy relating to the management of public sector construction projects is judged by its consistency with other existing whole-of-government policies. This is to identify uncommon issues or potential risks capable of affecting changes on projects under consideration and thus needs to be incorporated into the assessment of risks and associated cost-benefits in financial and economic analyses. In Queensland (i.e., the *Project Assurance Framework*) and South Australia (i.e. the *Initiative Evaluation Guideline*), for example, the objective of project management is dependent on the State Government's ability to obtain 'value for money' from its significant investment of project activities. To achieve value for money, government sets the parameters for measuring project activity inflows with a possible rate of return, which is consistent with government social policy for the delivery of services. In Victoria, the *Capital Development Guidelines* (Victoria Government Treasury, 2001) require a comprehensive analysis of the financial and socio-economic costs of projects as a basis for government approval and capital allocation to construct and operate the facility. This is the role of cost-benefit analysis (CBA).

In general, CBA estimates the equivalent of monetary value of costs and benefits to the general public and establishes whether a proposed project is viable. The economic evaluation tool used imposes the use of an accounting framework that prescribes classes of benefits and costs for consideration of the applied measurement approach. It is therefore an effective means of determining possible alternatives and comparing projects with different lengths of time and value (Arboleda and Abraham, 2006; Naess, 2006). However, the environmental consequences of construction investments are difficult and problematic to quantify in economic terms. In transport infrastructure provision, for example, there is a need to discount the long-term effect/benefits of reduction in traffic congestion, noise and air pollution to Net Present Value (NPV) figures (Naess, 2006). These are intangible objects in

many cases and difficult to quantify in monetary terms. In addition, the use of NPV negates the ‘user-pay’ system, which is inherent in service delivery industries and public sector core values.

The management of public sector projects is, in fact, based on discrete stages that are directly related to the sought outcome. The process involves setting objectives and gathering and evaluating project options for CBA, including assessing project socio-economic impacts as part of public sector funding requirements. Thorough analysis is required to detail the social and economic impacts of the proposed project on the community. Strategies for risk mitigation are also needed. In addition, large projects, such as transport infrastructure, are often associated with lengthy durations, with potential for disrupting the social lives of diverse interest groups (Miller and Hobbs, 2005). These groups include stakeholders with varying interests who are capable of significantly influencing project outcomes if not taken seriously.

Poor project management contributes around 30 percent towards public sector project failure (Reilly, 2005). In considering the factors leading to poor management of public sector projects, government regulatory policies and political structure potentially constitute a major impediment to project success. Uncertainties that occur as a result of limited information lead to other problems, such as cost underestimation and an inability to accurately quantify the cost-benefit impacts of projects. The management of these uncertainties requires appropriate standards to deal with the “known” part of operational issues, with the “unknown” strategically managed and included as part of project cost estimates.

## RESEARCH METHOD AND DATA COLLECTION

A postal questionnaire survey was adopted as the approach for data collection in this study. The questionnaire is designed to collect information relating to public sector project management practices, including respondent's background, type of project involved and its value, government regulatory policies, and social and economic impacts of evaluation processes (cost-benefit, cost-effectiveness, sensitivity and scenario analyses). The draft questionnaire was developed by listing the main focal points from the literature review, mainly the transport construction projects in the public sector and practices. The developed questionnaire is intended to ascertain practices of project management and ways of improving the public sector project management., including project management practitioners in the public sector transport construction as a whole. An area the survey investigated is project management skill and what the public sector consider as success criteria in project management. For example, Kleim and Ludin (1998, p.12) states what contributes to project failure hinges on organisational inability to produce adequate project statement with work-breakdown structures or schedules. The survey also examines post cost management, time management and delay associated with transport construction projects. Williams and Parr (2004) argued that organisations should adapt to standards and methods suitable to their project needs and requirements. The later part of survey will examine government policies and regulations including the use of their policies in the evaluation and choice of public sector projects. These policies and regulations are focused on various governments' project guidelines, whether the policies act as an implement to the public sector project outcome. Previous study, for example Lyons and Skitmore (2002) survey risks management techniques that focused on engineering construction industry in Queensland, and in the study of Reilly and Brown (2004), management and control of cost and risk for tunnelling and infrastructure projects are used to compare risk management strategies of public sector project. Therefore,

the results of the survey is used to compare with the guidelines of Reily and Brown management and control of cost and risk for tunnelling and infrastructure projects.

The structure of the survey questions is a determining factor in the type of methodology to be employed when analysing the responses. For example, for questions with tick boxes, the analyses of the responses are percentage based. Questions where the answers require scaling between 1 and 7 (representing the degree of importance to respondents' perceptions) are dealt with in the form of multiple column charts to highlight any possible biases that may exist between different types of respondents.

A pilot study was undertaken before conducting the main survey. This involved an initial questionnaire being examined by a number of experts and academics. After minor refinements, a final version of the questionnaire (see Appendix) was distributed to the population of 150 State Government and City Council employees in Queensland. Access to the population was obtained from the State Government telephone directory and Office of Major Projects and was limited to those who were identified as practicing project management as a profession in the public sector. The questionnaires were delivered via email between July and August 2007. Fifty-six responses were received. Three questionnaires were incomplete and were excluded from the sample analysis.

Some demographical information relating to the respondents was collected. Of the 53 responses, 5 functional groups were identified: project managers (47 percent), construction managers (23 percent), executive project managers (11 percent), project supervisors (11 percent) and project coordinators (8 percent) – indicating the respondents to be dominated by project managers, who form the middle level of project management practice in the

organisations surveyed. Project coordinators, with the least number of responses, perform an administrative role in public sector project management practice. In terms of qualifications, a large number of respondents (53 percent) have project management certificates from the Institute of Project Management (IPM) or Australian Institute of Project Management (AIPM) certificates. Respondents with 11-15 years of experience dominate the sample (38 percent) in this study, followed by those with 6-10 years (27 percent) and over 15 years (27 percent). Most of the executive project manager respondents were involved with project values between \$11 - \$20 million and above \$21 million.

## **SURVEY RESULTS**

To gain a better understanding of the project management practices in transport construction projects in Australia, in particular in the State of Queensland, six key areas are investigated in this survey. They are (i) general project management practices; (ii) the roles and control of government; (iii) stakeholders' control and interest; (iv) project risk analysis; (v) public sector evaluation tools; and, (vi) improvement and changes to management of project. The main findings and patterns of this survey are identified and summarised below:

### **Project management practices**

- *Project success criteria:* Respondents were first asked their perceptions on the preparation of a detailed scope statement as critical to project success. The question asked respondents to rate what they most regard as a project management success, based on their experience. The survey results show that respondents perceive defined project phases and scope as important to project success criteria. Project time of completion, user satisfaction, project costs and client satisfaction are also considered to be important aspects. However, management input is rated as low or non-critical.

- *Causes of project delay:* Respondents were further asked if they have experienced project delays and causes of these delays in the public sector. The results show that the detailed project scope statement and feasibility studies are perceived by respondents as the major causes of project delays. Stakeholders' approval is seen as the least likely cause.
- *Public sector project management practice:* Respondents were also asked if project construction management in the public sector is difficult, compared to that of the private sector. About 38 percent of respondents perceive project management in the public sector to be more difficult than in the private sector. The use of government project management guidelines, in addition to the PMBOK Guide, is perceived by respondents as adding to the difficulty of public sector project management. However, a limited number of respondents consider private sector project management as easy to manage and there was little support for the use of the same guidelines for all sectors.

### **Government policies and regulations**

- *Knowledge of government regulatory policies:* Respondents were asked which of the government policies should not be used in the assessment of construction. The survey result shows respondents completely agree that government policies and guidelines are important for public sector construction projects. Equally, there are strong responses from respondents agreeing that government policies and guidelines are important to construction projects. Project supervisors and construction managers are of the view that public sector projects are over-regulated. However, some project managers indicated a lack of knowledge regarding the implications of government policies and regulations on public sector projects.
- *Government intervention:* Respondents were also asked if government interventions on public sector projects are part of project risks. About 37 percent of respondents perceived

government intervention on public sector projects reduces project risks. Project coordinators and construction managers strongly perceive government intervention in public sector projects as a regulatory process. The comment that government “intervention increases project risks” received the least support from respondents.

### **Stakeholders’ control and interest**

Public sector stakeholders are in many cases instrumental to project success or failure due to varying interests and backgrounds. Respondents were requested to rate stakeholders’ influence on public sector construction projects and asked if they thought stakeholders’ interest and contribution should be incorporated into the project detailed scope statement. The survey results show that there is same numbers of responses (33 percent) were recorded for “Not at all” and “I don’t think so”. However, several respondents perceive public sector construction projects to be overly controlled by stakeholders. In addition, the survey results show that respondents perceive stakeholders’ contribution and interest to be important, and should be included into the project scope detail statement of public sector construction projects. Although stakeholders’ interests might be divisive and controversial, respondents perceive the need to incorporate stakeholders’ contributions and interest in the amended project detailed statement.

### **Project risk analysis**

The survey also investigated respondents’ use of processes and strategies in the mitigation and allocation of risks associated with the implementation of project options. Respondents were requested to rate what they considered to be the appropriate ways of managing transport construction project risks and asked whether they considered all project risks to be the same.

- Risk analysis: In general, respondents pointed out conducting risk management analysis is the best way of analysing project risks, followed by developing risk management registers (documentation, cause of action and treatment of risks) and risk mitigation of public sector construction projects. The transfer of risk to subcontractors is perceived as a less effective way of analysing project risks.
- Project risk: About 60 percent of respondents perceive each project to be unique, including the risks associated with the project and how it should be appropriately managed appropriately. Respondents equally supported the acceptance of all project risks, either negative or positive, as an effective way of managing project risks. Less favoured is the use of historical data as an effective way of determining project risks and construction projects with similar risks.

### **Public sector evaluation tools**

The survey further investigated the respondents' understanding of the socio-economic evaluation tools used to identify cost-benefits and the allocation of monetary values to these benefits - including the financial, environmental and social impacts of constructed projects. Respondents were asked whether they considered these tools (CBA and Cost-Effectiveness Analysis) to be appropriate for the economic valuation of public sector (transport construction) projects:

- *Cost-benefit analysis*: In general, project coordinators' perceive CBA to be ambiguous and prefer another evaluation method for transport construction projects. The perception that CBA is a good economic evaluation tool received limited support (13 percent). Moreover, some indicated a lack of understanding of CBA used in public sector projects.
- *Cost-effectiveness analysis*: Respondents strongly perceive cost-effectiveness analysis associated with construction projects to be "at times incorrect" as an economic evaluation

tool. Respondents also consider the interpretation of cost-effectiveness analysis results to be subjective as an economic evaluation tool. There is seeming parity between project managers who perceive the results of cost-effectiveness analysis as achievable over a period of time and respondents who identify the use of cost-effectiveness analysis as a common tool that should be used in public sector construction projects. However, only 11 percent of respondents indicated a lack of understanding of cost-effectiveness analysis as economic valuation tool.

### **Project management improvements and changes**

The final part of survey investigated the applications and practices of project management between the public and private sectors and ways project management in the public sector may be improved (government regulatory policies, cost-overruns, risks management, stakeholders' project scope management and evaluation methods, etc.).

- *Project management improvements*: respondents in general perceive project management processes, budget and project risks to be major reasons for improved project practices. Similarly, stakeholder influence and control are also seen to be significant, while executive project managers particularly emphasise the importance of training. Also of interest are project management standards that will be consistently applied across government agencies, improving current practices and responses from project managers.
- *Reason to change current practice*: respondents generally consider that defining project management structures for the whole of government is needed to change current practices in the public sector. This is particularly supported by executive project managers. The need to increase government productivity and improve accountability and transparency are also seen as reasons for change. However, there was little support for the need to compete effectively with the private sector and maximise money value for taxpayers.

## DISCUSSION

The survey revealed that public sector project cost management is categorised by many as ‘average’ and ‘needs improvement’. Project cost management is primarily concerned with the cost of resources needed to complete scheduled activities, including uncertainties associated with projects. According to the Project Management Institute (2004), a broader view of cost management involves costing each project phase, including resources required to complete a given activity. It is an area of insufficient knowledge that has eluded many government agencies and further study should be undertaken to establish an effective understanding of public sector project costs management and composition.

Public sector projects are also perceived as ‘difficult’ and ‘in addition to PMBOK (‘Project Management Body of Knowledge’) Guidelines’ used for project management practices. The undefined project phase adds to the difficulty of managing public sector projects in comparison to those in the private sector. There is a strong case for consistency in application of these guidelines across all sectors. According to Rose (2006), project management practices of public and private sectors use the same processes and procedures in the application of project management. The difference between two sectors is the additional government regulatory policies that enforce compliance on all public sector projects. The perceived difficulties regarding public sector projects are not necessarily related to the use of the PMBOK Guideline published by the Project Management Institute (2004). Most government agencies’ project evaluation guidelines are extracted from PMBOK (for example, *Project Evaluation Guideline* in Western Australia and *Project Assurance Framework* in Queensland) and legitimised government use of other regulatory policies to support decision-making processes.

In addition, public sector project managers perceive socio-economic evaluation tools, including CBAs and impact assessment studies (IAS), the Environmental Protection Act and project evaluation frameworks, as inappropriate for public sector projects. Cost-effectiveness analysis was also considered to be an inappropriate economic evaluation tool. In contrast, when asked whether these economic regulatory policies should be used to evaluate public sector projects, respondents 'completely agree' that government policies and guidelines are necessary and 'agree' to the application of these policies. However, the survey found a number of respondents saw public sector projects as 'over regulated' through the use of these economic regulatory policies.

The purpose of economic evaluation policies in public sector projects is primarily to support project evaluation options. The process enables informed decision-making and understanding of project viability amongst alternatives (Queensland Government Treasury, 2006). Arboleda and Abraham (2006) and Naess (2006), state that the purpose of CBA is to estimate the monetary value of benefits and costs equivalent to the community and to establish whether a particular project is viable - by imposing an accounting framework that prescribes class of benefits and costs to consider. The survey result regarding government socio-economic evaluation policies illustrates a lack of knowledge or understanding of government regulatory policies within the public sector. This is particularly true amongst project management practitioners that profess to use these regulatory policies on a frequent basis. This implies that public sector project managers need training to improve their basic knowledge of government policies, which undoubtedly will improve overall public sector project management practices.

Finally, risk management is an integral part of good management and interactive processes of continuous improvement blending into existing practices and business processes. The survey results found conducting risk management analysis, developing a risk register and mitigation of risks are most effective ways of managing risk. Insurance cover received weak support, including transferring risk to sub-contractors. As defined in the Australia/New Zealand Standard AS/NZS 4360:2004, a risk management plan defines the scope, purpose and management of risk activities, including all factors that might influence the ability of the organisation to achieve its intended objective (Standards Association of Australia, 2004). Risk management process is complex in nature, particularly in transport construction which involves data collection and analysis of uncertainty through project assessment and evaluation processes. Lockhart and Roberds (1996) argue that uncertainties are inherent in the evaluation of construction projects. The source of these uncertainties is difficult to quantify and interpretation can be difficult to justify. As a result, risk management of public sector projects has continued to exclude cost of uncertainties that prevail in transport construction projects. This has led to project cost overruns. Projects have been completed behind schedule due to poor evaluation assessments of public sector projects.

## **CONCLUSIONS**

The study has indicated some areas of concern with regards to project management practices in State and City public sector organisations in Queensland. Firstly, it is evident that many of the project management practitioners involved have little or a lack of understanding of government regulatory policies which are used as economic evaluation tools for project options. Public sector project cost management is perceived to be 'average' and needs improvement. Perhaps this is an opportunity for the public sector to review and provide training of project management practices and government regulatory policies of public

projects. This should help improve project management practitioners' understanding and interpretation of government regulatory policies and the rationale behind government use of these tools in support of project option choices.

A number of implications are apparent as a result of the study. Firstly, project management training and an increase in the number of project management practitioners with qualification/certification and professional affiliation to Project Management Institutions should improve project management practice in the public sector. Knowledge and understanding of government regulatory policies used as an economic evaluation tool should also improve performance and interpretation of these regulatory policies by public sector practitioners. Care and diligence need to be exercised during risk identification, analysis and quantifying processes for public sector transport infrastructure projects. Also, it is possible that public sector project costing may be enhanced with appropriate information and appraisal of risks - hopefully the reducing cost overruns associated with many public sector projects.

Clearly, similar research needs to be conducted in other geographical locations before any firm conclusions can be formed on the implications for theory and practice in general. When done, this will provide insights for the government to develop a common project management standard which will be applied across public sector projects for local and regional government. Public sector projects have been characterised as undefined and lack historical data capable of guiding future transport infrastructure construction projects or indications of similar project risks, as each government department adopts different standards to each other. Studies could also be conducted to compare risk identification, analysis and management of uncertainties associated with construction projects in other industries. Further study could extend to investigating government use of regulatory policies as an economic

evaluation tool for public sector project options. As Crawford (1998) observes, the project management profession requires a standard capable of guiding and addressing project management issues. Similarly, Flyvbjerg (2005) maintains that large infrastructure projects should be governed by good policy and planning strategies capable of addressing the uncertainties associated with public sector transport infrastructure projects. It is likely that public sector construction projects will improve through government implementation of a common project management standard and streamlining some of the regulatory policies used in project evaluation.

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## APPENDIX: SURVEY QUESTIONNAIRE

1. Select one of the following that applies to your current position.

Position Title	Tick
Project Manager	
Project Supervisor	
Project Co-ordinator	
Executive Manager Projects	
Manager – Projects	

2. What is your experience/qualification in project management? (Please select one.)

Qualification in Project Management	Tick
Engineer with no Project Management qualification	
On the job trained Project Manager	
Position title Project Manager without formal training	
Project Manager with Certificate in Project Management	
Experienced Project Manager with Certificate / Diploma in Project Management	
Post Graduate Diploma in Project Management	
Certified Project Manager	

3. How long have you been practising project management? (Please select one.)

Years of Experience	Tick
One – Twelve months	
One – Five years	
Six – Ten years	
Eleven – Fifteen years	
Above Fifteen years	

4. What is the approximate value of the project you have been involved within the department (Local & State Governments)? (Please select many as applicable.)

Project value	Tick
\$50, 000 – \$500,000	
\$501,000 – \$10 Million	
\$11 Million – \$20 Million	
Above \$21 Million	

5. Are you currently involved in project construction management? (Please select many as applicable.)

Industry	Number of projects	Consultant/ Contractor	Government Employee
Housing Construction (developments, construction, offices)			
Roads Construction (bridges, roads, tunnels)			
Facilities Management (properties, office refurbishments assets management)			
Information Technology (systems development, maintenance, construction)			
Other			

6. Project management is the application of knowledge, skills, tools, and techniques to project requirements. What is your knowledge about project management practice? (Please select one.)

Project Management Skill	Tick
Don't have the techniques required	
Adequate skill to practice project management at all levels	
Average, but would like to upgrade my skills	
More than average skill	
Need to compliment with training	

- 7 The preparation of a detailed project scope statement is critical to project success. What do regard most as a project management success? (Please scale from 1–7.) One is the lowest.

Success Criteria	Scale
Scope (planning, definition, WBS, verification control)	
Project Cost (variable, fixed)	
Time (completion within timeframe)	
User satisfaction (demand and user friendly)	
Client's satisfaction (exceeding client's expectation)	
Well defined structure of project phases	
Management input	

8. Project Cost Management includes the processes involved in planning, estimating, budgeting, and controlling costs so that the project can be completed with the approved budget. How would you rate cost management in the public sector construction projects? (Please select many as applicable.)

Project Cost Management	Tick
Average	
Good	
Overrun	
Excellent	
Need Improvement	

- 9 Project Cost Management is primarily concerned with the cost of the resources needed to complete scheduled activities. Do you think construction project costs should be categorised into the following? (Please scale from 1–7.). One is the lowest.

Categories of Construction Cost	Scale
Base Costs	
Real Costs	
Overrun Costs	
Maintenance Costs	
Need further information on project costs	

- 10 Project Time Management includes the processes required to accomplish timely complete the project. How do you rate time management in the public sector construction project? (Please select many as applicable.)

Project Time Management	Tick
I don't know, but effectively managed	
Poorly managed	
Good, but needs an improvement	
Within time schedule	
Over the time limit	

11. Have you experienced delays in construction projects? If yes, what are the causes? (Please scale from 1–7.). One is the lowest.

Delays in Construction Projects	Scale
Delay in project feasibility studies	
Department delay in approving project	
Stakeholder's disapproval of project	
Delay of detailed project scope statement	
Unallocated budget for the project	
All the above	

12. The public and private sectors use Project Management Body of Knowledge (PMBOK) as a project management practice guidelines. Do you think construction management in the public sector is difficult compared to that of private sector? (Please select many as applicable.)

Project Management Practice	Tick
Both public and private sectors use the same guidelines of project management	
Public sector project management is more difficult	
Private sector project management is less cumbersome	
Project management in the public sector is undefined	
Public sector project management uses other guidelines, in addition to PMBOK	

13. Which of the policies or guidelines do you think should not be used in construction projects? (Please select only two.)

<b>Government Policies and Regulations</b>	<b>Tick</b>
Cost Effectiveness Analysis	
Project Evaluation Assurance Framework	
Environmental Protection Act (1994)	
Economic Cost Benefit Analysis	
Impact Assessment Study (IAS)	
Financial Management Standards	

14 Government policies and guidelines are essential to construction projects in the public sector. Do you think these policies and guidelines are important? (Please select one.)

<b>Project Policies and Regulation</b>	<b>Tick</b>
Don't know	
Disagree	
Agree	
Completely Agree	
Over regulated	

15 Potential regulatory impacts should be identified and addressed through the development of Regulatory Impact Statements (RIS) and Public Benefit Test (PBT). Do you think government intervention on public sector projects are part of project risks? (Please select many as applicable.)

<b>Regulatory Impact and Risk</b>	<b>Tick</b>
Government intervention is necessary	
Government intervention increases project risks	
Government intervention reduces project risks	
Government intervention is only a regulatory process	

- 16 Stakeholders are instrumental to the success or failures of construction projects. Do you think public sector projects are overly controlled by stakeholders? (Please select many as applicable.)

Stakeholders	Tick
I don't know	
All the time	
I don't think so	
Not at all	
Yes, they are overly controlled	

- 17 Stakeholders are from various industries with varying interests and background. Do you think stakeholder's interest and contribution should be incorporated into project scope detailed statement? (Please select many as applicable.)

Stakeholder's Interest	Tick
No, it's a demanding process that changes project desired outcome	
Incorporating stakeholders' interest means project scope modification, which is expensive and instrumental to project success	
It is important to be included	
Stakeholder's contribution and interest are controversial, but needs to be incorporated and managed	
Project budget has been determined and need to be managed within project scope	

18. A risk analysis should identify, document and analyse the risks involved with each project option, and outline the strategies for allocating and mitigating risks associated with implementing each option. What appropriate way do you think public sector project risks can be managed? (Please scale from 1–7.). One is the lowest.

Risk Analysis	Scale
Insurance cover is adequate to manage risk	
Risks mitigation	
Transfer risk to subcontractors	
Conduct risks management planning, analysis, responses, monitoring and control	
Develop risk management register	

19. A project is a temporary endeavour undertaken to create a unique product or service (PMBOK 2004). Do you think that every project has the same risk? (Please select many as applicable.)

<b>Project Risks</b>	<b>Tick</b>
Construction projects have the same risks	
Historical data is an effective way of determining the uniqueness of risks	
Each project is unique, including the risk and should be managed appropriately	
Project risks should be accepted, whether positive or negative	
Project risk can be identified easily in all construction projects	

20. A cost-benefit analysis involves a comprehensive economic evaluation of all the costs and benefits associated with each proposed project option, including financial, environmental and social. Do you think the tool is appropriate? (Please select many as applicable.)

<b>Cost-Benefit Analysis</b>	<b>Tick</b>
Yes, it's a good tool	
The predictions tend to produce conflicting results	
I don't know much about cost-benefit analysis evaluation	
The interpretation of cost-benefit analysis is ambiguous	
Need another method of evaluation	

- 21 Cost-Effectiveness Analysis is where a benefit can be identified and impossible to place monetary value on a major proportion of the benefits (eg. noise reduction, number of lives saved etc). Do you think cost-effectiveness analysis should be used in the evaluation of public sector projects? (Please scale from 1–7.). One is the lowest.

<b>Cost Effectiveness Analysis</b>	<b>Scale</b>
Benefits identified are at times incorrect, but should be used	
The benefits identified are achievable over a period of time	
I don't know much about cost-effectiveness analysis	
The interpretation of cost-effectiveness analysis is subjective and reasonable	
Cost effectiveness analysis is a common evaluation used in construction projects	

22 If there are differences in terms of the application and practices of project management in public and private sectors, can you list some of them?

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23 Can you suggest other ways project management in the public sector may be improved? (Government regulation, project cost-overflow, risk management, stakeholders, scope management, project evaluation methods etc). Base on your experience and judgement, which of the above do you think immediate improvement is required?

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24. Are there any needs/reasons to change current project management methods and practices in the public sector? (Please select many as applicable.)

<b>Reasons to change</b>	<b>Tick</b>
To compete with the private sector	
To maximize value for money and taxpayer's profit	
Increase productivity and efficiency	
To provide defined structure to the entire system	
To provide transparency and accountability	
To limit the number of policies and regulation currently in use	