

The impact of the application of governance principles in municipal government projects: a metropolitan municipality case study

Abstract

The use of governance principles in projects implemented within the government sector provides tangible benefits in terms of projects achieving the intended objectives. Governance of projects is often related to the ability of organisations to demonstrate the ability to administer projects in line with organisational policy thereby adhering to principles such as accountability, transparency and compliance to trends of good corporate governance. Oversight in government projects often results in over and irregular expenditure as well as projects running over the planned timeframes, largely because of the lack of integrated governance systems to track, monitor and ensure project methodologies are followed. The purpose of this research was to propose an integrated governance structure to be utilised in a municipal environment to assist departments executing infrastructure projects. Reviewed literature presented governance principles adopted by the South African Local Government Association (SALGA) as the mandated and recognised organisation representing municipalities at the national and provincial spheres of government, literature also indicated how governance should be implemented within organisations. Evidence was collected using a case study process and based on the findings, an amended structure of how governance should be implemented within municipalities is proposed.

Key words: Impact, good corporate governance principles, project governance, constraints, governance structure.

1. Introduction

Provision of services by South African municipalities to communities has over the years become more project based with increased budget allocations to improve backlog issues, lack of infrastructure and deteriorating infrastructure. Since the work required to be done dictates the allocation of the budget, it is important that the right projects are selected and the right decisions are made in terms of how project funds are utilised (Makwetu, 2014-2015; Makwetu, 2017). Municipal government projects are executed for the purpose of providing service delivery to communities; these could be upgrades to existing assets funded through operational investment or new construction requiring capital investment. Their aim being to bring about improved change to communities, thus over the years it has become very important to ensure project processes are effective and their application is effective to achieve and sustain this positive impact (Klakegg, Williams, & Shiferaw, 2015). The greatest challenge arises when project owners fail to clearly define project objectives. The lack of formal project management processes and the inability to indicate cost to benefit ratio does little to justify project expenditure (Klakegg, Williams & Shiferaw, 2015). Factors such as long project durations, various stakeholders and a great deal of uncertainty, have resulted in government projects being difficult to implement thus failing to meet public expectation (Patanakul et al., 2016; Brunet & Aubry, 2016).

The inability to successfully complete projects within local government is often the result of oversight, due to lack of effective governance (Makwetu, 2014-2015). (Peerasit, & Omar, 2010) supports this view stating that the lack of governance, contract administration and the inconsistent application of project management principles has often caused projects not to meet the intended objectives. It is thus important for municipalities to have robust internal controls to ensure that they deliver on their priorities in an effective, efficient and economical manner. With these controls municipalities can develop and implement relevant policy and supporting legislation which enforces adherence particularly where procurement and contract management is concerned (Makwetu, 2017).

Corporate governance promotes establishment of these internal controls and refers to an organisational system for decision making. The organisational system must be based on ethics and administrative action, which encourages transparency and accountability (Müller, Pemsel & Shao, 2015).

Governance of projects is viewed as a subset of corporate governance focusing on the areas of corporate governance related to project selection, funding and activities of related projects. The principles of project governance therefore exist within the parameters of corporate governance with the principal aim being to define and establish project objectives in line with corporate strategies and to enforce and guide project methodologies of individual projects (Muller et al., 2016).

Various authors (Joslin & Müller, 2015; Singh, 2014; Rolstadås et al., 2014), have found that governance plays a significant role in the positive outcome of the project. (Joslin & Müller, 2015) introduced governance as a moderator between methodologies and project success, indicating that the way projects are managed has largely been influenced by project governance. Project governance provides a structure through which projects can be initiated (Joslin & Müller, 2015). Governance is an integral asset in managing government projects and poor performance of most projects emanated from the absence of management control and oversight (Patanakul et al., 2016). Although current research presents governance as a moderator between methodologies and project success, it does not indicate whether governance has a direct positive impact on the triple constraints of the project leading to project success. This research evaluated the effect of governance principles in project constraints and based on the findings recommended how an integrated governance structure can be used to ensure that municipal projects optimally achieve the triple constraints. Addressing this problem will enable better integration between government departments executing projects and a central project office thereby ensuring that governance principles are incorporated in projects. This should improve the consideration of governance principles and ensure greater accountability amongst project team members.

The next section summarises and presents the reviewed literature relevant to corporate governance, project governance and the derived principles of governance. Section 3 presents the methodology followed in

conducting this research as well as the methods used to collect the data. Section 4 presents the findings and the analysed results and section 5 presents the conclusions based on the findings as well as a final recommendation.

2. Literature review

Importance and role of corporate governance

Corporate governance is viewed as the means of applying ethical and effective direction and control to the organisation or municipalities' assets (Kings report, 2016; SALGA governance framework, n.d.). This allows municipalities to deliver on their primary objectives which are sustainable and which add significant value to the overall business (Kings report, 2016; SALGA governance framework, n.d.). Through a governance structure or framework, municipalities can encourage the efficient use of resources and enforce accountability for the use of those resources (The South African Institute of Chartered Accountants, 2013). Corporate governance is also perceived as the practice of administrating and controlling the business. Having a strong governance system demonstrates responsible leadership from the organisation which is always transparent, answerable and accountable (Makwetu, 2017). This view is also supported by (McGregor, 2011), noting that corporate governance is fundamentally a human activity which relates to the importance of decisions made regarding the future of the business.

The executive committee of the municipality is the official custodian of corporate governance within municipalities, duly supported and guided by SALGA (South African local government association) (Kings report, 2016; SALGA governance framework, n.d.). SALGA is a mandated and recognised organisation representing municipalities at the national and provincial spheres of government (Kings report, 2016; SALGA governance framework, n.d.). The role and responsibility of the executive committee is to set and steer strategic direction, approve policy and planning, oversee, monitor and ensure accountability through the principles of good governance (Kings report, 2016).

Context of governance in projects

The Project Management Institute's (PMI) practice guide for governance of portfolios, programs and projects indicates the importance of distinguishing between the various possible types of governance which may exist (Project Management Institute, 2016). The guide refers to corporate governance, governance of projects and project governance (Project Management Institute, 2016). This practice guide mentions that there is no consistent approach to portfolio, program, and project governance within organisations. Various definitions of governance exist in literature and standards and this adds to the confusion of distinguishing between the governance needs at different levels of portfolio, program and project management (Muller et al., 2016; Brunet & Aubry, 2016; Project Management Institute, 2016; Müller & Zhai, 2017).

Muller states that recent work on governance in the realm of projects utilises the distinction between project management and management of projects to differentiate between project governance and governance of projects (Muller et al., 2016; Müller & Lecoeuvre, 2014). Project governance and/or management refers to the organisation of a specific project, often in line with the specific methodology used to manage each specific project. While management of projects is defined as the way to administer groups of related projects within the same organisations (Muller et al., 2016; Müller & Lecoeuvre, 2014).

Governance is further defined in the realm of projects as “the value system, structures, processes and policies that allow projects to achieve organisational objectives” (Müller & Zhai, 2017; Müller & Lecoeuvre, 2014). This definition is supported by the PMI practice guide (Project Management Institute, 2016) and authors (Muller et al., 2016; Ahola et al., 2014; Too & Weaver, 2014; Marnewick & Labuschagne, 2011) who view project governance as a framework, functions, and processes that guide project management activities in order to create a unique product to meet organisational strategic and operational goals. It is important to note as indicated by **figure 1** that project governance and governance of projects (programme and portfolios) coexist within the parameters of corporate governance (Joslin & Müller, 2015). Project governance principles are therefore founded on the principles of corporate governance (Marnewick & Labuschagne,

2011). **Figure 1** presents the basic elements of governance which takes place within many organisations including municipalities which implement business strategies through portfolios, programs and projects.

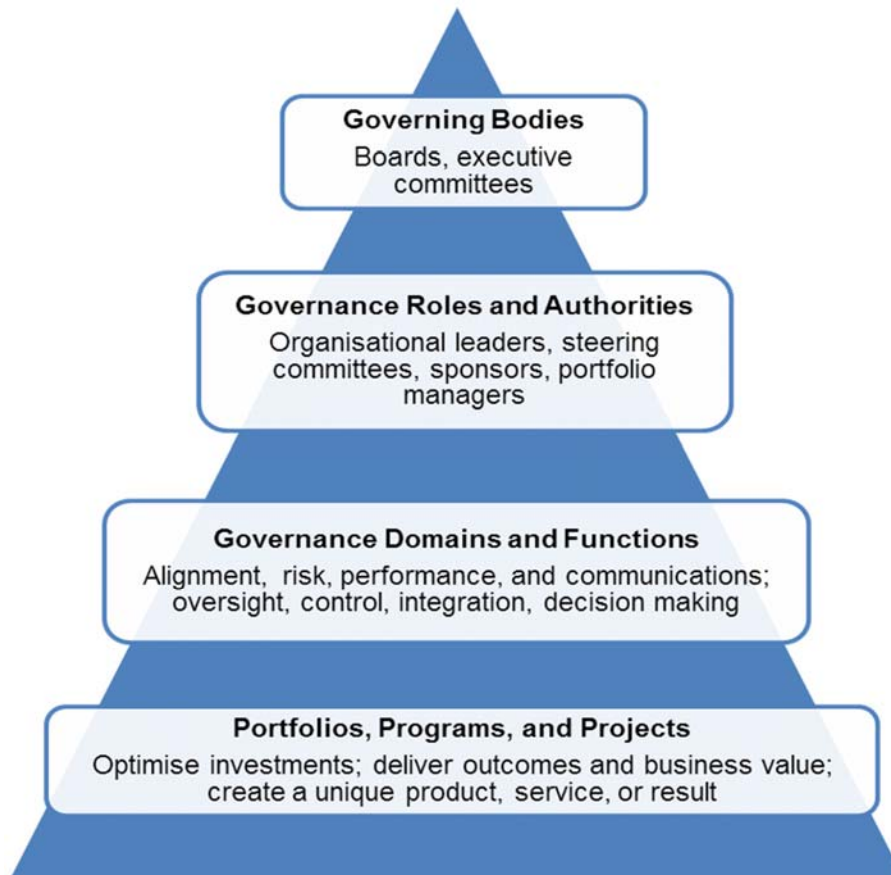


Figure 1: Governance elements (Project Management Institute, 2016)

Figure 1 further indicates that the principles of corporate governance are set at governing body level and cascaded down to an executive management level for alignment with strategic objectives of the municipality, definition of governance roles, responsibilities and expected outcomes. There is then integration of governance with expected delivery of project results which occurs at various departmental levels. This is an oversight function to enforce and ensure that governance is considered at portfolio, programs and project level.

Table 1: Principles of corporate governance (SALGA governance framework, n.d.)

No.	SALGA's governance framework principles
1	Clear lines of accountability with regards to project.
2	Transparency within the overall project process.
3	Project responded to an identified need while also focusing on the strategic objectives of the organisation.
4	Stakeholder inclusive approach.
5	All necessary agreements reached before project commencement.
6	Project complied with all applicable law and legislation.
7	Balance between project needs, interests and expectations of all stakeholder's and organisation.
8	Project Service delivery driven.
9	Project decisions made at the least centralised authority.
10	Clear roles and responsibilities in order to promote independent judgement.
11	Project compliant with current trends of good corporate governance such as ethical culture, risk and information governance.
12	Project promoted the Batho Pele "People First" principles.

Table 1 presents the 12 governance principles translated from the corporate governance principles derived from literature as noted on SALGA's framework. These principles were adopted by SALGA from the King report.

Relationship between project governance and triple constraints

In the early years of project management, projects were considered successful if delivered within the planned time and budget and satisfied the set quality criterion (Koops & Comana, 2015). This view is supported by (Project Management Institute, 2013) stating that, in order to meet the requirements of managing a project successfully one must balance the competing project constraints of time, cost and quality. Having a set of project management methodologies enhances project effectiveness which leads to higher chances of project success (Joslin & Müller, 2015). The study conducted by Joslin and Müller (2015), found that there is a positive relationship between project methodologies and project success. The study discovered that project methodologies constitutes about 22.3% of project success. The same study discovered that governance plays a significant role in terms of controlling project methodologies which lead to project success. Therefore, the way project management is regarded to date has been influenced largely

by project governance, because governance has provided a structure through which projects can be set up, executed and reported (Joslin & Müller, 2015). Furthermore, project governance ensures compliance to implementation of processes required for making and executing decisions.

A relationship exists between project governance and project success through moderating methodologies (Joslin & Müller, 2015). Project success is measured by the ability of the project to achieve its triple constraints as indicated by the iron triangle (Van Wyngaard, J. C. Pretorius & L. Pretorius, 2011). The way which a project is governed can influence its success in relation to its triple constraints.

The aim of the research was to determine whether the application of the derived governance principles in municipal government projects, can promote projects which optimally meet the triple constraints of time, cost and quality. To achieve the aim, the research answered the following research questions:

1. How important are governance principles in the successful implementation of projects?
2. To what extent are these governance principles utilised in project implementation?
3. What impact do these governance principles have on cost, time and quality?

According to literature corporate governance is important because it is the actual system through which organisations are directed and controlled. These systems must be cascaded down to executive management level, senior management level and ultimately project governance level. At project governance level, organisations seek to deliver outcomes and optimise investments. For this to be achieved organisations must have an integrated structure which ensures accountability and transparency.

3. Method of research

Case studies are the best form of research methodology when trying to understand complex issues (Sreejesh, Mohaptra & Anusree, 2014). From the analysis, the researcher can obtain in-depth understanding on the unit being analysed (Sreejesh, Mohaptra & Anusree, 2014). Understanding the level of impact governance can have on the constraints of the project can be classified as a complex issue. Therefore, the research

evaluated whether governance principles aided in the projects achieving the triple constraints, with particular interest on the impact the principles had on the constraints of time, cost and quality. To address the research aim, a sample of two cases were studied. The cases were projects implemented within a South African municipality for the purpose of community service delivery.

A mixed method approach was utilised to collect data for this research. The method involved collecting, analysing, and integrating quantitative and qualitative research data. Quantitative data was based on the responses received from the questionnaires sent out and qualitative based on the evaluation of available project documents.

A robust case study design protocol and planning was followed to achieve the desired results. The case study considered the following;

- **Objectives of the case study**

The case study aimed to attain in-depth understanding on the unit of analysis, the impact governance principles had on project time, cost and quality in the two projects studied. The study was refined by the research questions and answered through the case study analysis (Höst, 2008).

- **The cases to be studied**

The cases studied were projects executed for the purpose of community service delivery. The researcher selected two different water projects which have been executed by the infrastructure department.

- **Intention of the study**

The researcher examined whether the principles of governance were used during project implementation. If these principles were used it determined whether their use had a positive or negative impact on the outcome of the project.

- **Methods used in collecting the data**

Data was collected using two methods (document analysis and questionnaire) and converged in order to try and reach a robust conclusion (Olsen, 2004).

Documentation evaluation was an independent analysis of project reports (Höst, 2008), while the questionnaire was sent out to respondents involved in the two projects. Project documentation indicated governance principles considered during project implementation and the questionnaire aimed to validate the use of these governance principles.

- **Sources of data**

The following professionals were identified as possible respondents for the questionnaire: Engineers, Project managers, Project administrators and Engineering technicians. The individuals were selected because they were directly involved in the two projects which increased the validity of the data.

The use of the questionnaire as one of the data collection methods was important because it validated data which had been attained from the analysis of the documents. The validity and reliability of information from each method was realised through convergence of the data obtained from analysis of project documents and feedback from the respondents (Olsen, 2004).

The questions were answered through the analysis of collected quantitative and qualitative data. Quantitative data was obtained from respondents in a structured format circulated through email. The questionnaire was structured in a manner which is easily understood by the respondents, clearly indicating the motive for the research and providing assurance of confidentiality (Burgess, 2001). A total of 10 questionnaires were sent out to project team members, six respondents for case 1 and four respondents for case 2. The questionnaire was drafted in accordance to the research questionnaire design presented in **table 2**.

Table 2: Research questionnaire design

Question 1	How important are governance principles in the successful implementation of projects?	Research question seeks to uncover whether the respondents believe that governance principles are important to consider during project implementation.
Question 2	To what extent are these governance related principles utilized in project implementation?	Research question seeks to uncover whether the respondents believe these principles were used during project implementation.

Question 3	What impact do these governance related principles have on cost, time and quality?	Research question seeks to uncover whether governance principles have an impact on the project constraints.
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4. Results and Analysis

A summary of findings is presented in this section. Findings were obtained from the analysis of project documentation and the questionnaire results. The first case studied was for maintenance of water infrastructure in residential households. In case 1 the consideration of the governance principles was validated in terms of what information was incorporated within the project documents.

The second case studied was for the construction of bulk water supply to a private mine. Case 2 was executed according to enterprise project management standards. Standards were compiled by the project office with the principle objective being to increase the successful delivery of capital projects.

i. Document review analysis

The analysis of project documents tried to ascertain which governance principles were used during project implementation. The evidence of the eleven principles used were obtained from the project documents such as project management plan, risk management plan and project budget plan etc. **Table 3** depicts the summary of principles used and not used in case 1.

Table 3: Governance principles considered: case 1

Principle	Used	Source of evidence	Comment
1	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> An approved project governance charter, formally appointing the project manager. A fully integrated project governance structure.
2	Yes	Performance management plan Procurement process. Recorded engagements / meetings	<u>Literature required the following, which was found in the project documents:</u> Performance management plan used to track project performance. Documented supply chain management process to procure services. Meetings used as a tool to disseminate project information.

Principle	Used	Source of evidence	Comment
3	Yes	Project integrated into organization portfolio governance Integrated Development plan Growth development strategy Supported by Indigent policy	<u>Literature required the following, which was found in the project documents:</u> Project part of portfolio of projects budgeted for in the department. Project part of strategic plan of the organization. Project In line with development strategy 2025. Project responding to policy to support the indigent.
4	Yes	Recorded engagements / meetings Communication management plan	<u>Literature required the following, which was found in the project documents:</u> Stakeholder management an engagement plan. Communication management plan. Project was integrated into portfolio of projects.
5	Yes	Governance management plan Approved risk management plan Approved performance management plan Approved communications management plan	<u>Literature required the following, which was found in the project documents:</u> Approved governance management plan. Agreements on how performance will be measured were done Approved risk management plan.
6	Yes	Project regulated by applicable legislation	<u>Literature required the following, which was found in the project documents:</u> Project compliant with finance act and conditions of contract.
7	Yes	Project part of portfolio of projects evident on the integrated development plan Risk management plan	<u>Literature required the following, which was found in the project documents:</u> There was a balance between project needs, interests and expectations of all stakeholder's and organization. Managed internal and external risks
8	Yes	Performance management plan	<u>Literature required the following, which was found in the project documents:</u> Performance measured against plan and performance reporting done. Project performance results analysed.
9	Yes	Risk management plan Performance management plan Project management plan	<u>Literature required the following, which was found in the project documents:</u> Escalated risks and issues resolved and remediated Project decisions were made at the least centralized authority.
10	Yes	Project management plan Communications and reporting plan.	<u>Literature required the following, which was found in the project documents:</u> Roles were clearly detailed; project manager's responsibilities, project team members. Communications plan indicated who needed to be informed and how project reporting needed to be done.
11	Yes	Risk management plan Communication management plan	<u>Literature required the following, which was found in the project documents:</u> Project was compliant with current trends of good corporate governance such as ethical culture, management of risk and information governance, these were incorporated within the risk management plan and communications management plan.
12	Yes	Recorded public engagements Project management plan	<u>Literature required the following, which was found in the project documents:</u> Project promoted the Batho Pele "People First" principles.

From **table 3**, the summary of findings of documentation analysis of case study 1 indicated that 11 of the 12 principles were used during project implementation, the only principle not considered was principle 1 which requires that, there be clear lines of accountability within the project.

The summary of findings of documentation analysis of case study 2 indicated the following: 5 of the principles presented were used during project implementation, and 7 of the principles were not used. The seven principles not used were principles (1,5,7,9,10,11 and 12) this is reflected in **table 4**.

Table 4: Governance principles considered: case 2

Principles	Used	Source of evidence	Comment
1	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> An approved project governance charter, formally appointing the project manager. A fully integrated project governance structure.
2	Yes	Performance management plan.	<u>Literature required the following which was found in the project documents:</u> Document mentions criteria to measure project performance.
3	Yes	Procurement process. Clients Project proposal	Documented supply chain management process to procure services. <u>Literature required the following which was found in the project documents:</u> Project responded to client's requirements and needs.
4	Yes	Recorded engagements / meetings between all stakeholders.	<u>Literature required the following which was found in the project documents:</u> Stakeholder management and engagement plan. Communication management plan. Project to be integrated into portfolio of projects.
5	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> An approved project governance charter Governance management plan Approved risk management plan
6	Yes	Project regulated by applicable legislation	<u>Literature required the following which was found in the project documents:</u> Project compliant with finance act and conditions of contract for construction project.
7	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> Project not integrated into portfolio governance. No evidence could be found to confirm that internal and external risks were managed.
8	Yes	Performance management plan	<u>Literature required the following which was found in the project documents:</u> Performance was measured against agreed criteria and performance reporting was done. Project performance results were analysed.
9	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> Risks and issues being resolved and remediated as part of risk management plan. Project decisions being made at the least centralised authority as part of project management plan. Project manager being responsible for project performances since project governance charter and formal appointment not found.
10	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> Governance mechanism to designate roles and responsibilities.

Principles	Used	Source of evidence	Comment
11	No	No clear evidence was found.	Communication plan could not be located. <u>Literature required the following which was found in the project documents:</u> No plan to deal with project risks. No integrated governance structure for technical oversight.
12	No	No clear evidence was found.	<u>Literature required the following, and it was not located within the project documents:</u> No evidence could be found that the project was selected based on the needs of the people.

From the analysis of project documents of both cases, the results indicate that the use of the governance principles was inconsistent between both cases, with case 1 considering more principles than case 2. The inconsistency could be due to the following; no standardised method of incorporating governance in projects, no understanding from project personnel implementing projects or there is lack of integration and enforcement from the project office to the project departments executing projects.

ii. Questionnaire results

Case 1 and case 2: Importance of governance related principles

The research attempted to ascertain the importance of governance principles within the organisation during project implementation in case 1 and 2. The Likert scale was used for the level of importance as follows: 1- Unimportant, 2 -Slightly important, 3 – Neutral, 4 – Important, 5 – Very important. Analysis of obtained responses was done using a calculated total score for each of the 12 principles as suggested by (Robson & McCartan, 2016). A score for each of the rating categories was attained by multiplying the allocated number in each category by the number of respondents who selected that category. As depicted in **figure 2** when trying to compare the results of case 1 and case 2, majority of respondents in case 1 believed that the governance principles are very important to consider. A notable difference in case 2 is evident where the number of respondents believing the governance principles are very important were slightly reduced in comparison to case 1. This is reflected by principles (6,7,9,10,11 and 12) in case 2. General consensus is that all the principles were found to be important with the majority of the principles found to be very important.

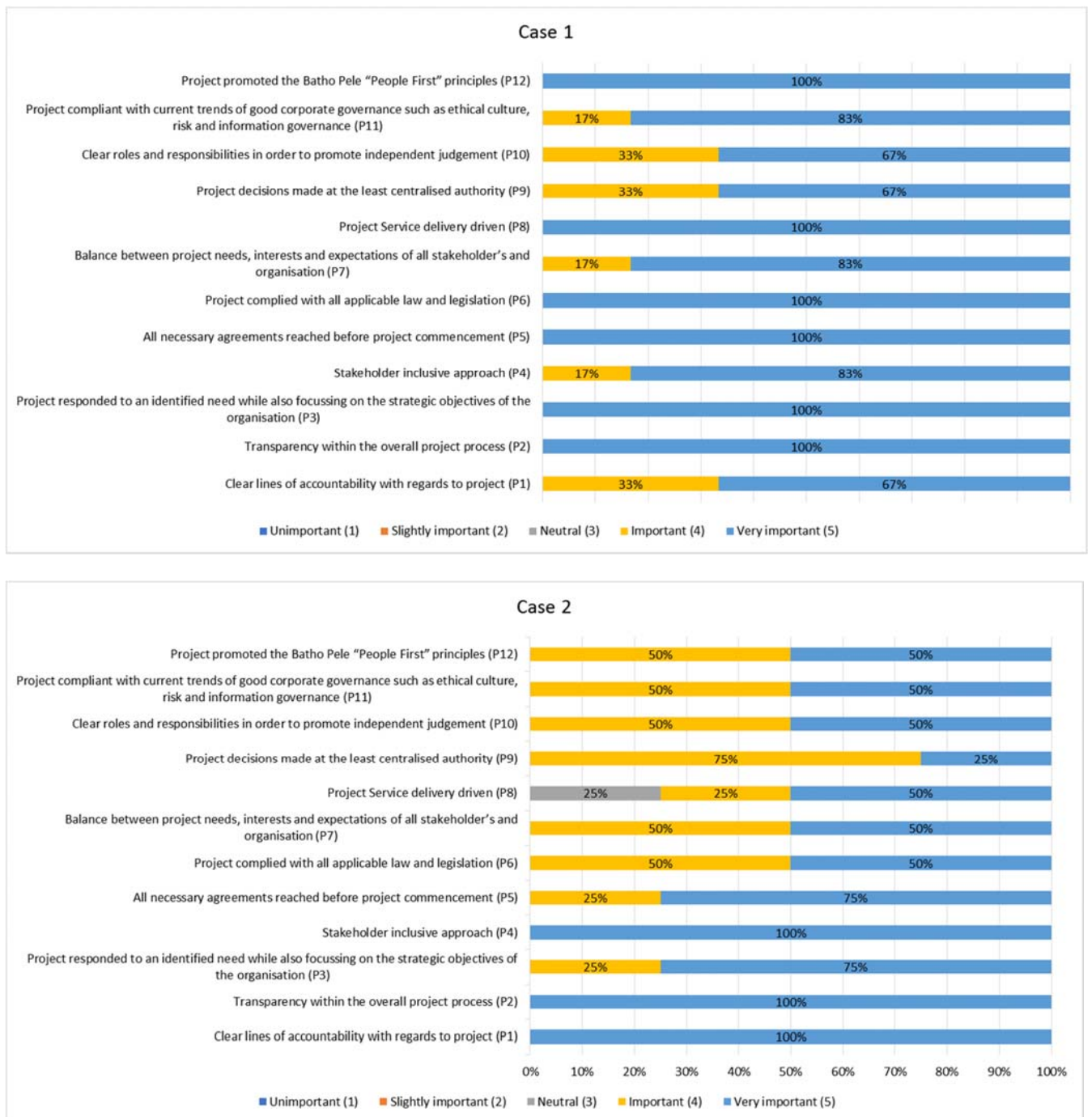


Figure 2: Comparison of the importance of governance principles - case 1 and case 2

The summary of findings from the respondents in both, case study 1 and case study 2 when trying to determine the level of importance indicated that the 12 governance principles are indeed important to

consider during project implementation, responses selected were between category important and very important.

Ranking in terms of level of importance (case 1 and case 2)

From **table 5**, there is a visible difference in terms of importance of the principles. Case 1 indicates that six of the governance principles (2,3,5,6,8 and 12) were considered the most important principles, while in case 2 only three principles were considered most important, principles (1,2,4), with principle 2 being common to both cases. Then, three principles were considered second most important in case 1, while in case 2 only two principles were considered second most important. Case 1 then considered principles (1,10 and 9) third most important which was the least important in this case, while in case 2 five principles (6,7,10,11 and 12) were considered the third most important. Finally in case 2, the principles considered the least important were principles (8 and 9). A clear misalliance in ranking, implying the principles were not viewed the same by all the respondents in both cases.

Table 5: difference in importance

Principles	Ranking from most important to least important	CASE 1	Principles	Ranking from most important to least important	CASE 2
2	Transparency within the overall project process.	30	1	Clear lines of accountability with regards to project.	20
3	Project responded to an identified need while also focussing on the strategic objectives of the organisation.	30	2	Transparency within the overall project process.	20
5	All necessary agreements reached before project commencement.	30	4	Stakeholder inclusive approach.	20
6	Project complied with all applicable law and legislation.	30	3	Project responded to an identified need while also focussing on the strategic objectives of the organisation.	19
12	Project promoted the Batho Pele "People First" principles.	30	5	All necessary agreements reached before project commencement.	19
8	Project Service delivery driven.	30	6	Project complied with all applicable law and legislation.	18
4	Stakeholder inclusive approach.	29	7	Balance between project needs, interests and expectations of all stakeholder's and organisation.	18
7	Balance between project needs, interests and expectations of all stakeholder's and organisation.	29	10	Clear roles and responsibilities in order to promote independent judgement.	18
11	Project compliant with current trends of good corporate governance such as ethical culture, risk and information governance.	29	11	Project compliant with current trends of good corporate governance such as ethical culture, risk and information governance.	18
1	Clear lines of accountability with regards to project.	28	12	Project promoted the Batho Pele "People First" principles.	18
10	Clear roles and responsibilities in order to promote independent judgement.	28	8	Project Service delivery driven.	17
9	Project decisions made at the least centralised authority.	28	9	Project decisions made at the least centralised authority.	17

Case 1 and case 2: Extent of use of the governance principles

The research then tried to ascertain the extent of use of the governance principles within the organisation during project implementation in case 1 and 2. In case 1, the summary of findings of responses indicated that 3 of the principles (1, 4 and 11) were the less considered principles during project implementation. In case 2, responses indicated that 4 of the principles (2, 9, 11 & 12) were also the less considered principles during project implementation, this is depicted in **figure 3** with the bar of; almost never and rarely used are prominent.

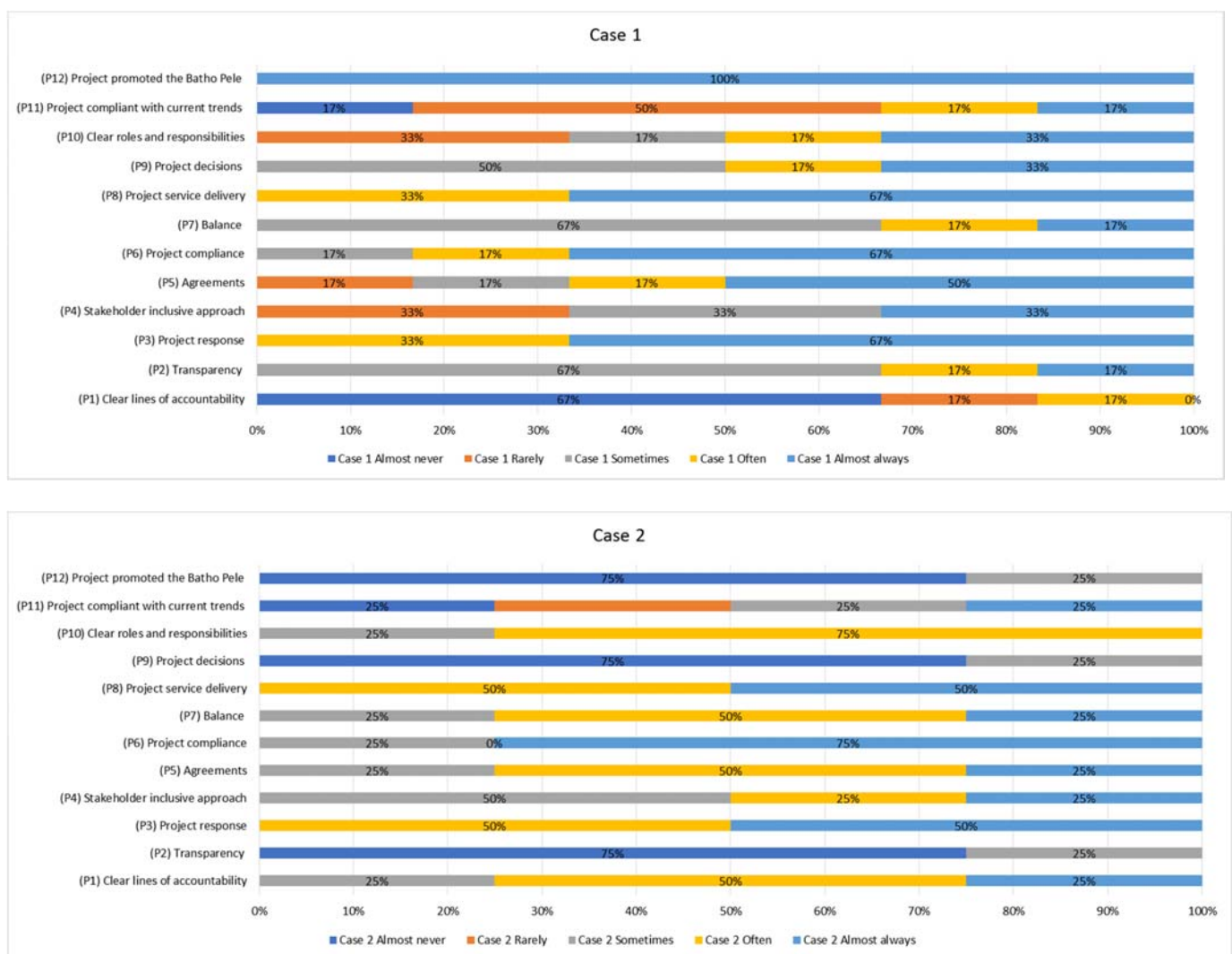


Figure 3: comparison of the extent of use of the principles – case 1 and case 2

Obtained results from the analysis of project documentation and questionnaire indicated that, there was no consistent approach of incorporating project governance principles in both case 1 and case 2. This statement is made on the basis that none of the bar charts for each of the 12 principles in case 1 and 2 were the same when compared to each other, this indicates differentiating views from the respondents. A common finding able to be drawn from the above **figure** was that principle 11 in both cases was one of the less considered principles with the calculated total score being the smallest in both cases. Commonality could also be drawn in terms of principle (3, 6 and 8) in both cases, these three governance principles were the most considered as their calculated total scores are the highest in both cases, this is also evident in **figure 4**. This indicates that; municipal projects do respond to identified needs, they comply with applicable law and are almost always service delivery driven.

Unit of analysis: Impact of governance principles on project cost, time and quality

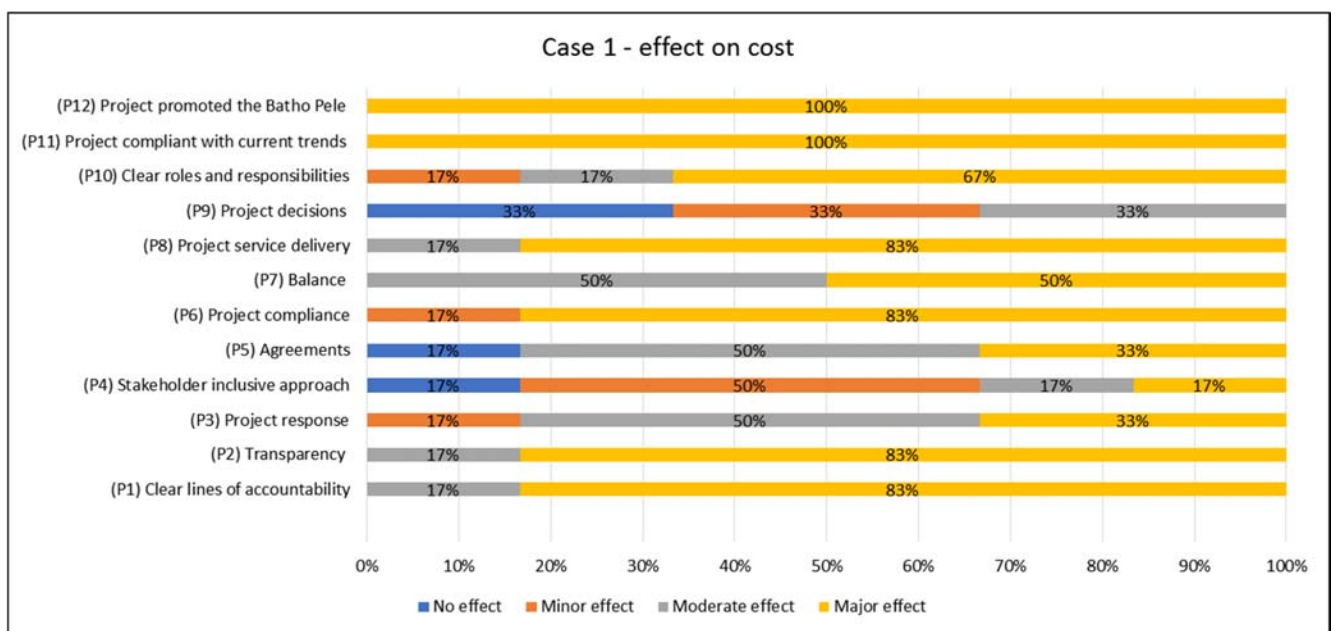


Figure 4: impact of the principles on cost – case 1

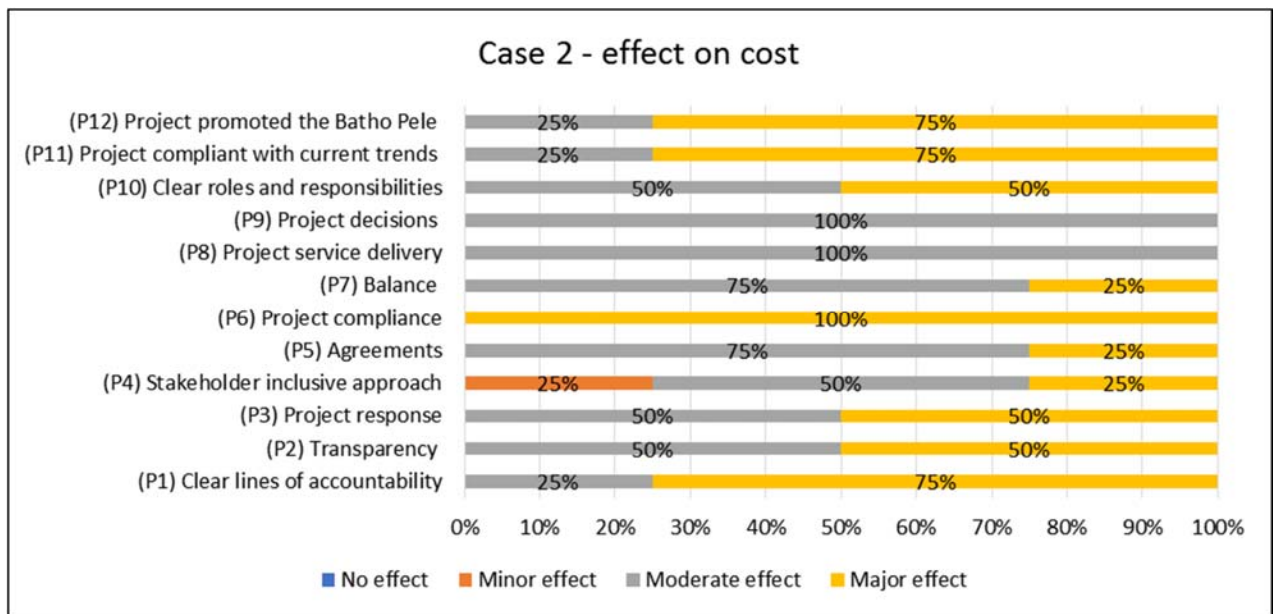


Figure 5: effect of the principles on cost – case 2

Figures 4 to 9 presents the results of the effect of the 12 principles on cost, time and quality.

With regards to the constraint of cost, in case 1 the results indicated more respondents agreed that (7 of the 12) principles presented in figure 4 had major effect on cost, these are principles (1,2,6,8,10,11 and 12).

While in case 2, most of the respondents indicated four principles had a major effect on cost, these are principles (1,6,11 and 12) this is depicted in figure 5.

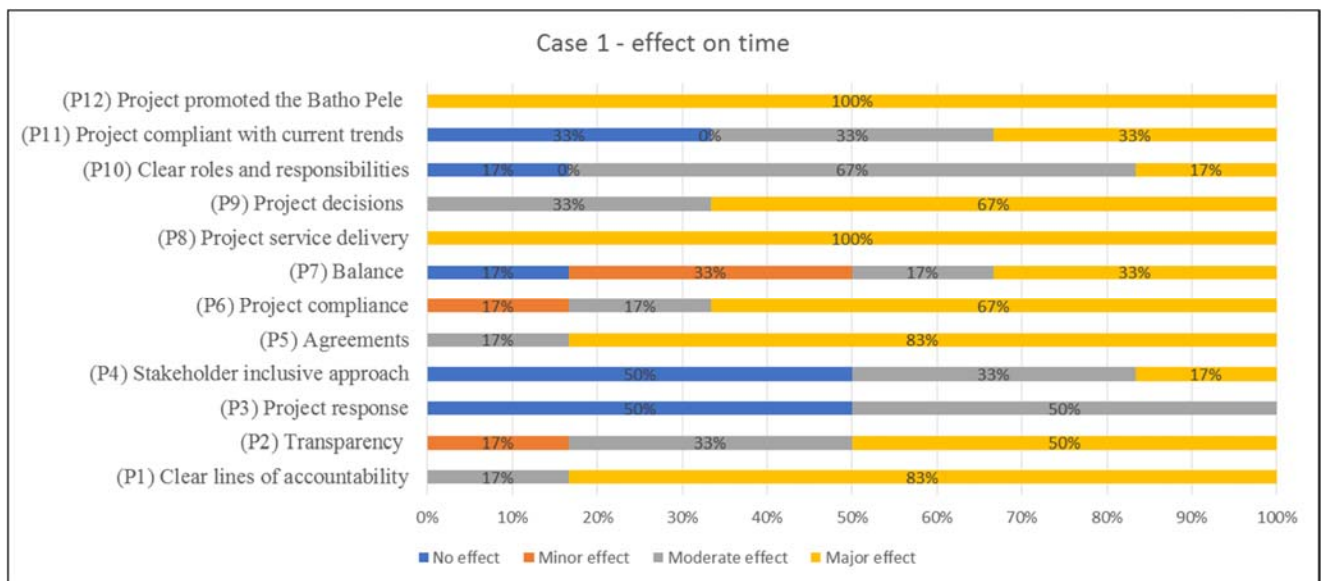


Figure 6: effect of the principles on time – case 1

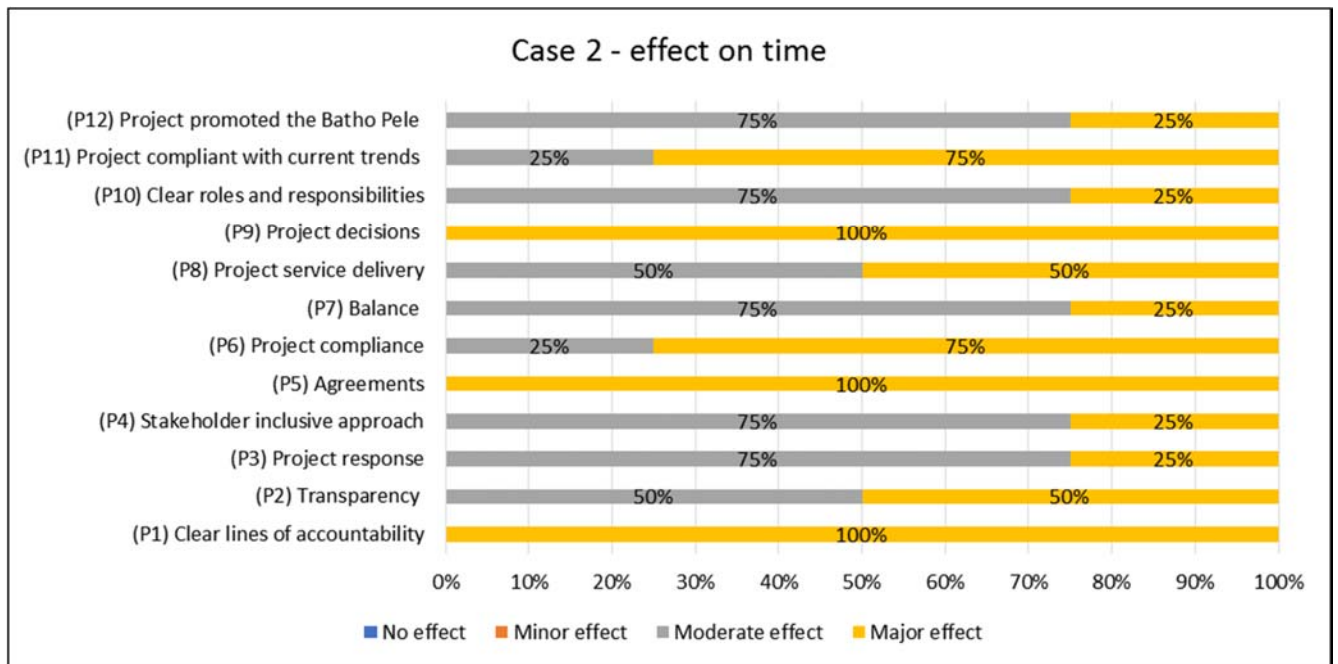


Figure 7: effect of the principles on time – case 2

Depicted in **figure 6 and 7** are results of case 1 and case 2 with regards to the constraint of time, in case 1 (7 of the 12) principles had major effect on time, these are principles (1,2,5,6,8,9 and 12). Results of case 2 indicated that five principles had a major effect on time, these are principles (1,5,6,9 and 11).

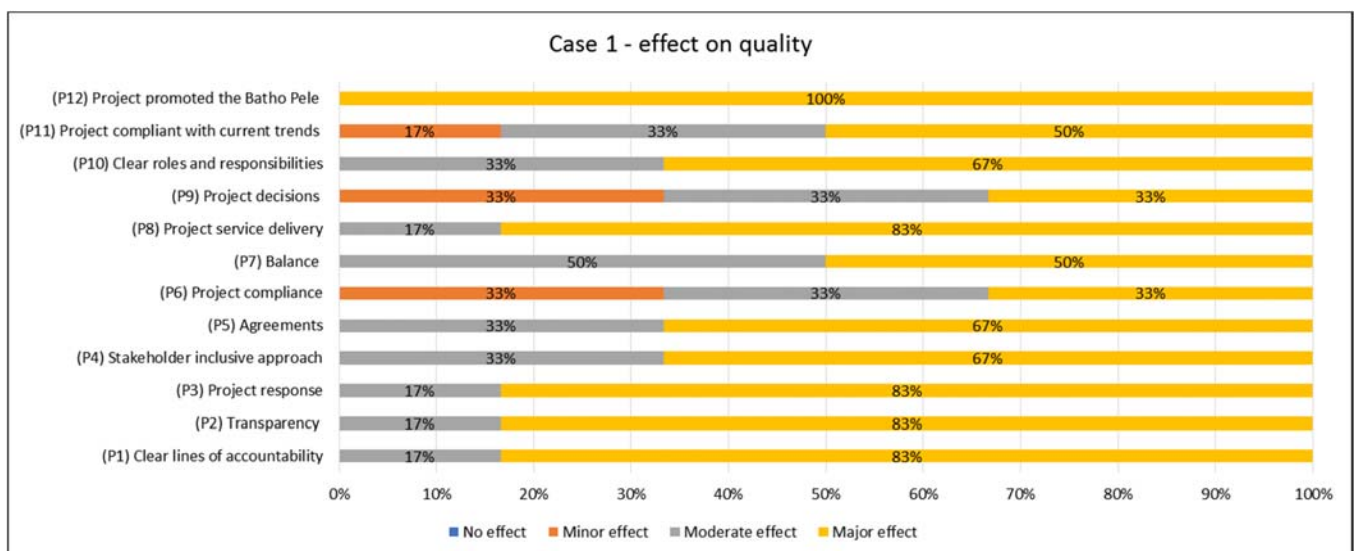


Figure 8: effect of the principles on quality – case 1

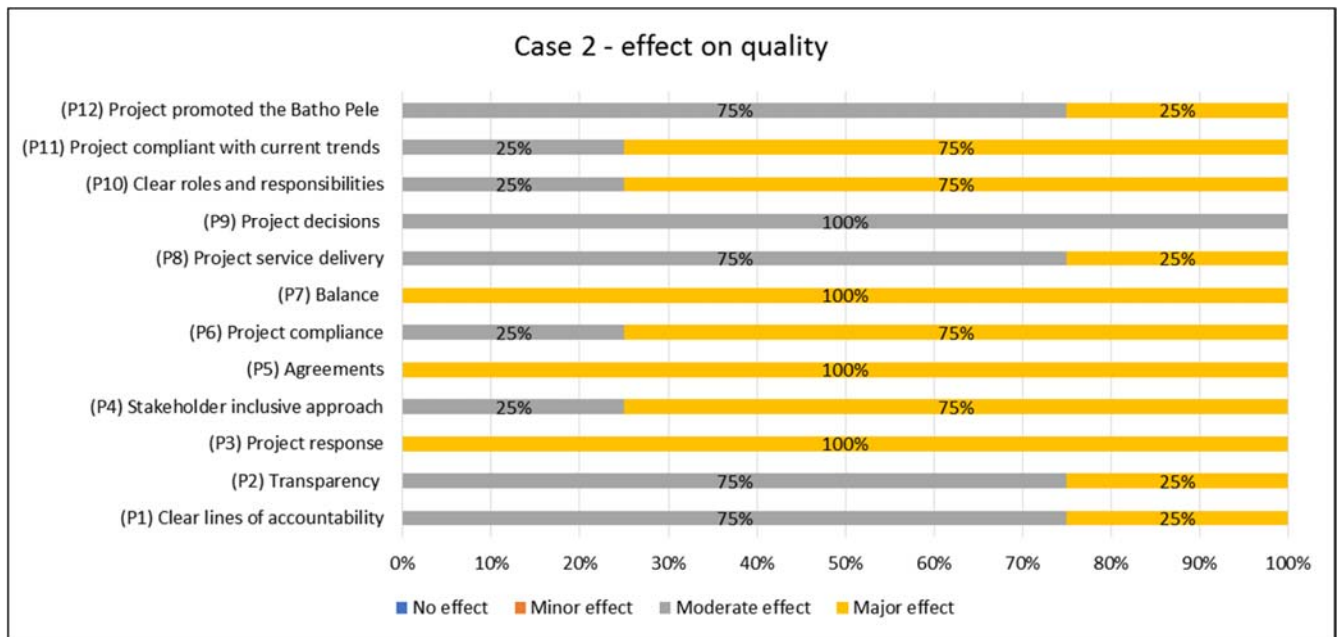


Figure 9: effect of the principles on quality – case 2

Depicted in **figure 8 and 9** are results for the constraint of quality. In case 1, nine principles had a major effect on quality these are principles (1,2,3,4,5,8,10, 11 and 12). In case 2, seven principles had a major effect on quality, these are principles (3,4,5,6,7,10 and 11)

In both case 1 and case 2, respondents indicated that most of the governance principles had a major impact on the project’s constraints, with the constraint of quality being the most impacted by the governance principles.

Discussion

The discussion below is based on the analysed results obtained from the questionnaire conducted with project team members. The results addressed the three research questions posed to the project team members.

a. How important are governance principles in the successful implementation of projects?

The questionnaire was used to obtain the views of the project team members and the findings revealed that the respondents believed all 12 governance principles were important to consider during project implementation, evidence based on total scores calculated is presented in **figure 2**.

b. To what extent are these governance principles utilised in project implementation?

The respondents through the use of the questionnaire revealed that these principles are not consistently used within the organisation, which means there is either no standardised method of incorporating governance in projects, no understanding from project personnel implementing projects or there is lack of integration and enforcement from a central office to ensure governance is implemented in projects.

c. What impact do these governance related principles have on cost, time and quality?

Obtained results revealed that governance principles indeed have impact on the project outcome, with the greatest impact made on the constraint of quality. This research question was the unit of analysis for his research and the results indicate that governance principles should be considered during project implementation.

5. Conclusions

The key findings derived from this research have answered the research problem and attained the principle aim of this research. The aim of the research was to determine whether the application of the derived governance principles in municipal government projects, can promote projects which optimally meet the triple constraints of time, cost and quality, with particular interest on the impact the principles had on the constraints of time, cost and quality.

The three key findings relevant to this research were:

1. The 12 governance principles are important in the successful implementation of projects.
2. The extent of use of these principles varied between case study 1 and case study 2, indicating there is inconsistency in the utilisation of the principles.

3. With regards to the unit of analysis, which evaluated whether the principles have an impact on project time, cost and quality, it was found that governance principles do have major effect on the triple constraints, with quality being the most impacted (result depicted by **figures 5 to 10**).

An opportunity for further research arising from this study is the assessment of the impact of the proposed structure derived in the course of research into the impact of the application of governance principles in municipal government projects.

Recommendation

The problem identified when conducting the analysis was that; there is currently no central office enforcing the use of the governance principles within municipalities, although these principles should be used to guide project methodologies. Based on the findings the research proposes that there be better integration between the current project management office and project departments. The purpose of this research was to propose an integrated governance structure to be utilised in a municipal environment to assist departments executing infrastructure projects in order to optimally achieve the projects triple constraints, **figure 11** presents this proposed structure. The link between the central project office and project departments is indicated by the two red arrows. The top arrow provides a direct link to the department, thereby giving assistance in the overall selection of projects (governance of projects). The bottom arrow indicates a direct link to each project being executed and governance will be enforced through the central project office (project governance).

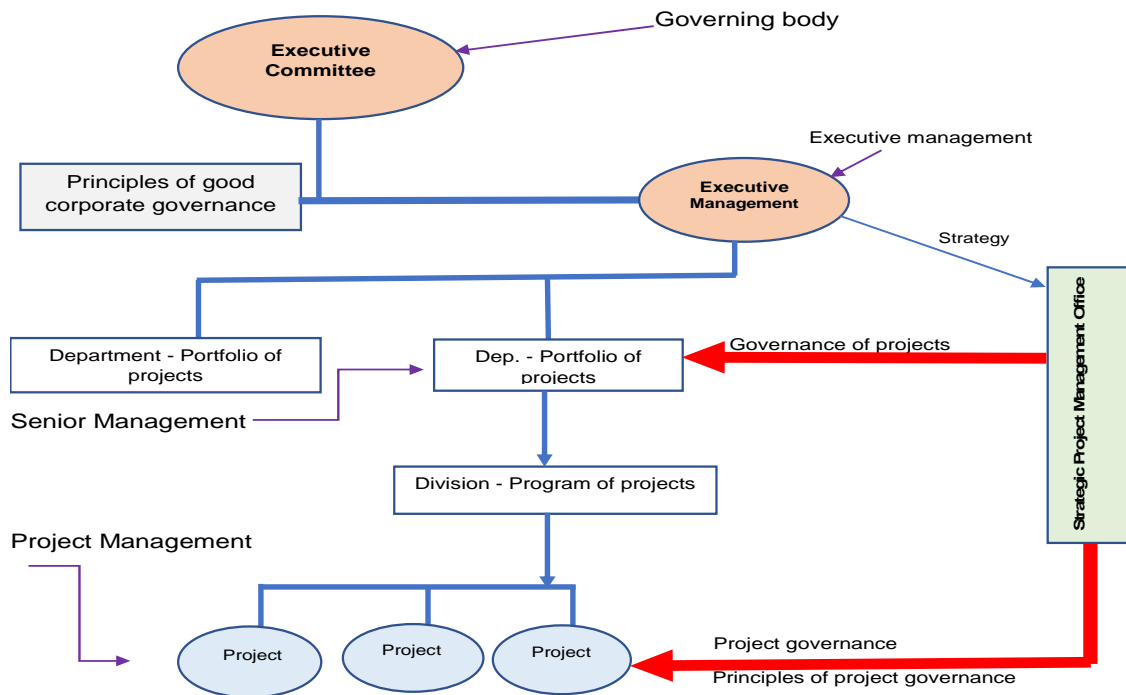


Figure 10: Proposed governance structure

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