

Investigating the Efficiency and Effectiveness of Project Execution in a South African Project Based Organisation

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Abstract

This study was inspired by an organization that has been experiencing delays coupled with cost constraints and quality management issues in the execution of its projects. A research was therefore conducted to investigate the efficiency and effectiveness of project execution in the organization using a qualitative research approach. The research targeted population were all stakeholders in management involved in execution of projects. The study sample was nine participants selected using non-probability purposive sampling and data was collected using semi-structured interviews. The research results showed that correct project management processes were being followed during project execution, however processes implementation was not efficient, communication channels were ineffective, stakeholders were not engaged, resource distribution was ineffectively done leaving other projects with shortages of material. The study revealed that there was lack of skills and training programs resulting in costly corrective measures, lack of monitoring and controlling, risk management is not done effectively, contractors are not well managed, while leadership is experienced differently in various sections. Right processes are needed to ensure right governance in the organisation's execution of projects.

Keywords

Efficiency, Effectiveness, Project Execution, Project Management, Stakeholder,

1. Introduction

The implementation of project management helps in creating strategic value chains that enable an organisation to have competitive advantage in high-risk sectors and international markets. The ability to execute projects on time within a specific budget, often determines if a company will be able to get other business opportunities. Efficiency and effectiveness are concepts frequently used in the evaluation of different processes. Project Execution is a department responsible for the execution of the case study organisation's new expansion projects, refurbishment and betterment programmes. Its primary functions include project management and contracts management. There are various support service departments such as Project Services and Contracts management that support Project Execution. Based on the analysis of the organisation's rolling plan there is an indication that the Asset Under Construction (AUC) balance for the 2017 financial year is higher than that of 2016 which means there are more projects that were incomplete and past their completion date and need to be carried over to the next financial year. This will subsequently result in an increase in costs on the projects that will in turn affect the overall execution of the projects and delivery of customer service. The objective of this study was to explore the factors contributing to

inefficient and ineffective project execution in the case studied organisation in order to recommend strategies to improve the efficiency and effectiveness of project execution in the organisation.

2. Literature Review

2.1 Project Management Project Life Cycle Process

Project Initiation Initiation relates to the project start up and the setting up (Turner, 2014). Stakeholders are identified at this phase (Clements and Gido, 2015), the business case is declared, scope of the project decided and stakeholder expectations set (Project smart, 2017). Stakeholders are those involved or affected by the project and including project sponsors, support staff, customers and suppliers. Project managers have a responsibility to establish a well-defined project scope in order to satisfy stakeholders' expectations, requirements and needs for the benefit of their contribution to grow (Mohammed et al., 2016). Scope management process ensures that the project contains work that is only required to complete the project successfully (Shirazi et al., 2017). Starting project execution with a well-defined scope improves project results but some common traits lead to poor defined scope (MacGillivray, 2015). According to Schwalbe (2015) one of the challenges that project management has is to maintain the consistency of the project scope throughout execution. Changes that are not managed properly may cause delays in the schedule, cost increases and in turn hinder the success of the project (Richardson, 2013). Scope creep are uncontrolled changes (Kerzner, 2014).

Project Planning involves determining what needs to be done in terms of scope and deliverables, how will it be accomplished, who will implement it, what is the duration, how much it will cost and what the risks are. The results of the planning process are baseline plans (Clements & Gido, 2012). Dawson (2014) defines project planning as decisions made on how the project will be performed in order to meet the objectives outlined at the initiation stage. In project management there are interdependent goals that should be met which are scope, cost and time (Abu-Hussein et al., 2016). The detailed strategy laid out in the plan becomes check method for the cost, schedule, and quality developed during project definition (Verzuh, 2015).

Risk Management Risk is an unforeseen condition that has a positive or negative effect on one of the goals such as cost, scope, time and quality (PMI, 2013). At the planning stage, the risks associated with the project are identified (Robb, 2014). Verzuh (2015) defines Risk Management as uncertainty that is measured systematically to increase the probability of meeting project objectives. According to Marcelino-Sádaba et al. (2014) risk management process defines the frequency and the key times to monitor identified risk and the people involved. Risk planning happens continuously throughout the project as it analyses the project environment, deliverables and stakeholders (Verzuh, 2015).

Human Resource Management The first thing to do in planning human resource management is to identify all the project roles and responsibilities. Documentation and reporting relationships of staffing management plan are important (PMBOK, 2014). PMI (2013) defines this function as a processes required for managing, organizing and leading the project team. The roles and the competency of the Project Manager and the project team should be recorded (O'Callaghan, 2014).

Stakeholder Management A stakeholder is an individual, group or organization that may indirectly or directly affect the decisions, activities or the outcome of the project (PMBOK, 2013). These are people who establish agreements on the projects construct strategies and schedules and approve the budget (Verzuh, 2015). The project manager must coordinate all stakeholders in the process of guiding the project through various stages, leading the project team, and also managing expertise and the knowledge of the project to guide the functional managers, sponsor, and customer (Verzuh, 2015).

Quality Management Project Quality Management can be defined as processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken (PMBOK, 2013). The organization must continually improve the effectiveness of the quality management system through the use of a quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and a review by management (Verzuh, 2015).

Project Execution Project execution involves fulfilling the deliverables of the project within the customer's accepted specifications, budget and time constraints. The important function in this phase is the monitoring and control of progress to ensure that everything goes according to plan. Process execution deals with the operational running of the business process, allocation of people and use technology (Verzuh, 2015). Project planning and execution are related and intertwined activities. The main objective of developing a project plan is to guide the execution process. The project team needs skills to develop and implement the project plan (pm4dev, 2015).

Project Closure During the closeout process, the project manager reviews the project management plan to ensure that the final project deliverable has been formally accepted by the customer and that other administrative actions to ensure project closure are completed (Gido & Clement, 2015). All the efforts by the project team during the project life cycle are directed towards efficiently and smoothly closing a project, when deliverables are signed-off by the customer. A smooth project closure can be cost effective for the business (whizlabs, 2014). Turner (2017) stated that the project aftermath completes the project cycle and hands over to the next one. The project manager has the responsibility of preparing, conducting and distributing the project evaluation. The evaluation process serves three purposes: acts as an audit of the project, provides what actually happened against what was supposed to happen. Secondly, it provides detailed information about changes in the project design. Lastly, it assists in the adjustment of the project management process for future projects through lessons learned. The Project Evaluation Meeting must be convened by the project manager in order to distribute the evaluation report.

Monitoring and Control For the duration of the life cycle of the project there must be continual monitoring and controlling, comparing the actual work done against the project management plan. When variances exist, corrective measures are implemented to ensure that the project parameters set in the project management plan are accomplished (Dawson, 2014). The point of the exercise is to account for lessons learned from execution of the plan in order to re-plan based on new information so that prevention measures can be taken on future projects from becoming detached from the plan (Newton, 2015).

2.2 Leadership in Project Management

Leadership in Project Management focuses on the human resource side and the leadership skills the project manager needs for managing the project team and stakeholders. Other than management skills he or she must be able to negotiate and motivate team members and individuals (Clements & Gido, 2012). This role involves different challenges which include coping with a project environment that is complex as well as problems across functional lines (Berg & Karlsen, 2016). Management functions such as organisation, planning and control are necessary for the efficient and effective use of resources within projects whereas leadership provides the vision and ability to cope with change (Cullen & Leavy, 2017). Project managers must be made aware of the results expected from their projects and must focus their attention on these results during the project management process (Verzuh, 2015). Pryke (2017) states that if the processes leading up to a project launch are flawed then there is only so much that the project manager can do. In support of that statement Whitemyer (2013) stated that project managers are not gods and none of the estimate methods are 100 percent accurate enough to define budgets or timelines accurately. The project manager overcomes adversity by mindfully reframing the situation (Walker, 2015). Project managers must enhance their ability to build favourable relationships with senior management (Obiajunwa, 2013). Project management requires a diverse range of skills and abilities. The ten knowledge areas of project management (PMBOK, 2013) are the skills that the project manager needs to acquire and master to manage a project efficiently namely: integration management, scope management, time management cost management, human resource management, quality management, communication management, risk management, procurement management, and project stakeholder management.

2.3 Project Efficiency and Effectiveness

Project effectiveness identifies the significance of the goals that an organization wants to achieve and the extent of its willingness to achieve these goals (Selnes, 2015). Factors such as poor estimation and change management, improper project planning, and inappropriate construction methods point to deficiencies in effective and efficient project management (Al Subaih, 2015). Ferrada et al. (2013) related project efficiency to performance based on cost, time and quality the satisfaction level of clients. Hjelmbrække et al. (2014) stated that project effectiveness was the link between the organization and the owners and the concept is increasingly being linked to projects in order to align the results with the general strategy of the parent organisation. Yamin and Sim (2016) explain project efficiency as the extent to which the project incurred the lowest possible expenditure to meet the project objectives, while project effectiveness was defined as the extent to which the project was able to meet the objectives, making the two concepts to overlap in their context.

3. Research Design and Methodology

3.1 Research Methodology and Sampling

The qualitative research approach was used in this study. The targeted population for the research were all the managers involved in the execution of the projects and the sample comprised of 9 participants. Non-probability sampling was used to understand the lived experiences of the participants, developing patterns and relationships (Gentles, 2015). Expert sampling was used to draw a sample from experts in the field of study which helped to obtain information from people of high competency within the area of study. Expert sampling is a purposive sub-type sampling technique (Andale, 2017).

3.2 Data Collection

Data was collected using open-ended interview questions developed to prompt responses relevant to achieve aims of the study. Eight face to face interviews were conducted and one was done telephonically. A pilot test was run on two participants prior to the actual study leading to amendments to the interview questions. Consent letters were emailed to each interviewee requesting their participation in the study and outlining the purpose of the research and assurance of anonymity and confidentiality. Participants' responses verbatim were recorded using a recording device and notes were also taken. The interviews were guided by a set of core questions ensuring that same questions are covered for each interviewee.

3.3 Data Analysis

Inductive thematic analysis was used to analyse the data. This was achieved by defining units and classifying content into themes. The next step was developing sub-categories and coding scheme for the analysis from the primary data, theories on similar topic and empirical studies. The coding scheme was pre-tested by separate coding of the data by the researchers and the level of consistency was high. In the next step inferences were drawn on the basis of codes and categories generated. The results were presented under each research question using the themes supported by secondary data and quotes from the data showing the basis of interpretations. To ensure trustworthiness of the data, anonymity and confidentiality of participants was preserved so that the participants would answer honestly and were interviewed voluntarily.

4. Presentation of the Results, Analysis and Discussion of the Findings

The case study organization's Rolling Plan has shown an increase in the AUC balance as compared to that of the previous financial year. There are projects that were not completed in their specified time and needed to be carried over to the next financial year. Due to time extensions, the project costs increased and in turn affected the overall execution of projects and delivery to customer service. Therefore this prompted the study to investigate the efficiency and effectiveness of project execution in the case study organisation. The research identified gaps and in turn made recommendations to improve the efficiency and effectiveness of project execution in the organisation.

4.1 Demographic Information

Seven of the respondents were aged between 30 - 39 years, one between 40 -50 years and the other between 51-60 years. It has been proven in different disciplines that perceptions on numerous topics differ between different age groups. There is also a perception that people tend to change their behavior and how they observe situations after a certain age (Heathfield, 2017). Most of the respondents were between 30-39 years old. This could be an indication that most of the management at the case study organisation are young.

Table 4.1 Participants roles and the number of years in respective jobs

Participant	Job Description	Years of Experience
A	Operations and Maintenance Manager	15
B	Customer Service Area Manager	8
C	Customer Executive Officer Supervisory level	6
D	Land and Rights Specialist	5
E	Asset Creation & Project Execution Manager	8
F	Project Services Specialist	4
G	Quantity Surveyor Supervisory Level	6
H	Electrical Engineer	7
I	Network Design Specialist	10

4.2 Thematic Analysis of Data

Data collected through in-depth interviews was analysed using thematic data analysis. The findings are presented around the research questions of the study with a focus on seven essential themes that emerged from the data:

Theme 1: Inadequate and inefficient communication within project teams and the project environment.

Theme 2: Lack of relevant stakeholder involvement and management.

Theme 3: Improper allocation and usage of resources.

Theme 4: Shortage of skills, training and development of project team.

Theme 5: Organisational culture not supportive of completing projects on time.

Theme 6: Ineffective leadership within the project management unit.

Theme 7: Improper monitoring and control of projects.

4.3 Research Question 1: What are the factors contributing to inefficient and ineffective project execution in the case study organisation?

Project execution is a phase whereby deliverables are planned and completed (PMBOK, 2013). At this phase the scope of the project needs to be actioned and the product delivered to the customer. When challenges occur at this phase, it then questions whether the right processes were used to run the project.

Firstly, a question related to assessing participants understanding of project processes and/or whether project processes were applied was asked. The findings showed that the project staff were aware of project processes and there were those who followed them throughout.

Participant B:

“Yes, the processes are being followed that cover all the phases of the project except where certain elements of the project are omitted due to the lack of understanding of the staff members involved in the project”

Participant D:

“I think so yes but I don't know how to say this in my department those processes are perfect for hardware projects although for servitude projects we cannot use those processes...”

Participant E:

“Yes, from beginning to end obviously the whole PCM is being followed, CRA right up to FRA”.

Projects in the case study organisation do run from the initial stage right until closure using PCM (project cycle management). At the beginning a Concept Release Approval (CRA) (initiation and planning) is formulated and a WBS is created then there is a Design Release Approval (DRA) stage where the designs of the projects are made and at this stage the budget is already loaded on the project. Then there is the Execution Release Approval stage (ERA) (execution stage) where the plan is being implemented after this process then the project gets to the Final Release Form (FRA) (closure) stage where the project is signed off because it is completed.

However, the findings indicated that although processes were followed, most participants found complexities in the execution phase.

The following narratives relate to a question posed seeking to elicit the views of the participants on why project execution fails in the organisation:

Participant C:

“The execution phase is the ERA. On the ERA that's where you need to have everyone, all the stakeholders to be ready to execute but at some stage you find that some stakeholders are not on board and they were not fully informed about the meetings. ... if you miss one or two meetings you might not know the execution date. When you don't follow up as a stakeholder who is going to take part in the execution stage ... more especially on the technical side of things the CNCs [central network centres] don't come. The CNC is the one that we need almost now and then because they know the drawings... and if there are challenges in the network...”

Participant E:

“...another reason is not planning projects based on informed customer needs. Look for instance speed-metering project that received resistance from communities because of our failure to engage them first

before implementing the project. We fail to involve communities when planning projects that are intended to provide services to them. As a result, projects receive resistance from those communities; they toi-toi and vandalise those infrastructures and material. That causes project failures”.

It emerged from participants C and E above that there is poor planning in projects, *stakeholders are not involved and are poorly managed, and information is not communicated*. In project management it is imperative to identify key stakeholders, those who need to work on the project and those who can influence the projects.

Participant F:

“Funds finish before the project can be completed, inefficient communication channels within the business. Not having enough people skilled for the job”.

Participant F’s utterances align with the themes of *improper allocation of resources, inefficient communication, and shortage of skills in project team* that emerged from the data.

Participant H:

“I think we need to understand the importance of what we are doing... We need to plan properly prioritize urgent projects, let’s have realistic goals if we are taking 12 projects and we only have three managers will they be able to cope with the resources they have...”

Participant I:

“Not understanding the nature of the scope, not all stakeholders are exposed during planning, lack of skills and accountability within the business”.

Participant A:

“Not having relevant stakeholders involved and present at meetings, there is no control and monitoring of projects no one cares until the form expires and people need to justify why projects are not completed then”.

Participant F:

“No monitoring and control. How do you monitor progress if you are not sure where the project is supposed to be?”.

Utterances of participant H and I above indicate *lack of skills, lack of stakeholder involvement, and culture issues*. From participants A and F’s views, there is a common narrative that there is *improper monitoring and control of projects and a culture of no accountability*. Project monitoring and control identifies deviations from the plan and through this process necessary corrective actions can be made. During monitoring and controlling there is constant reporting of the project progress, the quality, identifying deviations, determining necessary corrective action and implementing those corrective actions (Gundlach, 2013). Project monitoring and controlling also leads to accountability. Monitoring and controlling have to be in place and planned from the very beginning of the project as it creates a sense of ownership amongst team members. Progress measurement tools are used to identify problems when they are still small and there is time to catch up on them (Verzuh, 2015). According to Participant F not all stakeholders are involved in the project. For a project to exist there must be a need, So if monitoring doesn’t happen because of other projects that cannot be located, then issues around fraud need to be investigated

Given the responses, when employees working on the project wait for the form to expire and go to IC (investment committee) for a time revision, it suggests that the current systems are lenient and encourage lack of accountability and misconduct which also mirrors an *organisational culture not supportive of completing projects on time*. Disciplinary measures need to be applied in order for employees to respect and apply the processes in place. The processes applied in the case study organisation may be correct but the problem could be that they are not applied correctly and as a result they appear not to be efficient. Hughes (2017) stated that a process can be inefficient because the stages of the processes are implemented serially instead of simultaneously. An organization must not assume that selecting a suitable methodology will deliver a successful outcome but they need to understand how the method or practises are applied as key taking into account also the broad spectrum of organizational culture and experience (Hughes, 2017). The project manager needs to review how these processes are being implemented and maybe the method to suit the organization (Hughes, 2017).

4.4 Detailed Analysis by Theme, of the Factors Contributing to Inefficient and Ineffective Project Execution within the Case Study Organisation

Theme 1: *Inadequate and inefficient communication within project teams and the project environment*

The findings reported that there was inadequate communication within project teams and the organizational environment. This causes relevant stakeholders to be uninformed about the progress of the projects. Project managers and team members should be effective communicators (Clements & Gido, 2012). Communication about the project needs to be detailed in writing and a periodic status report is essential as it helps with keeping track of action items, project risks, budgets and processes (SHRM, 2017). The findings highlighted mostly that not all stakeholders were invited to project meetings. The interviewees had the following to say related to communication:

Participant A

“Not all stakeholders are invited to project meetings there are no progress feedback meeting so we don’t know the status of the project until there are complications”

Participant D

‘I have never been invited to these meetings I don’t even know who coordinates them’.

Participant G

“The are many things that change now and then in the business... concerning our department and the CNCs [central network centre] and we make decisions based on the processes we know then later we fight with managers on why certain steps were taken, so communication is very bad between departments and levels”.

In a project, proper communication is a critical success factor for managing the expectations of the customer and stakeholders (Clements & Gido, 2012). Hence it is evident that there are gaps in the project management environment in the case study organisation. The success of the projects in the case study organisation has been compromised due to inadequate and inefficient communications. If feedback is effectively designed into the performance management program, team performance will improve, which in turn will make the organization more efficient and effective.

Theme 2: *Lack of stakeholder involvement in project execution.*

The common narrative from the respondents was that there was lack of stakeholder involvement in project execution. A person or organization that is actively involved in a project or whose interest is affected by the execution of a project is a stakeholder (PMBOK, 2013). Project stakeholders should be identified at the project initiation stage and everyone who is involved should be made known (PMI, 2013). Without the involvement of critical role players in the project a lot of key components can be compromised that could lead to scope changes that will ultimately affect the project costs and the project schedule. Below are the interviewees’ views in support of this emerging theme:

Participant A

“Planners do planning in offices and define the scope, when field services go on site to execute the scope, they then discover that the scope can’t be actioned because there are trees on site...”

Participant B:

“...we need to really customize our projects and base them on the need of the customer whom we need to provide service to... We plan our projects very well and forget that we need to employ local labour, we get into the project and local labour is not employed and there is resistance as a result the community vandalizes our equipment and material. We really need to improve how we engage our customers”.

Participant F:

“Part of the reasons why we can’t finish projects on time is that there are too many stakeholders on the chain. When a project comes to us, it had already started a long time ago, we sit with projects that are on DRA and sometimes the DRA has expired or the project managers only get involved on the ERA stage and they can’t influence the schedule from the beginning at CRA stage and when they get to the execution part,

that's when they are involved and that's when they would revise the schedule. Not all stakeholders see the project from A to Z, it's not like we are a team but a part of the problem".

From the above responses it is evident that stakeholder analysis is not performed. Stakeholder analysis enables the project manager to gather enough information about the level of participation of each stakeholder. According to Verzuh (2015) the identification of stakeholders is an ongoing activity and throughout the stages of the project the project manager needs to understand and clarify the roles that stakeholders play in the project. According to participant A, it is clear that processes that involve the engagement of relevant stakeholders are either not practised or non-existent. Stakeholder analysis is a technique used to identify key people that need to be won over (Thompson, 2017). After identifying stakeholders, the next step is for the project manager to work out their interest, influence and power in order to focus on the important ones. The last step is to develop a good relationship with the most important stakeholders in order to understand how they will likely respond to situations or suggestions that will arise during execution and all this will help the project manager in knowing how to win over their support (Thompson, 2017).

Related to the theme of stakeholder management was the issue of management of contractors. A contractor can be defined as a specialist in a subject matter and can also influence individuals and organizations. Interviewees felt that there was *mismanagement of contractors within projects*. According to Darter (2016) management of contractors can be a challenging task but everyone involved in the project should have one goal in mind which is completing the scope assigned to them on time. Below are research interviewees views related to contractors management:

Participants C:

"...sometimes when you get to site you find out that the preparation job is not yet done or it's partially done..."

Participant D:

"I was appointed a contractor that never attended meetings and was never on site, I had to request for a new contractor to be appointed. The project can go on for months without the contractor pitching on site. With the new system in place we can't choose the contractor we want to work with... procurement just assigns whomever they want and most of the time its people who don't know the work. On many occasions I had to resubmit a new request that I need a new contractor in the middle of the project because I can't work and the contractor appointed is nowhere to be found".

There must be a process in place that is effective for selection and management of contractors. According to Participant D, there are gaps within those processes and they need to be investigated in order to avoid pitfalls currently existing. Every organization should desire to hire or work with competent people who would not compromise their reputation by compromising the quality of the work they deliver. This finding is consistent with those presented in literature that project management is achieved by integrating project management processes.

Theme 3: Improper allocation of and usage of resources

A resource is any factor of production used to produce goods or services. Resources include labour, real estate, machinery, tools and equipment, technology, and natural resources, as well as financial resources, such as money (PMI, 2013). Respondents were of the view that resource management was not done effectively, or it was difficult to tell whether or not there was effectiveness in resource management. The participants had the following to say:

Participant D:

"No, we don't have enough resources, getting people appointed is difficult, and we don't have the right contractors to use. The contractors that we do have don't know what they are doing when they make a mess; I have a contractor that I used that made a mess I made an NCR [non conformity report] that took me a year to sort out".

From the above it is evident that there are gaps in the processes and methods used in resource planning. There was a strong view that even though projects may vary resources were not distributed accordingly and also that materials would be finished while the project was in progression and this resulted in delays that affected the project schedule. It was also evident that the processes of resource levelling was not properly implemented or not done at all.

Participant B:

“No, I cannot say the resource management is effectively done, because when we are in the middle of the project you are told that there is not enough money available to proceed with the project. Money and equipment always become problems when you have to finish the project that you have already started”.

The responses are symbolic of sporadic allocation of resources resulting in interruption of project implementation. In some instances, the project would be parked because it appeared in the middle of the project implementation that there was shortage of funds. It was difficult for the later respondents to articulate their view on resource management given the distribution of resources per project. The difficulty expressing the view was connected to the fact that not all projects were the same, there were minor and major projects and some had more challenges than others:

Participant H:

“Eish that’s a tough one, look not all projects are the same... someone might have five projects that have a lot of challenges it’s going to take longer and resources are going to be shuffled around. [Although] other managers are more experienced and you expect them to get more projects ...someone should be able to say I dude I can’t do twelve projects in two weeks ...that’s the problem with resources”.

Participant C

“With the status quo currently in [the organisation] we cannot say the resources are available because...on my side I’m taking a lot on my own and that area I’m responsible for is booming with both minor and major projects. Let me talk about major that’s the subject matter. On major I’m getting a lot of projects and I have to present capon for investment committees, I have to attend stakeholder engagement meetings I have to go to technical evaluation forums support the projects so it’s quite a lot but [this organisation] is not anytime soon looking at getting extra resources to help us”.

From the above responses, it is evident that there are gaps in the processes and methods used in resource planning. Projects going to the Investment Committee for cost and time revision is a sure sign of poor resources planning. Resource allocation happens during planning so this goes back to the issue of skills, the people in planning need to know what they are doing. It also ties back to involving relevant stakeholders who know the quantities required on the project. Participant H indicated that those running multiple projects resources should be allocated more resources, but expressed concern on over commitment of resources. Participant C also pointed out that the resources are over committed and alluded that the resources were overworked and couldn’t handle the projects, and that subsequently resulted in failure or not meeting the targeted time. The findings indicate that resource levelling is not practised in the organisation. Resource levelling is creating a balanced production schedule to minimize fluctuations in the amount of resources used per period (Martin, 2018). The project manager ensures that there is a steady usage of resources. If resources were properly allocated, there would not be projects that run out of funds during execution and staff members would not feel overworked. Employees stated being overworked and could not handle running the projects and that consequently led to failure of projects or not being completed on the allocated time frames.

Theme 4: Shortage of skills, training and development of project team.

The respondents’ narratives indicated belief that skills shortage was one of the important challenges underlying the inefficiencies and ineffectiveness in project execution.

Participant A:

“The clerk of works when they go on site to evaluate the work, they are not sufficiently trained so they don’t know what to do or what to check for”

Lost time injuries due to unskilled use of equipment can be avoided with relevant courses on operations. Without sufficient skills, efficiency cannot be attained because employees spend a lot of time trying to figure out how to perform a certain function (SHRM, 2017). The views of participant F converge with these findings from literature.

Participant F:

“Ever since I started working here in 2013 I have never been on ACNAC [Acquire Customer and Network Asset Creation] training, what I know is self-taught but I still can’t figure out the system. New employees struggle when they come because there is no training available”.

Participant G:

"There aren't enough skills, not many people can do and there isn't enough of us. We can't just bring anyone in. It takes many years to learn what we have learnt and be skilled enough to work on your own. When we get someone new we have too much work to train someone so there isn't enough skills"

Any organization that does not invest in the skills of its employees limits its potential in the market. As stated by Participant G shortage of skilled staff in their department is part of the reason why projects can't meet targets, the workers that have left were never replaced. According to Joseph (2017) the ability to retain employees has an effect on the size and condition of the workforce and key components to employee retention is training and development opportunities. According to Saxton (2014) training programs can have many benefits for the company. Professionals who are formally trained are usually more motivated in their careers, make better decisions and perform with a higher level of skill. When employees have poor performance, it reflects negatively on the business and the bottom line. When there is a high turnover rate, and employees making the same mistakes then the training provided needs to be scrutinized and not the employees (Gutierrez, 2016). Over and above the challenge of skills shortage in project management, trained (skilled) and experienced staff found it difficult to mentor and impart skills to their relatively new counterparts because of the demand that come with project execution and staff shortage in the organization.

Theme 5: Organisational culture not supportive of completing projects on time

The results show that there is an organizational culture of not completing projects on time. Organizational culture is a structure of shared assumptions, values and beliefs that governs peoples' behavior in an organization. Every organization develops and maintains a unique culture (PMI, 2013). The culture of an organization can influence the way projects are managed and executed (Huard-Guillemette, 2017). According to Verzuh (2015) if the organization cannot complete projects successfully, the project managers cannot be blamed because they are only victims of a culture that is not supportive of their efforts. According to the participants there was no major project that has ever been completed on time. If the moral of the team is low at the execution phase it can hinder information sharing amongst team members. There was also lack of accountability in respective roles that resulted in projects falling behind schedule and also the current systems reflect as lenient and encourage unethical behaviour. The participants had the following to say supportive of the above theme:

Participant B:

"...There is quite a lot of reasons [for not completing projects on time], sometimes its capacity constraints, sometime strengthening if it's not on the rolling plan those projects are kept on hold as a result we cannot commission or complete the jobs that are sitting at budget quotation stage... Currently in Cosmo city we have a number of projects that can't be commissioned due to capacity constraints..."

Participant D:

"Projects completing on time is a term that doesn't exist in [this organisation], people don't care about time frames, departments pull and push when they are supposed to be working together and this is experienced year in and year out".

Participant I:

"...For the past 9 years I have been here I have never seen a project completed on time or early. In Kagiso a project that started in 2013 of connecting a line that was less than 2km, we only signed the handover this year".

The common views of the study participants showed that projects were not completed within the set timeline, in particular major projects, and at times with justification as expressed by Participant B. However, reference was drawn to the narrative to suggest that major projects were not completed timeously, while at least minor projects were completed within set timeline.

Participant H:

"Minor projects are completed on time because that is where the money comes in, but when you get to major (projects) you get to kickback it when you go to IC [investment committee] they will tell you it's no longer relevant or they don't have money so they will have to push it to the next year or sourcing of the material will take longer than expected"

An organization's culture defines its identity. An entity's way of doing business is perceived by both the individuals who comprise the organization as well as its clients and customers, and it is determined by its culture (Lowe, 2017). "We are what we repeatedly do" (Katanga, 2017). Participant A and Participant F have highlighted poor planning as one of the factors that contribute to projects not finishing on time. This means people who are planning the project are not doing their work effectively. According to Haughey (2014) the project manager is responsible for the planning of the project that's why it is imperative that the project manager should have a combination of skills. Before a transformer can be installed the project manager needs to know how many people are needed in order for the project to kick start and how much it will cost because an analysis would have been made during planning. Every organization has a set of values that characterize what its brand stand for. Based on what the respondents have stated there is lack of integrity in the organization. . Based on that statement one can conclude that employees were not inducted regarding ethics when they joined the organization. Every organisation should have a code of conduct. A code of conduct is a collection of rules, values and principles that are written of how an employee should behave towards the organization which are considered fundamental to the success of organisation (Heathfield, 2017).

Theme 6: *Leadership within the project management unit.*

Another finding related effectiveness and efficiency in the case study company's project execution was that of leadership. Good leadership can be channelled as per the organizational culture in order to gain results (Chittoor, 2012). When the respondents were asked about the effectiveness of the leadership within the project management unit, both positive and negative perceptions emerged from the responses, some alluded to existence of good leadership, while others however felt otherwise.

There was the view that leadership was demonstrated in terms of all the zones meeting quarter two (2) in the capital space, respondents asserting that it takes effective good leadership to have all the zones meeting Quarter two (2).

Participant E:

"...all the zones have met quarter two in the capital space that is one demonstration that there is good leadership. If there was no leadership things would be slow..."

Participant H:

"Look we have some good managers sometimes there is just too much to do...but we do have good managers who go in and try to push..."

There was a feeling that managers cannot be held responsible for the current failures that exist in project execution. Instead they are set for failure by the organization because they are not given sufficient resources in order to execute their functions. However other respondents expressed negative perceptions:

Participant A

"There are too many managers heading one project and that can cause a lot of problems in terms of approving or authorize certain things in a project"

Participant I

"There is lack of leadership in projects that is mainly hindered by job rotation and it's also evident with the results of projects".

According to Sauder (2017) project management is not an easy job; there are numerous small details that need to be coordinated, financial plans and targets that need to be met. Project managers fall into the pit of concentrating on the scientific aspects in order to meet tangible goals. This converges with the view of participant B below:

Participant B:

"We have made a mistake in the organization by thinking that engineers can be made great project managers. Project manager must be versatile... The organization has few people who have skills of project management especially here in Gauteng".

The above sentiments could be influenced by frustrations that the respondents experience on the day to day basis when executing their tasks. Based on Participant A's response, if there are delays in authorizing certain documents, this could negatively impact the flow of the project. According to Sauder (2017) leadership plays a significant role in the overall process of the project. Many project leaders were appointed based on qualifications rather than the

experience in the field. As a result the project leader will lead a project that is beyond his capability. Participant I also mentioned job rotation, if everything has been done according to the processes, a project handover shouldn't be a problem because everything would have been documented. When the manager of a company is unable to provide direction, training, motivation, coaching for staff, the organizational culture and moral suffer. Poor leadership can produce negative effects on the company and employees (Kokemuller, 2017). According to Selnes (2015) effective project management is about achieving objectives successfully by planning and organising resources.

4.5 Research Question 2: *What recommendations can be made to the case study organisation to ensure that efficiency and effectiveness is achieved in project execution*

- *Stakeholder engagement:* The case study organisation needs to involve all relevant stakeholders and prioritise them accordingly. Stakeholder analyses need to be done before the project can commence.
- *Distribution and utilisation of resources:* Resource distribution becomes cardinal when there are limited resources. For project management to achieve efficiency all contributors should collaborate.
- *Skills development programmes:* Employees need to attend refresher courses so that they are inclined with the evolving technologies and competent when executing their work.
- *Change management on projects:* There should be continuous monitoring, progress reports and forecasting that must take place during all the phases of the project to ensure risk mitigation is done effectively.
- *Open regular communication channels:* Honest and clear communication channels must be created for internal and external stakeholders during all the phases of the project.
- *Code of conduct:* Strong ethical inductions and systems that address staff on ethics and code of conduct need to be implemented to ensure that the company is safe guarded against unethical behaviour and culture. This will address the shortcomings of the culture of lack of accountability that exists within job roles.

4.6 Conclusion

Several factors have been identified that influence the efficiency and effectiveness of project execution in the case study organisation. Some of these contributing factors are related to planning and others to the execution of projects:

- Inadequate and inefficient communication within project teams and the organizational environment.
- Lack of relevant stakeholder's involvement and management.
- Improper allocation and usage of resources.
- Shortage of skills, training and development of project team.
- Organisational culture not supportive of completing projects on time.
- Poor leadership within the project management unit.

In conclusion, the point of departure is that projects that do not learn the lessons from previous failures could be destined to failure in repeating the same errors. The case study organisation must ensure that project post-mortems form part of the key elements in the project methodology to avoid the same pitfalls.

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