# Employee perceptions of project management at the Durban University of Technology

**Submitted in fulfillment for the requirements of the Masters Degree in Human Resources Management in the Faculty of Management Sciences**

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## DECLARATION

I hereby declare that this thesis:-

(i) Has not been submitted for any degree at any other University

(ii) Is as a result of my own independent work with acknowledgements were applicable.

SIGNED ..…….  DATE: ……..

## ABSTRACT

Project Management for many years have been conducted using a traditional model with the focus being on time, cost and quality and its overall success on managing the organizations more effectively. Organisations are moving towards the use of a more modernistic approach where the focus is being extended to include cost, time, quality and linked to the strategic objectives, reward and recognition systems and building teams.

The goals of the project must be communicated to all those who are involved in its implementation in order to ensure project success. Project managers who get people to want to do what they want by sharing their purpose, vision, and values also establish emotional and intellectual ties that result in sustained commitment. As the demand for project management increases, so does the use of tools and techniques. Project management offers a very structured approach to managing projects. The success of a project will be determined on the ability of the project manager to plan and develop a project, to implement, monitor and control and evaluate the project progress.

DUT is faced with a situation where there is an enormous demand by staff to participate in project management training. Many of these staff are directly involved in project management whilst others have requested this training as part of their capacity building drive.

This study examines the perception of staff members who have attended the project management training with a view to making recommendations on how to improve project management at DUT . It also demonstrates the evaluation of the facilitator, the course content as well as the project management's relatedness to the demographic profile of the University sample and presents the perceptions of the respondents to the questionnaire.

The method of research was largely quantitative and enabled comparisons to be quantified. A self-administered closed-response questionnaire was adapted and used to obtain the information required.

The study further investigated the staff members' perception on project failure in respect of lack of user involvement, long timescales, failure to track the progress of projects, no formal change control, inadequately training project managers, poor leadership, cultural misalignment, poor planning and inadequate tracking and reporting.

This dissertation makes recommendations on the project management course programme, and the critical role of the project manager and the project team.

***In memory***

***Of my Mom and Dad who have been my inspiration and pillar of strength in my life's journey.***

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## DEDICATION

I wish to dedicate this thesis:-

- To Tamara and Caleb for their continuous support, patience, love and understanding.

- To Richard for his valuable input and sincere commitment that has motivated me to continue this journey in learning to thrive.

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- To Riweena, Sheena and Bendan for their warmth and love

# TABLE OF CONTENTS

## ABBREVIATIONS

| | | |
|---|---|---|
| BSU | - | Business Studies Unit |
| DUT | - | Durban University of Technology |
| KRA | - | Key Result Area |
| DHET | - | Department of Higher Education and Training |
| EVA | - | Earned Value Analysis |
| EM | - | Executive Management |
| NQF | - | National Qualifications Framework |
| PERT | - | Programme and Review Technique |
| PROMMM | - | Project Management Maturity Model |
| TDG | - | Teaching and Development Grant |
| UOT | - | University of Technology |
| WBS | - | Work Breakdown Structure |

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Modern project management appeared during World War II and was initially utilized for huge military and construction projects (Project Management Institute, 2000).

Project management has existed, even if not so called, for centuries with its application by the Chinese and Egyptians in such achievements as the Great Wall of China and the Pyramids. However, modern project management is recently gaining acceptance in the fast development of the information technology industry (Fox, 2004). It has enabled leaders to plan major projects, manage funding, materials and manpower within a specified time frame.

It emerged into a discipline from different fields of application including construction, engineering, telecommunications, and defense.

According to Fox (2004), the 1950s marked the beginning of the modern project management era. Prior to that, projects were managed as and when the need arose, using mostly Gantt charts or informal techniques and tools. Project management is important since organisations, irrespective of being small or large, are involved in implementing new undertakings. These

undertakings may range from the development of a new product or service, the establishment of a new production line in a manufacturing enterprise, a public relations promotion campaign, or a major building programme.

## 1.2 Challenges faced by Durban University of Technology in Managing Projects

Durban University of Technology (DUT) is an academic institution with its core business being Teaching, Learning and Research. The challenges faced by DUT spread across from quality of teaching and learning to improving qualifications, to increasing research outputs to the strengthening of industry partnerships to broadening community engagement. In order to address these challenges, DUT had to ensure that staff were capacitated to deliver sound teaching and learning methodologies and in so doing, a properly defined project management system had to be in place.

DUT is a result of a merger between the former Natal Technikon and ML Sultan Technikon in 2002. In 2004, DUT was declared a University of Technology (UOT) and was renamed Durban University of Technology (DUT) in 2007. Project management was used as a tool to track progress during merger and post merger phases in order to achieve the vision of being a preferred University for developing leadership in technology and productive citizenship. In the past, the University had spent millions of rands on trying to

achieve its vision. However, the Management dilemma is that a large amount of money was spent on salaries, research, upgrading staff qualifications and other benefits but there has been no evidence of research undertaken to evaluate project management at Durban University of Technology for purposes of project success. This is part of an organisational development approach in improving the ability of an organisation to grow and acquire knowledge, thereby contributing to human resources development.

The Skills Development Unit, located within the Human Resources Department, comprises a team of three members and is tasked with the responsibility of assessing training needs, co-ordinating the training process and conducting a skills needs analysis. Project management training is considered an extremely useful tool in contributing to the strategic dynamics of the University. Project management training was extended to staff from DUT at various levels. Currently, the project leader is responsible for developing plans through which a project could be tracked and controlled to ensure that the project meets preset objectives. To do this effectively, the project leader requires accurate and timely information. The enormous demand by staff to engage in Project Management training as opposed to other training programmes has led to the assumption that staff at various levels lack project management skills and that the need for project management is of fast growing importance at DUT.

For many years DUT has been engaging in project management with the emphasis on time, cost and quality to achieve project success. The delay experienced in the completion of certain projects has led to the assumption that the current approach adopted for project success needs to be reviewed.

## 1.3 Problem

The problem is deemed to be of importance as it attempted to analyse a critical area where skills development is urgently needed. It is from this perspective, that the research can be seen as belonging to the Human Resources Discipline. As such it contributes to our understanding of the managing of training within a Higher Education context. DUT currently engages in various projects on an ongoing basis. While the University is faced with financial constraints due to staff and student protests, increased dropout rates and so on, the University has to reassess its method of operation to address these challenges. One of the interventions would be to assess the success rate of projects undertaken at DUT by evaluating the perception of project management at the University. Furthermore, due to the changing nature of management competencies there have been serious implications for management trainers and developers. Some managers' roles have evolved from an emphasis on task to the emphasis on people, and trainers can no longer rely mainly on the provision of task-related

management training, rather they are expected to become familiar with people through self and career development.

**Problem 1 -** There is no formal structured project management approach for managing projects at DUT to ensure sustainability.

**Problem 2** - There is no clear integration of project management into the strategic direction of the University.

**Problem 3** - There is poor management of projects in terms of limited capacity.

### 1.4 Research Questions

The research proposed to deal with the following:

- What are the perceptions of project management at DUT?
- Are projects selected in terms of the University's strategic goals and objectives in order to meet its operational requirements?
- Are project outcomes linked to project success?
- Do the skills and capabilities of the project leader and the project team fulfill the requirements of the project?
- How do leadership styles and organisational culture impact on project success or failure?
- Why do projects fail?

- What human resources development initiative can be introduced to improve organisational effectiveness?

## 1.5 Research Objectives

The main objective of this research is to:

(i) evaluate the perception of project management at DUT by obtaining the perceptions and views of those attending the training, analyzing meetings of the focus groups and interviews with project leaders in order to establish the approach that is being used to manage projects.

(ii) highlight the relatedness of the project outcome to the University's strategic goals, the organisational culture, the leadership, skills and capabilities of the project manager, project outcomes, project success and project failure; and

These aspects are further discussed in the chapters to follow.

## 1.6 Rationale for Study

The study attempts to address the gaps in the project management process at the University while also attempting to focus on developing project leaders

for future project success. While the Department of Higher Education and Training provides targets which the University must achieve within a particular timeframe, DUT is faced with the dilemma of delayed project delivery, the implication of which may be detrimental to the smooth functioning of the University. Service delivery is key to the success of the University's strategic intention.

The approach to project management and project selection at DUT has not been explored fully. In the past, DUT has engaged in project selection as a means of addressing the needs of the University. While some projects may have been undertaken and completed, there needs to be a more coherent approach to the manner in which projects are monitored and evaluated to ensure project success.

## 1.7 Scope of the Study/Limitations

This research investigated how projects are managed at DUT given that the organisation was only eight years into the merger. It created an excellent opportunity to view how projects are managed since the merger involved the consolidation of academic initiatives.

The study is concentrated on assessing the current approach to project management at DUT. The research was conducted with participants who remain anonymous. Responses from research participants' of project management training, interviews with project leaders, and meetings of focus groups were studied in order to gather data to be analysed.

As mentioned earlier, the recommendations would assist in ensuring that projects at the University are effectively managed by adopting a formal and structured approach to managing projects which will result in the University meeting its goals and objectives.

This study aimed to provide clarity in terms of the role and capacity of the project leader, leadership styles, the working together of different teams within the organisational culture and the integration of project management within the strategic need of the University for project success. The study took place within the context of DUT. The researcher is a Manager in the Human Resources Department at DUT and is tasked with the responsibility for skills development including project management.

Factors such as legislative requirements, the use of technology and DHET requirements in terms of increased qualification targets must be integrated in the strategic plan with the each objective being converted into a project plan. As such, systems and technology need to be adapted to accommodate this change. This poses a challenge for UOTs to prepare and adequately position themselves to compete with other Higher Education institutions.

Project leaders and project teams must be familiar with these environmental factors that play a major role in project success. Cognisance must also be taken of personality traits and leadership styles of the project leader and the impact of organisational culture on project management. The project management training conducted at DUT was a comprehensive course set at an NQF (National Qualification Framework) level 6 and awarded credits for those who wished to pursue a completed Project Management diploma. The information that follows provides the framework within which the study took place.

## 1.8 Structure of the Study

The structure of the study includes the following chapters:-

### 1.8.1 Chapter 1 : Introduction

This chapter details the background and reasons for the study, the scope of the research and outline of the chapter.

### 1.8.2 Chapter 2 : Literature Review

A comprehensive literature search was carried out, focusing on the definition of project management, the knowledge areas of and approaches to project

management, project management techniques, project outcomes and project success, performance on project management, leadership styles, project risk management and project capability.

### 1.8.3 Chapter 3 : Research Methodology

The research methodology described the process to be followed in undertaking this study. This chapter described the research methods, data analysis and study procedures.

### 1.8.4 Chapter 4 : Presentation and Discussion

The data was interpreted and presented into meaningful information. Significant relationships were highlighted and discussed in terms of the findings.

### 1.8.5 Chapter 5 : Recommendation and Conclusion

The findings were studied , recommendations were made and conclusions were drawn. The objective of the research was to provide a project management model to direct the managing of projects and as such to assist the University in meeting its strategic objectives and goals.

## 1.9 Conclusion

The various challenges faced by the University in managing projects and the demand to engage in project management training created an awareness of the importance of project management at DUT. The successful completion of projects is one of the mechanisms that could be used to reduce the financial costs of the institution. Approaching project management from a structured perspective and ensuring that there is a clear integration of project management into the strategic intention of the University would result in the University being able to meet its vision and mission.

The study uses research questions and objectives that focus on identifying the gaps in the current process in order to make recommendations for improvement. The researcher is also mindful of the limitations thereto. The chapters to follow include a detailed discussion - Literature Review, Research Methodology, Presentation and Discussion of the data collected and recommendations and conclusions.

# CHAPTER 2

## LITERATURE REVIEW

### 2.1 Definition of Project Management

According to Burke (2007) project management involves planning, organizing, securing and managing resources to achieve success. He further states that a project is a temporary endeavour, having a defined beginning and end undertaken to meet unique goals and objectives.

According to Cleland (1994), Gareis (1992), Firth and Krut (1991), Chaffey (1997) and Maylor (2002), since the beginning of the 1990s, terms such as modern project management, management-by-projects, project management culture and the Gantt chart have been introduced in order to distinguish contemporary and future forms of project management from traditional project management. The authors go on to state that the common thread joining these terms together is a belief that the theory and practice of project management have since changed. In reporting on a study of the effectiveness of planned and emergent project management styles of leadership, Lewis *et al.* (2004) conclude that in the dynamic and demanding world of new product development projects, traditional models are no longer

appropriate. In outlining the inadequacies of the traditional model in today's competing global markets, Maylor (2002) states that a new set of modern project management practices and performance is needed in place of traditional models.

Webster (1994) provides a structure for the defining of projects and believes that projects are not defined the way they should be. Managers are also reluctant to seek clarification from senior managers about what exactly it is that they are being asked to do, resulting in reworking which emerges during the project implementation phase and frustrations experienced as budgets are exceeded and schedules not adhered to. This author goes on to state that managers who allocate projects have a responsibility to ensure that the team is briefed and that each person understands their role and what is expected of them before embarking on their project itself. Successful project leaders realize this and are aware that it is meaningless to engage the best operators in the business if they are unable to co-operate with each other as this may severely and negatively impact on project success.

## 2.2 Knowledge areas of Project Management

Burke (2007) describes the knowledge areas of project management that are critical to project success. The knowledge areas include project scope management, project time management, project cost management, project quality management, project human resource management, project

communications management, project risk management, project procurement management and project integration.

## 2.3 APPROACHES TO PROJECT MANAGEMENT

Lewis (2006) states that there are a number of approaches to managing projects. For the purposes of this research, the Traditional, Critical Chain, Extreme Chain, Event Chain and Gestalt theory approaches will be discussed.

### 2.3.1 Traditional approach

The traditional approach typically distinguishes between project initiation and project completion in the five stage process in the development of a project, namely:

2.3.1.1 Project initiation;

2.3.1.2 Project planning and design;

2.3.1.3 Project execution or production;

2.3.1.4 Project monitoring and controlling;

2.3.1.5 Project completion.

Lewis (2006) goes on to state that some projects do not follow a structured planning and monitoring stage.

### 2.3.2 Critical Chain Approach

According to Leach (1999) the critical chain approach is a method of planning and managing projects that puts more emphasis on the resources (physical and human) needed in order to execute project tasks. According to this approach, most projects identify resources as the major project constraint. Projects are planned and managed to ensure that the resources are ready when the critical chain tasks must start.

### 2.3.3 Extreme Project Management Approach

The extreme project management approach criticizes the use of sophisticated project management models such as the PERT-based model (Programme and Review Technique). These models are criticized for being complex and aiming at very large scale, one-time, non-routine projects causing unnecessary costs and being non-flexible. Instead, the approach encourages the use of Extreme Programming for software development used in combination with the process modeling and management principles.

### 2.3.4 Event Chain Project Management Approach

According to Leach (1999), the event chain project management approach is another method that complements the critical chain project management methodologies. This methodology uses an uncertainty modeling and

schedule network analysis technique that is focused on identifying and managing events and event chains that affect project schedules.

### 2.3.5 Gestalt Theory Approach

According to Clarkson (1989), Nevis (1987), Wheeler (1991), Harris (1989) and Houston (1998) the Gestalt Theory approach is based on the belief that it is difficult to explain complex human behaviour in simple items. The authors go on to state that Gestalt psychology shows that people react to the inner pattern of things, not to parts of this pattern. An individual as a collective, is aware of the state of imbalance at any given time and translates this into action to reach a state of equilibrium. It is imperative that the project leader understands this behaviour in order to manage the performance of the team members. The model also assumes that the individual can perform efficiently and effectively in the most natural way possible. Understanding this process is key to effective performance while managing people. This approach means that the human factor needs to be at the core of project management.

Clarkson (1989) mentions that the Gestalt model suggests a different focus to a project leader while managing project teams. The similarities between the individual need fulfillment process and the organisational project management process during decision making is emphasized. The Gestalt approach helped improve the capabilities of project team management and the project leader. It created the following realizations:

- Each phase of the project has various types of interruption which tend to switch from one state to the next. These interruptions are most often psychological in nature.
- The project team is expected to change its state of mind through the life cycle of the project and prepare for changes and interruptions in order to ensure the smooth running of the project.
- Project stakeholders and the project leader should be part of the project management process and should not be seen as representing only a part of the project.

## 2.4 PROJECT MANAGEMENT TECHNIQUES

Project management techniques provide a framework within which projects can be effectively and efficiently managed.

### 2.4.1 PROJECT EVALUATION AND REVIEW TECHNIQUE (PERT)

According to Burke (2007), PERT is an event-oriented network analysis technique used to estimate project duration when there is a high degree of uncertainty with the individual activity duration estimates.

### 2.4.2 WORK BREAKDOWN STRUCTURE (WBS)

WBS is a deliverable-oriented grouping of project elements which organizes and defines the total scope of the project. Each descending level represents a detailed definition of a project component which may be products or services (Burke, 2007).

### 2.4.3 EARNED VALUE ANALYSIS (EVA)

According to Michael (2000) EVA is a method for measuring project performance. It compares the amount of work that was planned with what was actually accomplished to determine if cost and schedule performance is as planned.

### 2.4.4 GANTT CHART

A Gantt Chart is a graphic display of schedule-related information where project activities, dates and activity durations are reflected (Clarkson, 1989).

## 2.5 PROJECT OUTCOMES AND PROJECT SUCCESS

Andersen *et al.* (2006) conducted research on exploring project success and understanding the relationship between project success factors and actual project success. Project success can be viewed as an achievement of intended outcomes in terms of specification, time and budget. While this may

have been accepted as the initial stages of implementation, of project management, the project context has since shifted and a broader set of outcome measures has become the focus (Atkinson 1999; Pinto and Slevin 1987; and Wateridge 1998).

Bonnal *et al.* (2002), Jaafari (2000) and Leach (1999) are of the opinion that such measures maximise the lifetime value of the project; while Lidow (1999) and Saeed (1998) are of the view that this broader set of outcomes measures could lead to a sustainable project. Drucker (1993) and Ruggles (1997) see these broader measures as growing the knowledge base and used as the source of competitive advantage. Graham (1987) and Steers *et al*. (1996) see these measures as the value of motivation for better project completion, whilst Gareis and Hueman (2000) argue that these measures include the idea of evaluation led projects and the general changing nature of the business environment.

Lim and Mohamed (1999), Turner (2003) and Wateridge (1998) are of the view that projects are not seen as events operating in a vacuum aiming at achieving short-term goals and having limited impact but rather more as a long term strategic intervention, adding value to the economic, social and environmental wellbeing of the various project stakeholders. Ays (1996), and Keegan and Turner (2003) are of the view that the uniqueness of projects creates opportunities for personal and organisational learning.

Munns and Bjeirmi (1996), however, adopt a traditional view of project management by focusing on the successful accomplishment of cost, time, and quality objectives and the quality of the project processes or work. By the use of these techniques as part of the project management process and with the project outcomes achieved, a positive outcome could be construed as project management success. Baccarini (1999), on the other hand, adopts a different approach to project success. He is of the view that the impact of a project when completed, results in project success. According to Fusco (1997), knowledge creation and dissemination of information could also be used as factors which determine if the project is successful or not.

Andersen *et al.* (2006) state that project management success can only be known on completion of or after the project. The project leaders must fully understand the inter-relationship of factors that contribute to the achievement of project outcomes which form the basis on which performance indicators for the management of project leaders are established.

According to Morris (1994) traditional project management skills were developed from the requirements of construction and defense industries to plan, control and manage large, complex tangible projects, resulting in project success criteria such as control and managing schedules, cost and scope. Cleland (1995), however, is of the opinion that since project management can also be seen as managing change, project leaders may consider themselves as change agents who utilise skills and competencies.

According to Rockart (1979) barriers to successful project outcomes will result if critical success factors for project management are ignored. Pinto and Slevin (1987) have used critical success factors such as project mission (clarity of goals and general direction), top management support, project schedule/plans, client consultation, personnel (recruitment, selection, and training), technical tasks (availability of the required technology and expertise), client acceptance, monitoring and feedback, communication, and troubleshooting (ability to handle unexpected crises and deviations from plan).

Belassi and Tukel (1996) and Westerveld (2002) have contributed to this view by grouping size, uniqueness, urgency, the project leader and the team members, the organisation and the external environment.

Westerveld (2002) categorised the critical success factors as leadership and team, policy and strategy, stakeholder management, resources, contracting, and project management.

Andersen and Jessen (2000) identified project mission and goals, terms of reference, planning at global level, planning at detail level, formal and informal organisation, organisational activities, decision-making, financial and technical control, and internal and external communications as critical success factors. They further indicated the importance of three other factors,

namely strong project commitment, well understood and accepted project purpose and influence over on-going project processes.

The authors go on to state that strong project commitment for project delivery is dependent on quality; consideration of end user needs; project strategy; planned project activities in terms of cost schedule for all activities. The project delivery is influenced by all key stakeholders being engaged in developing the master plan and having had the opportunity to influence it by being able to air their views on the project's goal or mission.

According to Bourne (2004) management relationship skills are important in achieving project outcomes for project success. The project leader has to focus both on understanding what power drives large, complex organisations, and knowing how to harness this energy effectively for project success.

Bourne (2004) affirms that project relationships involve relationships between the project leader and the project stakeholders. These relationships focus on how different stakeholders have different expectations and methods of management of the project, and different definitions of success as well. An awareness of this need positions the project leader to manage different types of stakeholders.

The author furthermore indicates that project management requires enthusiasm and commitment from the various project stakeholders. Without attention to the needs and expectations of the project stakeholders, a project

cannot be regarded as successful even if the project leader was able to deliver within the original or agreed time, budget and scope.

According to Pinto (2000) behaviours and competencies are used by project leaders for project success. The author maintains that project leaders must use other methods of influence to secure the resources necessary for their project to succeed. He also states that access to resources such as financial, human, material and informational must be negotiated. Project leaders do not necessarily have the authority or status to manage their team members, who may still be attached to the jobs elsewhere in the organisation. Most often, these members are loaned to the project and may have roles on multiple projects. Ensuring the best performance from these team members is therefore based on leadership qualities and the ability to manage conflict and project resources.

## 2.6 Performance in Project Management

According to Armstrong and Baron (1998) performance management is the process of delivering sustained success to organisations by improving capabilities of individuals and teams. Reynolds and Ablett (1998) believe that people and not capital provide organisations with a competitive advantage. However, performance management presents challenges in terms of practical implementation. Redman (2001) states that many managers acknowledge there have been various organisational constraints on the

successful implementation of performance management. Overcoming barriers to change is important given their close relationship to the fulfillment of the psychological contract and related human resources management systems (reward, development, etc.). The psychological contract recognizes the expectations of the employee or employees (Sparrow, 1998). Within the relationship defined by the psychological contract, the employer and the employee inform, negotiate, monitor and then re-negotiate (or exit) the employment relationship. Thus, if the employee feels that a performance management approach breaches or violates his or her psychological contract expectations this can lead to an irrevocable breakdown in the employment relationship (Robinson and Rousseau, 1994). The authors go on to say that in most organisations, projects are drivers of delivery. Organisations must always be aware of the need to act to ensure that an individual's knowledge is integrated into an organisation's knowledge and that the organisation's knowledge is accessible to each individual.

According to Bhatt (2002), although an organisation has access to an individual's skill and knowledge, the totality of an individual's knowledge can never be known. He further states that the organisation must do everything possible to ensure interactions between the organisation and the project leader take place. Organisations need to harness individual knowledge through an understanding of the nature of interactions.

The author states that the challenge for any organisation is to empower individuals performing low interaction tasks by providing guidelines and also to balance the organisational needs with that of the exploration of new ideas and rewards. These individuals must be motivated by assignments containing appropriate strategies for support and reward.

According to Block (1983) some project leaders are good at anticipating, identifying and knowing how to dilute disasters. The author further argues that project leaders who have completed projects over the year have acquired the skills and delivered on successful major projects. He further defines project politics as actions and interactions between project team members and people outside the team that have an impact on the success of the project, its system, the project team, and the project leader.

Block (1983) argues that project management knowledge can be achieved by developing people through empowerment, collaboration, reviewing and revising of existing rules, procedures and policies. He further believes that rotating jobs is another strategy that the project leader can tap on to experience different types of projects and a diverse group of people, thus experiencing different management styles and different methods of project success or failure. Balancing the needs of the organisation with the needs of the individual involves matching project management skills to appropriate projects and apprenticeships, coaching and mentoring.

The author further states that in order to prevent placing the project at risk, organisations must ensure that it is assigned to a project leader who has the necessary capabilities to ensure success. If the skills required are not available, then the project leader should be supported by being given assignments, additional training, coaching and mentoring techniques that enable the project leader to work more effectively to take the lead in managing the different interests around it (Boddy and Buchanan, 1999).

## 2.7 Project Leadership

### 2.7.1 Leadership Styles

According to Burke (2007), although the project leader may make the final decision relating to the project, the manner in which he/she communicates this decision is important. This form of communication largely depends on the leadership style he/she adopts.

Burke (2007) goes on to discuss the three types of leadership style:

**2.7.1.1** **The Autocratic Leader** tends to solve problems or make decisions independent of the team. There is no communication between him/her and the team members.

**2.7.1.2** **The Democratic Leader** shares the problem with the team members and jointly makes decisions and solves problems.

**2.7.1.3** **The Laissez Faire Leader** allows the team to make the decisions and solve problems.

Burke (2007) further indicates that the project leader must delegate some of the authority to the team members and in doing so becomes a part of the team. This approach encourages the team to participate in problem solving and decision making, increasing the team's commitment and feeling of ownership.

Maylor (2002) argues that the success of project management is highly dependent on people who run and operate projects. The author confines discussion of human resources to the issues of management and leadership whereas Scase (2001) examines the impact of time spent on project management.

### 2.7.2 Involvement of Project Management Teams

According to Roper (2007) an efficient selfmanaged work team produces high-quality work with little interference from the project leader. Hoerr (1989) and Wellins *et al.* (1991) affirm this view in that project leaders of self-

managed work teams have greater project success. Sexton (1994) argues that there are many examples of successful quality-enhancing results from self-managed work teams, for instance, the Volvo Kalmar facility reduced defects by 90 percent in 1987, Federal Express cut service errors by 13 percent, and Corning's specialty cellular ceramics plant decreased defect rates from 1,800 parts per million to nine parts per million. Increasing organisational effectiveness is a primary goal of self-managed work teams. Self-managed teams are so focused on high performance that most often individual needs of the team members are overlooked.

Matza (1990) and Messmer (1990) conclude that self-managed work teams are motivated by those recognizing the results of employee empowerment. Through empowerment, everyone on the team has a vested interest in the outcome. Empowered teams take responsibility for managing the risks and benefits of decision making from training, mutual commitment, and trust which leads to an increase in efficiency, quality control, and overall effectiveness (Gandz, 1990).

Liden *et al.* (1994) state that when team members focus only on individual unit performance, the overall team performance may suffer. However, individual contributions and buy-in to the group discussion are important for project success.

Internal communication is critical between project members and their project leaders (Allen *et al.*, 1979). Emotional intelligence is important for teamwork of the group since there is pressure on leaders to maximize effectiveness (Lassiter, 2004). By using emotional intelligence, and acknowledging responsibility, project leaders and their teams can boost interpersonal skills and performance.

While members of the team may contribute to the overall level of emotional intelligence, it is the project leader who has the strongest influence (Lassiter, 2004). Teams that emphasize respect, trust and mutual benefit for all members are emotionally intelligent and have a better performance than teams without these skills.

Druskat and Wolff (2001) identify three conditions that are essential to group effectiveness:

- trust among members;
- a sense of group identity; and
- a sense of group efficacy.

In order to be most effective and produce positive outcomes, teams must create behaviour and habits that support identity and trust among group members. A sense of group efficacy is the belief that the team can perform more effectively as a collective body than they can individually (Druskat and Wolff, 2001).

According to Goleman (1998), people's feelings about working at a company can account for up to 20-30 percent of performance. The project leader is effective when he or she is able to pinpoint unhealthy work habits in order to make corrections (Lassiter, 2004). Teams form the basis for organisational effectiveness, and cannot work without mutual trust and common commitment to goals. One of the key challenges faced in knowledge management across projects is the construction of a collective knowledge base.

### 2.7.3 Management of Knowledge

According to Leseure and Brookes (2004), most often knowledge is generated within one project and then lost. Failure to transfer this knowledge within the organisation leads to wasted activity (such as re-inventing the wheel) and impaired project performance.

The authors identified two key challenges of managing knowledge in a project environment such as the collection of knowledge; and the management of different forms of knowledge.

Once the project is completed, the key challenge is to capture all the lessons learnt in this project for re-use by other project teams.

## 2.8 Project Risk Management

According to Mosca *et al.* (2001) risk analysis investigates problems involving uncertainty by identifying, evaluating and monitoring potential risks. Tah and Carr (2000) argue that managers rarely use formal risk analysis when making important decisions and that risk management is *ad hoc* and dependent on the particular skills, experience and risk-orientation of individual key project participants.

Smallman (1996) argues that a link between risk management strategy and organisational behaviour could emerge. The author goes on to say that whilst risk was apparent and rising in the project leaders' area of responsibility, they were still not confident in their ability to manage risk.

Smallman (1996) considers risk assessment as a component of risk management that requires:

- Identification of potential risk;
- Assessment of the risk, its importance, likelihood, severity and impact are determined;
- Analysis and evaluation of risk, where the acceptability of the risk is determined and the actions that can be taken to make the risk more acceptable are evaluated (Tah and Carr, 2000).

The authors furthermore argue that human factors influencing risk management include stress, avoidance of risk situations, fear of identifying weakness, lack of planning and understanding, need for stability, trust and relations between employees and management; and an organisation's readiness for change.

According to Cervone (2006) risk management is more frequently associated with bridge building, mechanical engineering, or actuarial science than digital library projects. Tah and Carr (2000) argue that risk management is often not given the attention it deserves because most often project leaders perform a superficial examination of the issues related to risk since the risks in projects are outside of their immediate control. However, all risks can be effectively addressed in one of several ways such as being reduced or eliminated by including problem corrective measures into the project plan, planning for risks, by placing quality control practices and procedures into place. This author further affirms that good project leaders think about risk management and identify risk within the overall project rather than attempting to fix or remedy problems after they have occurred.

### 2.8.1 Project Risk factors

Understanding the process of risk management entails understanding the underlying factors that contribute to project risks. As Keil *et al.* (1998) have

noted, the most common risk factors are consistent across projects. They include:

- lack of Executive Management commitment to the project;
- failure to obtain commitment and manage expectation;
- misunderstanding the requirements; and
- lack of involvement.

Keil *et al.* (1998) are of the opinion that commitment goes beyond just financial support.

### 2.8.2 Risk categories and Causes

McConnell (1996) outlined a hierarchy of risk categories that project leaders should consider when performing their project plan. In so doing, risks may be avoided. The author identified four major categories of risk: dependencies within software; intergroup dependencies that occur when work is split across functions; the availability of people to perform task functions timeously; and reliability of delivery according to schedule.

The author goes on to state that risks are generally caused by:

- lack of a clear vision and approval for the overall project;
- requirements of the project are not prioritized;
- development within the framework of a formal project management methodology.

Furthermore, risks can also be caused by inadequate change management support processes. McConnell (1996) argues that management related risks most often include inadequate planning and the identification of tasks, lack of vision for the project, undefined project leadership, lack of decision-making, unrealistic commitments and expectations as well as risk identification and risk analysis.

## 2.9 Project Quality Management

According to Burke (2007) quality management is the involvement of all project participants to ensure the goals and objectives of the project meet the needs of the client, project team and other stakeholders. The author goes on to say that quality management is a process that is necessary to ensure that the project will satisfy the needs for which it was undertaken. It is further characterized by three processes, namely, quality planning, quality control and quality assurance.

### 2.9.1 Quality Planning

This phase involves the gathering of all quality standards and requirements of the project and presents them in one coherent document. Burke (2007) further affirms that the project quality plan is then communicated effectively to all stakeholders to ensure that they are sufficiently consulted with and informed accordingly (Burke, 2007).

### 2.9.2 Quality Control

According to the PMBOK (2000) quality control involves the evaluation and monitoring of the project results to determine if it complies with quality standards agreed to at the initial stages of the project and also to identify ways to address causes impeding project success.

One of the models used to assess the project management capability is the Project Management Maturity Model (PROMMM).

### 2.9.3 Project Management Capability

Hillson (2003) discusses the Project Management Maturity Model and raises questions on how far the assessment of project management processes are adequate. The author is of the view that the model allows organisations to assess their project management capability against agreed criteria, set realistic targets for improvement, and measure progress towards enhanced capability.

#### 2.9.3.1 Project Management Maturity Model (PROMMM)

ProMMM includes areas of organisational culture, skill and experience levels, and practical issues of implementation and application. The structure of ProMMM allows key strengths and weaknesses to be highlighted for further attention.

Four levels of increasing project management capability, termed naive, novice, normalised and natural, aim at providing a structured route to excellence in project management, defining stages for organisations to benchmark themselves. Hillson (2003) describes the various levels as follows:

- **PROMMM LEVEL 1 -** The naive project management organisation operates without a structured approach and is unaware of the value of using projects to deliver business benefits. The Management processes are repetitive and reactive and make no attempt to assess past experiences or to prepare for future threats or uncertainties.

- **PROMMM LEVEL 2 -** The novice project management organisation also does not operate within a formal or structured process but engages in the use of project management with a small number of individuals. This type of an organisation, although aware of the potential benefits of project management processes, has not gained the full benefits of project management since it has not effectively implemented the project management process.

- **PROMMM LEVEL 3 -** In the normalised project management organisation, project management is implemented across all aspects of the business even

though it may not be fully achieved. It has a more formalized approach and the benefits are understood at all levels of the organisation.

- **PROMMM LEVEL 4 -** The natural project management organisation has a fully project-based culture, with a best-practice approach to project management in all aspects of the business. Project-based organisational project management capability is when information is actively used to improve business processes and gain competitive advantage.

According to Hillson (2003) the ProMM Model provides a framework for an assessment of the current position and defining the target in the next ProMMM level. This approach assists organisations in assessing their project management capability against agreed criteria and defining realistic targets for improvement.

### 2.10 Organisational Culture

According to Vidal and Marle (2008) project complexity is increased when the project manager is not on site and has to ensure that the decision making process and the directing of the project is smooth flowing.

Other key elements include raising cultural issues as discussion points, developing a common language and procedures, trust, engaging the services

of a project leader who is sensitive to the values of other cultures and technologically sound with excellent negotiation skills. Global Project leaders need to understand the cultural bases of their team members, the body language and unspoken cues and becoming more flexible without compromising strategic goals.

Cultural sensitivity skills are crucial for the Project Manager. Listening skills are fundamental to project success. The two types of listening viz. Reflective and Active listening. Active Listening skills involves a more proactive approach to assuring the speaker and the listener not only hears what has been said but rather engages with the subject in a way that is not invasive.

There is a different sense of urgency and pace when issues outside the project emerge making scheduling tracking and control difficult. If a strong sense of authoritarianism exists that does not allow for questioning, it becomes difficult to be a part of decision making which impacts on those who are trying to reach consensus in various project situations. The use of project management practices are increasing, emphasizing the importance of the approach. Project leaders and project teams in the United States and Canada are task oriented and are driven by achievements. The discipline of managing by projects and the managing of the entire organisation on the basis of projects is steadily increasing. Modern project management

practices are on the increase with the emphasis being placed on the accountability of the global project manager.

## 2.11 Conclusion

The majority of the authors view the concept of a shared leadership as fundamental for project management and effective team building because it requires participation and involvement of all the team members.

Most authors consider effective risk avoidance strategy as being able to ensure that communication is ongoing across the project team and the organisation. Most often, project leaders fail to keep those concerned informed which often places the completion of the project at risk.

The authors also emphasize that a good project tracking system helps facilitate communication which is important to identify the risk at any given moment within the project timeline. They claim that it is crucial for the project manager to adapt and change plans as new information becomes available, allowing flexible planning.

While there are various views on the approach to project management, the dominant view is that a modernistic approach to project management is more beneficial to organisations than a traditional approach. The authors conclude that while the traditional approach focuses on time, cost and quality, it excludes important factors such as strategy, communication, collaboration

and recognition systems, linking of organisational goals and objectives and team building.

It is to be stressed from the perspective of the current study that one important factor in project management is that people have to be well managed for success to be achieved. This means that there are human resources development issues that need to be addressed. These have been identified in the literature review.

Some of the key principles identified in the King Report III (2009) is the emphasis on leadership and governance. The principle of governance includes risk and sustainability. At DUT, the process for the identification of risks is an objective driven process which assesses the impact that risks would have on the achievement of the goals of the University. The University acknowledges that identifying and managing risks is critical to ensuring that its strategic and operational goals and objectives are met. The University classifies risk in two categories of financial and non-financial and ensures that procedures are developed to mitigate these potential risks.

Furthermore, DHET, introduced an implementation manual for annual reporting by all Higher Education Institutions as contained in the Government Gazette (August 2007). One of the key issues contained in the manual is the reports and statements on governance and operations. The King Report gives guidance in the implementation of these best practices amongst HEI's.

Therefore, for projects to be successful, it is imperative that quality monitoring and evaluation systems are in place and that potential risks of a project are identified in order ensure the appropriate intervention. The proposed model is intended to address these gaps.

# CHAPTER 3

## RESEARCH METHODOLOGY

### 3.1 Introduction

The aim of this chapter is to discuss the research design and type of methodology used in this research. In this study, a quantitative and qualitative research study was undertaken to analyse:

- the perception of staff who had gone on project management training;
- meetings of focus groups to determine how to use project management as a tool for project success; and
- interviews with project leaders on their experiences on project management.

After identifying the objectives, the researcher then designed the study to facilitate the collection of data in a systematic and logical manner.

### 3.2 Research Method

The research methods used were both quantitative and qualitative.

### 3.2.1 Qualitative Research

According to Flick (1999) qualitative research allows for the recognition and analysis of different perspectives using a variety of approaches and methods. Locke *et al.* (2004) affirm that the purpose of qualitative research is to understand a situation from the perspective of the participant. Qualitative research techniques such as interviews with project leaders and meetings of the focus groups that included middle managers were also used in the research.

#### 3.2.1.1 Focus Groups

Focus groups are used as a method on their own or in combination with other methods such as surveys, observations, single interviews (Flick, 2006).

The researcher used focus groups to obtain the research participants'' interpretation and views since they were recipients of projects at the University.

#### 3.2.1.2 Interviews

Interviews with project leaders in their specialist fields were held. The researcher had prepared a set of questions in line with the research objectives. Due to the heavy workloads of these project leaders, meetings were scheduled at their convenience that allowed for flexibility in terms of time and location.

The study employed the use of a semi-structured questionnaire at the interview as one of the instruments for data collection. Analysing semi-structured interviews can be complex as the participants may diverge from the questions themselves and bring in their personal issues. It provides an idea on the approach to project management.

The interviews held were flexible and convenient for both the interviewer and the interviewee, and enabled the researcher to probe in order to unpack sensitive and complex issues in detail in the process of data collection. Furthermore, by using probing questions, the researcher was able to clarify certain background issues. Interviews can be lengthy and time-consuming.

### 3.2.2 Quantitative Research

Locke *et al*. (2004) explain quantitative research as being able to describe a sample on a specific variable.

#### 3.2.2.1 Questionnaire Design

A self-administered, closed-response questionnaire was modified and adapted for the use of this research. The research participants' were asked to select answers from among lists provided by the researcher. The questionnaire comprised five themes ranging from strategic alignment, culture, skills and capabilities, project selection, outcomes and reasons for project failure. The questionnaire was aimed at testing whether:

- Projects drive the goals of the University;
- Projects are aligned to the University's strategy;
- Projects are part of a project leader's key result area;
- The project leader has the skills, capabilities, knowledge and leadership;
- Organisational culture has an impact on project success;
- Project leaders were involved in the selection of projects;
- Project principles are used to achieve the project outcomes for project success; and
- explain the reasons for project failure.

#### 3.2.2.2 Closed-ended questions (Quantitative Questionnaire)

According to Babbie and Mouton (2001) by using closed-ended questions, the researcher was able to obtain a greater uniformity of responses which could be easily processed in determining the extent to which research participants'' hold a particular attitude or perspective. These types of questions are transferred directly into a computer format. However, the shortcoming of closed-ended questions lies in the researcher's structuring of responses.

Closed-ended questions were used in this study for project management trainees and permit only certain responses. Quantification and analysis of results were therefore carried out easily and effectively.

The advantages of closed-ended questions are that:

- The answers are standard, and can be compared from person to person;
- The answers are much easier to code and to analyse;
- The research participant is often clearer about the meaning of the question;
- The chances of irrelevant answers are minimized since appropriate answer categories are provided.

The disadvantages of closed-ended questions are:

- It is easy for a research participant who does not know the answer to choose “not applicable” or “don’t know” categories or even to answer randomly.
- The research participant may feel frustrated because the appropriate category for his/her answer was not provided for.
- There were greater chances of a clerical error as the research participant may circle a wrong category.

#### 3.2.2.3 The Likert Scale

The Likert scale ranges from strongly agree to strongly disagree. This scale was useful in measuring the perceived responses, as well as comparing and analysing the results. To gauge the extent of perceived critical factors that could potentially lead to Strategic Alignment, Culture, Skills and Capabilities, Project Selection, Project Outcomes and reasons for project failure,

participants were asked to rate factors on a Likert scale from strongly agree to strongly disagree.

### 3.2.3 Population/Sample

According to Hysamen (1984) a population is the total collection of individuals who are potentially available for observation and who possess the attributes in common that a particular research hypothesis examines.

For the purposes of this study, the target population was chosen from employees who had attended the project management course, the focus groups that were recipients of project management and the project leaders who were directly involved in managing projects at DUT.

(i) In this study, the total population is made up of 70 employees from the organisation who had attended the training, of which 35 employees returned completed questionnaires. No incomplete questionnaires were received.

(ii) The focus groups comprised 12 managers from the Institutional Support Services Ambit.

(iii) Interviews were conducted among the 9 project leaders from middle and senior management.

### 3.2.4 Triangulation Study

According to Silverman (1998), triangulation is the collection of data using different methods in studying the same phenomena to increase reliability, which strengthens the research design. Through the use of the triangulation approach, the inadequacies of individual methods are minimized.

The researcher and theorists use the method of triangulation to obtain more data for the purposes of strengthening the research findings (Denzin, 1978).

This triangulation study included interviews, focus groups and a questionnaire analysis.

### 3.2.4.1 Methods of Data gathering Collection and Analysis

A summary of methods that were used in the gathering and analysis of the data is listed hereunder:

**Table 1 – Summary of research methods used**

| METHOD OF RESEARCH | TARGET GROUP | REASONS FOR SELECTION | SAMPLE | CONTEXT |
|---|---|---|---|---|
| A quantitative study employed the use of a questionnaire to survey the perceptions of participants of the project management training | DUT employees (70) | • Exposure to project management due to extensive project management course<br>• Knowledgeable about project management<br>• Objective view of results of project management because they experience the success/failure of projects<br>• Better position to give an objective perception/view of projects | 100% population<br><br>(70 staff members had attended the training) | The participants have a good understanding of project management and able to identify aspects of project management that have contributed to the failure and success of projects |

**Table 1 – Summary of research methods used (Cont.)**

| METHOD OF RESEARCH | TARGET GROUP | REASONS FOR SELECTION | SAMPLE | CONTEXT |
|---|---|---|---|---|
| In-depth interviews with Specialist Project Leaders | Project Leaders | Extensive experience in institutional projects they have co-ordinated at DUT | 9 Project Specialist Leaders were used in the research as they were directly involved in projects | To obtain their views due to their direct involvement in project management |
| Focus Groups | Managers from the Institutional Services Ambit | They are also involved in project management as recipients of projects engaged by the University | 100% population<br><br>12 managers | To obtain on a functional / managerial level the extent of project management and how much on a micro level within their departments the issues/success and failure of project management |

### 3.2.5 Pilot Study

According to Welman and Kruger (1999) the purpose of a pilot study is to find possible flaws in the procedures and to recognize the non-verbal behaviour of the participants that may point to discomfort about the content or wording of the questions. This ensures that errors of whatever nature can be rectified immediately at little cost. Ambiguous questions tend to lead to non-comparable responses, leading questions result in biased responses, and vague questions lead to vague answers.

A pilot study was also conducted among two Directors using questions from the interview guide. The interview guide was re-categorised into key themes and the questions were simplified prior to being used for the remaining interviews.

#### 3.2.5.1 Questionnaire

A pilot study with a sample of five subjects was conducted among those who had attended the training.

The following amendments were suggested:

- The print be enlarged;
- The questionnaire be spread out on two sheets or back to back for easy use;
- That the age category range from 30 and above; 31-40; 41-50 and 51-65;

- That the years of experience range from below 5; 5-10 years; 11-20; 21-30 and 31 and above;
- That designations be changed to reflect grades ranging from 1-6; 7-9, 9 and below;
- A heading be included clearly defining the instruction at the beginning of the questionnaire;
- Remove “not applicable” because it could distort the objectivity of the results.

#### 3.2.5.2 Interview Questions

The pilot interview helped to revise and restructure the questions for greater clarity:

### 3.2.6 Interview Guide

An interview guide was developed in preparation for interviews with the project leaders. In both interviews, confidentiality of information was assured. The purpose of the tape recorder was explained and kept in full view of the interviewee. Notes were also made to capture the main points of the discussion. The information was transcribed and thereafter consolidated into a spreadsheet.

### 3.2.7 The covering letter

The success of the initial mailing depends largely on the effectiveness of the cover letter that accompanies the questionnaire. If it explains the purposes and importance of the survey in a professional manner, the research participants' are likely to become interested in the problem and will be inclined to co-operate.

A letter was sent along these lines to the population indicating the purpose and benefits of the research and that the questionnaire should be returned by a certain date.

## 3.3 Data Analysis

The data analysis involved several phases:

### 3.3.1 Quantitative

Descriptive statistics are used to summarise numerical data, averages, totals, ranges, etc. The information was categorised after data collection.

The questionnaire used in this research was analysed both by manual entry and by using the SPSS software.

During the data analysis average scores (mean) were calculated and each question was colour coded so that the 5 point Likert scale could be analysed

and interpreted to flag urgent areas of concern, no need for concern and a neutral opinion or perception.

### 3.3.2 Qualitative

Interviews were recorded and transcribed in themes in the form of notes.

The transcripts were then analysed and tabulated under methods of data gathering collection and analysis.

### 3.3.3 Questions used in the Data Collection

**Table 2 – Questions used in the Data Collection**

| Questionnaire Themes | Focus Groups | Interviews |
|---|---|---|
| Strategic Alignment | Are projects aligned to DUT's mission and strategic goals?<br><br>Describe the Organizational culture that exists at DUT. | Is project management aligned to DUT's strategic goals? |
| Culture, Skills and Capabilities and leadership | Explain the Leadership styles that exist at DUT.<br><br>Are project leaders capacitated to accomplish projects successfully? | Does the project manager have the necessary skills and ability to manage the project?<br><br>How does organisational culture impact on project success? |
| Project Selection | How are projects and project teams selected?<br><br>Is there constant communication within project teams? | Are project teams and outcomes clearly defined at the outset of the projects? |

**Table 2 – Questions used in the Data Collection (Cont.)**

| Questionnaire Themes | Focus Groups | Interviews |
|---|---|---|
| Project Outcomes | Are project outcomes clearly outlined? | Are project management principles employed when engaging in project management? |
| Reasons for Failure | Why do projects fail?<br><br>What preventative measures can be taken to avoid project failure? | Why do projects fail?<br><br>What recommendations can be made to enhance project success? |

## 3.4 Study Procedures

Planning research involves making decisions about study procedures such as validity and reliability that affect the quality of the data collected and the credibility of the findings.

### 3.4.1 Validity and Reliability

According to Leedy (1980) establishing a strong chain of evidence among research questions, methodology, raw data and findings is believed to strengthen the validity of a study. If the researcher's reasoning can be followed with ease, then the conclusions drawn are valid. Validity generally refers to the condition of being true. One type of validity issue internal to the study was concerned with whether the research had been designed so that it

could deal with what was being examined. The other validity issue was concerned with the external question of whether or not the results would remain truthful when subsequently applied to people, situations, or objects outside of the original investigation. The semi-structured and in-depth interviews, and focus groups used were to record, analyse and interpret the data collected.

Kerlinger (1986) defines reliability as the accuracy or precision of a measuring instrument. The relationship of reliability and validity holds true for all measuring instruments because reliability is a component of validity, which simply means that you cannot tell the truth unless you are consistent, but you can be consistent and not tell the truth. The comparative analysis of the data collected enabled the researcher to test the accuracy of the instruments used and use information that was common to the outcome of the interviews, focus groups and questionnaire.

### 3.5 Ethical Aspects of the Research

Leedy (1980) views values as preferences for a certain form of conduct, while ethics imply preferences which influence behaviour in human relations. Values, for example, indicate what is good and desirable, while ethics indicate what is right and correct. For the purposes of this study, confidentiality and the anonymity of each research participant were maintained in order to protect the participants from being identified by other

staff members as well as by members of Management at DUT, that is, the Vice-Chancellor, Deputy Vice-Chancellors, etc.

## 3.6 Conclusion

This chapter provided a framework of the research methodology that was adopted in the research. The research questions and objectives of the study are further expanded in the discussion and the findings are explained in the conclusion.

# CHAPTER 4

## PRESENTATION AND DISCUSSION

### 4.1 Introduction

This chapter discusses the outcome of the analysis of the questionnaire, the focus groups and the interviews. The data is categorized in order to identify common areas in the triangulation study. It also includes the analysis of the project management training undertaken at DUT.

The results of the questionnaire will be analysed first and then the focus group and the outcomes of the interviews are discussed.

### 4.2 Analysis of Questionnaire Results

The analysis of the questionnaire will be dealt with in two parts, namely, the presentation and discussion of the biographic results and thereafter the responses with regard to the same questionnaire in terms of perceptions of research participants' on project management.

### 4.2.1 Biographic Results

#### 4.2.1.1 Gender

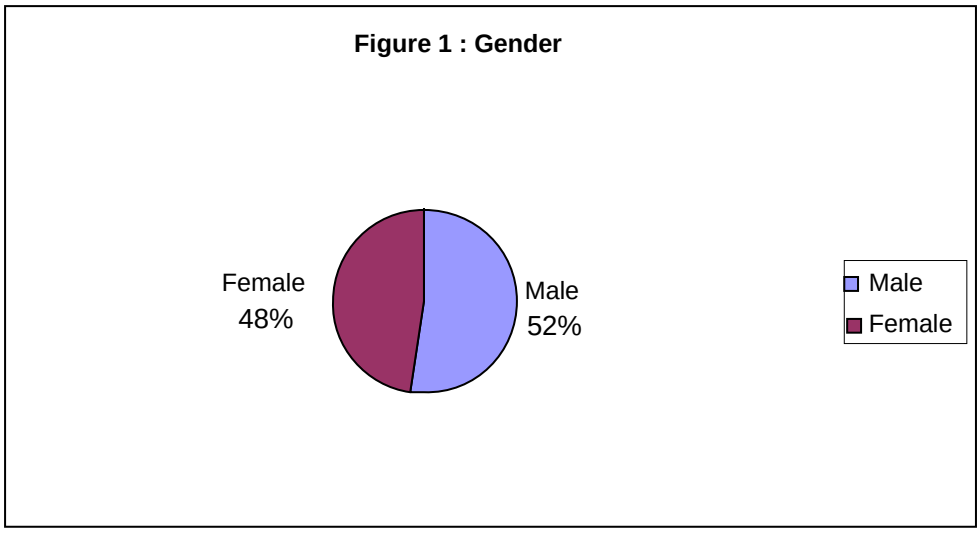
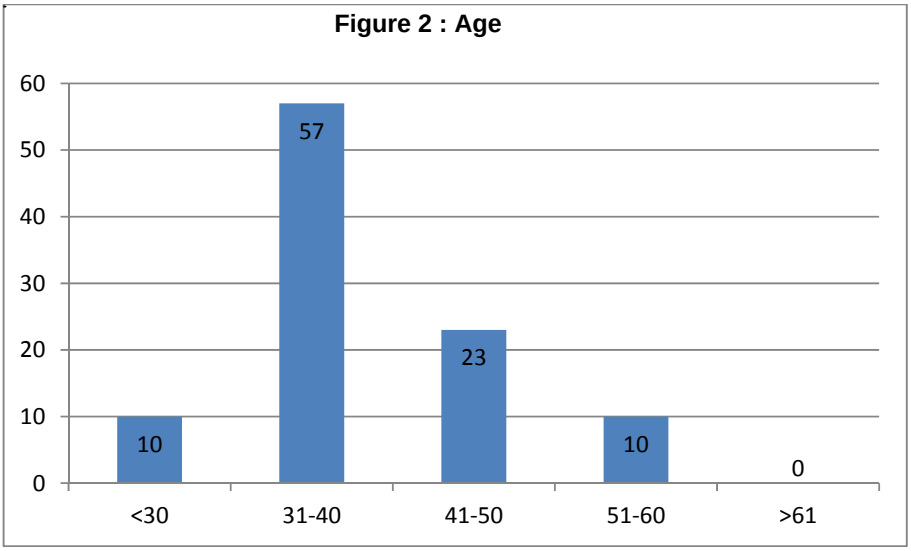



Figure 1 above indicates an almost equal distribution of the questionnaire between males and females in the study. A gender balanced sample is important because it closely reflects the gender ratio of DUT staff, which according to the DUT Integrated Tertiary System (ITS) report, is 700 (52%) male and 656 (48%) female.

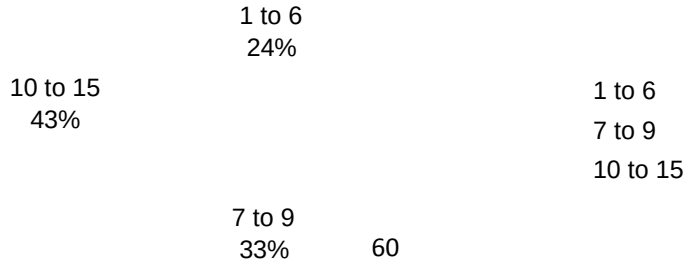
### 4.2.1.2 Age




Five age categories have been used in the questionnaire. Figure 2 above shows that the majority, (57%), of research participants' were in the 31-40 years range. Furthermore, 67%, or two thirds of the research participants' are below 40 years. A relatively young sample was thought to be important because it represents those who are most likely to remain employees of DUT for many years to come. The project management courses are an investment (in terms of human capital investment) that the university makes to improve the skills and knowledge of its employees.

### 4.2.1.3 Grade

**Figure 3 : Grade**



Forty three percent of the research participants' are in the Grade 10–15 range. Grade 10 includes clerical staff, junior academic support staff and technical staff. This is a group that is more likely in need of capacity building and skill enhancement in project management. They are also more likely to have many more years as employees of the university and are more likely to be involved in project management. 33% are in the Grades 7–9 ranges which includes junior lecturers, senior support or clerical staff. Finally only 24% are in the Grades 1–6 ranges which include senior managers and lecturers. This group is relatively older and is nearer the age of retirement. Recipients of project management are able to understand the theoretical knowledge, outcome and principles and therefore when projects are not delivered accordingly, they are in a better position to grasp why projects may have failed.

#### 4.2.1.4 Length of Service

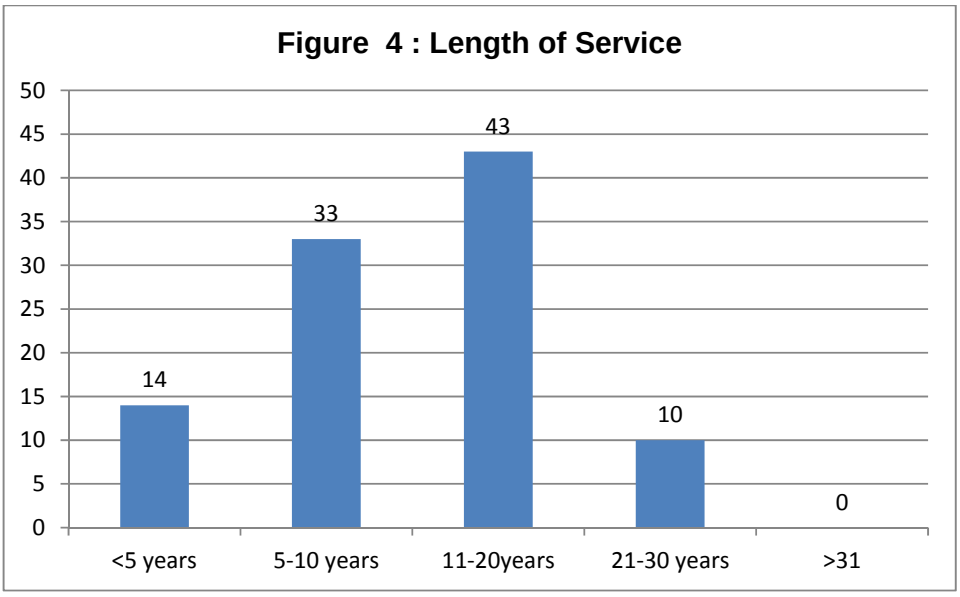


Figure 4 shows that 43% have served the university for between 11-20 years. Only 14% of the research participants' in the study have served for less than 5 years, while 33% have served the university between 5-10 years and 10% between 21-30 years.

#### 4.2.1.5 Employment category

**Figure 5 : Employment Category**

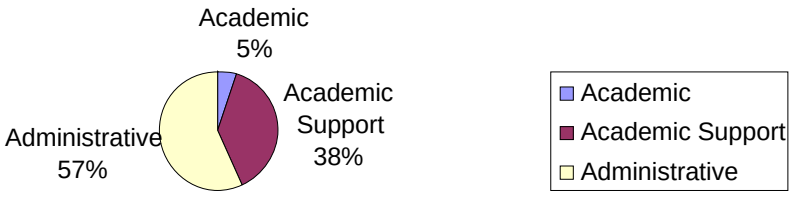



Figure 5 shows that the majority, 57%, of the participants in the study were administrative staff and with academic support staff reflecting 38%. Only 5% were academic staff. Clearly, administrative staff appear to be more interested in project management training, seeing it as an opportunity to improve their skills capacity in project management.

### 4.2.2 Results of Project Management Questionnaire

This part of the analysis of the results will be dealt with under the following headings, namely, Strategic Alignment of project management, Culture, Skills

and Capabilities, Project Selection, Project Outcomes and Reasons for Project Failure.

#### 4.2.2.1 Project Selection and Strategic Alignment of project management

This theme deals with the perceptions of research participants' on Project Selection, Alignment of Project Management with DUT Strategic Goals and Growth and Development. The research participants' were questioned on a number of topics including whether they were meaningfully involved in the selection process, that the project outcome (results) were consistent with the core business of the university and its growth and development strategies. Their perceptions of project success in the context of strategy, core business and project results were obtained.

The previous mission was a "world class university" with a well skilled workforce that is responsive to the ever changing higher education landscape in South Africa at large and at the university in particular. The merger and the subsequent upgrading of the institution to a University of Technology has meant that DUT should be innovative in areas of research production, upgrading courses to degree level, attracting better students and a well trained staff that implements all these goals.

The research participants' were asked among other questions whether the project management training was aligned to the strategic goals of DUT and furthermore if it met the goals of the University.

### (i) Alignment of Project Management with DUT Strategic Goals

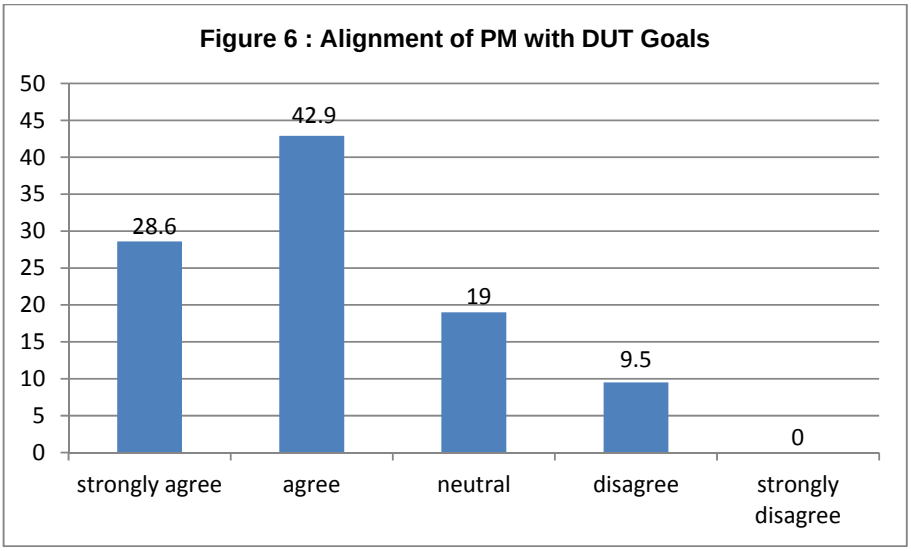



Figure 6 above shows that an overwhelming majority of 71.5%, agree that projects at the university are selected in line with DUT's goals. Of those who agree, 28.6% strongly agree. Only a small percentage, 9.5%, disagree and 19% were neutral.

While this is encouraging, it does not tell whether the research participants' agree to the extent that all aspects of the projects are aligned to the DUT goal. As a result, this point is dealt with in the interviews and focus groups.

**(ii) Misalignment between the project team and DUT's goals**

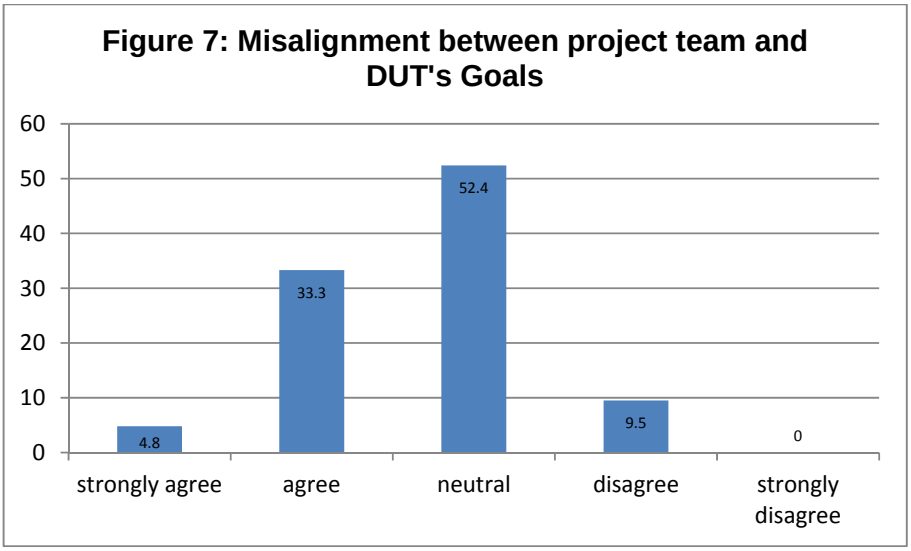
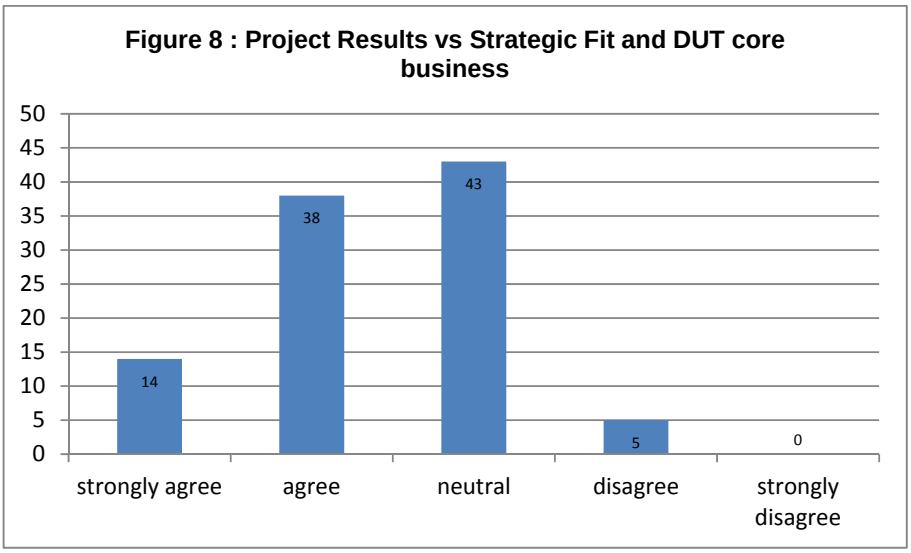



Figure 7 shows that only 38.1% of research participants' agreed that misalignment between the project team and DUT's goals was one of the reasons for failure. These results can be linked to Figure 6 where 71.5% agreed that projects at the university are selected in line with DUT's goals, which means that projects are not only selected in line with DUT's goals, as per Figure 6, project teams, in terms of their specialist areas are also more likely to be selected in alignment to DUT's goals.

### (iii) Project results versus Strategic fit and DUT core business




In Figure 8, 52% of research participants' agreed that project results fit the strategic design and execution of DUT's core business. This seems in contradiction to Figure 12 where 76.2% of the research participants' claimed that project outcomes were consistent with DUT's goals, with 23.8% strongly agreeing.

In this instance, this present question is more precise and requires much thought from the research participants'. Therefore, although a slight majority, (52%), agree that project results have a strategic fit on the design and execution of DUT's core business, a huge percentage, 43%, is unsure or neutral. This uncertainty could be as a result of the research participants' being unable to see the alignment or link between strategic goals, core business and project outcomes.

### (iv) Growth and Development

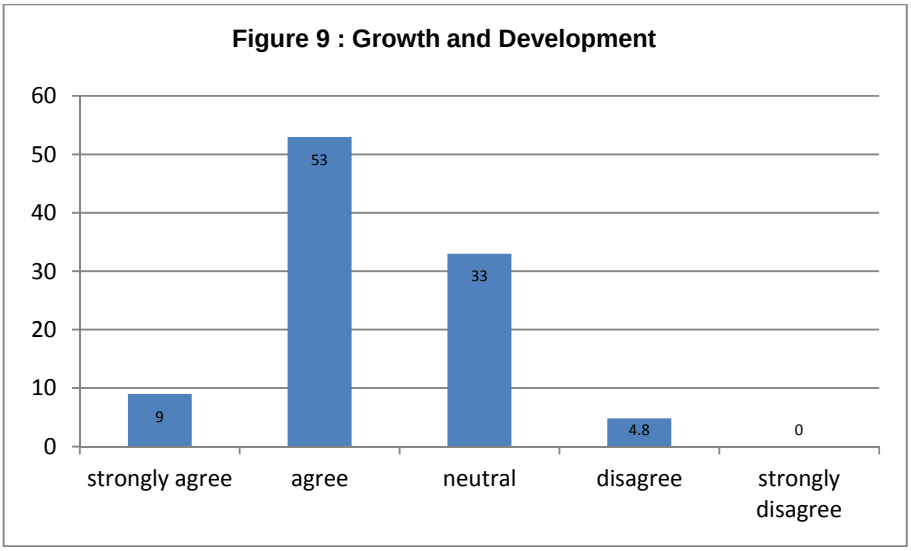
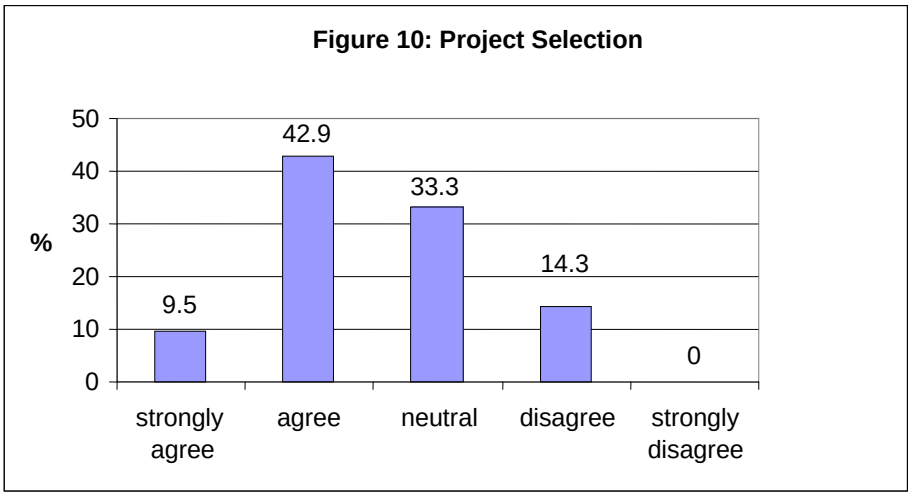



Figure 9 shows that 62% of research participants' agreed that projects at DUT were selected in line with DUT growth and development strategies with 9% strongly agreeing. 33% were neutral as opposed to 43% in the previous graph. This may be the result of the research participants'' interest in growth and development strategies rather than its strategic fit in the design and execution of DUT's core business.

## (v) Project selection




In Figure 10, 52.4% of research participants' agreed that the project manager is involved in the project selection process with 9.5% strongly agreeing. Fourteen point three percent of research participants' disagreed. Although the majority agreed, this was by only a slight margin. The more useful information in this Figure is that a third of the research participants' were neutral or unsure. This could be as a result of projects selected on an ad hoc basis at meetings or by virtue of an outcome. One might speculate that they were neutral because they were unsure at which stage the project manager should be involved in the selection process. Is it at the project's inception or at the executive phase?

### (vi) Operational requirements

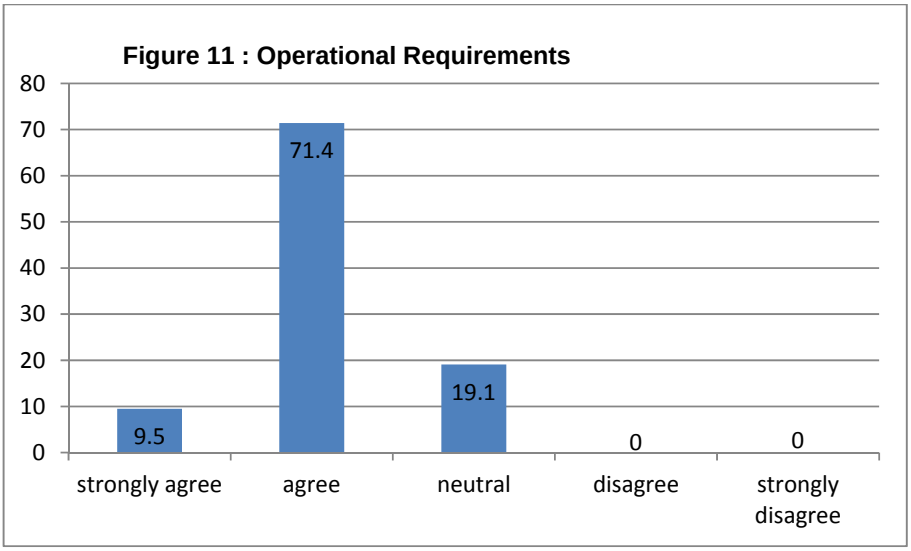



Figure 11 above shows that 80.9% of research participants' agreed that the project usually satisfies the operational requirements of DUT. The results are like this because there was no one who disagreed and only 19% were neutral or unsure. However, this must not mask the fact that operational requirements include the day to day functioning of the University and may not include medium to long term strategic goals.

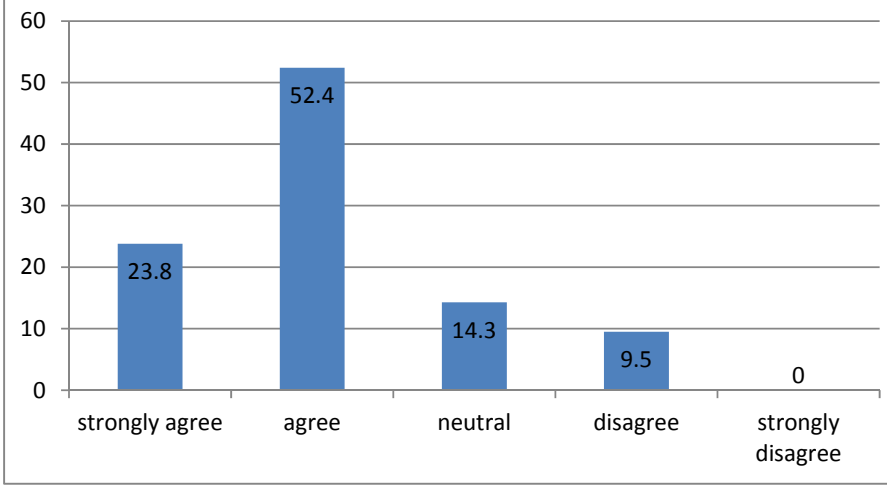
These operational requirements must be delivered on time and within the budget allocated for the project. Projects seem to deal with operational requirements on day to day issues. Also, it must be noted that the strategy would identify the project and the project would drive strategic targets.

#### 4.2.2.2 Project Outcomes and Project Success

This theme deals with project outcome and success.

(i) **DUT goals vs Project Outcomes**

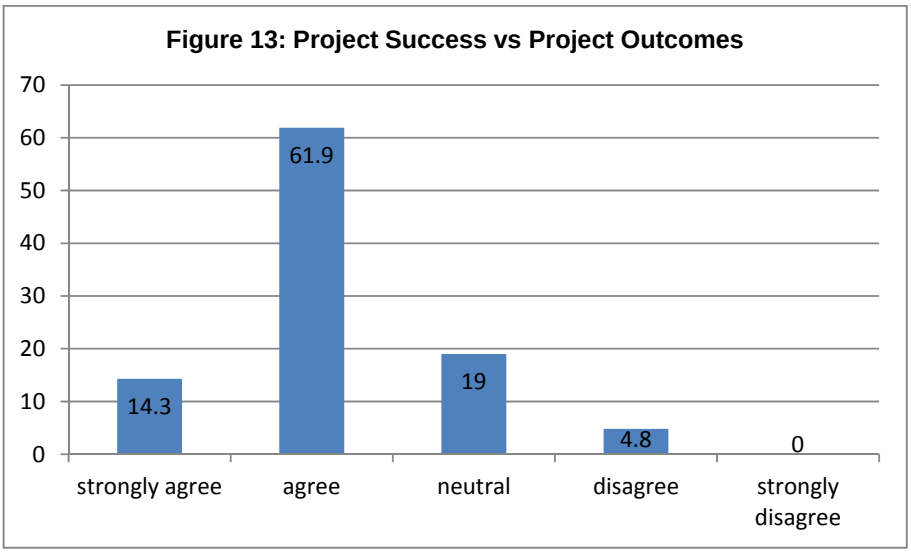
**Figure 12: DUT Goals vs Project Outcomes**




A total of more than three quarters, approximately 76.2% of the research participants', affirmed that project outcomes were consistent with DUT's goals, with 23.8% strongly agreeing. Only 9.5% disagree that project outcomes are consistent with DUT goals. These figures tally closely with those above. To further reinforce the research participants'' positive perceptions, Figure 13 shows that a total of 76.2% of research participants' agree that project success is measured by project outcomes with only a small minority, (4.8%), indicating otherwise.

### (ii) Project Success versus Project Outcomes

This aspect is dealt with in terms of how research participants' assess Project Success in terms of Project Outcomes




Three quarters think that project outcomes are in line with DUT's goals and an equal proportion agree that project success is measured by project outcomes. It suggests that effective project management training is an excellent investment for the university.

### (ii) DUT employees usually believe that projects are successful

This question assesses the general view of research participants' of project success.

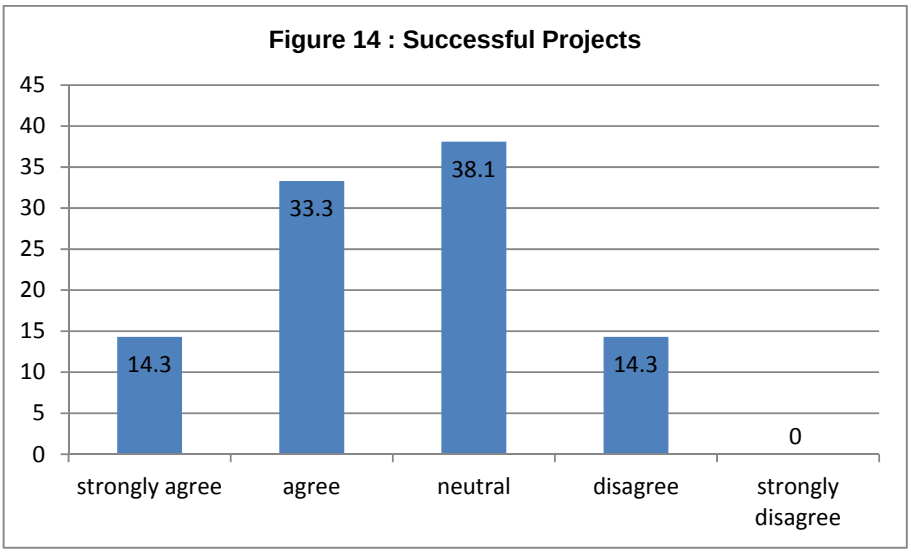



Figure 14 shows that 47.6% believe that projects are generally successful, while 38.1% were neutral and only 14.3% of research participants' did not believe that the project was successful. Slightly more than 50% are not convinced of project management success at DUT. There is no significant agreement that projects are entirely successful.

#### 4.2.2.3 Leadership, Culture and Capabilities

This theme addresses how Leadership, Culture and Capabilities influence projects.

### (i) DUT's concept of project management is clearly defined

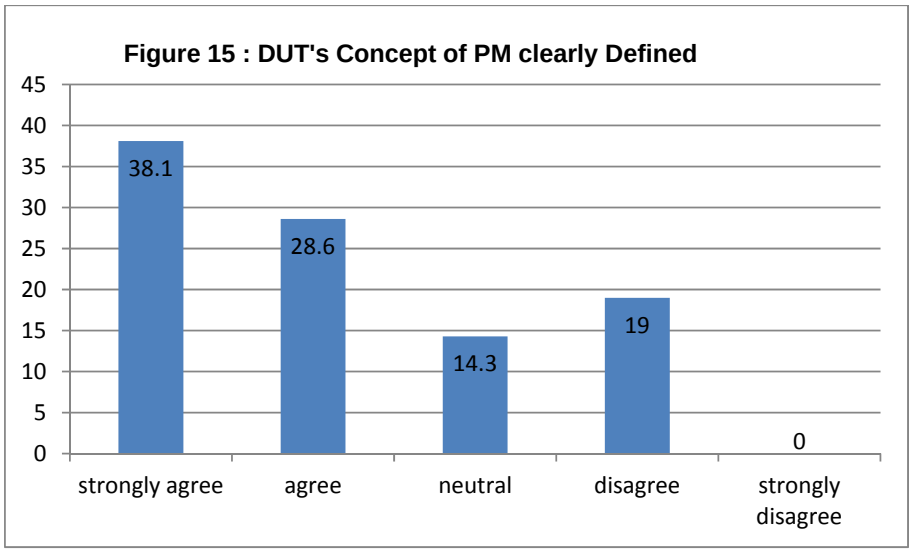
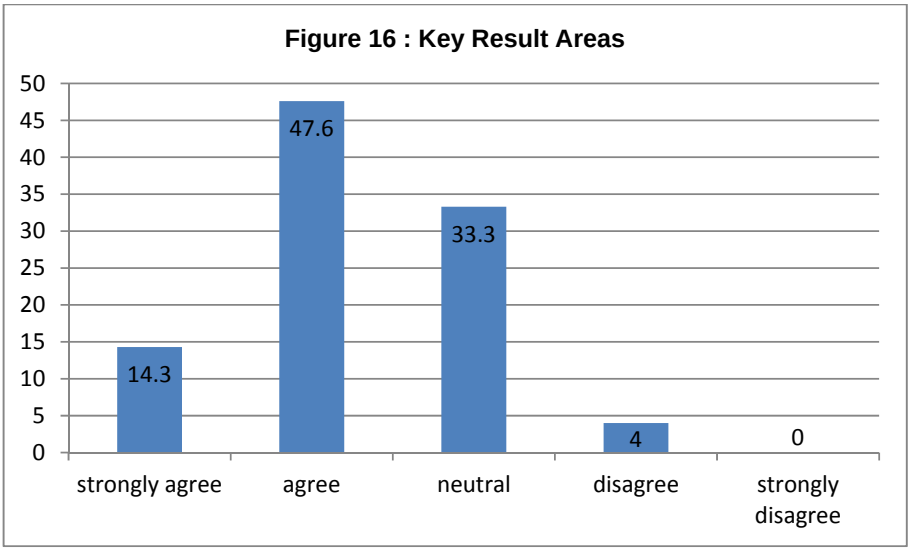



Figure 15 shows that 66.7% of the research participants' state that DUT's concept of project management is clearly defined with a substantial amount of 38.1% strongly agreeing. This is welcomed since these are the very same research participants' who attended project management training at the University. Obviously the outcome of the training is indicative of a different perspective or understanding of project management in a more meaningful way.

### (ii) Key result areas




Approximately 61.9% agreed that project management was a KRA of their jobs, with 14.3% strongly agreeing. Approximately 5% disagree that project management is part of their KRA.

This means that the university requires employees to engage in project management as an important part of their jobs. Training in project management is critical for DUT to meet its goals, hence the investment in training of targeted employees from which the University could reap long and short term benefits.

### (iii) Project Leaders' capabilities, knowledge and skills

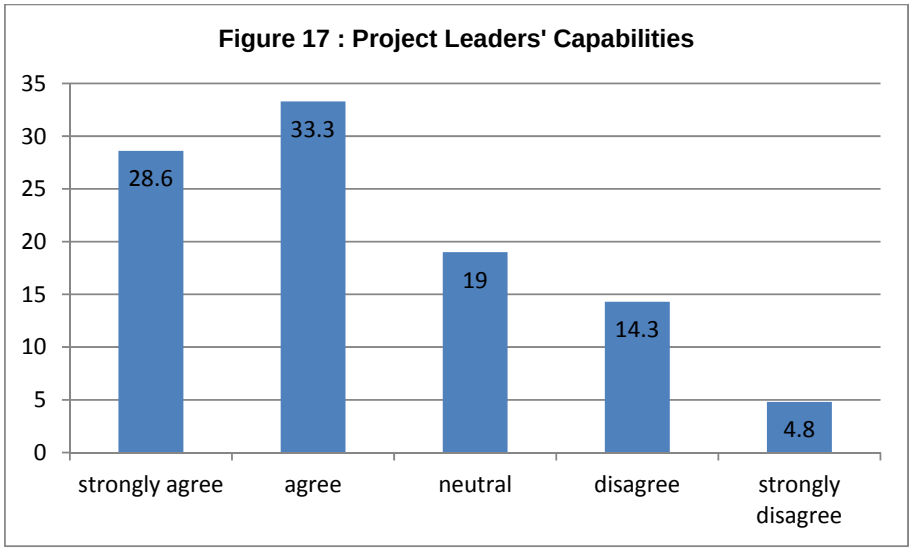



Figure 17 shows that a majority, 61.9%, of research participants' agreed that project leaders had the capabilities of fulfilling the requirements of the project, while 28.6% of them strongly agreed. Only 19% disagreed that the project leaders did not have the capabilities to fulfill the technical requirements of the job.

This could be as a result of the research participants' not understanding project leaders. This shows that the research participants' who had undergone the DUT project management training course were confident that the project leaders were aware of what was expected of them.

The reason for their confidence in the capabilities of the project leaders is because the majority of research participants' are also confident in the fact that project leaders have the project management knowledge to complete projects successfully.

### (iv) Knowledge

This aspect refers to the research participants'' views with regard to the knowledge of the project leaders.

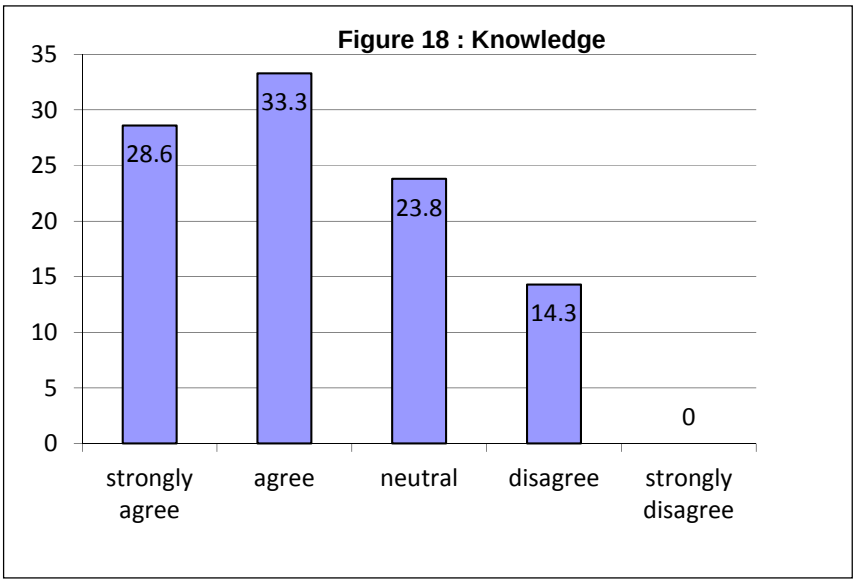



Figure 18 above shows that the majority, 61.9%, of the research participants' agreed that project leaders have the project management knowledge for project success. Again only 14.3% disagreed. Therefore, it can be concluded that the research participants' assumed that capabilities are often the same as knowledge. Thus, the reasons for the answers to project management knowledge are the same as those on capability.

### (v) Project Leaders' Skills

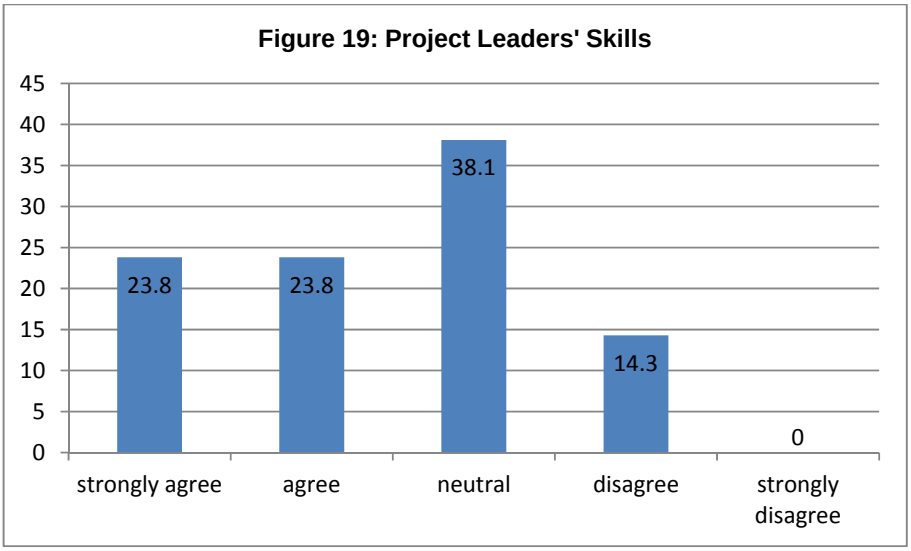
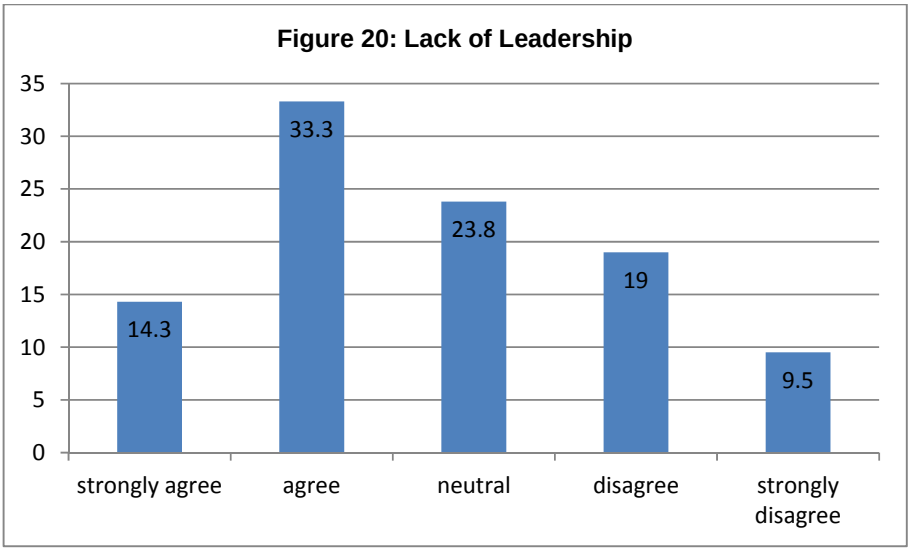



Figure 19 shows that only 47.6% of the research participants' agreed that project leaders were equipped with the necessary skills to analyse DUT's requirements when defining project outcomes. Fourteen point three percent outrightly said that project leaders did not have the skills to relate project outcomes with DUT's requirements. While at face value this is a less than good result, it might also be interpreted differently or seen as promising. The research participants' in the survey are those who recently attended project management training courses, the majority of whom have been at the University for more than 10 years. These research participants' are at a vantage point where they are better equipped to comment on project leaders' skills to analyse DUT's requirements for projects. Project management training might have actually been useful for them to come to the conclusions

they did. While 47.6% of the research participants' affirmed that project leaders were equipped with the necessary skills to analyse DUT requirements when defining project outcomes, about 52% of the research participants' were not convinced about the project leader's skills. This could be a result of project leaders (61.9%) having the theoretical knowledge about project management but only 47.6% have the hands on skills in managing projects.

**(vi) Leadership**

**Figure 20: Lack of Leadership**




Forty seven percent or almost half of the research participants' thought that there was a general lack of leadership from the project leaders in taking decisions and solving problems in a timely manner. Or alternatively, only 28.5% of the research participants' thought that there was leadership from

project leaders to solve problems in a timely manner. In other words, the research participants' felt that there was a general lack of leadership from project leaders. As seen above, research participants' are confident of project leaders' technical skills, knowledge and capability. They, however, point to their lack of leadership. Figure 27 is also related because only 42.9% of research participants' indicated that projects are monitored by the project leaders throughout the life of the project, totaling less than half of the sample indicating that projects are adequately monitored by project leaders.

**(vii) Technology**

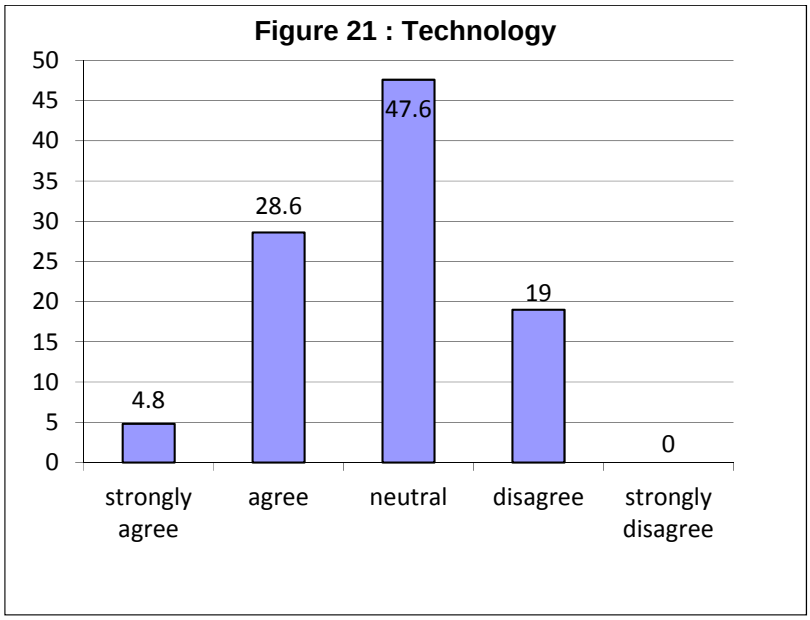



Figure 21 shows 33.4% of research participants' agreed that there is a general reluctance to embrace leading edge technology.

19% of the research participants' felt that there is a willingness to embrace new technological innovations and alternative business solutions. But the highest proportion was neutral in this regard. All these figures are not surprising because institutions by their very nature are sceptical of embracing new technologies without being convinced of the major benefits that will be realized. Embracing new technologies has a cost attached to it, and may bring other unwelcome changes to the general institutional landscape. The use of automated project management techniques may have been a more useful method to solve complex and comprehensive projects.

**(viii) Cultural differences**

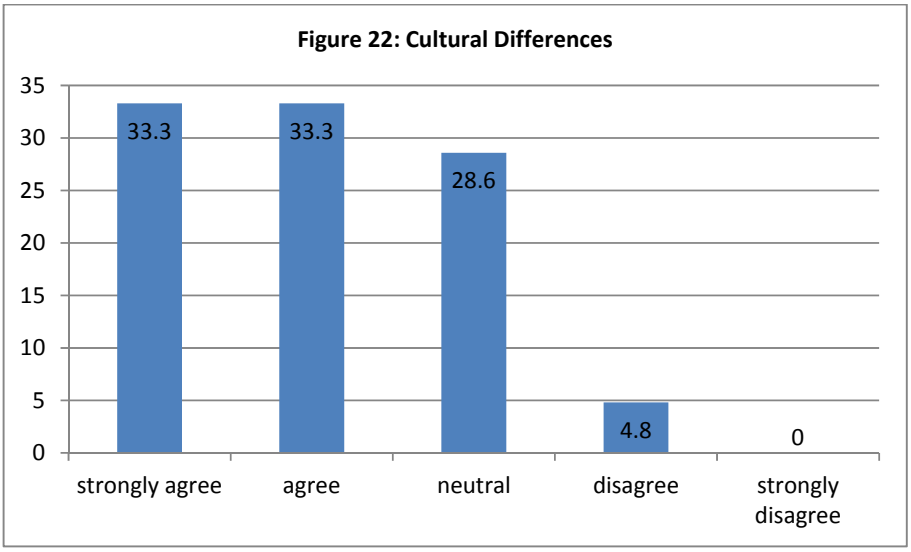



Figure 22 shows that 66.6% or two thirds of research participants' indicated that cultural differences are a recurring problem on projects. Only 4.8%

disagreed. Sharing of organisational values and culture must be seen from a systemic perspective where these interdependent concepts are integrated so as to enhance project delivery and outcomes. The teams from various cultures may provide a cross functional role that would produce a results based outcome rather than task orientated outcome.

#### 4.2.2.4 Time and Budget

One of the key priorities of project success is that projects are completed on time and within budget. This theme deals with time and budget constraints, long or unrealistic timeframes, promised value and investment on returns.

**(i) Time and Budget**

**Figure 23: Time and Budget**

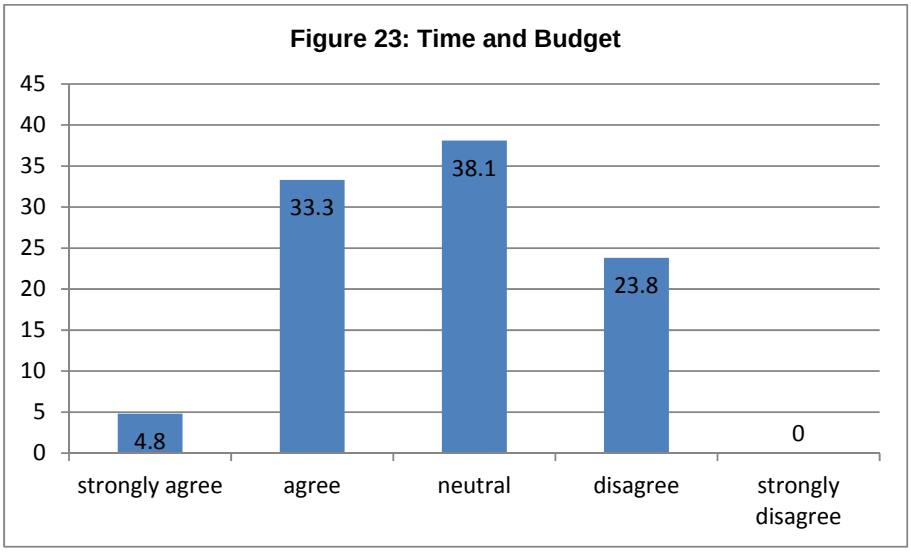


Figure 23 shows that only 33.3% agreed that projects were completed within time and budget while 38.1% were neutral and 23.8% disagreed. This is of concern since a clear majority of research participants' were either unsure or disagreed. As a result further research needs to be done on the time allocation or with the budget aspect of the question in mind. Furthermore, a significant portion disagreed on whether they thought that the budget and time allocated for the projects were adequate.

While the majority of the research participants' strongly disagreed or stayed neutral, this is a clear indication that time and budget in project management are not in keeping with the key results area. The outcome of the analysis reflects that project leaders may not have the skills, lack leadership and have difficulty with the delivery of projects.

### (ii) Long or unrealistic timescales

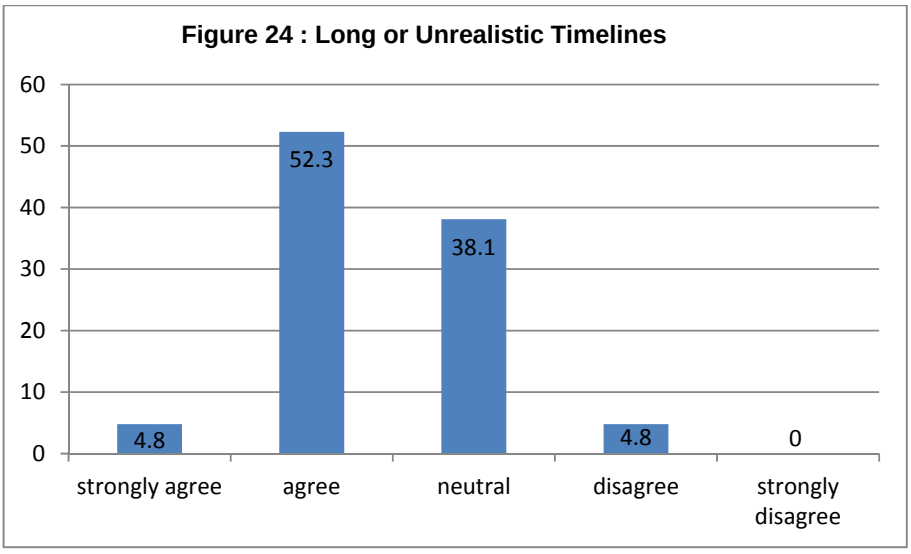
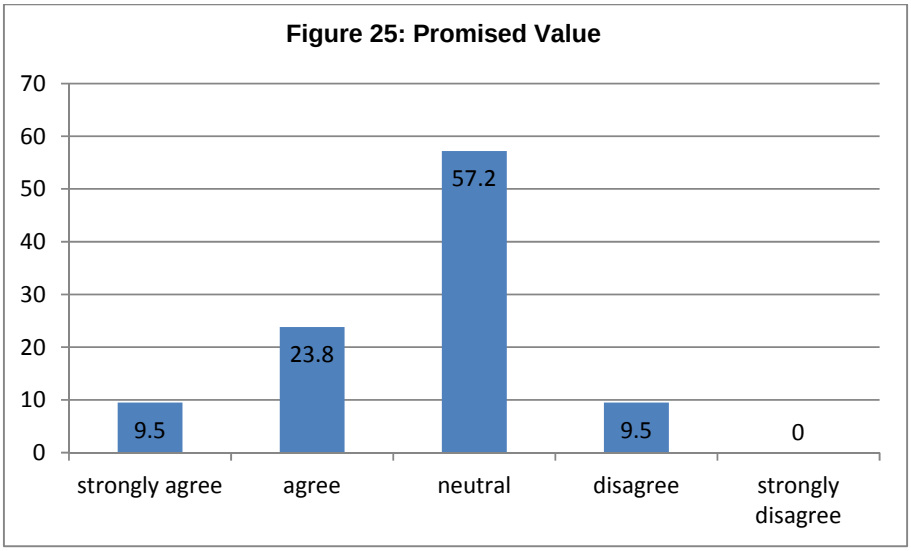


Figure 24 shows that 57.1% of research participants' think that long and unrealistic time scales are the reasons for project failure. 38.1% were neutral and 4.8% disagreed.

These results are linked to Figure 23, where only 33.3% agreed that project deliverables are generally produced on time and within budget. In other words, generally projects are seen as not produced within the allocated time at one level and, on the other hand, when they are extended they tend to run for a longer time than necessary.

### (iii) Promised value

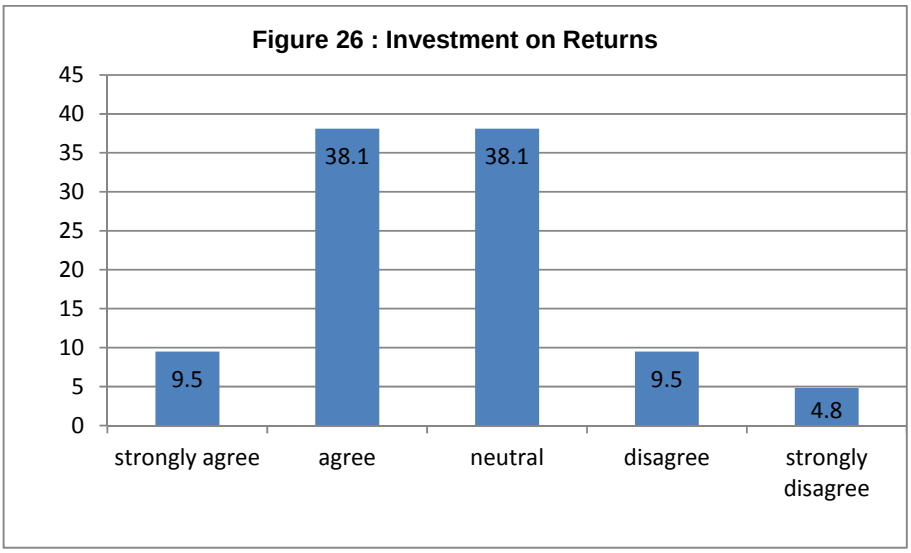
**Figure 25: Promised Value**




Thirty three and a third percent agreed that projects deliver the value that is expected. This can be an indicator as to why more than half the research participants' did not believe the project was successful. The project is most likely evaluated on whether the project delivers the value it promises. A very

large percentage of research participants' indicated a neutral response perhaps because they were not convinced that projects add value to their core business. Furthermore, it could also be as a result of a lack of leadership in project management, time and budget constraints and further projects may not be aligned to strategy. They may also not see the value in cascading the strategy down to operational plans and into core deliverables.

### (iv) Investment on returns



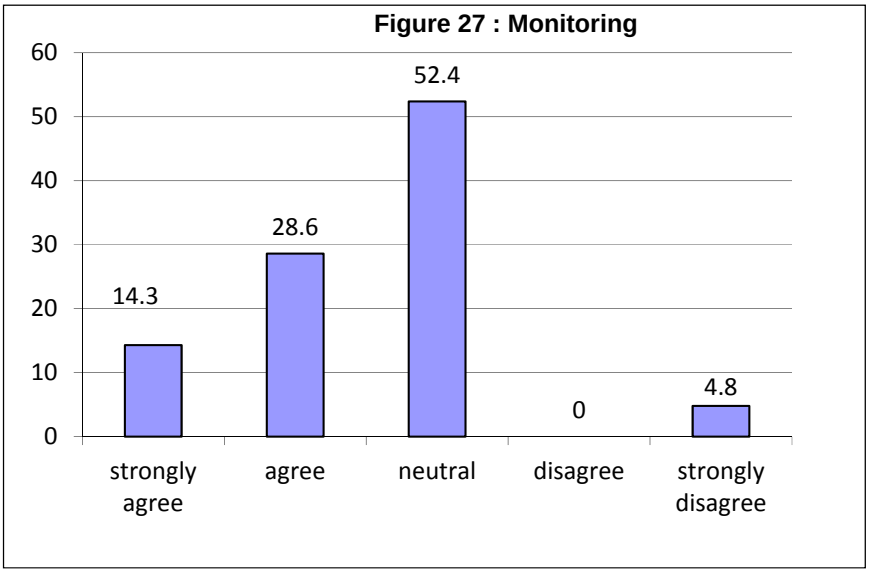

Here the research participants' were asked whether projects ultimately provided a satisfactory return on investment to the relevant stakeholders.

Again less than half or 47.6% think that projects at DUT ultimately provide a satisfactory return on investment to the relevant stakeholders. This means that the majority are either unclear or disagree that project management initiatives are a good investment.

#### 4.2.2.5 Monitoring and Evaluation

The table below shows that less than half, 42.9%, of the research participants' indicated that the project is monitored throughout the life of the project. Over half the research participants', 52%, were neutral or were not sure. This could be as a result of the research participants' not fully understanding the question. Monitoring is one of the key areas of good management that ensures that targets are met, underperformance is identified and synergies are built.

**(i) Monitoring**




Hence, if more than half the research participants' were neutral about the continuous monitoring throughout the life of a project, it may imply that projects undertaken at DUT are not adequately monitored to ensure project success. However, the research participants' might have been unsure about

what constitutes the monitoring process. For example, weekly meetings, biweekly or monthly or quarterly reports may constitute monitoring even if not stipulated at the outset.

#### 4.2.2.6 Reasons for Proper Failure

This section deals with the reasons for project failure at DUT. The questionnaire listed a number of reasons that might contribute to project failure and research participants' were asked whether they agreed, disagreed or were neutral.

(i) **Lack of user Involvement**

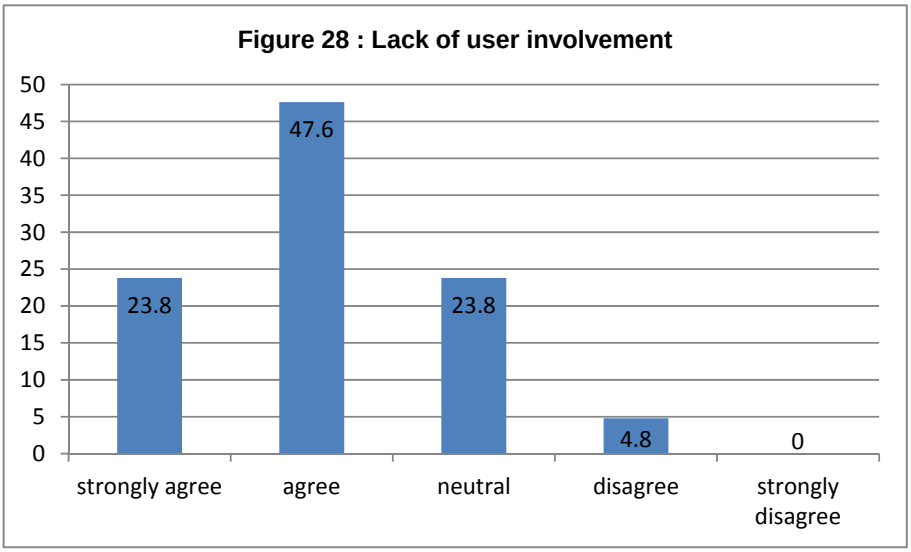



Figure 28 shows that a clear majority of about 71.4% agreed that lack of user involvement was a reason for project failure at DUT, while 23.8% strongly agreed. Lack of user involvement goes to the heart of consultation with the end users of the service. This is important because it is not only project

leaders that must be included in the initial planning but also stakeholders who are affected should be involved in the consultative stages. This is significant since there is a link between Figures 25 and 26 where more than half of the research participants' pointed out that projects do not deliver the value they promised nor are the investment returns worth it.

**(ii) Failure to identify, document and track requirements adequately**

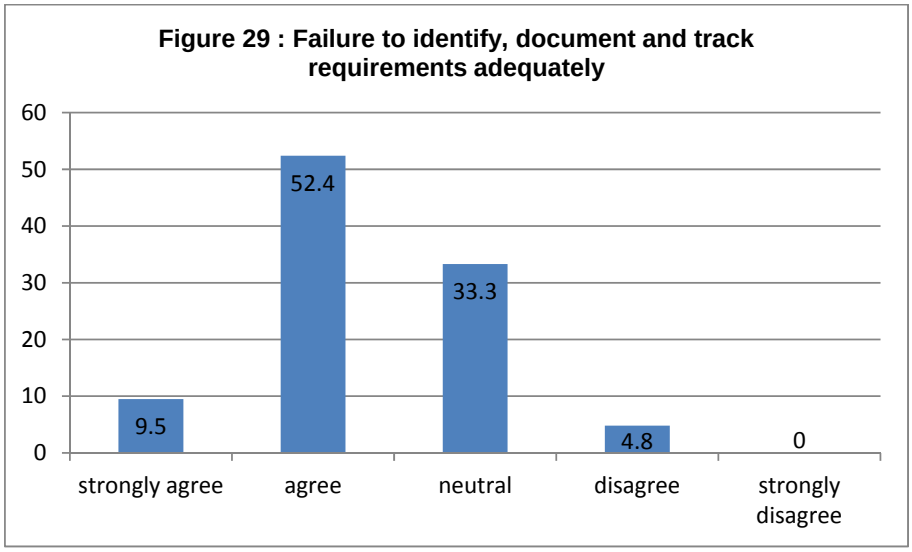



Figure 29 shows that 61.9% of research participants' think that failure to identify, document and track project requirements adequately were among the reasons for project failure. This is interesting because identifying, documenting and tracking project requirements are an integral part of project management. This involves identifying project requirements at the planning stage, and documenting and tracking these requirements during the project implementation.

### (iii) Inadequately trained or inexperienced project managers

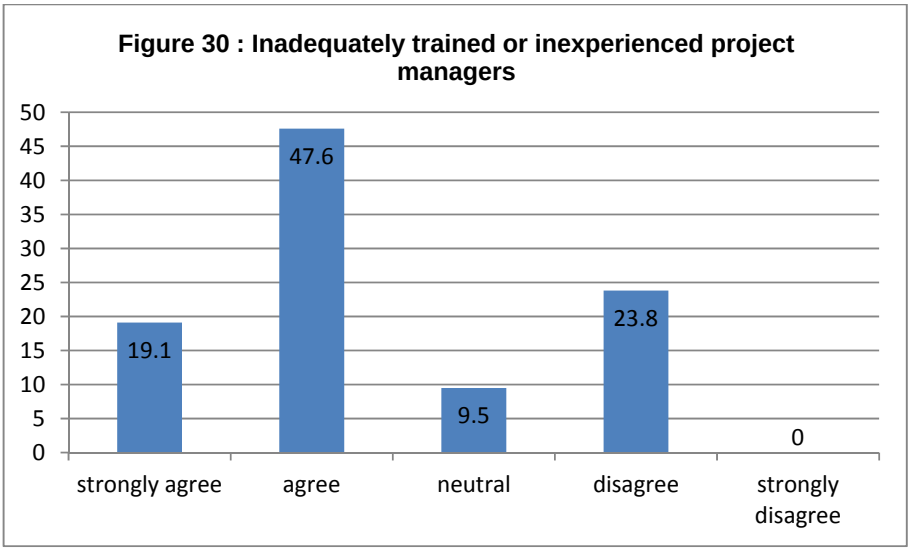
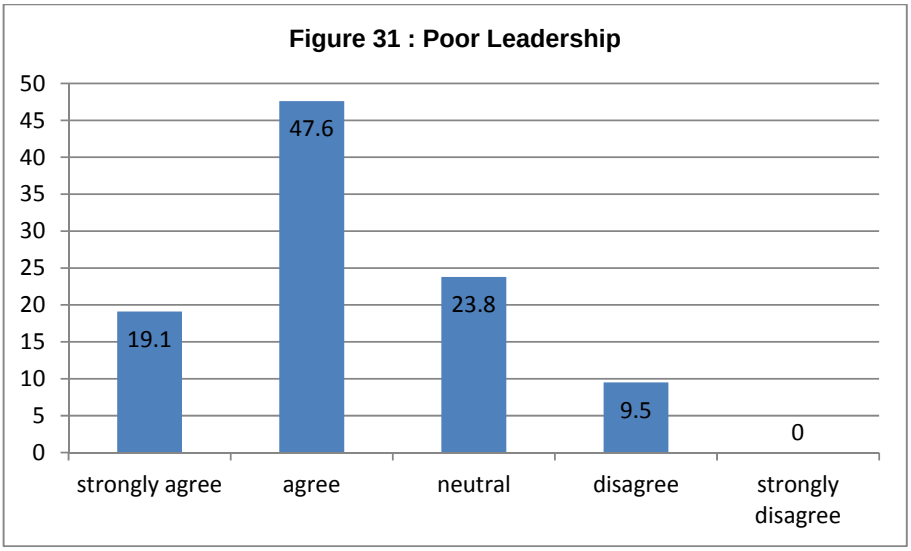



Figure 30 shows that 66.7% or two thirds of the research participants' indicated that inadequately trained or inexperienced project leaders were one of the reasons for project failure at the University. It is important because the participants attended the project management training at the University and were in a position to evaluate concepts of project management.

Moreover, in Figure 31 the same proportion of research participants' indicates the same thing as 66.7% agree that there is poor leadership at all levels. It is expected that if project leaders are inadequately trained, then there would be poor identification, documenting and tracking of project requirements. These results are significant indicators of what is required for good leadership during the planning and implementation of projects and have major implications for training.

### (iv) Poor leadership




In Figure 31, 66.7% agree that there was poor project management leadership, 9.5% disagree. This could be as a result of project leaders not having sufficient skills, knowledge and capabilities to manage the project. It could also be as a result of the type of leadership that the project leader adopts during the life of the project.

### (v) Cultural misalignment within DUT

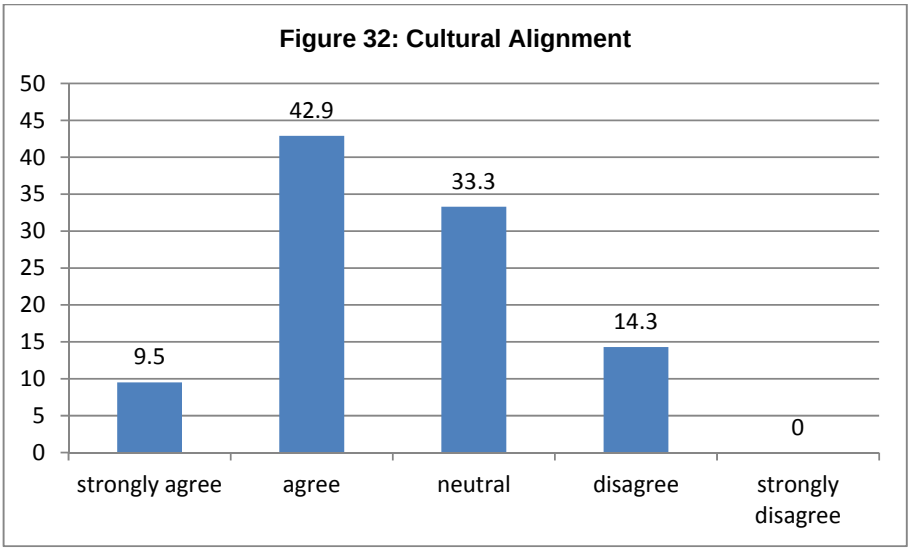
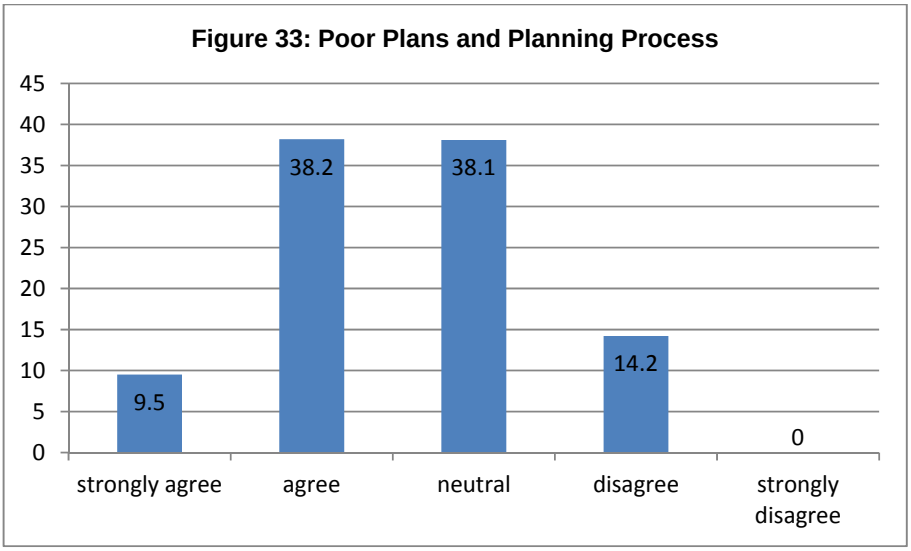



Figure 32 shows that 52.4% or a majority of research participants' agree that one of the reasons for project failure at the university is because of cultural misalignment. This could be as a result of the organisational culture that resulted in rules and policy driven, mistrust, silo mentality in terms of the administrative sector versus the academic sector, resistance to change, lack of cohesiveness and co-operation.

### (vi) Poor plans and planning process




Forty eight percent of the research participants' agree that poor plans and the planning process are one of the reasons for failure, 38% were unsure or neutral and 14.2% disagreed. This is interesting because in Figure 10, when research participants' were asked whether the project manager was involved in the project selection process, only 52.4% of research participants' agreed. This is an indication that project leaders need to be more involved in the selection and planning process.

## 4.3 Projects failure

The following are perceptions as to why project fail:

The table below identifies reasons that the research participants' thought contributed most to project failure. The questionnaire listed a number of reasons that might contribute to project failure and research participants'

were asked whether they agreed, disagreed or were neutral. It is interesting to see that Lack of User Involvement was cited as the reason most likely to result in project failure by 71% of the research participants'. This was followed by poor leadership and inadequately trained project leaders at 66% each. About 62% of participants cited the cause for project failure as inadequate tracking and reporting. In other words, these results might point out that managers should focus on greater user involvement in project planning in the future at DUT. Also, training of leadership skills is another area of concern and training project leaders would enhance project delivery and project success.

**Table 3: Project failure**

| Reasons for failure | Lack of User involvement | Long timescales | Failure to track | Inadequately trained Project leaders | Poor leadership | Cultural Misalignment | Poor planning | Inadequate tracking and reporting | Average % |
|---|---|---|---|---|---|---|---|---|---|
| Strongly agree | 23.8% | 4.8% | 9.5% | 19% | 19% | 9.5% | 9.5% | 9.5% | 13 |
| Agree | 47.6% | 52.3% | 52.4% | 47.6% | 47.6% | 42.9% | 38.2% | 52.4% | 48 |
| Neutral | 23.8% | 38.1% | 33.3% | 9.5% | 23.8% | 33.3% | 38.1% | 33.3% | 29 |
| Disagree | 4.8% | 4.8% | 4.8% | 23.8% | 9.5% | 14.3% | 14.3% | 4.8% | 10 |
| Strongly disagree | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0 |

## 4.4 Discussion of survey findings

4.4.1 Since the majority of the research participants' were of the perception that projects and project outcomes at the University are selected in line with DUT's goals (76.2%), there is a greater possibility of project success. A similar proportion (76.2%) of the research participants' felt that project success was measured by project outcomes. This result

confirms DUT's successful intervention in its investment in project management.

4.4.2 However, two thirds (66.6%) felt that cultural differences are a recurring problem on projects. The researcher felt it difficult to draw conclusions on this aspect without having fully investigated other aspects of the individual.

4.4.3 Forty eight percent of the research participants' felt that project leaders possessed the necessary skills and capabilities to analyse DUT's requirements when defining project outcomes. It is important to understand the power source that drives the organisation and to know how to harness this energy effectively for project success. The relationship between the project manager and project stakeholders need to be understood as well for effective project delivery. It must be highlighted that in most organisations projects are the route for delivery.

4.4.4 Project leaders require knowledge and skills involving cost, time and functionality and also the relationship management skills to manage people and teams. These skills help influence project success or failure and how to manage those relationships.

4.4.5 A large proportion of the research participants' felt that project management should be a key result of their jobs. This is an important observation since staff view project management as a key aspect of their jobs would tend to be committed to the completion of the project to the best of their ability bearing in mind that their competence in this aspect would be assessed and rated.

4.4.6 Although project management is viewed as a key component of their jobs, members of the project team have an equally important role to play in project management. Managers must ensure that a briefing takes place and they know what they are being asked to do before embarking on the project itself.

However, even though the above is a clear indication that the majority of the research participants' are of the perception that generally project management is successful at DUT, they have also shown, in their earlier responses, their concerns as to why projects fail.

4.4.7 The analysis furthermore revealed that there is a misalignment between project team selection and DUT's goals while at the same time revealing that projects were selected in line with DUT's goals. While 71.5% agreed that projects at DUT are selected in line with DUT's goals, there appears to be uncertainty by the research participants' as to whether project results fit the strategic design and execution of DUT's core business. As mentioned earlier, this could be

as a result of the research participants' not being aware of the strategic objectives. The role of an Institutional Planner would have been to develop and make known the strategic intention and objectives of the University. However, DUT has not made such an appointment.

4.4.8 Research participants' generally agreed that project outcomes were consistent with DUT goals and project success is measured by project outcome. However, more than half of the research participants' felt that the university lacks monitoring and evaluation of projects. The interviewees and the focus groups also shared this view. Monitoring and Evaluation is key to project sustainability and success. Clearly this appears to be a gap in the project management process of DUT. The need for project management was highly supported as there was strong agreement that it fulfilled the operational requirements of the job.

## 4.5 PRESENTATION AND DISCUSSION OF THE OUTCOME OF THE INTERVIEWS

**Interviews included persons from Senior Management, Directors, Heads of Departments and Managers.**

### 4.5.1 Introduction

Meetings were arranged with the interviewees at a time and place convenient to the interviewee. Extensive notes were taken and later typed and stored on the computer. The interviews were also recorded on a tape recorder and played back for clarity when needed. The researcher thereafter categorized the data interviews in themes so that comparative findings could be drawn. The research data are presented according to the established categories.

The interviewees were engaged in various projects ranging from the merger between the ex M L Sultan and Natal Technikons, Security and Maintenance, Institutional Planning, Library and Resources, Finance and Organisational Development.

### 4.5.2 Skills, Key Result Areas and Training

Interviewee 1 (interview dated 5th September 2010) was of the opinion that he had the skills and capabilities to accomplish projects and was therefore able to accomplish the project within the timeframe stipulated. The other interviewees had a similar view except that they had indicated that although

they were skilled in project management, their approach to managing projects was informal and they required formal training on project management.

However, Interviewee 6 (interview dated 13th September 2010) indicated that project management was not part of his key result area. He was employed as a consultant and had undertaken the project of installing CCTV's, which was identified by Executive Management (EM). However, he is of the opinion that he had the necessary skills and capabilities to accomplish the project allocated to him but when he embarked on the training, midway through the project, changes were made to the original project plan which impacted on the completion of the project. This points to poor consultation with the project team and the lack of the use of project management principles.

Interviewee 8 (interview dated 30th November 2009) was of the view that the high profile, high-risk aspect of project management demands multi-tasking, analytical thinking, excellent communication skills and superior organisational abilities.

Since project management constitutes a part of the interviewee's performance agreements, there was an expectation from the University that the project leaders would be formally assessed against the delivery of projects. The expectation from the individual was that the University would

provide them with the necessary capacity building interventions as well as the resources which include physical, budget and other logistical support.

Some of the interviewees indicated that notwithstanding that they were engaged in project management and knew that it was part of their key result areas, they felt that they required training in order to carry out the functions required for project success effectively and efficiently. However, the researcher observed that while some interviewees felt that they had the skills for project management, after probing, it would appear that they had not followed basic project management principles and steps for project success, which resulted in delayed time frames and budget constraints.

A large percentage of the project leaders indicated that they had no skills in project management and were willing to undergo training and build capacity in themselves. They also felt that if they had undergone project management training, the projects that they engaged in would have been more successful.

The general view of all the interviewees was that although some of them considered themselves as competent project leaders, they believed that they would benefit immensely from project management training and development.

### 4.5.3 Project Selection and Project Outcomes

According to Interviewee 2 (interview dated 10th August 2010), projects are considered on an ad hoc basis as the need arises. Projects take approximately 6 months to a year for a preliminary project planning process.

Interviewee 3 (interview dated 8th September 2010) indicated that teams are selected from senior management or those who they think may have the capacity to carry out the project. The team members must have a variety of skills while the project leader must have sufficient skill when choosing and leading a project. As part of the project team, the team member needs to know that the project outcome and constant communication are key to the success of the project. The project leader must have sufficient and relevant experience and share ideas and thoughts with the project team.

Interviewee 4 (interview dated 7th September 2010) was of the view that the project team is selected by virtue of the nature of their employment and the expertise they possess. This view is shared by most of the interviewees. In most of the interviews, it was found that the project outcomes were clearly defined and discussed with the project team. There is constant communication within the team to assess progress and identify obstacles.

According to interviewee 7 (interview dated 3rd September 2010), the problem DUT faces is that many of the projects undertaken have been

conducted in an informal, unstructured manner. This could be as a result of projects not being linked to the strategic objectives and goals prior to the inception of the project.

As in the case of the merger, a feasibility study was conducted. However, the issue of monitoring and evaluating the merger process was still questionable. The harmonisation of benefits was a major issue of contention, resulting in a category of staff feeling disadvantaged by the merger.

Most often projects emerge at Committees or at Departmental meetings and are delegated to individuals who may volunteer to accomplish the task. The task allocated is over and above the individual's key performance areas and hence the task becomes a second priority.

### 4.5.4 Selection of a Project Leader and Project Team

Interviewee 3 (interview dated 8th August 2010) indicated that project teams form an integral part of any institution and projects should be approached so as to help meet the university's strategy and goals. Project management is adopted on an ad hoc basis at DUT.

Interviewee 4 felt that the project team was preselected and he had little say in the selection. He further indicated that there was poor communication with

the team. There was also a lack of knowledge and common understanding and he felt that consultation with stakeholders did not fully take place.

However, interviewee 6 (interview dated 13th September 2010) mentioned that the project plan was discussed with the project team. The team meets on a daily basis to evaluate, monitor and discuss any obstacles, hence there is constant communication within the team.

Interviewees also felt that the project team needs to know what the project outcomes are and that there must be constant communication between the members to ensure a smooth flow of information in order to identify any obstacles in their early stages for the appropriate action to be taken.

The general observation was that most project leaders were Heads of a particular department and the project teams were most often staff members selected by the Project Leader by virtue of their specialization area. Most of the interviewees indicated that project leaders and project teams need to undergo formal training in project management in order to carry out the expected functions. In addition, there was general consensus on a lack of communication, consultation and co-ordination between various departments, clearly pointing to the project leaders not following project guidelines. This is a clear indication of the need for training and development

in this area. Furthermore, the sound financial planning together with the consulting with or engagement of external providers may alleviate such problems.

### 4.5.5 Alignment of Project Management to Strategic Goals

The project that interviewee 1 (interview dated 5th September 2010) was involved in, the Annual Budget, was a success since it was aligned to the strategic goal of the University.

According to interviewee 3 (interview dated 8th September 2010), projects undertaken at DUT are in terms of the mission and goals and vision of the University.

Interviewee 4 (interview dated 7th September 2010) indicated that he received the project on Enrolment Planning which was a statutory requirement by the Department of Higher Education and Training (DHET) and had always had the co-operation of the various stakeholders. The researcher observed that once a project was aligned to the strategic goal, approved by the Executive Management of the University or was undertaken in fulfillment of a statutory requirement, project success was almost guaranteed with the full support from all those concerned.

However, according to interviewee 5 (interview dated 25th August 2010), most projects are selected on an ad hoc basis. There is poor alignment of projects to strategic goals. Projects generally are unable to add value to the vision as they are not goal driven or value adding. Projects do not interact properly with the greater institutional systems. Examples of such projects are the grading process, conditions of service, strategic plan. Many of these projects to date are not concluded.

According to interviewee 6 (interview dated 6th September 2010), projects are selected in terms of a strategic need with timeframes set for completion. Feedback occurs once a week where obstacles are identified and monitored. Furthermore, he was confident that the budget supports the University's strategic need.

One of the strategic goals was to increase the Masters and PhD qualification targets set by the Department of Higher Education and Training. One of the drivers to accomplish this goal was the development of an Institutional Repository. The advantage of this initiative was to allow students in research, national and international access to research material already developed. The proposal was not supported by Executive Management due to budget constraints, although the increase in Masters and PhD's was a strategic objective of the University. However, despite the lack of support for

such an initiative, the Institutional Repository was nonetheless established and proved to be a great success.

The implication of not going ahead with this project is that the student was denied such convenient access, which may have resulted in a drop in the throughput. Given this constraint, the interviewee went ahead with the project utilizing the departmental resources and made this project a success.

Here again, the researcher noted that the University does not adopt a structured approach to project management despite its importance in the strategic alignment process. While projects appear to have been supported by management, at critical times, management provided neither the support nor the resources to give effect to certain projects.

A third of the research participants' felt that the projects were approved, but logistical and financial support was not forthcoming, which impacted on producing the desired outcomes, for example, Performance Management System. While this project was a strategic goal, the project leader did not get the support of some senior management members, resulting in the lack of co-operation from various stakeholders causing the project to come to a standstill.

The merger process also took longer than usual and to date is still not concluded. There is obviously a lack of common vision in the approach to

project management at DUT. The value of projects must be recognized and only then can the selection of projects help in achieving the objectives of the strategic goals.

Another example of a project that has a direct impact on the strategic objective is the support of postgraduate development studies. The increase in Masters by 60% and PhD qualifications by 40% by 2012 was a target set by the DHET. However, after a year of implementation during which staff were extremely motivated to study, the incentive for the following year was reduced and resulted in a drop of interest in these students.

Other examples include the teaching and development grant and NSFAS funding. Most often, students who have applied for bursaries via the NSFAS route have an expectation of receiving the subsidy. There is no categorization of applicants and as a result there is an oversubscription of students. The University is constantly faced with study boycotts and strikes in respect of student bursaries and fees. The implication of these strikes and boycotts is that much instruction time is lost and it is difficult for the student or the lecturer to make up for the time lost. This time delay in the completion of the curriculum ultimately affects the preparation time for examinations and tests and could possibly be the reason for dropouts and failures.

Therefore, this project requires the involvement of various stakeholders including the students when these decisions are made so as to minimize any potential strikes and boycotts.

The researcher observed that despite the strategic importance of these projects, the budgetary constraints seem to determine their continuity or not.

Clearly there is a disjuncture between agreeing in principle to a project, alignment and financing and resourcing projects that are strategically aligned.

### 4.5.6 Project management principles (Initiation, Development, Implementation, Monitoring and Evaluation – IDIME)

According to Interviewee 2 (interview dated 10th August 2010), there is no structured process for the identification and prioritization of projects at DUT. This view furthermore supports the example mentioned above.

Interviewee 3 (interview dated 8th September 2010) indicated that some of the projects engaged in utilised project management principles. The projects start off with the three principles and the monitoring and evaluation fall off or are done in a haphazard way. There needs to be proper monitoring and evaluation in order to get a more significant view of how project management takes place at DUT.

Interviewee 4 (interview dated 7th September 2010) mentioned that the project plan followed the use of key project management principles (IDIME) and stated that not all plans are approved by EM.

According to interviewee 9 (5th December 2009), the steps in the project management learning programme included the process of initiating, planning, implementing and closing small to medium size projects. The evaluation process included a handover summary report, a post project review report and the project completion report.

While some of the project leaders considered their projects to be successful, there is uncertainty in terms of how project success is measured. Some projects may have been completed successfully but leaders may have experienced many obstacles such as lack of buy-in from various stakeholders, budget and time constraints.

Only two of the nine participants interviewed considered their projects successful. These participants seem to have followed project principles of initiation, development, implementation, monitoring and evaluation.

In general, EM seems to have supported many of the projects undertaken in view of the institutional value it may gain; however, the project leader may not have received the financial and stakeholder support required for project success.

Most often, project teams seem to have been selected by the project leader based on the competencies and skills of the individual. In most cases the team was made up of individuals with expertise from the same department.

Most of the project leaders seem to have discussed the project outcomes with their teams.

A few of the project leaders felt that since the team was not selected by them, they had little say in the selection of the team, which may have resulted in poor communication with the team.

Clearly, the researcher observed that the teams chosen were either chosen by the project leader or an external person and it is not known whether the project team was extended to include individuals with various types of expertise from various stakeholder forums, it would have resulted in greater project success.

While interviewees stated that there was good communication, there is no evidence to conclude what the result would have been if there were proper communication and engagement between the project team and the team leader.

The general view was that research participants' felt that they did not follow any structured project management guidelines. It would appear that at times

project outcomes, evaluation and monitoring were not clearly defined prior to the commencement of the project.

None of the participants used any of the project management tools such as Gantt charts or MS Projects to track the progress of the project. However, most of the research participants' indicated that they used an excel spreadsheet for their projects which did not seem to follow any clearly defined project management process.

### 4.5.7 Time, cost and quality

According to Interviewee 2 (10th August 2010), the budgeting process by the requesting department is flawed in that "thumb suck" figures are provided since they are not experts in the field. The figure quoted is sometimes very much higher than that of the actual quotation that follows.

Interviewee 3 (interview dated 8th September 2010) stated that projects must have a start and end date to be effective. Projects tend to begin and seem to cease when faced with any obstacle. Results are sometimes not implemented due to budgetary and people constraints.

Interviewee 4 (interview dated 7th September 2010) indicated that the project took approximately two months to complete. Since there was a project plan,

the project was completed within the timeframe stipulated and the budget allocated. The process was constantly managed, monitored and evaluated to ensure that there was no unnecessary deviation. Quality mechanisms such as audit reports which are produced three times a year were developed in order to ensure data integrity.

Interviewee 5 (interview dated 25th August 2010) mentioned that the project took double the amount of time allocated and was unable to meet time, quality and financial guidelines. There were no proper instruments to track the financial aspects, no standards to assess quality outcomes. He also felt that projects are not properly systematized. Some of the participants indicated that projects have a huge benefit if executed in a structured and organised way. Projects are an important tool for organisational success.

The benefits of project management can be harnessed fully if executed in a structured manner. Project leaders should avoid poor communication, engage in greater consultation and obtain financial support. This would ensure that timeframes, quality and financial guidelines are adhered to for project success. There are no proper instruments to track the financial aspects nor are there proper standards to assess project outcomes.

If right drivers are identified and aligned to the strategic goals of the University where project targets are clear, these drivers can be converted to projects with budgets, timelines and performance indicators. One of the research participants' suggested the use of a balance score card that could be used for projects to enhance the results to improve project success.

According to interviewee 6 (interview dated 13th September 2010), there are different phases to project management. The installation of the CCTV, Phase one was to take place between 6 months to 1.6 months, however, it is still continuing 2.5 years later. There are problems with activation of cards and maintenance delays. Contractual changes constantly lead to time delays. There must be continuous monitoring of the project to ensure that the integrity of the system and data are not compromised.

According to interviewee 8 (interview dated 30th November 2009), although the role of project management is a challenging and responsible one, it is also rewarding when projects are completed on time and within their budget.

Interviewee 9 (interview dated 5th December 2009) felt that projects can be assigned start and finish dates and should have defined responsibilities and results. The Gantt Chart lists the task, time duration, resources, budget schedule, project risk management plan, and communications management plan. It consolidates all the information about the project and forms the basis

for monitoring and controlling once the project commences implementation. A change request format is one of the project management tools developed to assist with recording and management of changes in scope, time, quality or budget. An issue or risk log or a status report should be generated for utilization during the life of the project.

Although the majority of the projects were successful, there was clear indication that most projects appear to suffer from time delays and budget overruns which have an impact on the project outcome.

### 4.5.8 Organisational Culture

Cross functional consultation and integration or co-ordination of teams are required. Some of the interviewees indicated that there was a culture of a silo mentality where departments operate in isolation from each other. Because of this approach, it appears that certain structures and stakeholders all appear to work in silos and appear not to be willing to support projects that may not fall within their ambit. This could be attributed to the silo mentality and task culture that exists instead of there being a performance driven and team culture.

Generally, interviewees felt that the culture of the organisation does play an important role in project success. Projects by nature require support from across the functional departments e.g. Finance, Human Resources,

academics. Many interviewees felt that DUT works in silos which does not advance a cross pollination of ideas and communication, which are critical to project management success.

The survey also indicated a strong bureaucratic culture which discouraged a team culture able to enhance projects. Participants indicated the need for partnerships and a common vision.

This is a clear indication that these stakeholders do not approach projects with a systemic approach in order to enjoy the benefits of their interdependence.

### 4.5.9 External Environment

Notwithstanding that some of the project leaders did consider environmental influences such as legislative, economic, and social, there is little evidence to show that while these environmental requirements may have been met, the impact on the institutional objectives and students may not have been considered.

The researcher observed that project leaders who were expected to complete projects either by requirements of the DHET or legislation in terms of set timeframes had greater support from the various stakeholders, which led to greater project success. It appears that these project leaders adopted a structured approach to project management and followed project management principles. However, while project success may have been

achieved in these instances, the question still remains as to whether these projects were widely consulted in order to ensure greater stakeholder input, which would minimize the risk of project failure.

Generally, interviewees indicated that there was consultation with the stakeholders. However, further enquiry found insufficient evidence to support this statement. While results were produced, in many cases it was difficult to integrate the results in the organisational system because staff did not agree with the results. One of the examples was the NSFSAS financial model. One of the interviewees who followed the structured project management process and complied with DHET requirements, may have achieved project success but the project itself may have had certain implications due to the cutback in the subsidy by the DHET, for instance. While the submission of these reports was successful, the Project Leader did not have control over the subsidies given by the DHET. The project leader may need to have widened the consultation by including major stakeholders such as students, donors and other stakeholders who would add value to a comprehensive project plan.

### 4.5.10 Project Failure

According to interviewee 1 (interview dated 5th September 2010), the reasons why projects fail is that if projects are not mandatory there is no urgency to

comply and adhere to deadlines set. Furthermore, the interviewee felt that if the Heads of Departments have a role to play in the success of the project, then they would need to undergo awareness workshops and training in order to understand their role in the project.

The general view was that projects fail due to:

- Inadequate consultation and communication;
- Lack of clear project management guidelines;
- Lack of clear outcomes;
- Lack of competent project leaders;
- Lack of a formal structured project management process;
- Lack of the use of project management principles;
- Lack of resourcing;
- Lack of a common vision
- Poor cross departmental co-operation;
- Lack of impact assessment prior to implementation.

Currently not all projects add value to the strategic goals. Many problems of consultation with stakeholders were not addressed and may have contributed to extended turnaround times. Lack of leadership most certainly contributed to project failure.

There must be agreement on project features in order to add value and consider impact studies before implementation. Generally, projects at DUT

have had a poor success rate.

Project management is recognized as an important tool for project success; however, if a structured method to manage projects is not used, it may use up scarce resources and produce substandard results.

Most of the interviewees believe that given appropriate support in terms of project management training, project leaders will be able to build capacity and critical competencies.

The whole process of project management needs to be reviewed to incorporate unique and general needs into project management.

Interviewee 3 (interview dated 8th September 2010) felt that there must be total commitment from project teams with clearly defined goals that must yield success. Project failures could be as a result of:

- the lack of capacity and leadership;
- miscommunication;
- lack of the appropriate use of technology;
- indecisiveness of project leaders;
- delay in information;
- slow or non-delivery of projects;

- obstacles such as financial constraints, poor communication, poor human resources, lack of commitment, low morale, poor experience of similar projects, no strong leadership skills to steer the institution.

Projects must be all embracing, reasons must be communicated for total harmony in order to achieve strategic goals and feedback must be oral rather than substantive. The general observation is that some projects are initiated by management and when the project is completed and the results are made available, the outcome is not implemented. The role players experience obstacles and project leaders need to lead with firmness and not political influences or have their own agenda.

The reality is that all stakeholders must give support to project management plans that have been approved.

According to Interviewee 4 (interview dated 7th September 2010), there is:

- a lack of communication at all levels;
- a lack of dedication and commitment;
- inadequate funding for the projects;
- an informal approach to project management;
- no support from various stakeholders.

According to interviewee 5 (interview dated 25th August 2010), most projects are unsuccessful due to:

- poor leadership;
- lack of appropriate resources;
- lack of an impact assessment prior to implementation;
- lack of consultation with stakeholders;
- time delays;
- lack of cross departmental cooperation.

Interviewee 6 (interview dated 13th September 2010) was of the view that:

- project leaders were not respected;
- not all projects were aligned to strategic goals;
- projects were selected on an ad hoc basis;
- provision must be made for training and guidance on project planning;
- a project leader must be appointed and held accountable for project completion;
- projects were weakened when different departments hijack plans for personal reasons;
- management support is necessary for project success;
- time frames are compromised;
- deviation from original plan impacts on quality, continuation and total

project success.

The researcher observed that the features of project management must be identified at the outset and impact studies need to be conducted prior to implementation.

## 4.6 RECORD OF THE FOCUS GROUPS ON 30th AND 31ST MAY 2008 TO 1ST JUNE 2009

### 4.6.1 Skills and Capacity

Research participants' were of the view that to manage projects, some core competencies need to be integrated into the Key Result Area of the project leader. This is critical for project success. In order to acquire these skills, one would need to know what these skills are and build capacity in these areas. Some of the points to consider when developing the project leader are:

- Exploring techniques to increasing skill in managing projects;
- The ability continuously to learn from one another;
- To be able to evaluate own leadership style and benchmark;
- Employ professionalism, and be open to feedback and evaluation;
- Being influential in leading, organising and control;
- Improve time management;
- Look, listen, learn and adjust;
- Use course as mirror for assessment and evaluation;
- Re-evaluate and strengthen specific areas;
- Acquiring skills to manage challenging environment.

Three broad areas emerge in the above list:

(i) Research participants' need to adopt a structured approach to project management to improve project outcomes.

(ii) There needs to be continuous evaluation of the project life cycle so as to provide constructive feedback; and

(iii) Lastly, the project leaders require skills development and capacity building training to manage projects better.

### 4.6.2 Leader's Role

Managing projects require leadership skills because project leaders have to lead, manage and direct project teams. However, projects also require wide consultation with stakeholders to convince them of the need for the project and the incorporation of special needs and knowledge of external influences. The need for a particular leadership style was highlighted, given the nature of projects. Projects normally cut across departments and sectors. However, getting co-operation from different sectors and departments is difficult since departments at DUT normally work in silos.

Research participants' emphasized the need for a project plan to be in place. The plan requires a need for evaluation of the impact of projects on staff and systems. If the outcome of the evaluation indicates that the project is necessary then the plan is implemented.

The ability to persuade and influence are key attributes of a project leader. Having a clear vision forms part of the planning process. Being disciplined about time and goals are important for the completion of the project. Furthermore, being sensitive to the team was mentioned as important people skills. Communicating with project teams and giving timeous feedback was also considered as important for project leaders.

Building capacity in project leaders is important as well as knowing when to use an appropriate style for a particular project. Two styles of leadership that were appropriate to projects were Transformational and Transactional leadership styles. Each of these was applicable to very particular situations:

4.6.2.1 After much discussion and debate, the group agreed that the characteristics of Transformation leadership skills are:

- to create vision;
- to communicate meaning;
- to inspire;
- to empower;
- to take risks.

This style is especially suited for new projects where there is a possibility of opposition and confrontation, where the leader is required to persuade and convince stakeholders.

4.6.2.2 The features of Transactional leadership styles are:

- to agree to objectives;
- to communicate information;
- to motivate;
- to negotiate;
- to promote security.

This style is appropriate when there are resources to pay stakeholders or to reward or exchange benefits to obtain acceptance of the project.

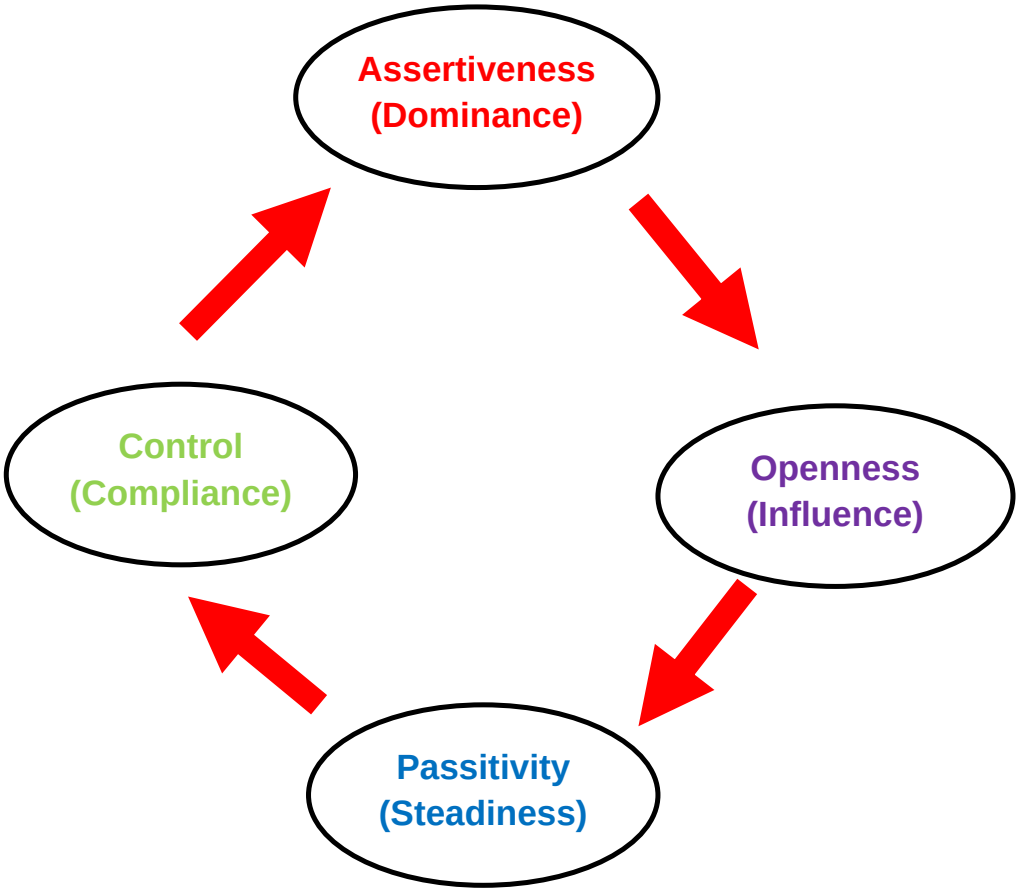
### 4.6.3 Role of a Team Member

The role of a project team member was also flagged. The ability to contribute specialist skills and knowledge to the goals of the project are critical to project success. Team members need to demonstrate the ability to complement each other and commit to project goals.

### 4.6.4 Personal Profile Analysis

A personal profile analysis using the Dominance, Influence, Steadiness and Compliance (DISC) categories was administered by the facilitator to assess different personal styles of research participants' and team members. There are 4 points on the graph, control, assertiveness, openness, passivity. Each point is categorised by a personality type.

**(i) Figure 34 : Personality Types**




The personality style scores of the 12 research participants' are:

**Table 4 – Individual Personality Style Scores**

| DESCRIPTION | NUMBER |
|---|---|
| High Dominance | 2 |
| High Influence | 3 |
| High Steadiness | 3 |
| High Compliance | 4 |

**Group Overall assessments of the 12 research participants'**

**Table 5 – Group personality type scores**

| DESCRIPTION | NUMBER |
|---|---|
| Neutral Planner | 3 |
| Neutral Driver | 1 |
| Neutral | 1 |
| Analyst Planner | 1 |
| Analyst Driver | 2 |
| Communicator Planner | 2 |
| Driver Communicator | 2 |

#### 4.6.4.1 Dominance

The top left area describes a personality containing both assertiveness and control known as the driver. This section relates to the DISC factor of Dominance, and describes a direct, demanding type of person who is highly motivated to succeed and is competitive in their dealings with others. The results below reflect that two of the research participants' have a high dominance. High dominance dimensions are described as driving, competitive, daring, forceful, decisive, dominating, direct, demanding and blunt (Irvine, 1988).

#### 4.6.4.2 Influence

At the top right of the grid lie four squares that cover a combination of assertiveness and openness relating to Influence and is known as the Communicator. This type of personality is communicative and sociable, being friendly and outgoing with other people and feeling at ease in strange company. Three of the research participants' scored in the high influence category. High influence is described as communicative, participative and positive. High influence is manifested in leaders by their persuasive styles and when motivating subordinates. These leaders attempt to develop subordinates in order to help them to contribute their maximum effort (Avolio, 1995). It appears that less than half of the research participants' are able to display such assertiveness and might not be able to influence the project

team appropriately. This is a key area for the project leader to be offered training in.

#### 4.6.4.3 Steadiness

The bottom right section of the grid describes a steady, amiable type of person and relates to the DISC factor of Steadiness. High steadiness is described as being dependable, self-controlled, easy-going, non-demonstrative, predictable, patient, even-tempered, persistent, passive, a good listener, lenient and accommodating. People of this kind are patient and persistent, dislike change, and like to take time to plan carefully before acting. Three of the research participants' scored high on Steadiness. This result is in keeping with the general view that project leaders have been co-ordinating project management using the same approach for many years.

#### 4.6.4.4 Compliance

The final area lies to the bottom left of the grid and relates to the DISC factor of Compliance. Analysts, as people of this type are known, combine control and passivity and are structured, organized individuals who tend to follow the rules whenever they can. They are interested in precision and order. Four of the research participants' scored high in this field. This indicates that the research participants' are compliant and rule oriented.

#### 4.6.4.5 Neutral

A neutral personality type incorporates aspects of each style and is often referred to as the “crushed style”. It is a style that can be interpreted and should be redone. Styles like these occur when people try to beat the score of the questionnaire. This category scored the highest. Four out of 12 research participants’ had answered the questionnaire which resulted in a neutral result. This result is a further indication that the project leaders have personality types that are indecisive and that training in this area of development is required.

This analysis was not meant to be exhaustive but merely to show that there are team members with different personal styles that could influence the project teams.

The group defined as a team is a group of different individuals working together towards common goals and it was further indicated that teams at DUT go through different stages as the project progresses.

Stage 1 - Unfocused, confused and frustrated

Stage 2 – More focused, less confusion and less frustration

Stage 3 – Focused, vision, co-operation and role clarity

### 4.6.5 Organisational Culture

Research participants' were introduced to four different types of culture so as to assist research participants' to understand the assessment of organisational culture at DUT.

#### 4.6.5.1 Club Culture

- The key to the whole organisation is in the centre surrounded by circles of influence and supporters. The closer one is to the centre, the more power one has.
- Lines of responsibility and organisational functions are clear; however, this organisation works like a club with the centre being most important.

#### 4.6.5.2 Team Oriented Culture

- This is a formalized culture which is hierarchically structured, individual roles are clearly defined and fit into departmental pillars which are co-ordinated at the top.
- There are many procedures and people are organised and managed rather than led.

#### 4.6.5.3 Task Culture

- This culture evolved when a group of people or team are required to work on a project task or problem.
- This culture, similar to a net, can stretch and reform according to the need.
- Competent people work in groups and the atmosphere is friendly and co-operative.

Task Culture includes:

- Willingness to learn and grow;
- Expertise and knowledge;
- Honesty;
- Dedication;
- Influence;
- Project team player;
- Analytical;
- Creative thinking skills.

#### 4.6.5.4 Person Culture

- This culture puts the individual first. Individual talent is important. The organisation is often described as a practice, partnership or faculty. Managers in these organisations are often lower in status than the professionals.
- The individual professionals are loosely managed and the only power that counts is expert or personal power. “Stars” are loosely grouped into a cluster.

In terms of the findings of the focus groups, DUT is characterized by the following culture:

- Policy and rule orientated;
- Lack of trust;
- Lack of a team culture;
- Silo culture (administration versus academic);
- Resistance to change;
- Lack of co-operation;
- Bureaucratic processes;
- Lack of cohesiveness.

### 4.6.6 Project Management Training at DUT

The course was designed in terms of addressing the project management needs of the participants.

#### 4.6.6.1 Evaluation of Course Content and Facilitator

The following is a general analysis of the evaluation of the course content that the facilitator conducted upon completion of the overall training conducted over a period of time.

**(i) Evaluation of the Course Content**

**Figure 35 : Evaluation of Content**

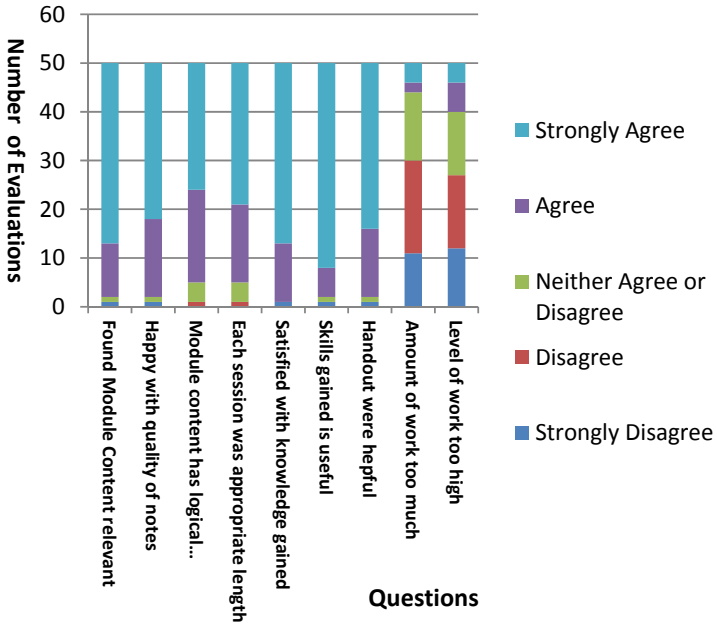


Figure 35 depicts the staff evaluations for each of the questions relating to the project management course content.

It is quite clear from the evaluations, that majority of the research participants' strongly agree/agree with:

- the relevance of the module content;
- the quality of notes;
- the logical sequence of the module content;
- the appropriate length of each session;
- the knowledge gained;
- useful skills gained;
- helpful handouts.

They were generally pleased and comfortable with this course material.

A very small percentage neither agreed nor disagreed, suggesting that they were uncertain or unsure about the content which includes:

- high volume of work; and
- high level of work.

Some of the staff agreed/strongly agreed that the volume of work was too high and the training was pitched at too high a level while a little less than a third of the staff neither agreed or disagreed and remained neutral.

Approximately half of the staff disagreed with the above staff strongly disagreed that the volume and level was too high.

The facilitator noted that from the overall written evaluations, the staff were in agreement with the course content and the level of the training.

The following observations were made by the facilitator:

- The course was held over a period of 5 days by the Business Studies Unit (BSU). It was a very in depth and comprehensive training programme and staff found difficulty in getting away from their offices taking into account their busy workloads at the University and their personal commitments.

- Furthermore, the assignments, assessments and case studies expected were very stressful and they were also subjected to a 4 hour test. This was not necessary for a short course.

- These requirements placed a great amount of stress on the trainees. Hence, it could affect their capacity to concentrate on the course itself. Many of these trainees had not written tests and examinations for a long

period of time and subjecting them to tests under these conditions would negatively affect their results.

It would also affect their ability to comprehend and deliver to the best of their ability.

- They felt pressurized to complete this intensive course in such a short period of time.

- Although the quality of the course is of a high standard and the content is well researched and informative, there was too much to learn over such a short period of time. Effectively this course should be run over a semester and certainly not over a five day period in order for the student to maximize the benefits of the course.

- As a result, this cramming of information could lead to internal conflict in terms of deciding on placing the benefits of the course for the purposes of their development first or choosing not to attend the training programme and give their jobs the priority.

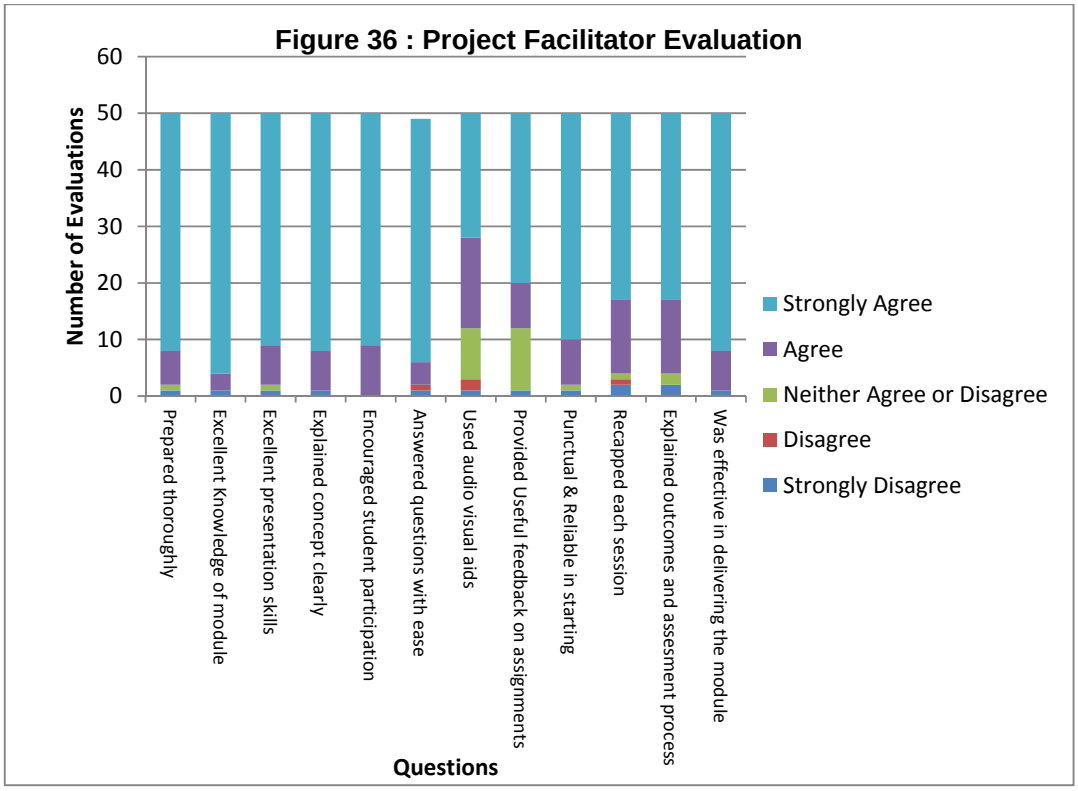
- It also creates disharmony and discord with the facilitator since the student cannot perform to their best of abilities whilst concentrating on the demands of the course.

- Students had difficulty in grasping the basic elementary concepts and principles of project management because material used was pitched at a high level.

The following recommendations were made by the facilitator:

- The trainees needed to be assessed by BSU in order to determine the level at which the training should be pitched.
- The levels of trainees need to be determined at the outset in order to ensure that the trainees are not frustrated and can maximize the benefits of the course.
- There needs to be effective communication and consultation regarding the course content and the level of training especially for a short training course.
- The BSU should carefully review and re-evaluate the course content relating to the level/quality and the quantity of work determined for this particular module.
- Finally, the BSU should also encourage the project facilitator to provide meaningful feedback on assignments and utilize the necessary audio visual aids that will have a bearing on this module.

## (ii) Evaluation of the Facilitator




- Figure 36 portrays the staff evaluations, that rated the project facilitator on all aspects pertaining to the module
- From the data provided, it can be concluded that the staff were in general agreement with the project facilitator's competence, skills, methods and style
- The majority of the staff gave a very positive and high rating of the project facilitation process.

- The information furnished from the staff evaluation, gives a clear indication that the facilitation process was definitely enjoyable, very good and beneficial in the study of this module.
- It is evident that from this graphical presentation the staff were in agreement with the business studies unit's choice and quality of the project management facilitator.
- According to the information and figures supplied for the project facilitation, staff sufficiently indicated that they acquired the relevant knowledge and understanding of the course material. They were able to learn well with the project facilitation provided by the business studies unit.

The BSU does not investigate the relevance of the course to the trainee's job requirements. The training unit provides names of staff that require project management training. The course is pre-structured and accredited and has an NQF rating of Level 6. The BSU had researched project management using the expertise of senior project management specialists, who developed the course contents at various levels.

There appears to be a contradiction in terms of the facilitator's observations arising out of informal discussions with the participants to that of the outcome of the research participant's evaluation. The majority of the research

participants' indicated that they were content with the subject matter, course material, volume and level of work.

This contradiction could be the result of research participants' being afraid that if they negatively rated the content they would be prejudiced in the test and assignment marks.

The general observation of the trainees was that while they were content with the facilitator the following concerns were raised:

- High level of content and volume
- Number of assignments, assessments and tests
- Number of pre-assessments conducted to ascertain level training should be pitched at

  These observations are significant since they further affirms DUT's approach to project management on an ad hoc basis.

### 4.6.7 Conclusion

The researcher observed that there was a need for skills training in order to build capacity in project management. Furthermore, a structured approach to project management was necessary to ensure project success. The project team needs to be more involved in the development of project outcomes. Continuous evaluation needs to take place to monitor any problems experienced for corrective action to be taken. Departments should not operate in silos but should rather approach project management from a systemic perspective in that all key stakeholders should see themselves as part of a bigger system adding value to the same goal.

The leadership styles adopted must:

- Develop a strong value system based on mutual trust and respect;
- Continually motivate and communicate with all stakeholders in order to keep them informed throughout the life of the project cycle;
- Create a climate of belonging where the key role players will spontaneously identify with the company's goals and objectives;
- Develop an inspiring vision to guide those involved in the project;
- Concentrate on teamwork to make people feel a part of the process.

The culture that seems to exist at DUT was identified as a Task culture. With this culture it is difficult to get co-operation across the University since the emphasis is not on outcomes but on tasks being performed by those concerned. Many departments are indifferent to the greater goals of the University.

Furthermore, the use of technology to enhance project success does not feature much on the plan of the project team. Using an excel spreadsheet appears to be the only tool utilised to guide the project management process.

Currently, DUT engages in project management according to the following themes. Alignment of projects to strategic goals, project selection and Outcome, Selection of Project Leader and Team, Time, Cost and Quality, use of an excel spreadsheet to track and monitor projects. Many of these themes do not address aspects of the project management process and therefore could result in project failure. Furthermore, there is no alignment of projects between the core business of the University and the project outcomes.

# CHAPTER 5

## RECOMMENDATIONS AND CONCLUSION

### 5.1 Introduction

People are an important part of a project's success. Human Resources Development involves using much knowledge in leading and managing people in a project environment which the project manager must be familiar with. As human resource development (HRD) projects increase in scope and complexity, so do demands for careful and systematic execution of the implementation of development initiatives.

The study addressed the developmental gaps of the project leader and the project management process with the aim of providing recommendations to all stakeholders engaging in project management at DUT and other institutions. The recommendations would provide DUT with specific deliverables to ensure projects are better managed to achieve project success.

To this end, the study involved a triangulation approach where data from the questionnaire, interviews and focus groups was analysed to provide recommendations arising out of the research findings.

## 5.2 Recommendations

### 5.2.1 Project Alignment

The researcher identified the first problem at the University as not having a formal structured project management approach. This assumption was later confirmed by the analysis obtained. The general observation was that projects at DUT are selected on an ad hoc basis and are most often aligned to the strategic goals of the University. While the research participants' feel that projects may be aligned to the strategic goals, there was uncertainty as to whether the projects results met the core business needs of the University. As mentioned earlier, this uncertainty could be as a result of the research participants', while understanding the strategic alignment of projects, not being aware of how project results fit into the core business of the University or how strategies cascade into actual delivery. As mentioned earlier, mandatory projects driven by legislation or DHET had much more support from Executive Management and stakeholders concerned than projects that may have been aligned or not aligned to the strategic goals of the University. The researcher also noted that project management was not part of the planning process and was situation driven at DUT. This approach is problematic in the sense that projects must not take place in isolation of the strategic direction of the University. This finding is in keeping with the view

shared by Lim and Mahomed (1999), Turner (2002), and Wateridge (1998) that projects undertaken must add value to the economic and social environment and should not be seen as events operating in isolation from the strategic direction over a short term period and having limited impact but rather as being a part of a more long term strategic intervention. Factors that must be taken into consideration when aligning projects to the strategic goal are the vision of the strategic plan, operational plan, feasibility study or environmental scan, a cost benefit analysis and a performance plan. The performance plan should have specific and measurable objectives with clear timeframes.

The second assumption was that there was no clear integration of projection management into the strategic direction of the University. Projects that have an indirect impact on the strategic goal of the University appear not to have the support of the Executive Management, for example, the Institutional Repository mentioned earlier. Projects such as these must be integrated into the strategic plan of the University and approved by the Executive Management in order to lend support to structures that helps the University to achieve its goals.

### 5.2.2 Skills, Capabilities and Knowledge of the Project Leader

The project leader is unable to complete the project by himself or herself. He/She requires the assistance of a competent team to reach project success. Performance is boosted when the project team is able to use

emotional intelligence and group effectiveness by displaying trust and teamwork. The project leader must timeously involve the team and other stakeholders in the project. It is important for the project leader to get the views and opinions of the project team and other stakeholders such as the academics, students and other departments since the project outcomes would need to be implemented by these individuals. A field study performed by the Standish Group, called the chaos report (Johnson *et al*., 2001), found that the three most important factors to influence project success are executive support, user involvement and experienced project leader.

Project leaders need to:

- Ensure that project teams and key stakeholders are extensively involved in the projects;
- Ensure that there is continuous communication and consultation with the project team;
- Ensure that the principles of project management, namely, initiation, development, implementation, monitoring and evaluation are adopted on an ongoing basis so as to identify and address obstacles;
- Build trust among the project team.

A skilled and fully capacitated project team often boosts greater confidence, loyalty and mutual respect among team members and the University reaping greater rewards collectively rather than individually.

Project leaders play an enabling role in supporting the project-based organisation to create effective teams that are highly competent. Individual efforts should be recognized by providing rewards for team success.

### 5.2.3 Project Outcomes and Project Success

DUT currently concentrates on achieving project outcomes by focusing on the specification of the project, time and budget. However, with the complexities of projects and the demands by the external environment, the University can no longer survive these pressures without having to change the approach to managing projects. The general view arising from the triangulation study was that projects were selected in line with DUT goals but were done so on an ad hoc basis. Although the research participants' viewed project outcomes as being aligned to project success, however, when implemented, project outcomes did not necessarily meet the core objectives of the University, as previously mentioned. Project outcomes must be clearly specified to include timeframes and a cost tracking sheet, a communication strategy, the use of a sophisticated project management technique such as PERT, EVA or a Gantt Chart and a risk management plan.

### 5.2.4 Organisational Culture

A task culture seems to prevail at the University where staff were required to work in a group or team from similar backgrounds, creating a divisional

approach to managing projects. This approach makes it difficult for individuals to operate on a cross functional basis with other stakeholders who are key to the success of a project. As mentioned earlier, in a team culture, individual roles are clearly defined and people are organised and led.

### 5.2.5 Time, Budget and Quality

Only a third of the responses agreed that project deliverables are generally produced on time and within budget. This observation is particularly important since although the earlier responses were positive in respect of DUT's goals, KRAs, growth and development strategies and return on investments, the issue of why projects failed was still an area of concern. The general view was that there was a lack of tracking, monitoring and evaluation quality mechanisms during the life of the project, resulting in projects being delayed and budgets overrun. By using an effective project management tool, the chances for project success would be greater. It would reduce the learning time and the number of individual failures. A larger percentage of projects at the University could deliver more effective and efficient solutions, improve the profile of project management and also increase the capability as well as the self-esteem of the project leaders.

### 5.2.6 Project Failure

The majority of the research participants' indicated that project failure at DUT was as a result of:

- Lack of strategic alignment;
- Lack of user involvement;
- Poor leadership;
- Inadequately trained project managers;
- Inadequate tracking and reporting;
- Lack of project management policies.

It is clear that prior to the inception of any project, the four phases of project management must be followed to ensure project success. This approach would minimize any risk to the University and guarantee project success.

## 5.3 Conclusion

The following recommendations are made with the view of finding solutions which would include an integrated approach to enable meaningful application of the results.

5.3.1 Constant leadership development and training workshops on project management must take place in order for the project leader and the project team to perform at their optimum.

5.3.2 Involvement at all levels, including Executive Deans, HODs and

other stakeholders, is necessary for there to be acceptance of the project and co-operation in terms of its implementation.

5.3.3 The project leader must be committed to the project and the project team by ensuring that there is continuous progress in achieving the project outcomes and that obstacles are identified timeously for corrective action to be taken.

5.3.4 A structured approach to project management must be in place, clearly defining the project outcomes and the process involved during the life of the project.

5.3.5 Management and Heads of Departments must plan projects in advance in order to make provision for budget requirements and other resources necessary for project completion.

5.3.6 Criteria including relevant experience, knowledge of the project to be undertaken, good leadership and interpersonal skills must be outlined prior to the selection of the project leader.

5.3.7 There must be an effective communication strategy in place.

5.3.8 The project must be results driven.

5.3.9 The project must be continuously monitored and evaluated in order to identify any gaps or obstacles at the early stages of the project.

5.3.10 An Institutional Planner must be appointed to drive the strategic plan of the University.

5.3.11 The strategic plan must guide and direct the project management process.

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## 7. APPENDICES

7.1 Course Outline of Project Management Training at DUT (Appendix 1)

7.2 Impact Analysis Questionnaire (Appendix 2)

**Appendix 1**

**Course Outline of Project Management Training at DUT**

**Project Management Course Outline**

| Module | Objective |
|---|---|
| **Module 1 – Introduction to Project Management** | To introduce the learner to the major organisational issues facing project management and project managers in the modern world including globalisation, technology, competition, ethics and social responsibility. |
| **Module 2 – Project life-cycle and project risk** | To introduce the learner to the important theories, principles, concepts and practices governing the development of the project life-cycle, with particular emphasis on the stages of conception and definition, as it affects the organisation in the modern world and the analysis and understanding of project risk |
| **Module 3 – Project Scope, Feasibility & Selection** | To introduce the learner to the important theories, principles, concepts and practices governing the identification of project scope, the establishment and calculation of project feasibility and how feasibility principles can be used in the selection of projects for execution. |
| **Module 4 – Project Planning & Control Cycle** | To introduce the learner to the important theories, principles, concepts |

| | |
|---|---|
| | and practices governing the development of the project plan, with particular emphasis on the project life-cycle phases of planning, execution and operation, as it affects the organisation in the modern world. |
| **Module 5 – Project Estimating** | To introduce the learner to the important theories, principles, concepts and practices governing the development and application of effective project estimating within the project life-cycle, with particular emphasis on the stages of planning and execution, and as it affects the organisation in the modern world. |
| **Modules 6 & 7 – Planning Fundamentals – Work Breakdown Structure, PERT & CPM** | To introduce the learner to the important theories, principles, concepts and practices governing the development and application of the WBS, of PERT, the derivation of the critical path, the allocation of resources and the proper management of work within the project life-cycle, with particular emphasis on the stages of planning and execution, and as it affects the organisation in the modern world. |
| **Module 8 – Procurement Scheduling & Resourcing Planning** | To introduce the learner to the important theories, principles, concepts and practices governing the development and application of suitable |

| | |
|---|---|
| | estimating and budgeting processes within the project life-cycle, with particular emphasis on procurement in the stages of planning and execution, and as they affect the organisation in the modern world; and the effective planning of resource utilisation for the project. |
| **Module 9 – Project Communication** | To introduce the learner to the important theories, principles, concepts and practices governing the development and application of suitable project communication process within the project life-cycle, with particular emphasis on the stages of planning and execution, and as they affect the organisation in the modern world. |
| **Module 10 – Effective Project Teamwork** | To introduce the learner to the important theories, principles, concepts and practices governing the development and application of effective project teamwork within the project life-cycle, with particular emphasis on the stages of planning and execution, and as they affect the organisation in the modern world. |
| **Module 11 – Group Presentations** | To assist learners in establishing the very important connection between leadership and management, with special emphasis on the particular aspects of leadership appropriate to the |

| | |
|---|---|
| **Module 12 – Post-project Review, Revision and Summary** | project context.<br>To introduce the learner to the significance of developing and implementing a suitable post-project review system as support for the project management process; and to the important theories, principles, concepts and practices governing the planning, execution and control of projects and project management in the modern organisation. |

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Mark as shown: ☐ ☒ ☐ ☐ ☐ Please use a ball-point pen or a thin felt tip. This form will be processed automatically.
Correction: ☐ ■ ☐ ☒ ☐ Please follow the examples shown on the left hand side to help optimize the reading results.

## 1. INSTRUCTIONS

**Rank the statement which best describes your organisation / self by placing a cross in the appropriate square.**

## 2. BIOGRAPHICAL INFORMATION (to be completed by staff member immediately after training)

2.1 FIRST NAME AND SURNAME

2.2 E-MAIL ADDRESS AND TELEPHONE NUMBER

| | | | | |
|---|---|---|---|---|
| 2.3 | AGE | ☐ 30 years and below<br>☐ 51 years - 60 years | ☐ 31 years - 40 years<br>☐ above 60 years | ☐ 41 years - 50 years |
| 2.4 | RACE | ☐ Indian<br>☐ African | ☐ Coloured<br>☐ Other | ☐ White |
| 2.5 | GENDER | ☐ male | ☐ female | |
| 2.6 | GRADE | ☐ 1 - 6 | ☐ 7 - 9 | ☐ 10 - 15 |
| 2.7 | YEARS OF WORKING EXPERIENCE | ☐ below 5 years<br>☐ 21 years - 30 years | ☐ 5 years - 10 years<br>☐ 31 years and above | ☐ 11 years - 20 years |
| 2.8 | EMPLOYMENT CATEGORY | ☐ Academic | ☐ Academic Support | ☐ Administrative |

## 3. STRATEGIC ALIGNMENT

| | | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|---|---|---|---|---|---|---|
| 3.1 | Projects are selected in line with DUT's goals | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3.2 | Project outcomes are generally aligned with DUT's goals | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3.3 | Project results satisfy the requirements of DUT in the short to medium term (1 to 5 years) | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3.4 | Project results satisfy the requirements of DUT in the long term (beyond 5 years) | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3.5 | Project outcomes are clearly defined by the facilitator | ☐ | ☐ | ☐ | ☐ | ☐ |
| 3.6 | Project success is measured by project outcomes | ☐ | ☐ | ☐ | ☐ | ☐ |

## 4. CULTURE, SKILLS AND CAPABILITIES

| | | | | | | |
|---|---|---|---|---|---|---|
| 4.1 | Project management is a KRA of the Project leader | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.2 | There is continuous monitoring from the Project leader through the life of the project | ☐ | ☐ | ☐ | ☐ | ☐ |

## 4. CULTURE, SKILLS AND CAPABILITIES [Continue]

| | | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
|---|---|---|---|---|---|---|
| 4.3 | Project leaders have the necessary capabilities to fulfil the technical requirements of the project | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.4 | Project leaders have the project management knowledge to successfully complete projects | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.5 | Project leaders are equipped with the skills to analyse the DUT requirements when defining project outcomes | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.6 | DUT's concept of project management is clearly defined and understood | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.7 | There is a general lack of leadership from the project leader to take decisions and solve problems in a timely manner | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.8 | There is a general reluctance to embrace leading edge technology, alternative business solutions and contemporary project management practices | ☐ | ☐ | ☐ | ☐ | ☐ |
| 4.9 | Cultural and ethical differences are a recurring problem on projects | ☐ | ☐ | ☐ | ☐ | ☐ |

## 5. PROJECT SELECTION

| | | | | | | |
|---|---|---|---|---|---|---|
| 5.1 | Project leaders are appointed at the conceptual stage of the project | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5.2 | The project leader is involved in the project selection process | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5.3 | Project results have a strategic fit in the design and execution of DUT's core business | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5.4 | Projects are selected in line with DUT growth and development strategies | ☐ | ☐ | ☐ | ☐ | ☐ |
| 5.5 | The principles of project management are applied uniformly irrespective of the size of the project | ☐ | ☐ | ☐ | ☐ | ☐ |

## 6. PROJECT OUTCOMES

| | | | | | | |
|---|---|---|---|---|---|---|
| 6.1 | The project usually satisfies the operational requirements of DUT | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6.2 | Project deliverables are generally produced on time and within budget | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6.3 | DUT employees usually believe that the project was successful | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6.4 | Projects always deliver the value expected | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6.5 | The time, cost, quality and scope constraints are usually managed as planned | ☐ | ☐ | ☐ | ☐ | ☐ |
| 6.6 | Projects ultimately provide a satisfactory return on investment to the relevant stakeholders | ☐ | ☐ | ☐ | ☐ | ☐ |

## 7. REASONS FOR FAILURE

| | | | | | | |
|---|---|---|---|---|---|---|
| 7.1 | Lack of user involvement | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.2 | Long or unrealistic timescales | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.3 | Failure to adequately identify, document and track requirements | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.4 | Inadequately trained or inexperienced project managers | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.5 | Poor leadership | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.6 | Impact of culture on the organisation | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.7 | Poor plans and planning process | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.8 | Misalignment between the project team and the DUT's goals | ☐ | ☐ | ☐ | ☐ | ☐ |
| 7.9 | Inadequate communication in process tracking and reporting | ☐ | ☐ | ☐ | ☐ | ☐ |