The British University in Dubai

Master of Science in Project Management

Dissertation

"The Effectiveness of Project Teams"

Submitted in partial fulfillment of the requirements for

The degree of Master of Science in Project Management

At The British University in Dubai (BUiD), Dubai, UAE

Supervisor:	**Prof . Ashly Pinnington**
By:	**Abdulla Thani Ghalib**
ID:	**20050057**
Date:	**3rd May 2009**

ABSTRACT

The purpose of this research is to measure team effectiveness in a governmental organisation by examining quantitative data to know if team synergy, performance objectives, skills, resources and innovation have an effect on team effectiveness.

The population of this research is employees working in two different project teams in the same government organisation. The first team is called “Working Manual Development Team” and consists of 15 members. The second team is called “Software Development Team” and consists of 12 members.

Six main objectives were formulated at the beginning of this research. The first objective is to explore the different types of teams and how it related to the group. Secondly, explore the characteristics of an effective team. Thirdly, explore the stages of team building/formation. Fourthly, explore leaders’ role in team effectiveness. After that, the competencies that make effective teams will be examined. Finally, the relationship between synergy, performance, skills, resources, innovation and team effectiveness will be measured.

The findings show that team effectiveness measurement is new in United Arab Emirates organisations. Therefore, it is recommended to explore more and train employees about this concept. The research finds that many leaders in organisation can not distinguish between teams and groups, which results in affecting the performance of the organisations in achieving their objectives. Lastly, team leaders need to possess certain competencies to allow them to manage their teams effectively.

Further, the data results analysis show that there are high positive relationship between different variables in different clusters (Synergy, Performance, Skills, Resource and Innovation). Another finding is that there was homogeneity in both team members’ responses, therefore, both team members’ results can be assumed as coming from one group.

DEDICATION

I dedicate this dissertation to my parents, my wife, my children, my grandfather, my grandmothers, brothers and sisters. I would like to thank them all for their support and motivation throughout the whole program, especially to my wife for her patience vital support.

I also dedicate this dissertation to the management of the British University in Dubai for their fundamental support.

ACKNOWLEDGEMENTS

This dissertation would not be completed without the efforts of many people and organisation. I would like to thank them all for their valuable support, below are some of them

First of all, I would like to thank Professor Dr. Ashly Pinnington, Dean Faculty of Business, British University in Dubai, for his supervision, valuable support, motivation and patience.

I also would like to express my sincere thanks to Ms. Lynn Randall, for her support and cooperation.

I would like to thank Dr. Kassim Randaree, Dr. Mohammed Al- Dulami, Dr. Mohammed Arif,

Additionally, I would like to thank, Mohammed Al-Zafeen, Mohammed Al-Ali, Saif Al-Mazroui, Khalid Kansham, Omar Ashoor, Mohammed Al-Haj, Anisa Al-Sarhani, Abdulkarem Al-Harbe, Abdulmajed Saeed, Majed Karami, Khalil AlJabale, Abdulwahab Saleh, Majed Ahli, Ali Al-Banna Dr. Salem Al-Shafei, Dr. Mostapha Al-Dah, Ahmed Ali Al-Mahmoud, Yousef Al-Ali, Tariq Al-Janahi, Afa'f Bo'osabah, Aftab Ahmed, Abdul Gaffar Chaudhry.

Big thanks go for the software development team and the working manual team for their commitment in data collection.

Finally, I am grateful to my family for their patience, continuous support and encouragement, I really appreciate their efforts.

Table of Contents

Table of Contents

List of Figures

List of Tables

List of Tables

List of Tables

1 INTRODUCTION

1.1 Overview

Dubai is one of the seven emirates and the most successful city in the United Arab Emirates in different sectors such us property development, education and health. The reason behind the success is due to the visionary leadership of His Highness Sheikh Mohammed Bin Rashid Al Maktoum Vice President of the United Arab Emirates, The Primer Minister and Ruler of Dubai.

In the last decade, the world has witnessed some crises which have impacted the economy of the world such as the Global Financial Crisis. As a result, the uncertainty, complexity and competition in the global business have increased, and the budget has decreased.

In 1998, His Highness Sheikh Mohammed Bin Rashid Al Maktoum established establish a new initiative in Dubai, and the first in the Middle East, in order to improve the performance of the government sector. This was the establishment of the Dubai Government Excellence Program.

The Dubai Government Excellence Program motivates Government organisations to develop and improve their performance through moral incentives, motivational working environment, constructive cooperation and positive competition. This program consists of two categories which are administrative excellence and employee excellence.

One of the Dubai Excellence award categories is the distinguished team, which refers to any standing or ad-hoc working team. Those teams are in charge of preparing, designing or implementing a given task project or program and will be evaluated according to certain criteria (Appendix A: Distinguished Team evaluation criteria). All government organisations challenge each other for this award (Appendix B: Names of the distinguish teams from 1999-2007).

The distinguished team is evaluated according to the methodology used in team formation / member selection, team working methodology, cooperation and commitment between team members, achievement / results and evaluation of the results.

This research is a case study on one of the government organisations of Dubai. The aim of this research is to measure the effectiveness of teams in terms of team synergy,

performance objectives, skills, resources and innovations. The first team is called the "Manual Development Team" and the second team is called the "Software Development Team".

1.2 Problem Statement

In the fast growing city of Dubai, many government and private organisations are working hard to achieve the Dubai Strategic Plan 2015. These organisations seek improvement by embracing team and feel they are on the right track to meet the government's demand in a very challenging marketplace.

The formulation of those teams is associated with some challenges and obstacles. As a result, before commencing with building a working team, top management needs to know precisely what the term team means, and how important it is for them to have such a setup within their organisation. They need to know how a team differs from a working group and what types of team can be built. In addition, it is important to know, what stages the team will pass through and how the team member will be selected.

Another issue needing attention from organisations is to know specifically the management role in implementing teams in terms of the effectiveness of the team leader and members and what competencies they need in order to accomplish the required goals and objectives. The last difficulty faced by management in managing an effective team is how they can measure the effectiveness of teams and what methods are available in this field.

Since Dubai is developing rapidly in many different sectors, most organisations face performance challenges; teams are seen as the most practical and powerful tool to get the job done. Thus, organisations must take the initiative in terms of developing research in the field of teams' effectiveness. This dissertation seeks to contribute to knowledge through exploring the management of teams and team roles in organisational effectiveness.

1.3 Aim & Objectives:

This dissertation aims to explore the importance of having effective teams to the success of organisations. The aim will be achieved by the following objectives.

1. Explore the different types of teams and how they are related to groups.

2. Explore effective team characteristics
3. Explore team building / formation stages.
4. Explore the role of leaders in team effectiveness.
5. Examine the competencies that make effective teams members.
6. Measure team effectiveness through different criterions.

1.4 Research Questions

To achieve the research objectives, the following research questions are formulated for further guidance

1. What are teams, their types and how are they distinguished from groups?
2. What are the characteristics of an effective team?
3. What factors contribute toward building teams?
4. How does a team leader affect team effectiveness?
5. What are the competencies that affect team member effectiveness?
6. Do synergy, performance, skills, resources and innovation have an effect on team effectiveness?

1.5 Research Outline:

This dissertation comprises five chapters, which help in addressing the defined objectives of the research. The five chapters are as follows:

Chapter 1- Introduction: The first section sets the scene by providing a general overview about building effective project teams in organisations. The aim is further narrowed down to research objectives and research questions.

Chapter 2- Literature Review: The literature review section will cover different areas of teams and their effectiveness. First of all, the first section will be an introduction about the literature review. In the second section, the definition of team and how the team is distinguished from group will be given. The third section will include the characteristics of effective and non effective teams, in addition to that the term “Synergy” will be defined and will be investigated through some examples. The fourth section will be about team building and formation which will include the definition of team building, member selection and the stages of team development. Leaders and teams will be coverd in the fifth section and will be examined in terms of the management role in implementing teams, team leader effectiveness and team leader competency. The sixth section will

cover the topics of team reflexivity in terms of team effectiveness and team efficiency. Finally, the last section of the literature review will elaborate about team competencies

Chapter 3- Methodology: The purpose of this section is to briefly introduce some of the statistical techniques used to analyses the data of this dissertation. Firstly, I will review the literature of the existing ways to measure team effectiveness. Secondly, I will describe the different methods of data collection and will outline the best method that meets the objective of this research. Then, the components of the research will be analysed in terms of the criterion used in designing the questionnaire. After that, the population sample and the response rate will be illustrated. Finally, the general characteristic of the survey will be presented.

Chapter 4- Data Analysis and Results: This chapter will present all the data analysis results. First of all, descriptive analyses of the frequency and the percentage will be presented for the four clusters (Team synergy, Performance objectives, Skills and Resources and Innovation). After that, the data will be analysed using SPSS software to conduct Spearman Correlation Coefficient test, Crosstabulation and Chi-square test, Independent T test and Cronbach alpha reliability test. In addition, there will be a comparison between the mean score and the standard deviation error for both teams according to the variables from the above cluster

Chapter 5- Findings and Discussion: This chapter summaries the major findings of this research. Also, it will include a discussion on how the research questions [which are developed in Chapter 1] were answered.

Chapter 6- Conclusion and Recommendation: The final chapter in this research will conclude the main findings of this research. In addition, the recommendation will be presented for the readers to get the knowledge from this research. A further recommendation is presented for the future research as a guidance in the important issues needed to be considered in future.

2 LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the literature about building effective teams in organisations. It will present to the reader a comprehensive background about building effective teams. This will be done by covering six components in the area about team management and effectiveness. First of all, these terms will be investigated by giving the history and definition of teams, how they are formed, how they differ from groups, and finally explain the types of teams in organisations. Secondly, characteristics of effective teams and non effective teams and synergy will be presented. Thirdly, it demonstrates the team formation process in terms of team building, member selection, stages of development teams and team importance. Fourthly, it explains the role of management in implementing an effective team. After that, it compares thoroughly team reflexivity and team competency. Finally, it explores the ways of measuring the effectiveness of teams.

2.2 History and Definition

2.2.1 History of Team Building

The first appearance of the idea of building teams can be traced back to the late 1920s and early 1930s with the classic Hawthorne Studies. These studies consisted of series of a research actions designed to study in-depth what happened to a group of workers under different working conditions. After a detailed analysis, the researchers decided that the most important factor was the building of a sense of group identity, a feeling of social support and cohesion that came with increased worker interaction.

The history of teams started in early US history when there was a need to manufacture muskets for the revolutionary army. In the late 1950s, Deming and Juran implemented their statistical ideas to find a new way for hands-on workers to contribute to the quality concept. This idea was not welcomed in the USA, but the Japanese were willing to use their ideas especially after they struggled to overcome the poor quality reputation after the Second World War. Dr. Ishikawa who is engineering professor at Tokyo University spread Deming and Juran's ideas around Japan (Gustafson and Kleiner, 1994).

The first result appeared in mid 1961 by establishing 20 teams which was designed specifically for hands-on workers to discuss issues related to quality problems and develop ways to correct and improve problem solving. This success spread rapidly

across the work force in Japan and as of 1988 there were one million teams with more than ten million members through the country. Consequently, by 1988 Japan was known for its superior quality of many products (Gustafson and Kleiner, 1994).

2.2.2 Team definition

The term "team" has been applied to a number of different types of work group. Definitions as to what a team is or does, how teams are structured, how team members differ from traditional employees, what limitations are placed on teams, and how team members will be held accountable can vary greatly from one company to another.

Mussnug and Hughey (1997), defined teams as a group of employees/ individuals working towards a specific goal, interacting to share information about the best procedures or practices, and making decisions which encourage all team members to perform to their full potential. In other words, a team can also be defined as a group of employees who are responsible for producing a whole product or providing a complete service in a large work environment where all team members are expected to know all jobs assigned to each member. They typically have the authority to implement, not just recommend, specific courses of action related to quality and productivity enhancement (Mussnug and Hughey 1997). On the other hand, Rabey (2003) defined the team as a group of people with either mixed or complementary skills working together for an agreed purpose.

Wood et.al (2004) defined a team as a small group of people with complementary skills, who work together as a unit to achieve a common purpose for which they hold themselves collectively accountable.

I think that team is the backbone of any organisation. Without teams and team work, less objectives can be achieved. From all the above, we can clearly notice how important teams are in organisations.

2.2.3 Significance of Team

No one can deny that teams are a fundamental unit of organizing people to meet new challenges and achieve results. During recent decades, as the technology continues to advance, so does the complexity of tasks and projects undertaken by organisation, projects have also became sophisticated in terms of type of challenges, type of knowledge and skills required by individual. This further enhances the requirement of having a collaborative entity and increases the significance of teams.

Kenneth and Aaron (1997) found that the primary advantage of the team approach is that group decision making is likely to be superior compared to decisions made by individuals. However, on the other hand, some drawbacks include the team understanding and capability in decision making that can be time-consuming and which requires all team members to be proficient in technical and human relations skills. Another drawback is that some managers are not willing to give up some of their authority to the team, thus giving the approach a legitimate chance to succeed. Unfortunately managers find it difficult to give up such control.

2.2.4 Team versus Group

Having defined the "team' in the above section, this section will elaborate on the major differences between teams and groups. This will emphasize the major aspects that distinguish them.

Fisher et. al (1997), states that there are some authors who believe that there is a difference between teams and groups. In general, such authors suggest that a team is simply a group, but with something extra. For instance, Sundstrom et al. (1990, p. 120), describe the word team as, "A small group of individuals who share responsibility for outcomes for their organizations".

According to Fisher et al. (1997, citing Francis and Young, 1970), the team is an energetic group of people committed to achieve common objectives and produce high quality results. In addition, Adair (1986) relates the team to a group in which individuals share a common aim. According to McGreevy (2006) Katzenbach and Smith's (1993 cited in Whitmore 2003) define a team as ''a small number of people with complementary skills committed to a common purpose, performance goals and ways of working for which they hold themselves mutually accountable".

Likewise, Kazemak and Albert (1990, cited in Fisher et al 1997) state the distinction between a team and a group is that teams have a clear and common purpose that serve and direct their members in order to have a common understanding of their interdependence between each other and motivate them in pursuit of their goals. In contrast, groups have neither of these.

In addition, Fisher et al.(1997) states that a group of people is not a team; teams need a high degree of interdependence geared toward the achievement of a goal or completion

of a task. Also, they believe that while a group involves two or more people who work together to achieve a goal, a team description must go beyond this simple requirement and incorporate features that provide an extension to it.

On the other hand, Casey (1985, cited by McGreevy 2006, P.365) made a distinction between a team and a group "i.e. that in a team, unlike in a group; each individual contributes their knowledge or expertise to the solving of a jointly owned problem which no one member could solve on his or her own". The following table describes differences between teams and working groups.

Table 2.1: Differences between Working Group and Team (McGreevy: 2006)

	Working Group	Team
1	Strong, clearly focused leader	Shared leadership roles
2	Individual accountability	Individual and mutual accountability
3	The group's purpose is the same as the broader organisational mission	Specific team purpose that the team itself delivers
4	Individual work-products	Collective work-products
5	Runs efficient meeting	Encourages open-ended discussion and active problem-solving meetings
6	Measures its effectiveness indirectly by it influences on others	Measure performance directly by assessing collective work-products
7	Discuss, decides, delegates	Discuss, decides, and does real work together

Finally, Robbins and Judge (2007, citied by Fuller et. al 2008), illustrated a comparison that helps to distinguish between project teams and work groups. It consists of 6 criterion which are goal, synergy, accountability, skills, communication and trust.

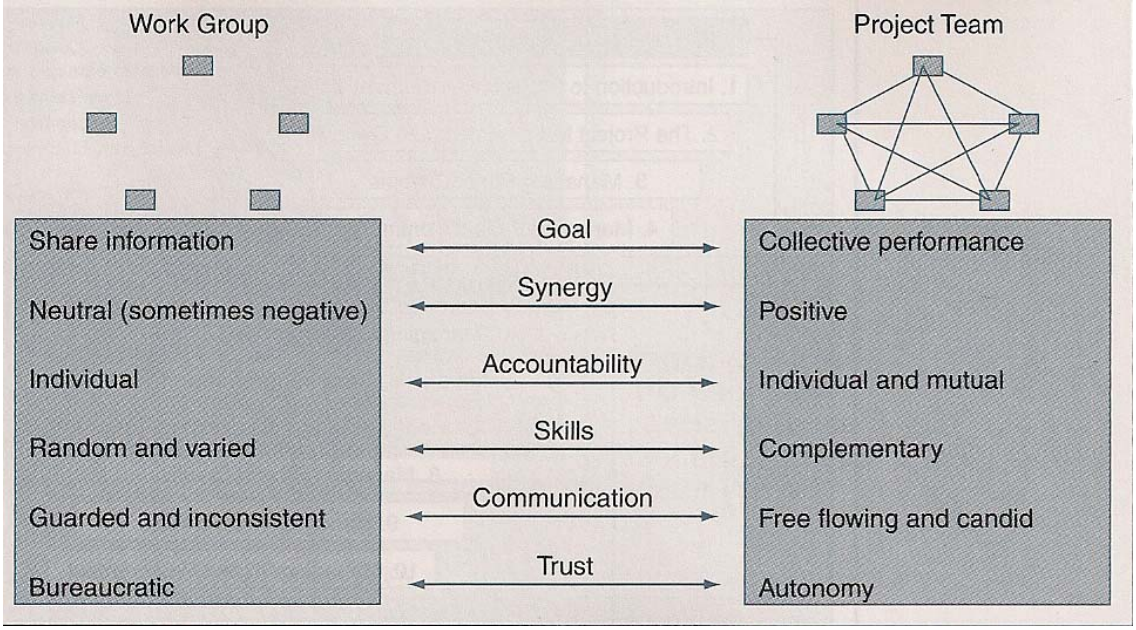

Figure 2.1: Comparing work groups and project team

From the above, the difference between team and group can be summarized by stating that a group of people working together in a team have a stronger sense of unified purpose. They have a higher level of commitment. There is greater accountability to other members. By working together, the members of a team enhance the overall team performance getting more and better results when compared to what they could accomplish as individuals.

To conclude, in my opinion, all groups should be converted to teams in order to have a maximum achievement in the lowest possible time.

2.2.5 Types of team

The purpose of this section is to give an explanation of the following types of teams, according to different approaches. Wood et. al (2004) stated that there are four common types of teams outlined as: employee involvement teams, problem-solving teams, self-managing teams and virtual teams.

1. Employee involvement
2. Problem Solving
3. Self-managing work
4. Virtual
5. Other types

2.2.5.1 Employee involvement teams

Wood et. al (2004) defined employee involvement as “a team of workers who meet regularly outside their normal work units for the purpose of collectively addressing important workplace issues”.

The goal of having such teams is to have a total quality concept and seek permanent enhancement in all operations. Usually, this team consists from 5 to 10 team members, regularly spending time to discuss issues related to improving quality, better satisfying customers, increasing the productivity and improving the quality of work life.

The team members are allowed to gain influence over matters affecting them and their work. Also, they are allowed to make decisions to become a part of everyday organisational relationships.

2.2.5.2 Problem-solving teams

The second type of teams pointed by Wood et. al (2004) are problem solving teams, which consist of **circle**, **task force** and **autonomous work teams**. These teams are created to generate solutions for problems that help to improve the quality of the products. The first type pf problem solving team is a **quality circle team** which is defined as a small group of people who meet periodically (i.e. one hour every week) to discuss issues of solving problems related to cost, quality and productivity.

The other type of problem solving team is the **task force team**, which is defined as a temporary team created to fulfill a well-defined task within a fairly short period of time. It has a more limited time horizon than quality circles and the team disbands when the task is accomplished.

The last type in problem solving team is the **autonomous work team**. This team is given a significant authority and responsibility over their work in contexts of highly related or independent jobs. They cover many aspects of the project such as planning, scheduling, assessing performance and decision making which has financial cost.

2.2.5.3 Self-managing work teams

Sexton (1994, p.46) defined self managed teams as "an independent democratic work team that has responsibility for the regulation, organization and control of its jobs and the conditions surrounding them". He includes both the terms "independent" and "democratic" in the definition, to emphasize the need for a dual focus on worker needs and organizational needs.

There are many reasons to establish self-managed work-teams in organisations, and the three important reasons found by Sexton (1994) is to improve the quality of work life; increase effectiveness and productivity and to find a work structure that supports the needs of the organization and the social and psychological needs of its employees.

In order to have a successful self managed team, various literature streams have agreed on six general conditions that leads to effective implementation to self-managed work teams which are (Sexton 1994, P.47):

1. Appropriate training
2. Common vision
3. A set of shared values
4. Shared benefits
5. Managerial confidence in employees
6. An organization culture which supports risk taking

2.2.5.4 Virtual teams

A virtual team can be defined as a team that consists of members whose geographically are often temporally distributed within or away from their organization. The team members acquire relevant knowledge and need to work together to accomplish tasks .Usually, virtual teams have different areas of expertise and often work in different functional areas (Lipnack and Stamps, 1997; Townsend et al., 1998; Duarte and Snyder, 1999).

The virtual team can interact and collaborate though separated by distance and time. This gives their organisations extra flexibility and responsiveness; allowing them to form rapidly into a virtual team that can work on an urgent project. When the project is handed over, the team can be disbanded and members redeployed to other projects. In addition, members may also serve on multiple virtual teams simultaneously. In conclusion, virtual

teams are the best way to bring members with different professional skills together to solve a problem or execute a project.

2.2.5.5 Other types of teams

McGreevy (2006), states that the term ‘‘team’’ can be applied in many different contexts and tends to be used loosely to describe many different groupings. A variety of labels are given to the types of teams but the Tavistock Institute (citied in McGreevy 2006,P. 47) illustrates a useful starting point for organizations by suggesting there are three types of teams:

- **Operational teams** may be defined as “a permanent group of workers with a range of skills organized to produce a product either for internal or external customers”. In some occasions, this team is given full responsibility for converting raw material into a finished product.

- On the other hand, **Service teams** are teams founded to service particular consumers to provide a product or service to a wide range of customers.

- **A Cross-functional team is** another type of team that consists of representatives from different functions and disciplines. They are setup to manage certain issues or problems either on a part-time basis or full-time for a fixed duration. The most common issues dealt by this type of team, are tasks related to develop certain product or improve the quality. They consist of representatives from different functions. Often, members of cross-functional teams will also be members of other teams as well (McGreevy 2006).

- In addition, Duke Corporate Education (2005) states three different types of teams which are management teams, specific project teams and Ad hoc teams. **Management teams** are set up to move the company forwards and address strategic issues. On the other hand, **specific project teams** are specified to work on certain tasks and tend to have finite deadlines. Finally, **Ad hoc teams** may be set up to include outside consultants who are hired to work with company members on projects or some issues.

To conclude with, I believe that there is no ready reckoner to tell precisely what category a particular team may fit into, or for giving an exact picture of types of teams that operate

in an organisation. Therefore, for every project / task, there will be team type's selection criteria.

2.3 Characteristics of Effective Teams:

Wood et. al. (2004) defined the effective team as one that achieves a high level of task performance and human resources maintenance over time. In this section I will show some of the most important characteristics of effective and non effective teams.

2.3.1 Effective team characteristics

Francis and Young (1979) suggested that team performing effectively should have the following characteristics:

1. **Synergy:** Team working together can deliver more than the individuals.
2. **Objectives:** Participants understand their purpose and share their goals.
3. **Energy:** Members take strength from one another and build on the capabilities of their fellows.
4. **Structure:** Mature members create mechanisms in dealing with issues of procedures, organization, roles, control and leadership.
5. **Atmosphere:** Members create a spirit and culture that is open and supportive, permitting risks to be overcome and confidences to be shared.

On the other hand, table 2.2 illustrates some effective teams' characteristics:

Table 2.2: Effective Team characteristics (Smith: 2004)

	Characteristics	Description
1	Positive interdependence	The team has focused common goals
2	Individual and group accountability	Each team member is responsible for both her or his own work and the overall work of the team
3	Promotive interaction	The members do real work usually face to face communication
4	Teamwork skills	Every team member has the skills for and practices effective communication, solving problems, decision making, leadership, managing conflict
5	Group processing	Periodically, the team reflects on how things are going. (i.e. celebrate the going well things, and try to solve constrains for things that aren't)

Finally, Wood et. al (2004) described ten characteristics of effective teams as follows:

Table 2.3: Ten characteristics to identify effective team (Wood, et al., 2004)

	Characteristics
1	Sense of urgency and direction
2	A lot of work done at start of the project
3	A broad sense of shared responsibility for the team outcome
4	Effective approaches in decision making and problem solving
5	Team member have high level of commitment and trust between them
6	Team members satisfied from their individual needs
7	Cohesiveness between team members
8	Ability to confront differences and deal with conflict
9	Effective in dealing with minority opinions
10	High communication pattern

2.3.1.1 Synergy:

Cartwright (2002) has defined the term synergy as "The Sum of the parts being greater than the whole". He illustrated three examples that will assist in clarifying this concept.

The first example is of two working teams with the same number of members, similar experience, skills, and intelligence. Both teams consist of six members, but one team seems to produce an output signifying worth seven members while the other appear to have an output of just five.

The second example about synergy is linked to football. During football match in Scottish Football CIS Cup final in 2001 between two well-known teams Celtic and Kilmarnock. In the second half, scores opened by Celtic and after that they lost a player who was sent off because he committed a foul, therefore it was 10 players against 11. The match ended 3 -0 for Celtic. During the final stages of the match, a television commentator asksed a rhetorical question, 'Which team has 10 men?'. In fact, Celtic players showed a mutual support suggesting that they were the team with a player advantage not Kilmarnock.

The third example illustrated by Cartwright (2002) is a mathematical example which supports the idea of synergy in effective team. In mathematics, the sum of 1+1+1+1+1 always equals 5, however, in team work which is properly built and working well together, 1+1+1+1+1 can equal 6 or above. The converse is also true, if a team members input is nullified by poor team building and personal chemistry, then 1+1+1+1+1 can equal 4 or less.

Cartwright (2002) tends to view and define that in any project there might be a synergy gain or synergy loss. The synergy gain is defined as “The extra performance, over the individuals working on their own, gained by the team working together”. In contrast, Cartwright defines as “The diminution in performance, over the individuals working on their own, displayed by the team working together.” In synergy gain, the advantages resulted in team work provide a component of that gain. However, in a synergy loss, it is likely that there will be a major factor causing the effect. Often, this factor is on a personal level and the psychological side of human beings.

2.3.1.2 Non effective team characterizes:

As mentioned in the previous section, teams are founded in an organisation in order to achieve a set of certain results. To do that on a constant, continuous basis, a number of dysfunction constraints should be overcome. Lencioni (2006) suggests three characteristics can help in knowing non effective team, which are:

- **Absence of Trust:** trust between team members is a fundamental issue which needs to be addressed by the whole team. They should get to a point where they can be entirely open with each other about their mistakes, weaknesses, fears and behaviors.
- **Fear of conflict:** Team members must be willing to argue effectively about certain issues related to the project. This advantage conflict, certainly, will help to improve the project. However, managers should be able to manage it carefully by putting strategies to manage conflict.
- **Inattention to results:** in unproductive teams, people seek out individual recognition at the expense of collective results and the goal of the entire team.

To conclude with, the following table gives a general comparison between the characteristic of effective and non effective project teams.

Table 2.4: Comparison between effective and non effective teams (Quick :1992)

Role	Effective	Non Effective
Information	▪ Flows smoothly ▪ Full sharing ▪ Open and Honest	▪ Flows hardly ▪ Hoarded ▪ Used to Build Power, incomplete mixed messages
People Relationships	▪ Trusting, Respectful ▪ Collaborative ▪ Supportive	▪ Suspicious and partisan ▪ Pragmatic, competitive
Conflict	▪ Regarded as natural ▪ No personal issues	▪ Frowned and avoided ▪ Destructive ▪ Involves personal trait and motives
Atmosphere	▪ Open, non threatening ▪ Non competitive ▪ Participative	▪ Compartmentalized ▪ Fragmented, closed groups
Decisions	▪ By consensus ▪ Efficient of resources ▪ Full commitment	▪ By majority vote of forcing ▪ Emphasis on power ▪ Confusion and dissonance
Creative	▪ More options ▪ Solution oriented	▪ Controlled by power ▪ Emphasis on activity and inputs
Power based	▪ Shared by all ▪ On competences ▪ Contribution to team	▪ Hoarded ▪ Pragmatic Sharing ▪ Contribution to power source
Motivation	▪ Committed to goals set by team ▪ Belonging needs satisfaction ▪ More chance for achievement through group	▪ Going along with imposed goals ▪ Coercion and pressure ▪ Personal goals ignored ▪ Individual achievement valued without concern for the group
Rewards	▪ Based on contribution to group ▪ Peer recognition	▪ Basis for rewards unclear ▪ Based on subjective often arbitrated appraisingly

2.4 Team Formation / Building

2.4.1 Team Building

Due to the competitiveness in the global market, organisations are pressurized to cope with these challenges. In order to perform well, companies have placed a premium on teamwork to solve problems, to innovate, to share the knowledge and consequently to have a vital success. (Beagrie, 2005).

Heap (1996) describes the team building process as “an event between a group of staff, with their manager to clarify and review their purpose and objectives”. Obstacles will be identified in order to achieve the objectives and to plan for future progress. In this process, the team will face difficulty in communication if there is a lack of trust between the team members. In addition to that, this process is anticipated by many team members as stressful and they are somewhat anxious about the prospect.

On the other hand, for Wood et. al (2004, p.315) team building " is a sequence of planned action steps designed to gather and analyse data on the functioning of a group, and to implement changes to increase its operating effectiveness".

Belbin (1993, cited by Wood et. al, 2004) suggested three simple helpful steps in team building which are:

1. Begin with a meeting to let team members get to know each other.
2. Working together as a team is an important issue which should be emphasized.
3. Ask team members for ideas, past experiences and suggestions that they believe will help the group to work as a team.

To conclude, I would say that members should know the objective behind building teams to achieve their objectives.

2.4.2 Member Selection

So how should team member be selected? It is a vital process by which leaders must select the most capable member that can execute the job. "So specific expertise, knowledge or experiences are vital but equally important is that the members of the team also have the skills necessary to operate within the team (McGreevy 2006, p.367).

McGreevy (2006, citing Belbin 1993), points out that, the work of Belbin can be classified as informative work. Belbin identified the team role preferences of the individual members of a team in terms of acting in the roles as Coordinator (Co), Plant (Pl), Monitor-Evaluator (ME), Resource Investigator (RI), Team Worker (TW), Implementer (IM), Shaper (Sh), Specialist (Sp) as shown in the table below.

Table 2.5: Belbin's Nine Team Roles (Helleer, 2002)

Belbin's Nine Team Roles	
Role	**Attributes**
Plant	▪ Creative, Imaginative, unorthodox ▪ Solve difficult problems
Resource investigator	▪ Extrovert, enthusiastic, communicative ▪ Explore opportunities ▪ Develops contacts
Co-ordinator	▪ Mature, confident, a good chairperson ▪ Clarifies goals, promotes decision making, delegates well
Shaper	▪ Challenging, dynamic, thrives on pressure ▪ Has the drive and courage to overcome obstacles
Monitor evaluator	▪ Sober, strategic, discerning ▪ Sees all option, judges accurately
Team worker	▪ Co-operative, mild, perceptive, diplomatic ▪ Listens, builds, avert friction, clams the waters
Implementer	▪ Disciplined, reliable, conservative, efficient ▪ Turn ideas into practical action
Completer	▪ Painstaking, conscientious, anxious ▪ Searcher out error and omissions ▪ Delivers on time
Specialist	▪ Single-minded, self-starting, dedicated ▪ Provides knowledge and skills in rare supply

Belbin points out that:

- Imperfect people can make perfect teams; and
- The roles, skills and contributions of individual members of a team are complementary.

The importance of this suggestion can be seen in the following table, which seeks to show which people with particular team role preferences would work well together and which would not.

Table 2.6: "Team Roles at Work " (McGreevy : 2006)

	Team role preferences	Works well with			Would tend to work less well		
		Boss	Colleague	Staff	Boss	Colleague	Staff
1	Coordinator (Co)	SH, Sp, PL	TW, IM, Sp	PL, Sp	TW	IM, PL	SH
2	Plant (PI)	CO, TW	TW, RI, CO	ME, TW	SH, TW	ME, PL	SH, RI
3	Shaper (SH)	CO, ME	RI	TW	TW	PL	CO
4	Complete finisher (CF)	RI, PL, SH	IM	TW	CF	RI	RI
5	Resource investigator (RI)	SH	IM, TW	CF	CF	CF	SH
6	Team worker (TW)	SH	TW, PL	TW	TW	SH	SH
7	Monitor evaluator (ME)	CO	CO, IM	IM	SH, ME	CF, ME	ME
8	Specialist (Sp)	CO	RI, CF	CF, TW	TW		
9	Implementer (IM)	CF, SH, PL	CO, ME	TW	TW	IM, PL	PL, RI

Belbin thinks that this may seem to some as somewhat esoteric and theoretical, but this system has been adopted by some organisations as the basis in creating project teams

or cross functional teams. This has been done on the basis that team consisting entirely of plants who think up the ideas would have no practical use if there were no completer finishers to bring the ideas into practice. Likewise, there is no doubt that a team full of team workers would create a pleasant working environment, but would be unlikely to come up with anything new.

McGreevy (2006, p.368) added "On a more practical level maybe, I have found that understanding the team role preferences of each member of a team can allow the coordinator to capitalize on the respective strengths of each team member and allow them all to contribute their part to a jointly owned problem".

To end with, I believe that, it is important that every team has the right mix of talent. Random assignment of members to teams is not the efficient way to meet the objectives. In addition to that, a team leader should assess constantly the capabilities of his team in order to adjust his members according to the required goal.

2.4.3 Stages of Team Development

One of the most important steps to assist the effectiveness of teams and improve the internal operation is to recognize the stages of team development. The lifecycle of teams, typically, passes through different stages.

Smith (2004) describes the stages the team passes through while development. That teams often progress through a series of stages, and one of the most common "sequential-stage theories" which was invented by Tuckman (Tuckman 1965; Tuckman and Jensen, 1977).

Wood et al. (2004) illustrates that team development passes through five sequential stages which are Forming Stage, Storming Stage, Norming Stage, Performing Stage and Adjourning Stage. First of all, in the **forming stage,** the team members meet as a group, in which the primary concern is the initial entry of members to the group". At this stage, members start asking questions such as, what does this group offer me? What contribution will I be asked for? People are interested in discovering the acceptable behavior. Some of the challenges which will be met by team leader in this stage is managing initial entry.

The second stage is the **storming stage** which is marked by a period of high emotion and tension among team members. In this stage, the team experience many changes,

infighting between members could occur. In addition to that, members' attention will be shifted towards the obstacles effecting achieving the objectives of the team. Interpersonal relationship between team members will be clearer than the previous stage and they will understand each other's style of thinking. Team members will try making an effort to find the right way to accomplish the team goal in addition to their personal goals. Some of the challenges which will be met during this stage is managing expectation and status.

The third stage is the **norming stage (Initial Integration Stage)** in which the team will start to come with each other as a coordinated unit. At this instant, the team will strive to maintain this balance. Indeed, the most important thing is that the team is held together as one entity, which is sometimes more important than achieve the objective. In the next step, the team will try to focus on the direction of the team in terms of commitment to the working plan. Finally, managing member relationship and task efforts is the most challengeable matter in this stage

The fourth stage is the **performing stage (Total Integration Stage)** in which the team will emerge as a mature, organized and well-functioning team. The team will be ready to handle the complicated tasks in the project. Furthermore, they are motivated by the team objectives, keen on achieving the goals and generally satisfied. The characteristics of the member of this team are that they continue to work hard as a team and they know each other's responsibility compared to other teams and to their organisation.

The final stage is **adjourning stage** in which the team which is developed will be disbanded when the task is accomplished. This stage is very important for temporary teams as they should be able to work together again in the future. The most important challenge in this stage is to manage task completion and process of disbanding.

To conclude, I think that the stages of developing team are a vital process in all organisations which needs to be a high priority while developing team. Organisations must improve the knowledge and the experience of team leaders and members in order to cope with this process in a professional way. The more careful management of these stages, the more likely the project (task) will be accomplished and will reach acceptable results.

2.5 Leaders & Teams

As the use of teams has evolved and grown in many organisations, the leader's role in building and managing effective teams has also changed. Leaders can no longer follow the traditional way of managing people such as gathering information from members who are working for them and make a command decision that a team must execute. This section will highlight the role of leaders in implementing teams. In addition, some of the important team leader's effectiveness criterion will be represented. Lastly, it will show some important competencies that team leaders need to possess.

2.5.1 Management's role in implementing teams

Kenneth and Aaron (1997) stressed that management must support members when they are transitioning to a team approaches.

When any organisation thinks to change the way of managing their work, the top management usually tells employees that they are planning to change. However, some of the employees will be suspicious of management's intentions; this is simply because this is human nature; and individual will start to ask:

- How will this "team approach" affect my job?
- Am I going to be laid off?
- Are they really serious about this?
- Will things really be different?

These questions frequently go through employees' minds when a company plans to implement teams. So, it is vital that employees see that management is also changing; at that time employees will really believe that management is serious about teams, and they will gradually begin to accept their role in the team process (Kenneth and Aaron, 1997)

2.5.2 Team Leader Effectiveness

There are several criteria that we can use to measure the team leader effectiveness. Hetty and Martin (2007, citing Trent 2004) illustrate that there are 10 main criteria that can help in measuring team leader effectiveness as follows.

1. Secures individual member involvement;
2. Conflict management internally between members;
3. Maintains team focus and directions;

4. Provide the needed resources;
5. Prevent team domination by a member;
6. Deals with obstacles affect the team performance;
7. Coordinates multiple activities and manages the status of assignments;
8. Helps in establishing goals for individuals and the whole team;
9. Clarifies (and/or) define each member's roles; and
10. Provides feedback to individuals (and/or) team regarding their performance.

Bunning (2000) suggested four practices of effectiveness of leadership; first of all, leaders must implement a well-focused system of goals in order to achieve the expected objectives. (either number of unites produced or quality standard).

Likewise, the feedback system will help the team leader in monitoring team members' performance. In addition, a rigorous leadership style should be selected. Another issue is maintaining well-developed and evolving HR systems. Finally, implement training and development as an ongoing process.

2.5.3 Team Leader Competency

The researchers in Keane Inc., a consultant in data processing and software services firms, speculate on the skills that should be possessed in team leaders. They work jointly with a company called (Mc Ber) who are behavioral scientists, and another company to undertake a job competency analysis based on their methodology of interviewing outstanding performances as to their critical success in task accomplishment in their role.

The result of this research was superior according to Bander and Giber (1995, cited Philip and Kevin 1996) and they summarized the findings of the types of required competencies which every Team (Project Leader) should own in different clusters which are:

- **Problem-solving cluster:** diagnostic, systematic, conceptual thinking, plus monitoring and information gathering competences.
- **Managerial identity cluster:** strong PM identity, self-confidence and flexibility competences.
- **Achievement cluster:** results and business orientation.
- **Influence cluster:** interpersonal astuteness, influence skill, team building, developing others, client orientation and self-control competences.

Finally, a team leader needs to develop, particularly, skills as a synergist – first, combining together both technical and human resources to ensure team accomplishment; then, bring together both team and organizational relationships. Sensitive negotiation skills are also required in shifting team activities into functional structures. Lastly, additional proficiency is necessary to manage differences and conflicts within the team and with other groups (Philip and Kevin 1996).

For all of above, I stress that; the team leader shall have the necessary competency in order to have effective teams that achieve tangible results.

2.6 Team Reflexivity

Team reflexivity can be defined as the 'extent to which group members overtly reflect upon the group's objectives, strategies and processes, and adapt them to current or anticipated endogenous or environmental circumstances' (West, 1996, p. 559). In addition team reflexivity is strongly related to team effectiveness and efficiency which comes under team performance.

Effectiveness refers to the degree to which expectations regarding the quality of the outcomes are met, whereas efficiency relates to adherence to schedules and budgets. Therefore, effectiveness reflects a comparison of intended versus actual outputs, whereas efficiency reflects a comparison of intended versus actual inputs.

In the next section, I will analyse the relationship between team reflexivity and team performance (effectiveness and efficiency).

2.6.1 Team Reflexivity

Martin and Pravenn (2006, citing West 1996) who explain that the concept of team reflexivity is that change in a team's environment is process that runs forever and there is a need for constant reflection and consideration to have the most current environment in order to apply the best action.

Team reflexivity involves actions such as questioning, planning, exploratory learning, analysis, diverse explorations . . . learning at a meta level, reviewing past events with self-awareness, digestion, and coming to term over time with a new awareness (West, 1996, p. 560).

A reflexive team is said to be:

- Proactive and aware of the consequences of its actions
- Continuously monitoring both its internal and external environments.
- Consequently, it will enable team members to develop new meaning regarding their team representations.

2.6.2 Team Effectiveness

As mentioned at the beginning of this chapter, team reflexivity is correlated to team effectiveness. This is because team effectiveness is related essentially to self reflection and self-awareness inherent in more reflexive teams and is likely to help the team find better solutions to problems they are facing. Sicotte and Langley, (2000) declared that "It is not always easy to define the problem and prioritize issues especially in innovative projects where the team continuously faces ambiguity and uncertainty". In addition to that, self-reflection enables the team to continuously assess the situation to come to an updated and thus accurate understanding of its objectives under dynamic and complex environmental and technical circumstances such as increasing customer satisfaction or improving technology in organisations. Consequently, (Ancona and Caldwell, (1988 cited by Martin and Praveen 2006) assured that firms should know what needs to get done is more likely to result in better problem solving as the team is solving the 'right' problems in the right order in order to achieve better team effectiveness in problem solving.

Another situation where team reflexivity is very likely to helpful in dealing with unpredictably high potential faces team members. For instance, project teams involved in innovative projects are facing a high task variety (i.e. a large number of unrelated events associated with a project, Gales et. al., 1992) and low task analyzability (i.e. ambiguity surrounding task strategies and work processes, Daft and Lengel, 1986) according to Martin and Praveen, 2006.

Because reflexivity involves each team member to present their accounts of the situation, it will be easy to find the best solution to problems and achieve better project success. Moreover, higher levels of reflexivity allow team members to be more aware of their fellow team members' expertise and skills. Such deeper knowledge of team strength and weakness is likely to lead to better project success as expertise is distributed in the most appropriate way. Consequently, this will result in a better use of team members'

knowledge and expertise, thus resulting in higher team effectiveness. (Martian and Praveen 2006).

2.6.3 Team Efficiency

Team efficiency is the second criteria linked to team reflexivity. Team efficiency can be defined as the ability of the team to meet its schedule and operate within its budget in any certain project. As was mentioned above, reflexive team members are likely to be more responsive of the problems and constraints the project is facing. (Sicotte and Langley, 2000). Additional, they are more likely to be informed about the project status and where disruptions are occurring. this information is very valuable as it not only allows the team to better project progress monitoring, but also it make members more cautious about respecting deadlines and cost constraints. On the other hand, if we compare the highly reflexive team to the less reflexive teams, we will find that they lack the focus on the efficiency goal it terms of budget and schedule.

As these efficient teams are of vital issues to most any firms in dealing with projects, Gersick (1988, 1989 cited in Martian and Praveen 2006) has demonstrated that it is the team's awareness of deadlines that affects team members task behaviors. By extension,

We expect that highly reflexive teams achieve higher efficiency as they maintain a higher awareness of resource constraints (both time and budget) throughout the project, and such awareness will likely guide their task activities leading to increased adherence to schedule and budget objectives at the project's conclusion (Martian and Praveen 2006).

Martian and Praveen (2006) show the examples about impact of high reflexive team and low reflexive on efficiency:

Table 2.7: Examples of high reflexive/ higher efficiency teams and Low reflexive/ lower efficiency teams (Martian and Praveen: 2006)

	High Reflexive Team / Higher Efficiency	Low Reflexive Team / Lower Efficiency
1	Able to identify the right problems	More likely to waste time and resources as the team members may grapple with solving the wrong problems Likely requires late changes and re-work
2	Able to make efficient use of time to solve these problems.	The appropriate identification of problematic issues takes longer to take action (which lead to lower efficiency)
3	Likely to face problems; therefore find solutions in a more efficient manner.	Difficulties are more likely to deny, distort, or hide and wait to see what happens
4	Team has a deeper knowledge of their own strengths and weaknesses(which associated with high team reflexivity). Enhances the likelihood that a team is more efficient so team members perform tasks that are consistent with their own expertise and skills.	Wasting time is more likely to happened in finding the best team member for specific tasks or assign tasks to less appropriate members
5	Teams Able to find appropriate matching between knowledge experiences skills and task requirements imply that the project is more likely to be completed in a timely and cost-efficient.	Wasting time, resources and more efforts goes into trial and error

2.7 Team Competency:

2.7.1 Competence and Performance

"A team can be competent, but not effective"

Margerison (2001) explains that teams may not win even though they are competent in all areas. Therefore, there is a difference between competence and performance. So, Margerison (2001) believes that:

1. Many people think they are competent because they have passed examinations, but in practice they may not performance well.
2. Indeed, some individuals and teams succeed even though they may not been deemed as competent as others, but they work harder, and are more determined not be beaten.

The task of any manager is to improve both competence and performance. This starts by team members sharing and comparing how they see themselves and their team. The

team management profile based on a questionnaire that covers the main areas provides a valuable way for team members to share their work preferences and gain mutual understanding. Beyond the personal and interpersonal understanding there are the task requirements of doing the job.

So, managers' responsibility is to improve individuals' competence and performance at the same time. This can be done by encouraging team members to take the initiatives and share how they see themselves and their team. This can be done by open decision workshop; a questionnaire that covers main issues in this matter which can provide a valuable way for team members. This will help in gaining a mutual understanding share their work preferences.

2.7.2 Team Competencies:

On the other hand, Harris and Harris (1996) the human relations competence needed by effective team members. These competences are a combination of technical skills (i.e. project management) and interpersonal skills as well as interpersonal skills which are categorized under the human relations competences.

Obviously, the most important competency is the most obvious one which is the ability to communicate both in writing and orally at both the interpersonal and organizational levels. This starts from being able to compose a concise project plan with supporting documentation, to promoting its acceptance and funding, and the composition of periodic and final reports.

However, what determines the success or failure of the team is its ability to communication at both the cognitive and feeling levels. Team communications will address not only the exchange of information within the team and how to improve it, but also will include how the group interfaces with other business parties.

Margerison (2001) argues that there are nine major team competency factors. Subsequently, he has tested these competencies in major industries and in countries with different cultures from Malaysia, the USA, Saudi Arabia, Australia, Japan and the UK. After discussing the nine key areas with team members, the whole team agrees that to be effective the team as a whole needs to be competent in all areas. In addition to that, they also agree it is difficult to have a member equally competent in all areas. For

that reason it is essential to have team competency and teamwork. The nine team competencies are:

- Advising: Gathering and reporting information
- Innovating: new ideas are experimented
- Promoting: exploring and presenting opportunities
- Developing: new approaches is assessed and tested.
- Organizing: arranging how things will work
- Producing: making and delivering outputs
- Inspecting: controlling and auditing the working systems.
- Maintaining: upholding and safeguarding standards and processes
- Linking: coordinating and integrating with others

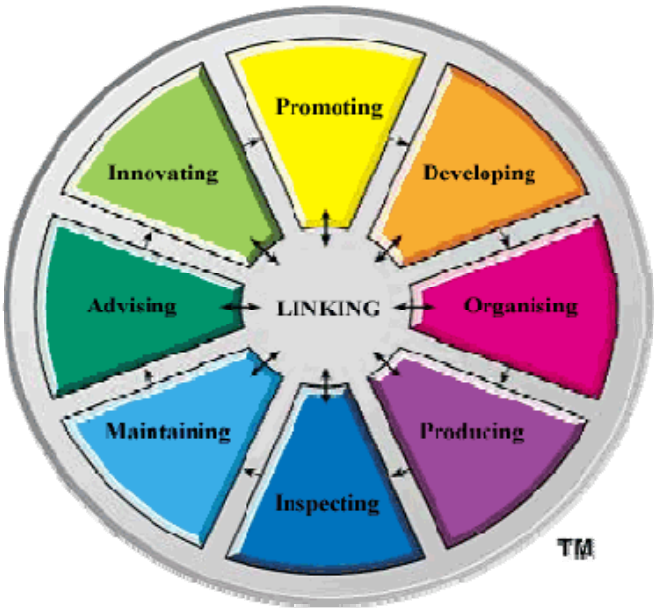

Figure 2.2: "Team Competence Model" (Margerison: 2001)

From Margerison's experiences in team management system, he states that over a million manager and staff involving over 115,000 people in work roles in over 80 countries have used this model and it has been shown to have a valuable contribution to team working practices. This model helps organisations by providing assistance to overcome team work problems and opportunities as well as working as a guidance for individuals in time management issues and career development planning.

To achieve success, each team member requires to be able to cover all areas. However, it is not necessarily important that an individual member must be competent in all areas; a good example is the goalkeeper in soccer is not competent as a forward player, and vice versa. Therefore, the team members between them cover all the areas and have all round team competence.

2.7.3 Assessing Team competency

Anyone who is managing a team, or a leading project, is managing an organization. All the functions that take place in a large organization take place in a team or project. Using the team wheel, we can check how well the main competencies and individual members linked together. The following table shows questions which can provide important indicators.

Table 2.8: "Assessing Team Competency Indicators" (Margerison: 2001)

Indicator	Description
Advising	How well do your team members provide suggestion to each other? How well do your team members provide suggestion to people outside the team?
Innovating	To what extend do your team members just do the job as laid down, or do they find new ways of making improvements by innovating?
Promoting	All teams have to promote what they do and influence others?
Developing	Ensuring that systems and products are well developed takes time, and requires considerable linking skill, internally and externally.
Organizing	Implementing any plan requires organization and a systematic approach.
Producing	Nothing is finally achieved until something is produced. This requires a lot of internal team linking, but also external linking with suppliers.
Inspecting	Not always the most popular of activities, but it is essential high quality. How effective is your team, not only at doing the inspection work, but linking with others to ensure they gain support?
Maintaining	All operations require both physical and personal maintenance. It is a function that depends on strong links with others' activities.

2.8 Summary

In summary, I can say that, this chapter (Literature Review) has discussed all the team management and effectiveness aspects from team history and definition to assessing team competences.

This first section of the literature review focused on the history and the definition of teams. Additionally, the importance of teams, the difference between team and group were also elaborated in the end of the section as well as team types.

The second section discussed the characteristics of effective teams from different point of views. Due to the importance of synergy, I elaborated more on this topic. On the other hand, the characteristics of non effective teams were discussed in section three for better understanding and to distinguish between characteristics of effective team and non effective team.

Team formation and building were described in the third section on the literature review. This included the importance and definition of team building and member selection best practices including (Belbin's Nine Team Role). Nevertheless, stages of team development (Forming, Storming, Norming, Performing and Adjourning) were discussed at the end of the section.

The fifth section of the literature review focused on team leader effectiveness, team leader competencies, in order to know the importance of competent team leader to have a successful team.

In the next section, team effectiveness and efficiency were discussed in detail to provide the reader with more information on the difference between the two concepts.

Finally, team competences of an effective team were discussed in detail in order to highlight its importance as a critical success factor of an effective team.

3 METHODOLOGY

After reviewing the literature in the previous chapter, in order to identify the appropriate method to achieve the objectives of the research in terms of measuring team effectiveness, this chapter includes a discussion of relevant literature on team effectiveness and in particular on methodologies adopted by different organisations and researchers. Additionally, it will outline the methods of this research in term of qualitative and quantitative data collection and analysis and include a briefly summary of the strengths and limitations for each method. After that, the elements of measurement will be presented and a questionnaire will be formulated.

As stated previously in this dissertation, this methodology will measure two working teams within the same department in a governmental organisation but with different type of projects. Both teams consist of 4 team leaders and 27 members.

In most governmental organisations in Dubai, it is difficult to find a system to collect data about team effectiveness. As a result, this assessment methodology has been designed with reference to Lagan Valley hospital effectiveness assessment methodology. This study will collect data from two working team in on of the governmental organisation in Dubai in the United Arab Emirates.

3.1 Current Study Methods Available

There are numerous methods of data collection and the most common methods are questionnaires, interviews, case studies and diaries. These methods may be qualitative in nature (usually in written format) or quantitative usually in numerical format are numerical word counting. From the literature review done above, I found that the must suitable method to use in the dissertation is the questionnaire (group administrated questionnaire). The following is a summary about some strength and limitations of each method.

3.1.1 Questionnaire:

The mailed questionnaire is used to be addressed to respondents and sent by mail/email. Some strength and limitations of this type:

Strength:

- Can be used as a basis for interview
- Information can be collected by written or electronical forms
- Researcher can cover large sample of data despite the number of respondents and their geographical locations.
- Can be anonymous
- Inexpensive compared to other methods.
- Work load and time constrains are less of respondents.

Limitation:

- Response rates from respondents are often very low.
- The researcher needs to set up a deadline.
- Some respondents can omit some questions.
- Difficultly in understand the questions.

3.1.2 Group questionnaire

In this type, a sample of respondents is brought together and asked to respond to a structured sequence of questions. In a group questionnaire, if the respondents were unclear about the meaning of a question they could ask for clarification. And, there were often organizational settings where it was relatively easy to assemble the group (in a company or business, for instance).

Strength:

- Less time consuming than the mail or oral questionnaires.
- Usually, this method is convenience for researcher as he/she can bring all members working together at the same time as many organisations provide space in their departments for group assembling.
- Additionally, the questionnaire will be given to those who were present and the researcher is fairly sure that there would be a high response rate.
- However, if there is unclear meaning from respondents, they could ask for clarification and the researcher will respond immediately.

Limitations:

- Sometimes, it takes time to gather all respondents together at the same time and location

- Some respondents will work as a group by listening to each other's comments and answering accordingly.

3.2 Literature on assessing Team Effectiveness

In 2002, Bateman and Wilson from Lagan Valley Hospital in Lisburn, Northern Ireland worked in association with Bingham from Beeches Management Center in Belfast in developing a questionnaire about team effectiveness based on individual self assessment.

This assessment was founded as a tool to measure team effectiveness in health services organisations in public sector as the National Health Services (NHS) is reorganizing the hierarchical command and control structure which was viewed as insufficient by patients/clients. The foundation of Batemen et. al (2002) efforts was the work done by Belbin (1981), Management of Teams – Why They Succeed or Fail.

The team effectiveness questionnaire was clustered into six different areas which are:

- Team Synergy
- Performance Objectives
- Skills
- Use of Resources
- Innovation
- Quality

3.3 Best Method to meet the Study's Objectives

As mentioned previously, the most relevant research style can be considered for this dissertation will be a quantitative method

3.3.1 Study components (Formulation of Questionnaire)

The process for formula this questionnaire used in this study developed from consideration of information access during the literature review, complemented by information from Bateman and Wilson from Lagan Valley Hospital in Lisburn, Northern Ireland.

The questionnaire measures 5 areas which are demographic details of the respondents, team synergy, performance objectives, skills, use of resources and innovation. The following section will elaborate more on these areas.

The intensity of the response will be represented in 1 to 4 scale. One (1) will stand for agree/yes, two (2) for undecided/sometimes, three (3) for disagree/no and finally four (4) for not applicable.

3.3.2 Demographic Details Section:

The first section gives demographical information of the questionnaire in terms on the gender, age, material status, socioeconomic status, ethnicity and Education level.

Demographic Details						
1. Gender	Male			Female		
2. Age Group(s)	Adult (18-29)	Adult (30 – 39		Adult (40 - 49	Adult (50 - 59)	Adult / Retired
3. Marital Status	Single	Married		Separated	Divorced	Widowed
4. Socioeconomic Status (SES)	At or Below Poverty Level	Unemployed		Employed at Minimum Wage Level	Middle-income	Wealthy
5. Ethnicity and Race	White/European American	Hispanic/Latino/Latina		African	Asian	Middle Eastern
6. Education Level	Less than High School	High School Graduate		College graduate (BA or BS)	Master's degree (MA or MS)	Doctoral degree (MD, Ph.D.)

Figure 3.1: Demographic Details of the questionnaire:

3.3.3 Team Synergy :

The second section of the questionnaire examines the team synergy in terms of project team mission and vision, team role and responsibility, communication and leadership.

No.	Team Synergy	Agree / Yes	Undecided / Sometimes	Disagree / No	Not applicable
1	The project's mission, vision was clear to the team members				
2	The team's member roles and responsibilities was clear to every one				
3	There was effective communication within the team				
4	While executed the project, did you feel that your team operated in effective way.				
5	Individual in the team feel valued as a team member and feel appreciated from top management				
6	Is there was any brainstorming session before starting the planning and execution of the project				
7	If yes, do you think it was useful session				
8	There is effective and appropriate leadership within the team				
9	All Individual try to perform to the best of their ability within the team				
10	All individual in the team contribute in the project to the best of the ability				

Figure 3.2: Cluster 1 – Team Synergy Variables

3.3.4 Performance Objectives

The third section will examine if the team had clear performance objectives in terms of goal setting, progress reporting system, time, cost and quality.

	Performance Objectives	Agree / Yes	Undecided / Sometimes	Disagree / No	Not applicable
11	There are clear goals for all individual in the team				
12	There are frequent progress report on how the team achieving their objective				
13	During the execution phase, the team is aware on the main objective and is committed to achieving them				
14	The triple constrains on the project (Time, Cost, Quality) were managed professionally				

Figure 3.3: Cluster 2 – Performance objectives Variables

3.3.5 Skills

The fourth section will examine if team members adopted skills through training. In addition it will evaluate the top management commitment to improve the skills of team members.

	Skills	Agree / Yes	Undecided / Sometimes	Disagree / No	Not applicable
15	The team members had adequate training to do a professional job				
16	The team members had adequate training on the business process and procedures related to the project				
17	The top management has a clear idea on the needed resources and they make sure that all resources are available for staff training				
18	Training is highly valued within the team				

Figure 3.4: Cluster 3 – Skills Variables

3.3.6 Use of Resources and Innovation:

The last section of the questionnaire will evaluate the using of resource and innovation.

	Use of Resources & Innovation	Agree / Yes	Undecided / Sometimes	Disagree / No	Not applicable
19	Regarding the using of the resources, the top management ensure that all necessary systems are in place to monitor and control the use of resources				
20	Solving any constrains while execution the project was seen as opportunity to learn and improve				
21	Feedback on project progress is submitted to the project team in regular basis				
22	Members of the team are encouraged to try new work methods or introduce new way of doing things				
23	Your project manager (team leader) reward his team member for their innovation				

Figure 3.5: Cluster 4 – Use of Resource and Innovation Variables

3.4 Data Adaptation and Processing

The original data of the questionnaire was supplied from respondents in hard copies by hand writing. These data was inserted into Microsoft (Excel) 2003 to do the statistical analysis such as sorting, validating and mathematical work of data. In addition to that the Statistical Package for Social Sciences (SPSS Inc, 2006) was used for most of the data analysis along with Microsoft Excel to produce graphs.

Some training sessions on the use of SPSS software were attended in addition to the online websites, printed manuals and books in order to achieve the competency in the use of the package. Additionally, there was regular consultation with Statistical Center of Dubai staffs whom are more experience in using this software.

3.5 Population and Response Rate

The population of this research was 27 respondents working in a governmental organisation. The selected respondents were working in the same department but with two different projects. The first team is called “Working Manual Development Team” and consists of 15 members. The second team is called “Software Development Team” and consists of 12 members.

Finally, the respond rate in the questionnaire was 100%, which was an extraordinary contribution from the respondents.

3.6 General Characteristics of Survey

The following table represent summary of the survey.

Table 3.1: Demographic Detail of the survey

	Demographic Detail	Demographic Detail	Team 1	Team 2	Both Teams
1	Gender	Male	10	7	17
		Female	5	5	10
2	Age	18-29	5	3	8
		30-39	7	6	13
		40-49	3	3	6
		50-59	0	0	0
		Adult-Retired	0	0	0
3	Martial Status	Single	8	7	15
		Married	6	5	11
		Separated	0	0	0
		Divorced	1	0	1
		Widowed	0	0	0
4	Socioeconomic Status	At or Below Poverty Level	0	5	5
		Un employed	0	0	0
		Employed at Minimum wage level	11	0	11
		Middle-income	4	5	9
		Wealthy	0	2	2
5	Race	European/American	0	1	1
		Latina	0	0	0
		African	1	2	3
		Asian	2	1	3
		Middle Eastern	12	8	20
	Education Level	Less than High School	1	0	1
		High School	10	6	16
		College Graduate (BA or BS)	4	4	8
		Master's Degree	0	2	2
		Doctoral Degree	0	0	0

4 ANALYSIS AND RESULTS

This chapter presents the analysis and results of the questionnaire. The results of the review as described in the methodology section are presented next. The results are presented according to the order of analysis performed, which is normally according to the order of variables in the database.

4.1 Questionnaire Response:

The questionnaire response received were 27 responses out of 27 distributed with a rate of 100 %. The response rate was very high due to the method used in collecting these data which was group questionnaire. In this type, all respondents were brought together and asked to respond to the questions. If the respondents were unclear about the meaning of a question they could ask for clarification.

4.2 Analysis of demographic Data

The first part of the survey was carried out to analyze the demographic details of the responds. The seven main elements are gender, age, job title, marital status, socioeconomic status, ethnicity and races and finally the education level. The four elements which are relevant to this type of questionnaire were gender, age, job title and ethnicity and races. However, the other elements are not so relevant although they may be relevant in other questionnaires. (Refer to Appendix: C).

Figure 4-1 illustrates the job title of the team 1 and team 2. In team 1, almost half of the team members are data entry staff, quarter are co-ordinate, two analysts and team leaders. On the other hand, team 2 (working manual development) was having almost equally distribution of job titles.

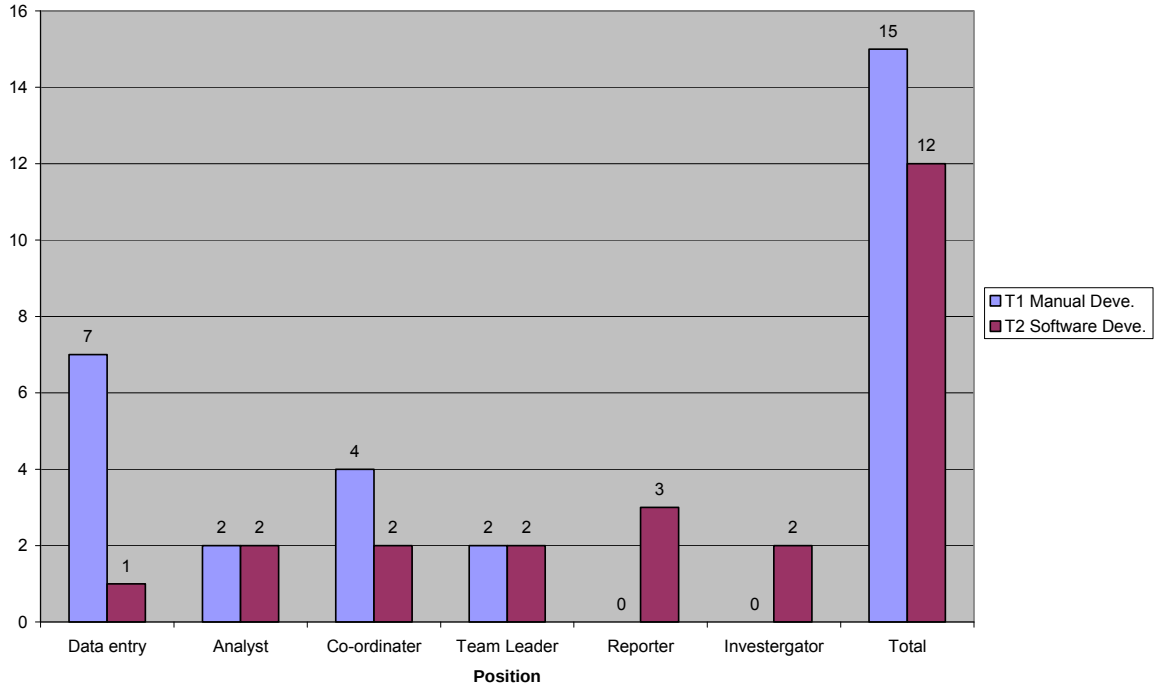

Figure 4.1: Position Distribution for Team 1 & Team 2

Figure 4-2 presents the gender distributions in both teams. In Manual development team (T1), the male and female genders had a result of 10 out of 15 (67%) and 5 out of 15 (33%) respectively. On the other hand, the male and female genders in software development team (T2) where of 7 out of 12 (58%) and 5 out 12 (42%) respectively.

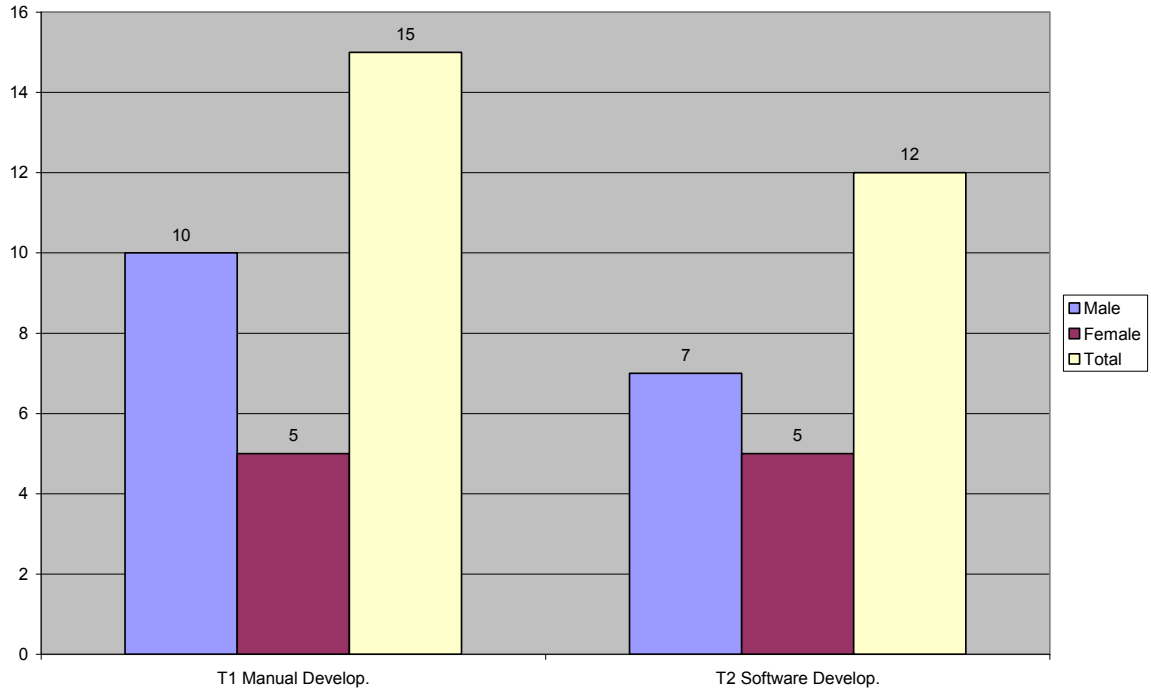

Figure 4.2: Gender Distribution for Team 1 & Team 2

The third demographic detail to be presented is the age of the respondents in both teams. Figure 4.3 illustrates that almost 50 percentage of respondents' age in both team members (Manual Development Team –T1- and Software Development Team T2) were in the range of 30-39. In addition, 29 percent of respondents' age in both teams was in the range of 18-29. Finally, the age 40-49 present 22.5 percent compared to the total number of group age in both teams.

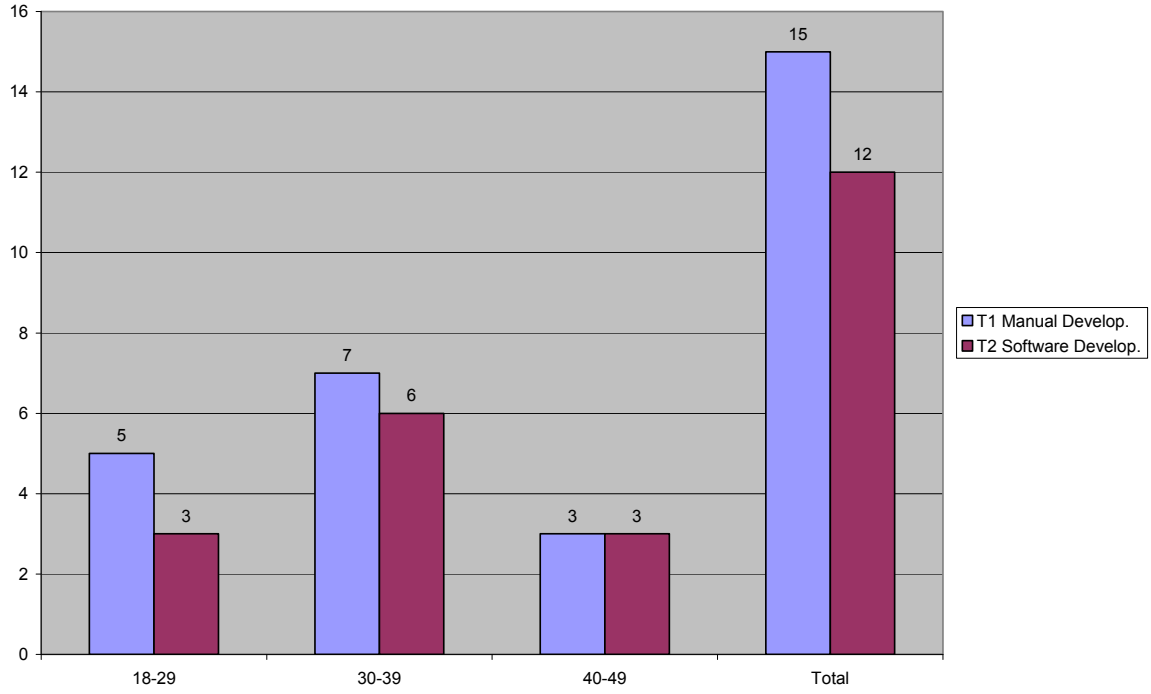

Figure 4.3: Age Distribution in Team 1 & Team 2

The other element to be presented in the demographic details is the ethnicity and race of the respondents. Figure 4.4 illustrates that most of respondents in Manual Development and Software Development comes from the Middle East regions with result of 12 out of 15 (80%) and 8 out of 12 (66.6%) respectively. However, Asian and African were secondly with an average of 11.11% for both ethnicities in each team. Finally, European Ethnicity was the lowest with one member in both teams which represent 3.7 % from the total percentage of both teams.

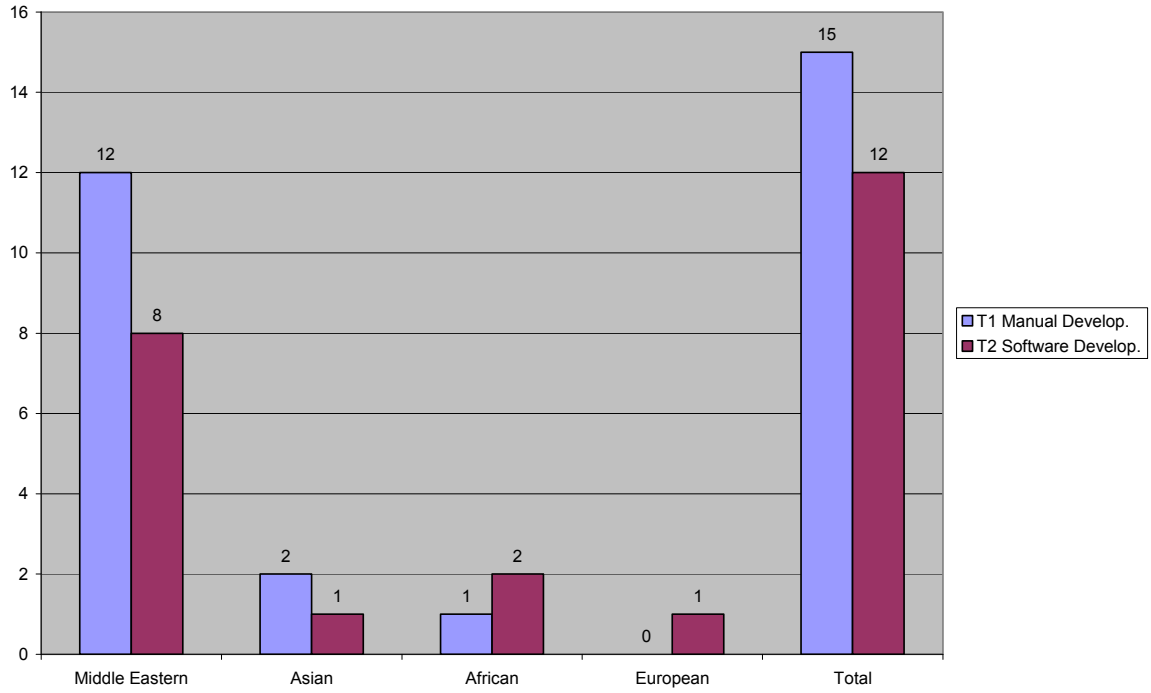

Figure 4.4: Ethnicity and Race of Team 1 & Team 2

The last element to be presented in the demographic details is the education level of the respondents. Figure 4.5 illustrates that more than half of the respondents educational level in both teams has a high school certificates with result of 10 out 15 (67%) in the manual development team and 6 out of 12 in the software development team. respondents holding college degrees with result of 4 out of 15 (27%) and 4 out of 12 (33.3%) in team 1 and team 2 respectively. In addition, two respondents from software development test were holding master's degrees which represents 16.67 %. Finally, there was 1 respondent holding intermediate school degree in manual development team which represents 6.7 %.

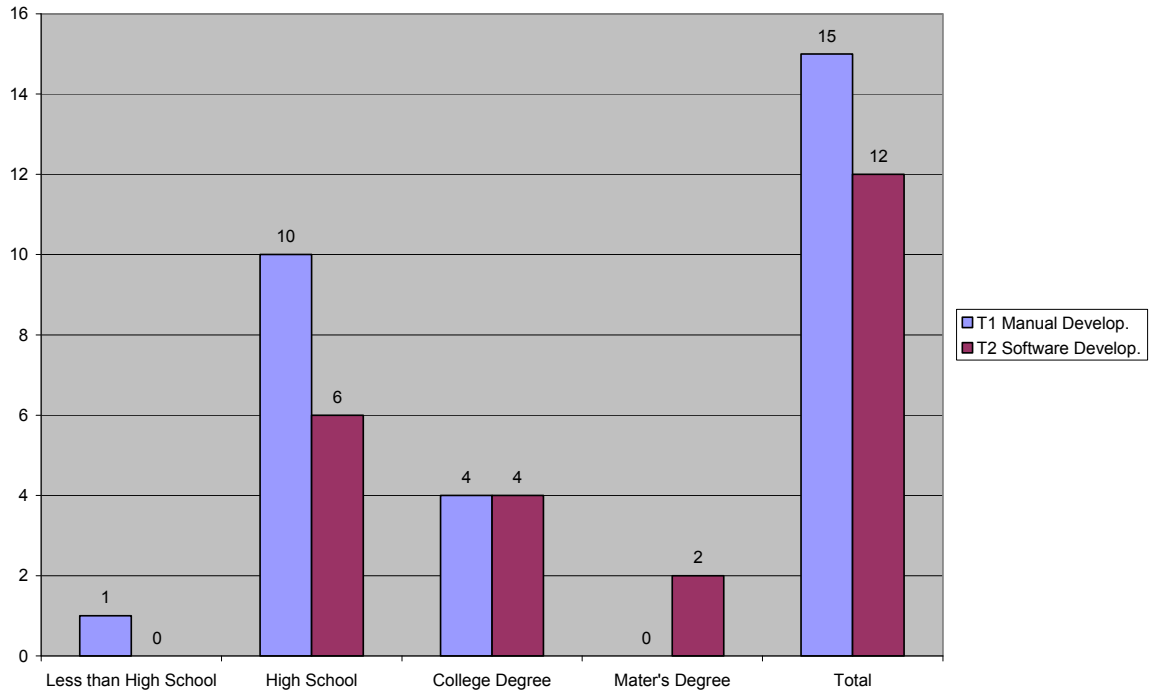

Figure 4.5: Education level for Team 1 & Team 2

4.3 Descriptive Statistics (Appendix D)

4.3.1 Cluster 1 : Team Synergy

Team synergy cluster will be the first to be analysed among members of manual development team and software development team .The measurement will cover the frequencies scale from 1 to 4, where each number will represents; 1= Agree, 2= Rarely, 3= Sometimes and 4 = Not applicable. Tables below 4.1 and 4.2 illustrate the frequencies from different areas in team synergy cluster.

Table 4.1 illustrates that manual development team members had the highest score with the preferences (Agree) in TS6. However, Effective Communication (TS3) had the second highest (Agree) result with 9 scores. On the other hand, best performance by individual and best contribution by individual (TS9 & TS10) had the highest Disagree scores with 9 selection.

Table 4.1: Team Synergy Responses – Team 1 (Manual Development Team) – Frequency and Percentage

	Team Synergy	Team 1 - Manual Development Team (15 members)									
		Agree/		Sometimes		Disagree		N / Applic.		Total	
		f	%	*F*	%	*F*	%	*F*	%	*f*	%
TS1	Vision, Mission	8	53	3	20	4	26.7	0	0	15	100
TS2	Clear Role and Responsibility	8	53	5	33.3	1	6.67	1	6.6	15	100
TS3	Effective Communication	9	60	4	26.6	2	13.3	0	0	15	100
TS4	Effective Operation	8	53	5	33.3	2	13.3	0	15	15	100
TS5	Appropriate from top management	8	53	4	26.6	3	20	0	0	15	100
TS6	Is there Brainstorming session	15	100	0	0	0	0	0	0	15	100
TS7	Was Brainstorming useful	7	47	4	26.6	3	20	1	6.6	15	100
TS8	Effective Leadership	6	40	8	53.3	1	6.67	0	0	15	100
TS9	Best Performance by Individual	6	40	4	26.6	5	33.3	0	0	15	100
TS10	Best Contribution by individual	6	40	4	26.6	5	33.3	0	0	15	100

In contrast, Table 4.2 illustrates that the highest scores by software development team members with the preference (Agree) were in the variables clear role and responsibility, effective Operation, appropriate from top management, brainstorming session useful and effective leadership. Nevertheless, the highest score in the preferences (Sometimes) were in variable best Performance by individual and best contribution by individual. In addition, variables of effective communication, appreciation from top management, useful brainstorming session and best contribution by individual had the highest scores with preferences (No). Finally, two respondents from software development team select the preference (Not applicable) for the variable best performance by individuals.

Table 4.2: Team Synergy Responses – Team 2 (Software Development Team)– Frequency and Percentage

	Team Synergy	Team 2 - Software Development Team (12 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		F	%	*f*	%	*f*	%	*F*	%	*f*	%
TS1	Vision, Mission	5	41.7	4	33.3	2	16.6	1	8.3	12	100
TS2	Clear Role and Responsibility	6	50	4	33.3	2	16.6	0	0	12	100
TS3	Effective Communication	5	41.7	3	25	3	25	1	8.3	12	100
TS4	Effective Operation	6	50	4	33.3	2	16.6	0	0	12	100
TS5	Appreciation from top management	5	41.7	3	25	3	25	1	8.33	12	100
TS6	Is there Brainstorming session	12	100	0	0	0	0	0	0	12	100
TS7	Was Brainstorming useful	6	50	3	25	3	25	0	0	12	100
TS8	Effective Leadership	6	50	4	33.3	1	8.33	1	8.33	12	100
TS9	Best Performance by Individual	3	25	5	41.7	2	16.6	2	16.6	12	100
TS10	Best Contribution by individual	4	33.3	5	41.7	3	25	0	0	12	100

Table 4.3 and 4.4 summarizes descriptive statistics parameters for the conducted survey for team 1 and team 2 members. This statistic proves that, team 1 members have the highest means in all preferences compared to team 2 except in the variable (Effective Communication) where score mean was 1.53 and 1.60 respectively as it is illustrated below in Figure 4.6.

Table 4.3: Team Synergy Responses – Team 1 (Manual Development Team) – Descriptive Analysis

		Team 1 (Manual Development Team)				
	Team Synergy	***Mean***	**Mode**	***Range***	**Median**	***Std. Dev.***
TS1	Vision, Mission	1.73	1.00	2.00	1.00	0.88
TS2	Clear Role and Responsibility	1.67	1.00	3.00	1.00	0.90
TS3	Effective Communication	1.53	1.00	2.00	1.00	0.74
TS4	Effective Operation	1.60	1.00	2.00	1.00	0.74
TS5	Appropriate from top management	1.67	1.00	2.00	1.00	0.82
TS6	Is there Brainstorming session	1.00	1.00	0.00	1.00	0.00
TS7	Was Brainstorming useful	1.87	1.00	3.00	2.00	0.99
TS8	Effective Leadership	1.67	2.00	2.00	2.00	0.62
TS9	Best Performance by Individual	1.93	1.00	2.00	2.00	0.88
TS10	Best Contribution by individual	1.93	1.00	2.00	2.00	0.88

Table 4.4: Team Synergy Responses – Team 2 (Software Development Team) – Descriptive Analysis

		Team 2 (Software Development Team)				
	Team Synergy	***Mean***	**Mode**	***Range***	**Median**	***Std. Dev.***
TS1	Vision, Mission	1.53	1.00	3.00	2.00	1.00
TS2	Clear Role and Responsibility	1.33	1.00	2.00	1.50	0.78
TS3	Effective Communication	1.60	1.00	3.00	2.00	1.04
TS4	Effective Operation	1.33	1.00	2.00	1.50	0.78
TS5	Appropriate from top management	1.60	1.00	3.00	2.00	1.04
TS6	Is there Brainstorming session	0.80	1.00	0.00	1.00	0.00
TS7	Was Brainstorming useful	1.40	1.00	2.00	1.50	0.87
TS8	Effective Leadership	1.40	1.00	3.00	1.50	0.97
TS9	Best Performance by Individual	1.80	2.00	3.00	2.00	1.06
TS10	Best Contribution by individual	1.53	2.00	2.00	2.00	0.79

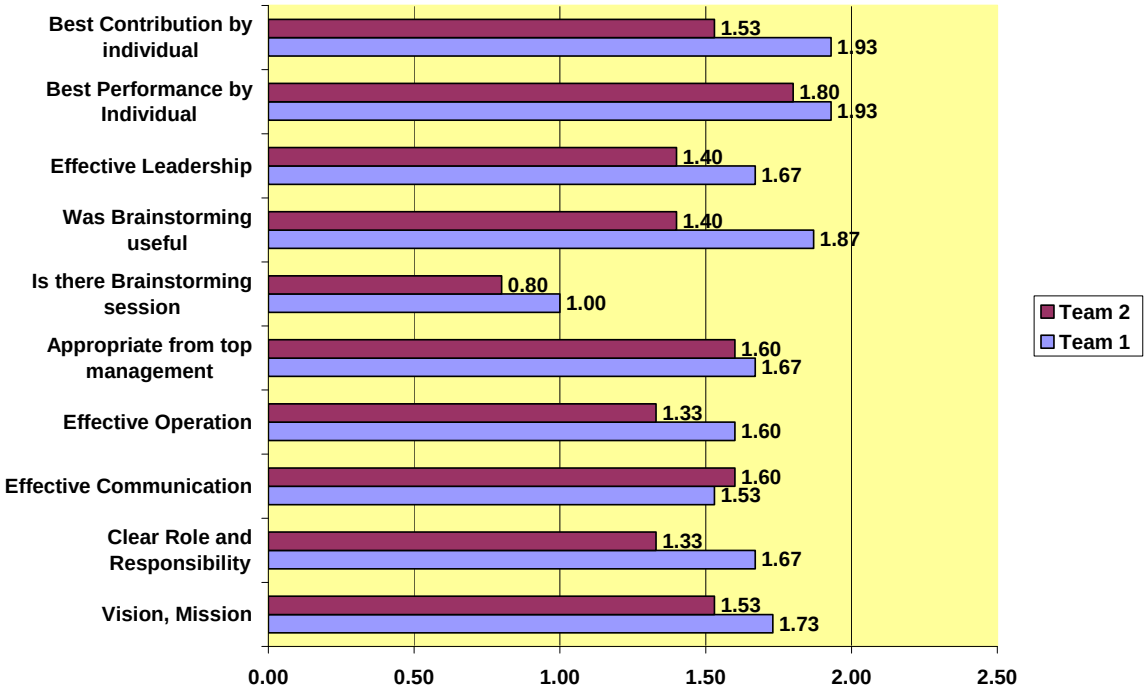

Figure 4.6: Cluster 1 – Team Synergy – Compare Means for Team 1 and Team 2

4.3.2 Cluster 2 : Performance Objective

Table 4.5 illustrates that, team 1 members high preferences (Agree) was clear goals for all individuals in the team. On the other hand, the high preferences (Sometimes) with 6 score out of 15 was in the variable about frequent progress report on how the team achieved their objective. The highest disagree result was in the variable clear goals for all individual in the team with score of 4 out of 15. Finally, the highest not/ applicable preferences were in variables managing triple constrains professionally and adequate training for team members to do professional job with a score of 2 out of 15.

Table 4.5: Performance Objectives – Team 1 (Manual Development Team) – Frequency and Percentage

	Performance Objectives	Team 1 - Manual Development Team (15 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		f	%	*F*	%	*f*	%	*F*	%	*f*	%
PO1	Clear Goal for Individual	8	53.3	3	20	4	26.6	0	0	15	100
PO2	Frequent Progress Reports about Achievements	6	40	6	40	3	20	0	0	15	100
PO3	Main Objective awareness	7	46.7	5	33.3	2	13.3	1	6.66	15	100
PO4	Triple Constrains managed professionally	6	40	4	26.6	3	20	2	13.3	15	100
PO5	Adequate Training to do professional job	6	40	5	33.3	2	13.3	2	13.3	15	100

Table 4.6 illustrates that; team 2 members' high preferences (Agree) was also clear goals for all individuals in the team with a score of 9 out of 12 (75 %). Secondly, the high preferences (Sometimes) was in the variable about managing triple constrains professionally with a score of 6 out of 12 (50%). Thirdly, the highest (disagree) results were in the variables clear goals for all individual in the team, the team aware on the main objective of the project and managing triple constrains professionally with score of 3 out of 12 (25%). Lastly, the highest (not/ applicable) preferences was in the variable the team aware on the main objective of the project with a score of 1 out of 12 (8.3 %).

Table 4.6: Performance Objectives – Team 2 (Software Development Team) – Frequency and Percentage

	Performance Objectives	Team 2 - Software Development Team (12 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		f	%	*f*	%	*f*	%	*F*	%	*f*	%
PO1	Clear Goal for Individual	9	75	0	0	3	25	0	0	12	100
PO2	Frequent Progress Reports about Achievements	6	50	4	33.3	2	16.6	0	0	12	100
PO3	Main Objective awareness	4	33.3	4	33.3	3	25	1	8.3	12	100
PO4	Triple Constrains managed professionally	3	25	6	50	3	25	0	0	12	100
PO5	Adequate Training to do professional job	6	50	4	33.3	2	16.6	0	0	12	100

Table 4.7: Performance Objectives – Team 1 (Manual Development Team)– Descriptive Analysis

		Team 1 (Manual Development Team)				
	Performance Objectives	*Mean*	Mode	*Range*	Median	*Std. Dev.*
PO1	Clear Goal for Individual	1.73	1.00	2.00	1.00	0.88
PO2	Frequent Progress Reports about Achievements	1.80	2.00	2.00	2.00	0.77
PO3	Main Objective awareness	1.80	1.00	3.00	2.00	0.94
PO4	Triple Constrains managed professionally	2.07	1.00	3.00	2.00	1.10
PO5	Adequate Training to do professional job	2.00	1.00	3.00	2.00	1.07

Table 4.8: Performance Objectives – Team 2 (Software Development Team) – Descriptive Analysis

		Team 2 (Software Development Team)				
	Performance Objectives	***Mean***	**Mode**	***Range***	**Median**	***Std. Dev.***
PO1	Clear Goal for Individual	1.20	1.00	2.00	1.00	0.90
PO2	Frequent Progress Reports about Achievements	1.33	1.00	2.00	1.50	0.78
PO3	Main Objective awareness	1.67	1.00	3.00	2.00	1.00
PO4	Triple Constrains managed professionally	1.60	2.00	2.00	2.00	0.74
PO5	Adequate Training to do professional job	1.33	1.00	2.00	1.50	0.78

Table 4.7 and 4.8 summarizes descriptive statistics parameters for the conducted survey for team 1 and team 2 members in the second cluster. This statistic proves that, team 1 members have the highest means in all preferences compared to team 2. The highest mean difference between team 1 and team 2 was in the variable Adequate training to do professional job score mean was 0.67 which indicates that team 1 members believe that they had adequate training to execute their task in a professional way more that what was felt by team 2 members. Please refer to figure 4.7 below.

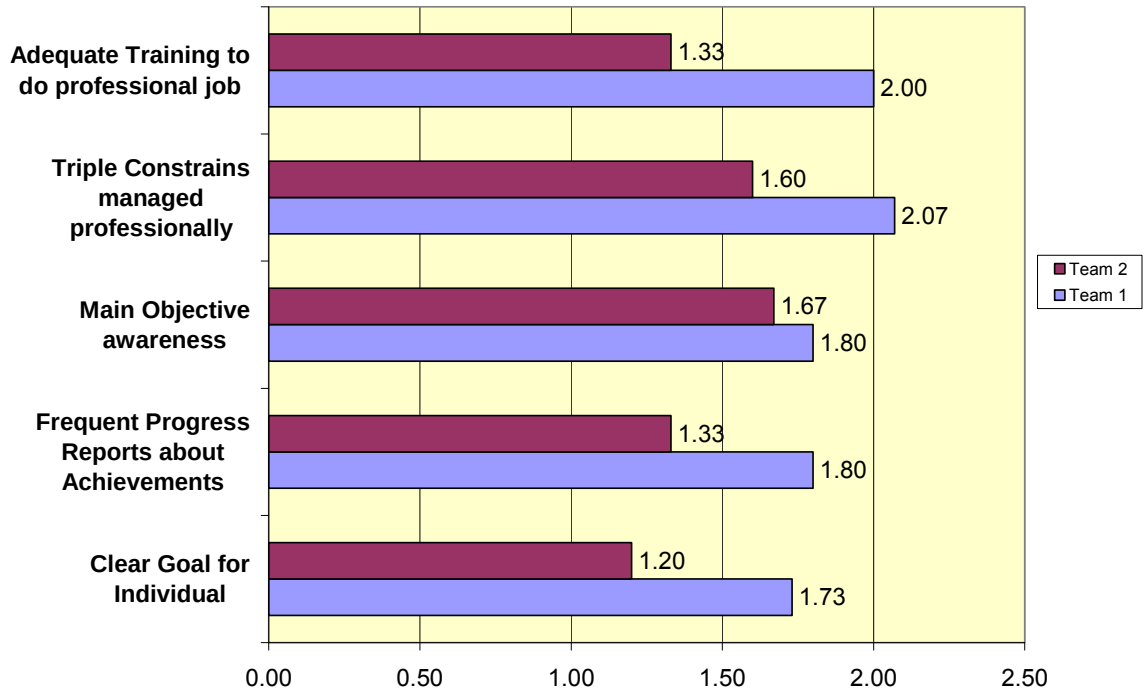

Figure 4.7: Cluster 2– Performance Objectives Compare Means for Team 1 and Team 2

4.3.3 Cluster 3 : Skills

Table 4.9 illustrates that; team 1 members' high preferences (Agree) was in the variable adequate training on the business process and procedures related to the project with a score of 8 out of 15 (53.3 %). Secondly, the high preferences (Sometimes) was in the variable about the top management has a clear idea on the needed resource and they make sure that they are available for staff training with a score of 12 out of 15 (80%). Thirdly, the highest (disagree) results were in the variables top management has a clear idea on the needed resource and they make sure that they are available for staff training and training is highly valued within the team with score of 3 out of 15 (20%). Lastly, the highest (not/ applicable) preferences was in the variable adequate training on the business process and procedures related to the project with a score of 1 out of 15 (6.67 %).

Table 4.9: Skills Reponses – Team 1 (Manual Development Team) – Frequency and Percentage

	Skills	Team 1 - Manual Development Team (15 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		F	%	*F*	%	*F*	%	*F*	%	*F*	%
S1	Adequate Training on business process and procedures related to the project	8	53.3	5	33.3	1	6.67	1	6.67	15	100
S2	Resources needed availability for team members	0	0	12	80	3	20	0	0	15	100
S3	Highly value for training	6	40	6	40	3	20	0	0	15	100

Table 4.10 illustrates that; team 2 members' high preferences (Agree) was in the variable top management has a clear idea on the needed resource and they make sure that they are available for staff training and training is highly valued within the team with a score of 6 out of 12 (50 %). Secondly, the preference (sometimes) was selected equally between the three variables S1, S2 and S3 with a score of 4 out of 12 (33.3%). Finally, the highest (disagree) and (not applicable) result was in the variable top adequate training on the business process and procedures related to the project with score of 3 out of 12 (25%) and 1 out of 12 (8.3%) respectively.

Table 4.10: Skills Reponses – Team 2 (Software Development Team) – Frequency and Percentage

	Skills	Team 2 - Software Development Team (12 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		F	%	*F*	%	*F*	%	*F*	%	*F*	%
S1	Adequate Training on business process and procedures related to the project	4	33.3	4	33.3	3	25	1	8.3	12	100
S2	Resources needed availability for team members	6	50	4	33.3	2	16.6	0	0	12	100
S3	Highly value for Training	6	50	4	33.3	2	16.6	0	0	12	100

Table 4.11: Skills – Team 1 (Manual Development Team) – Descriptive Analysis

	Skills	*Team 1 (Manual Development Team)*				
		Mean	Mode	*Range*	Median	*Std. Dev.*
S1	Adequate Training on business process and procedures related to the project	1.67	1.00	3.00	1.00	0.90
S2	Resources needed availability for team members	2.20	2.00	1.00	2.00	0.41
S3	Highly value for training	1.80	2.00	2.00	2.00	0.77

Table 4.12: Skills – Team 2 (Software Development Team) – Descriptive Analysis

	Skills	*Team 2 (Software Development Team)*				
		Mean	Mode	*Range*	Median	*Std. Dev.*
S1	Adequate Training on business process and procedures related to the project	1.67	2.00	3.00	2.00	1.00
S2	Resources needed availability for team members	1.33	1.00	2.00	1.50	0.78
S3	Highly value for training	1.33	1.00	2.00	1.50	0.78

Table 4.11 and 4.12 summarizes descriptive statistics parameters for the conduct survey for team 1 and team 2 members in the third cluster (Skills). The highest mean difference between team 1 and team 2 was in the variable top management has a clear idea on the needed resource and they make sure that are available for staff training with a score mean was 0.87 which indicates that team 1 members believe that the top management has a clear idea on the needed resources and they make sure that are available for staff training more than what was believed by team 2 members.

On the other hand, both teams has similar score mean in the variable (top adequate training on the business process and procedures related to the project) with a mean score of 1.67. Please refer to figure 4.8 below.

Figure 4.8: Cluster 3 - Skills - Compare Means of Team 1 and Team 2

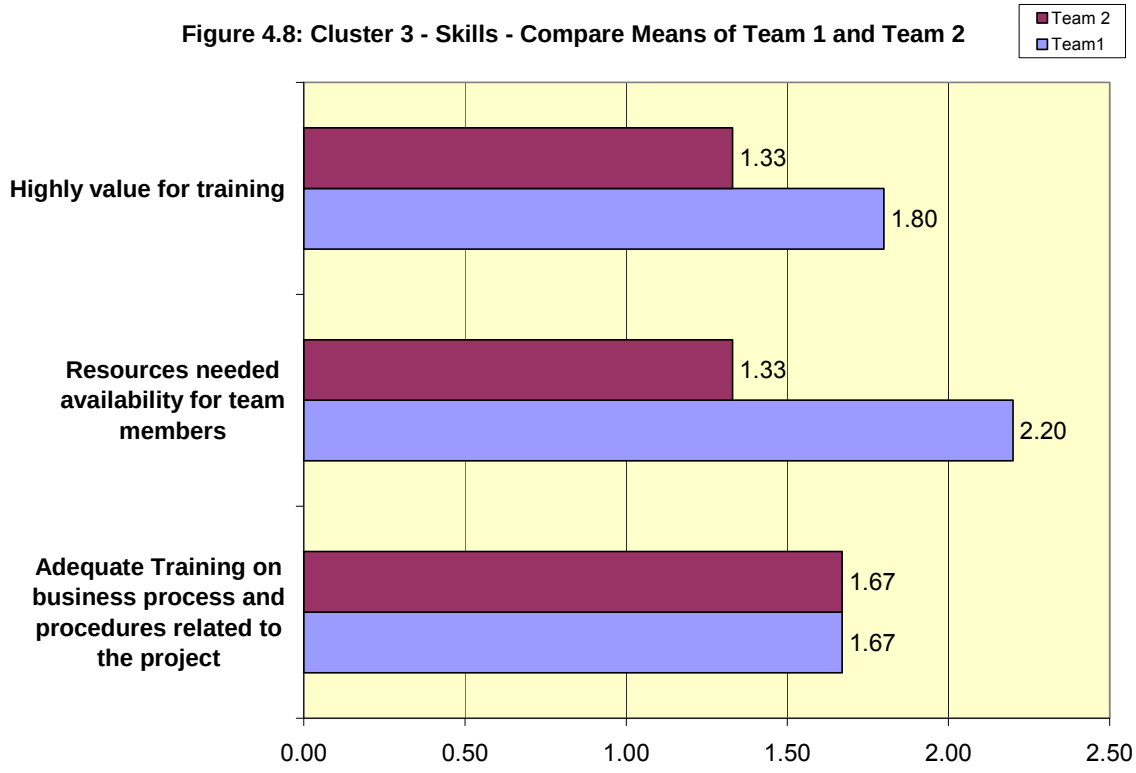

Figure 4.8: Cluster 3– Skills Compare Means for Team 1 and Team 2

4.3.4 Cluster 4: Use of Resources and Innovation

Table 4.13 illustrates that; team 1 members' high preferences (Agree) were in the variables **members of the team are encouraged to try new work methods or introduce new way of doing things and the project manager (leader) reward his team member for their innovation** with a score of 8 out of 15 (53.3%) Secondly, the high preferences (Sometimes) was in the variable **solving any constrains while execution the project was seen as opportunity to learn and improve** was the highest (sometimes) preferences with a score of 7 out of 15 (46.6%). Thirdly, the highest (disagree) results were in the variables **top management has a clear idea on the needed resource and they make sure that are available for staff training** and **training is highly valued within the team** with score of 3 out of 15 (20%). Lastly, the highest (not/ applicable) preferences was in the variable **feedback on project progress is submitted to the project team in regular basis** with a score of 2 out of 15 (13.3 %).

Table 4.13: Use of Resources and Innovation Reponses – Team 1 (Manual Development Team) – Frequency and Percentage

	Use of Resources and Innovation	Team 1 - Manual Development Team (15 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		F	%	*F*	%	*F*	%	*F*	%	*F*	%
RI1	Top management monitor and control use of resources	7	46.7	5	33.3	3	20	0	0	15	100
RI2	Solving constrains are seen as opportunity to improve	4	26.7	7	46.6	3	20	1	6.6	15	100
RI3	Regular feedback about the progress of the project	6	40	3	20	4	26.6	2	13.3	15	100
RI4	Members are encouraged to try new work methods	8	53.3	6	40	1	6.6	0	0	15	100
RI5	Your leader reward his team member for their innovation	8	53.3	5	33.3	1	6.67	1	6.67	15	100

Table 4.14 illustrates that, team 2 members' high preferences (Agree) were in the variables (RI1, RI4 and RI5) **top management has a clear idea on the needed resource and they make sure that are available for staff training** and **training is highly valued within the team**, **members of the team are encouraged to try new work methods or introduce new way of doing things,** and **the project manager**

(leader) reward his team member for their innovation with a score of 5 out of 12 (41.7%).

Secondly, the high preferences (Sometimes) were in the variable (RI1 and RI2) **top management has a clear idea on the needed resource and they make sure that are available for staff training** and **solving any constrains while execution the project was seen as opportunity to learn and improve** with a score of 5 out of 12 (41.7%).

Thirdly, the highest (disagree) results were in the variables (RI2 and RI4) **solving any constrains while execution the project was seen as opportunity to learn and improve** and **members of the team are encouraged to try new work methods or introduce new way of doing things** with score of 3 out of 12 (25%).

Finally, the highest (not/ applicable) preferences was in the variable **feedback on project progress is submitted to the project team in regular basis** with a score of 3 out of 12 (25 %).

Table 4.14: Use of Resources and Innovation Reponses – Team 2 (Software Development Team) – Frequency and Percentage

	Use of Resources and Innovation	Team 2 - Software Development Team (12 members)									
		Agree/		Sometimes		No		N / Applic.		Total	
		F	%	*F*	%	*F*	%	*F*	%	*F*	%
RI1	Top management monitor and control use of resources	5	41.7	5	41.7	1	8.3	1	8.3	12	100
RI2	Solving constrains are seen as opportunity to improve	4	33.3	5	41.7	3	25	0	0	12	100
RI3	Regular feedback about the progress of the project	4	33.3	3	25	2	16.6	3	25	12	100
RI4	Members are encouraged to try new work methods	5	41.7	3	25	3	25	1	8.3	12	100
RI5	Your leader reward his team member for their innovation	5	41.7	4	33.3	2	16.6	1	8.3	12	100

Table 4.15 and 4.16 summarizes descriptive statistics parameters for the conduct survey for team 1 and team 2 members in the fourth cluster (Use of Resources and Innovation). The highest mean difference between team 1 and team 2 (team 1 – team 2) was in the variable **solving any constrains while execution the project was seen as opportunity to learn and improve** with a score mean was 0.54 which indicates that team 1 members believe that **solving any constrains while execution the project was seen as opportunity to learn and improve** more than what was believed by team 2 members.

Table 4.15: Use of Resources and Innovation – Team 1 (Manual Development Team) – Descriptive Analysis

		Team 1 (Manual Development Team)				
	Use of Resources and Innovation	***Mean***	**Mode**	***Range***	**Median**	***Std. Dev.***
RI1	Top management monitor and control use of resources	1.73	1.00	2.00	2.00	0.80
RI2	Solving constrains are seen as opportunity to improve	2.07	2.00	3.00	2.00	0.88
RI3	Regular feedback about the progress of the project	2.13	1.00	3.00	2.00	1.13
RI4	Members are encouraged to try new work methods	1.53	1.00	2.00	1.00	0.64
RI5	Your leader reward his team member for their innovation	1.67	1.00	3.00	1.00	0.90

Table 4.16: Use of Resources and Innovation – Team 2 (Software Development Team) – Descriptive Analysis

		Team 2 (Software Development Team)				
	Use of Resources and Innovation	***Mean***	**Mode**	***Range***	**Median**	***Std. Dev.***
RI1	Top management monitor and control use of resources	1.47	1.00	3.00	2.00	0.94
RI2	Solving constrains are seen as opportunity to improve	1.53	2.00	2.00	2.00	0.79
RI3	Regular feedback about the progress of the project	1.87	1.00	3.00	2.00	1.23
RI4	Members are encouraged to try new work methods	1.60	1.00	3.00	2.00	1.04
RI5	Your leader reward his team member for their innovation	1.53	1.00	3.00	2.00	1.00

On the other hand, both teams have almost similar score means with a minor advantage for team 2 in the variable **members of the team are encouraged to try new work methods or introduce new way of doing things** with a team 2 and team 1 mean score of 1.60 and 1.53 respectively. This indicates that both teams had almost similar views about this variable. Please refer to figure 4.44 below.

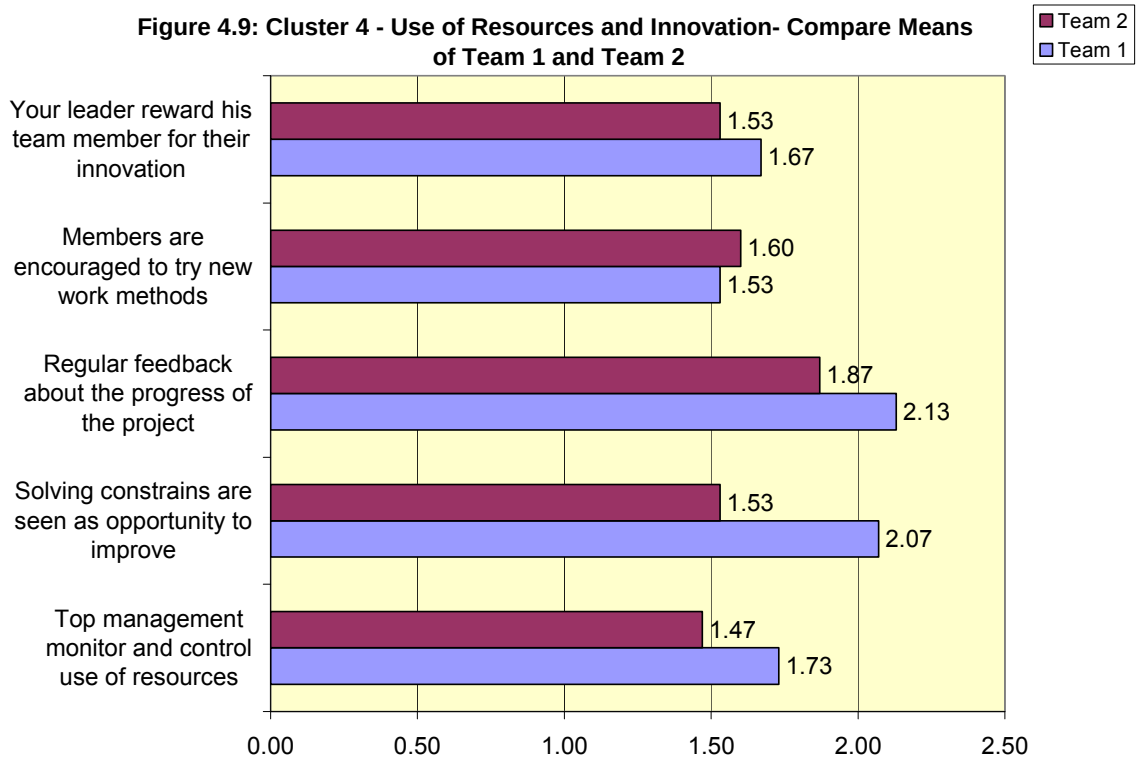

Figure 4.9: Cluster 4– Use of Resources and innovation – Compare Means of Team 1 and Team 2

4.3.5 Comparison of Mean Scores

Table 4.17 describes the mean score for effectiveness measurement both teams. In order to interpret the results easily, the data is arranged into two combined criterion which are:

1. Section 1 & 2: The mean results from 2.222 to 1.814 are considered as section 1. On the other hand, results from 1.777 to 1 are considered as section 2:
2. The results distributed according to the rounding of the mean value. For instance, the mean value of 2.222 was rounded to 2 and clustered with other results in the range 2. This criteria applies to all other variables.

Table 4.17: Compare Mean Score

		Question Number	Cluster	Description	Mean	Mean Range
SECTION 1	1	**RI3**	Resource and Innovation	Regular feedback about the progress of the project	2.222	2
	2	TS9	Team Synergy	Best Performance by Individual	2.074	2
	3	PO4	Performance Objectives	Triple Constrains managed professionally	2.037	2
	4	RI2	Resource and Innovation	Solving constrains are seen as opportunity to improve	2.000	2
	5	S2	Skills	Highly value for training	1.962	1.9
	6	TS5	Team Synergy	Appropriate from top management	1.925	1.9
	7	TS10	Team Synergy	Best Contribution by individual	1.925	1.9
	8	PO3	Objectives	Main Objective awareness	1.925	1.9
	9	PO5	Objectives	Adequate Training to do professional job	1.851	1.8
	10	S1	Skills	Adequate Training on business process and procedures related to the project	1.851	1.8
	11	TS1	Team Synergy	Vision, Mission	1.814	1.8
	12	TS7	Team Synergy	Was Brainstorming useful	1.814	1.8
SECTION 2	13	RI1	Resource and Innovation	Top management monitor and control use of resources	1.777	1.7
	14	RI5	Resource and Innovation	Your leader reward his team member for their innovation	1.777	1.7
	15	TS3	Team Synergy	Effective Communication	1.740	1.7
	16	PO2	Objectives	Frequent Progress Reports about Achievements	1.740	1.7
	17	S3	Skills	Resources needed availability for team members	1.740	1.7
	18	RI4	Resource and Innovation	Members are encouraged to try new work methods	1.740	1.7
	19	TS8	Team Synergy	Effective Leadership	1.703	1.7
	20	TS2	Team Synergy	Clear Role and Responsibility	1.667	1.6
	21	TS4	Team Synergy	Effective Operation	1.629	1.6
	22	PO1	Objectives	Clear Goal for Individual	1.629	1.6
	23	TS6	Team Synergy	Is there Brainstorming session	1	1

First of all, the above table illustrates that RI3 **(Regular feedback about the progress of the project)** and RI2 **(Solving constrains are seen as opportunity to improve)** questions from Resource and Innovation cluster had a result which (Mean value ≥ 2.00) are 2.222 and 2.000 respective. This indicates that both teams members believe that

project leaders are providing them in regular basis feedback which help them in monitor the progress of execution the project. In addition, both teams' members think that overcoming any constrains while execution the project were seen as opportunity to learn and improve.

The second and the third highest mean score were 2.074, 2.037 in the Team Synergy Cluster (TS9) (**All individual try to perform to the best of their ability within the team)** and Performance Objective Cluster (PO4) **(The triple constrains on the project – Time, Cost, Quality – were managed professionally)**.

On the other hand, the above ranking order shows that Team Synergy question had a low means and ranked in the second section such as TS3 , TS8, TS2, TS4 and TS6 which had the a mean scores of 1.740, 1.703, 1.667, 1.629 and 1. This result means that some areas in team synergy cluster needs improvement in future in terms to have effective project team.

Finally, another surprising result was the PO1 question **(There are clear goals for all individual in the team)** in the Performance Objective cluster which had a result of 1.629 and ranked as the second low score. The organisation needs to give high attention to this area as many members working within the project will work without clear and appropriate goals which will result in facing a lot of problems and consequently will effect in achieving the main objectives of the project

4.3.6 Mean Score and Standard Deviation Combined Results

The following figure illustrates a comparison between the combined results form manual development team and software development team about the mean responses and standard deviation across the different clusters. The results show that performance and innovation clusters had the highest scored mean and the standard deviation (1.9 and 0.92) respectively, which means that both teams believe in the variables of this cluster. However, team synergy cluster scored the lowest mean and standard deviation (1.73 and 0.78) respectively. This indicates that organisation needs to focus in this cluster to improve team effectiveness in the future projects.

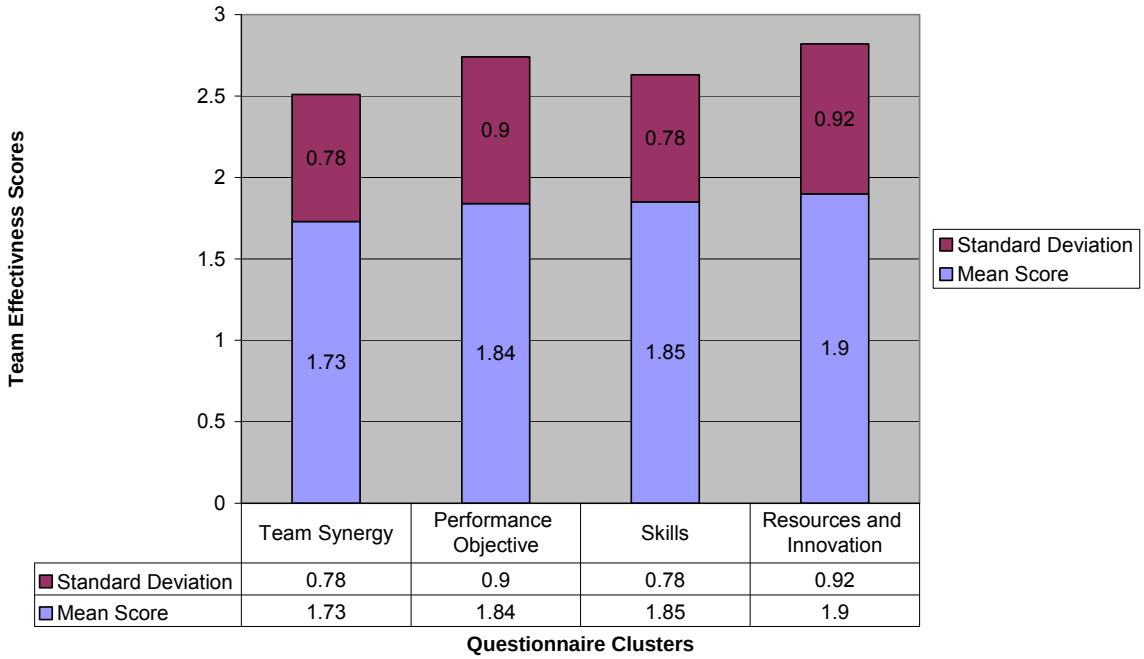

Figure 4.10: Comparison between the combined results of Mean Score and Std. Deviation

4.4 Analysis of variables using SPSS software

4.4.1 Spearman Rank Order Correlation Test

This type of test is used when the assumptions underlying correlation cannot be met adequately, a non-parametric alternative is Spearman's rank-order correlation. The nonparametric alternative to the parametric bivariate correlation (Pearson's r) is Spearman's rho.

This test is conducted to examine the correlation between the respondents of questionnaires applied for a two working team in same organisation but working with different projects.

The first step was to create the file for importing the data from Microsoft Excel. Secondly, the test was conducted by selecting analyze, correlate, bivariate then tick of spearman and two-tailed and press ok. The results will be presented on a table as shown in Appendix E.

The results shows a correlation of building effective project team in a descending order of strength of association (Highest significant to Low significances) from 0.755 to 0.573 as it is shown in table 4.18

Table 4.18: Correlation coefficient results from responses of team 1 and 2

	Spearman's Correlation Coefficient – Significance = 0.755 (**)	
1	**Cluster 1 : Team Synergy** TS1 : Vision and Mission	**Cluster 4: Use of Resource and Innovation** RI 4 : Members are encouraged to try new work methods
	Spearman's Correlation Coefficient – Significance = 0.696 (**)	
2	**Cluster 2 : Performance Objective** PO5: Adequate Training to do professional job	**Cluster 3 : Skills** S3: Highly value for training
	Spearman's Correlation Coefficient – Significance = 0.671 (**)	
3	**Cluster 1 : Team Synergy** TS1 : Vision and Mission	**Cluster 2 : Performance Objective** PO5: Adequate Training to do professional job
	Spearman's Correlation Coefficient – Significance = 0.615 (**)	
4	**Cluster 3 : Skills** S2 : Resources needed availability for team members	**Cluster 3 : Skills** S3: Highly value for training
	Spearman's Correlation Coefficient – Significance = 0.573 (**)	
5	**Cluster 1 : Team Synergy** TS1 : Vision and Mission	**Cluster 2 : Performance Objective** PO3: Main Objective awareness
	Spearman's Correlation Coefficient – Significance = 0.491 (**)	
6	**Cluster 1 : Team Synergy** TS1 : Vision and Mission	**Cluster 3 : Skills** S3: Highly value for training
	Spearman's Correlation Coefficient – Significance = - 0.485 (**)	
7	**Cluster 1 : Team Synergy** TS10 : Best contribution by individual	**Cluster 2 : Performance Objective** PO4: Triple constrains managed professionally

Results which have significance level from 0.755 to 0.615 (1-4) will be deeply analysed below. However, results which have significance level from 0.573 to 0.485 (5-7) will be attached in Appendix F.

4.4.2 Cross tabulation & Chi- Square

Before start cross tabulation test, a modification has been done to data values by recording. This action was done to recode the negatively worded scale items. The response format was 1 = Agree / Yes, 2 = Undecided / Sometimes, 3 = Disagree / No, 4 = Not applicable. These values will be change depends on the frequency of the preferences and the high value (s) will have number 1 and the lower value (s) will have number 0.

4.4.2.1 Cross tabulation & Chi-square for TS1 and RI4 Significance = 0.755 (**)

Table 4.19: Description of Team Synergy Question 1 & Resources and Innovation Question 4

TS1	*RI 4*
The project's mission, vision was clear to the team members	Members of the team are encouraged to try new work methods or introduce new way of doing things

In this result, Preferences 1 (Agree / Yes) was the highest among the total number of sample compared to the other preferences 2,3,4 (Undecided/ sometimes) and (Disagree / No) and (Not applicable). As a result, value 1 will be given for (Agree/ Yes) and value 0 for the other preferences.

TS1 * RI4 Crosstabulation

Table 4.20: Cross-tabulation for TS1 & RI 4

			RI4		Total
			0.0	1.0	
TS1	0.0	Count	12	2	14
		% of Total	44.4%	7.4%	51.9%
	1.0	Count	1	12	13
		% of Total	3.7%	44.4%	48.1%
Total		Count	13	14	27
		% of Total	48.1%	51.9%	100.0%

Value .0 = Undecided / Sometimes, Disagree / No and Not applicable
Value 1.0 = Agree / Yes

Those respondents who agreed that the project mission and vision were clear to the team members compared to those who agree that the team members are encouraged to try new work methods or introduce new way of doing things was 12 (44.4%). From that result, we can see that there is a highly positive relationship between having clear project mission and vision and the encouraging team member to try new work methods.

Chi-Square Tests

Table 4.21: Chi-Square Tests for TS1 & RI 4

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	16.436(b)	1	.000		
Continuity Correction(a)	13.459	1	.000		
Likelihood Ratio	18.859	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	15.827	1	.000		
N of Valid Cases	27				

a Computed only for a 2x2 table
b 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.26.

The Pearson Chi-Square value in test was 16.436 with zero significance (.000). This significance value is below the alpha level of .05 and is therefore significant. This test indicates that there is a highly significant relationship between these two variables, and was positively correlated.

4.4.2.2 Cross tabulation & Chi-square for PO5 and S3 Significance = 0.696 (**)

Table 4.22: Description of Team Synergy Question 1 & Resources and Innovation Question 4

PO5	***S3***
The team members had adequate training to do a professional job	Training is highly valued within the team

In this results, Preferences 1 (Agree / Yes) was the highest among the total number of samples compared to the other preferences 2,3,4 (Undecided/ sometimes) and (Disagree / No) and (Not applicable). As a result, value 1 will be given for (Agree/ Yes) and value 0 for the other preferences.

PO5 * S3 Crosstabulation

Table 4.23: Crosstabulation for PO5 and S3

			S3		Total
			0.0	1.0	
PO5	0.0	Count	14	1	15
		% of Total	51.9%	3.7%	55.6%
	1.0	Count	2	10	12
		% of Total	7.4%	37.0%	44.4%
Total		Count	16	11	27
		% of Total	59.3%	40.7%	100.0%

Value 0.0 = Undecided / Sometimes, Disagree / No and Not applicable
Value 1.0 = Agree / Yes

Those respondents who agreed that the team members had adequate training to do a professional job compared to those who agree that training is highly valued within the team was 10 (37.0%). Therefore, there is a positive relationship between having adequate training and high training evaluate. In other words, the team members whose highly appreciate training are also agreeing that they had an adequate training to do their job professionally.

Chi-Square Tests

Table 4.24: Chi-Square Tests for PO5 and S3

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	16.231(b)	1	.000		
Continuity Correction(a)	13.210	1	.000		
Likelihood Ratio	18.337	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	15.630	1	.000		
N of Valid Cases	27				

a Computed only for a 2x2 table
b 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.89.

The Pearson Chi-Square value in test was 16.231 with zero significance (.000). This significance value is below the alpha level of .05 and is therefore significant. This test indicates that there is a highly significant relationship between these two variables and was positively correlated.

4.4.2.3 Cross tabulation & Chi-square for TS1 and PO5 Significance = 0.671 (**)

Table 4.25: Description of Team Synergy Question 1 & Resources and Innovation Question 4

TS1	*PO5*
The project's mission, vision was clear to the team members	The team members had adequate training on the business process and procedures related to the project

In this results, Preferences 1 (Agree / Yes) was the highest among the total number of samples compared to the other preferences 2,3,4 (Undecided/ sometimes) and (Disagree / No) and (Not applicable). As a result, value 1 will be given for (Agree/ Yes) and value 0 for the other preferences.

TS1 * PO5 Crosstabulation

Table 4.26: Crosstabulation for TS1 and PO5

			PO5		Total
			0.0	1.0	
TS1	0.0	Count	11	3	14
		% of Total	40.7%	11.1%	51.9%
	1.0	Count	4	9	13
		% of Total	14.8%	33.3%	48.1%
Total		Count	15	12	27
		% of Total	55.6%	44.4%	100.0%

Value 0.0 = Undecided / Sometimes, Disagree / No and Not applicable
Value 1.0 = Agree / Yes

Those respondents who agreed that the project mission and vision were clear to the team members compared to those who had adequate training to do a professional job was 9 (33.3%). Therefore, there is a positive relationship between having clear project mission and vision and the team being aware and committed on the main objective of the project in the execution phase.

Chi-Square Tests

Table 4.27: Chi-Square Test for TS1 and PO5

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.238(b)	1	.013		
Continuity Correction(a)	4.452	1	.035		
Likelihood Ratio	6.499	1	.011		
Fisher's Exact Test				.021	.017
Linear-by-Linear Association	6.007	1	.014		
N of Valid Cases	27				

a Computed only for a 2x2 table
b 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.78.

The Pearson Chi-Square value in test was 6.238 with a significance of .013. This significance value is well below the alpha level of .05 and is therefore significant.

4.4.2.4 Cross tabulation & Chi-square for S2 and S3 Significance = 0.615 (**)

Table 4.28: Description of Skills Cluster Question 2 & Resources and Innovation Cluster Question 3

S2	*S3*
The top management has a clear idea on the needed resources and they make sure that all resources are available for staff training	Training is highly value within the team

In this results, Preferences 2 (Undecided / Sometimes) was the highest among the total number of sample compared to the other preferences 1, 3, 4 (Agree/ Yes) and (Disagree / No) and (Not applicable). As a result, value 1 will be given for (Agree/ Yes) and value 0 for the other preferences.

S2 * S3 Crosstabulation

Table 4.29: Crosstabulation for S2 and S3

			S3		Total
			0.0	1.0	
S2	0.0	Count	10	1	11
		% of Total	37.0%	3.7%	40.7%
	1.0	Count	6	10	16
		% of Total	22.2%	37.0%	59.3%
Total		Count	16	11	27
		% of Total	59.3%	40.7%	100.0%

Value .0 = Agree / Yes, Disagree / No and Not applicable
Value 1.0 = Undecided / Sometimes

Those respondents who agreed that the top management has a clear idea on the needed resources and they make sure that all resources are available for staff training, compared to those who agreed that training is highly valued with the team was members had adequate training to do a professional job compared to those who agree that training is highly valued within the team was 10 respondents out of 27 (37.0%). Therefore, there is a positive relationship between these two variables. Or, in other words, when the top management had a clear idea on the needed resource and they make sure that all resources are available for staff training, as a result, the team members appreciates training and value it highly.

Chi-Square Tests

Table 4.30: Chi-Square Test for TS1 and PO5

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.702(b)	1	.006		
Continuity Correction(a)	5.648	1	.017		
Likelihood Ratio	8.627	1	.003		
Fisher's Exact Test				.008	.007
Linear-by-Linear Association	7.417	1	.006		
N of Valid Cases	27				

a Computed only for a 2x2 table
b 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.48.

The Pearson Chi-Square value in test was 7.702 with a significance of .0.06. This significance value is above the alpha level of .05 and is therefore it is insignificant.

4.4.3 Independent Sample T- Test

This test is carried out to know whether two team means are significantly different from each other .the purpose of this independent sample t-test is to test differences between group means. In summary, the results show that there is no variances score difference between responses from team 1 and team 2 for a significance at 1% level. However, there is one variance score that are significant at 5 % level which is located in cluster 3 question 2 “S2” (The top management has a clear idea on the needed resources and they make sure that all resources are available for staff training). As a result, this variance will be further analysed. (Refer to Appendix G).

Analysis result in Cluster 3 question 2

“The top management has a clear idea on the needed resources and they make sure that all resources are available for staff training”

The output of this test consists of two parts which are Group Statistics and Independent Samples Test as follow:

Group Statistics:

Table 4.31: Group Statistics for Question 2 in Cluster 3

	Respondent	N	Mean	Std. Deviation	Std. Error Mean
S2	1	15	2.2000	.41404	.10690
	2	12	1.6667	.77850	.22473

In this variable, team 1 consist of 15 members had a mean score of 2.200 with a std. deviation and std. error of 0.414 and 0.106 respectively. Similarly, team 2 consist of 12 members had a mean score of 1.667 and std. deviation and std. error of 0.778 and 0.224 respectively. In summary, members in team 1 believed that top management has a clear idea on the needed resources and they make sure that all resources are available for staff training more that what was believed by team 2.

Table 4.32: Independent Sample T-Test for Question 2 in Cluster 3

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
S2	Equal variances assumed	9.115	.006	2.287	25	.031	.53333	.23324	.05297	1.01370
	Equal variances not assumed			2.143	15.902	.048	.53333	.24886	.00550	1.06117

The significance level of Levene's test is greater than 0.05, as a result an assumption will be done that group variance are equal and will use first row of t test results.

The significance level is 0.06 (greater than 0.05), so the obtained t is 2.287 with 25 degree of freedom and it is significant at level of 0.031. Thus, it can be concluded that team 1 and team 2 are significantly different with respect to believing that top management has a clear idea on the needed resources and they make sure that all resources are available for staff training. More specifically, by examining group means and means difference (Group 1 mean – Group 2 mean) it is obvious that Team 1 member feel that top management has a clear idea on the needed resources and they make sure that all resources are available for staff training with an average of 5.333 more that what was believed by Team 2.

On the other hand, the 95% confident interval of the difference in feeling that top management has a clear idea on the needed resources and they make sure that all resources are available for staff training founded between all population of Team 1 and Team 2 between (0.05297 and 1.01370).

4.4.4 Cronbach- Alpha Reliability Test

Table 4.33 illustrates the Cronbach Alpha reliability test value according to the different clusters. It indicates that all results are low and

Table 4.33: Cronbach Alpha values for Effectiveness Clusters

Cluster	Cluster Description	Cronbach-Alpha Value
1	Team Synergy	0.195
2	Performance Objective	0.414
3	Skills	0.522
4	Resources and Innovation	0.094

As a result, some counter measure needs to be taken to improve these values. This can be achieved by including new test items, modifying test items, deleting some test items that have high values. Unfortunately, due to time constraints, introducing new test items or modifying them could not be done. However, deleting some test items which have high values were done in cluster 2, 3 and 4.

4.4.4.1 Cronbach Alpha Reliability Test for Cluster 1 : Team Synergy

As it is shown in tables 4.34 and 4.35, the Cronbach Alpha result was very low (0.195) and need to be improved. In addition, the TS6 result is not shown in table 4.35 because there was no variance and cannot be computed. (Refer to Appendix: H)

Table 4.34: Cronbach Alpha Reliability Test Results for Team Synergy Cluster

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.195	.187	9

Table 4.35: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TS1	14.3704	6.165	.266	.230	.038
TS2	14.5185	6.875	.153	.268	.126
TS3	14.4444	6.256	.257	.410	.048
TS4	14.5556	7.256	.107	.376	.157
TS5	14.3704	7.858	-.092	.208	.276
TS7	14.3704	7.781	-.077	.268	.267
TS8	14.4815	8.259	-.141	.153	.284
TS9	14.1111	6.795	.104	.127	.152
TS10	14.2593	7.199	.078	.141	.171

Counter Measures to Improver the Result- Team Synergy

Due to all Cronbach's Alpha results if items deleted were low (range from .038 to .0284). None of the items were deleted because it will not have a big effect on the Cronbach Alpha value. In future question items need to be redesigned.

4.4.4.2 Cronbach Alpha Reliability Test for Cluster 2 : Performance Objective

As it is shown in tables 4.34 and 4.35, the Cronbach Alpha result was very low (0.414) and need to be improved. (Refer to Appendix: I)

Table 4.36: Cronbach Alpha Reliability Test Results for Performance Objective Cluster

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.414	.418	5

Table 4.37: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PO1	7.5556	5.256	.011	.142	.500
PO2	7.4444	4.410	.338	.234	.281
PO3	7.2593	3.276	.544	.343	.052
PO4	7.1481	5.208	-.003	.195	.519
PO5	7.3333	4.154	.265	.108	.317

Counter Measures to Improver the Result- Performance Objectives

The counter measure taken to improve the result was to delete the test items which have high Cronbach's Alpha if items deleted which are PO4 and PO1 which has the results of

0.519 and 0.500. As a result, the Cronbach's Alpha value improved from 0.414 to 0.570 (Refer to Appendix: J)

Table 4.38: Cronbach Alpha Reliability Test Results for Performance Objective Cluster

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.570	.574	3

Table 4.39: Cronbach Alpha Reliability Item Statistics

	Mean	Std. Deviation	N
PO2	1.7407	.76423	27
PO3	1.9259	.95780	27
PO5	1.8519	.94883	27

Table 4.40: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PO2	3.7778	2.410	.371	.199	.492
PO3	3.5926	1.712	.497	.266	.266
PO5	3.6667	2.154	.295	.106	.606

4.4.4.3 Cronbach Alpha Reliability Test for Cluster 3 : Skills

As it is shown in tables 4.41, 4.42 and 4.43 the Cronbach Alpha result from the Cluster 3 (Skills) was the highest compared to the other clusters (0.522). However, it is still lower than 0.7 and there for needs to be improved. (Refer to Appendix: K)

Table 4.41: Cronbach Alpha Reliability Test Results Skills Cluster

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.522	.558	3

Table 4.42: Cronbach Alpha Reliability Item Statistics

	Mean	Std. Deviation	N
S1	1.7407	.85901	27
S2	1.9630	.64935	27
S3	1.7778	.75107	27

Table 4.43: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
S1	3.7407	1.584	.149	.037	.755
S2	3.5185	1.413	.524	.395	.157
S3	3.7037	1.370	.403	.377	.308

Counter Measures to Improve the Results- Skills

In this test, there was one test item (S1) with a very high value if the Cronbach Alpha item was deleted. This could not be done, because this cluster consists of 3 test items only. Therefore, the best measure to improve the Cronbach Alpha value is to introduce new test items.

4.4.4.4 Cronbach Alpha Reliability Test for Cluster 4 : Use of Resources and Innovation

As it is shown in tables 4.44, 4.45 and 4.46, the Cronbach Alpha result was the lowest compared to the other clusters (0.094) and need to be improved. (Refer to Appendix: L)

Table 4.44: Cronbach Alpha Reliability Item Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.094	.191	5

Table 4.45: Cronbach Alpha Reliability Item Statistics

	Mean	Std. Deviation	N
RI1	1.8148	.83376	27
RI2	2.0000	.83205	27
RI3	2.1852	1.17791	27
RI4	1.7037	.86890	27
RI5	1.7037	.86890	27

Table 4.46: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
RI1	7.5926	3.481	.147	.307	-.041(a)
RI2	7.4074	4.097	-.046	.106	.164
RI3	7.2222	4.410	-.235	.129	.457
RI4	7.7037	3.524	.109	.158	-.002(a)
RI5	7.7037	2.678	.423	.309	-.424(a)

a The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Counter Measure to improve the results – Resource and Innovation

The counter measure taken to improve the result was to delete the test item which has the highest Cronbach's Alpha if items deleted which was RI3 with a result of 0.457. As a result, the Cronbach's Alpha value significantly improved from 0.094 to 0.424 (Refer to Appendix: M)

Table 4.47: Cronbach Alpha Reliability Item Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
-.424	-.322	4

Table 4.48: Cronbach Alpha Reliability Item Statistics

	Mean	Std. Deviation	N
RI1	1.8148	.83376	27
RI2	2.0000	.83205	27
RI3	2.1852	1.17791	27
RI4	1.7037	.86890	27

Table 4.49: Cronbach Alpha Reliability Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
RI1	5.8889	2.179	-.080	.137	-.451(a)
RI2	5.7037	2.293	-.122	.098	-.356(a)
RI3	5.5185	2.336	-.290	.117	.124
RI4	6.0000	2.077	-.061	.040	-.504(a)

a The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

5 FINDINGS AND DISCUSSION

This chapter of the dissertation summarises the major findings from this research and data analysis. It will include findings from research carried out on building effective project teams in organisation. Finally, there will be discussion on how the aim and objective of this research are achieved by answering the research questions

5.1 Findings:

This dissertation has shown numerous findings which can be concluded as follows:

Best Types of Teams in Organisations: From the conducted literature review, It was found that there is no reckoner to tell precisely what category a particular team may fit into, or for giving exact picture of types of teams that operate in organisation. Therefore, for every project / task, there will be team type's selection criteria.

Team Effectiveness Measurement: Team effectiveness measurement is new in United Arab Emirates organisations which require more exploration training and implementation.

Challenges in of team development stages: It was found that team development stages pass through the following challenges,

- The forming stages: the challenge of managing preliminary entry
- The storming stages: managing expectations and status
- The Norming stage: managing member relationship and task efforts
- The performing stage: managing continual improvement and self-renewal
- The adjourning stage: task completion and the process of disbanding

Data analysis of Variables using SPSS:

Spearman's rho Correlation Coefficient test:

Chi-Square test: Chi-square tests indicate that there are 4 high positive relationships between two variables in the questionnaire which are (TS1 and RI4), (PO5 and S3), (TS1 and PO5) and (S2 and S3).

> **(TS1 and RI4):** the respondents who agree that the project team mission and vision were clear to the team members also agree that the team members were encouraged to try new work methods or introduce new way of doing things.

(P05 and S3): the respondents who agree that team members had adequate training to do a professional job also agree that training is highly valued with the team.

(TS1 and PO5): The respondents who agree that the project team mission and vision were clear to the team members also agree that team members had adequate training on the business process and procedure related to the project.

(S2 and S3): when the top management has a clear idea on the needed resource they make sure that all resources are available for training. As a result, team members will highly value training.

Independent T-Test: The result founded from The Independent T test approved that the variances of the two teams being compared were approximately equal. In other words, there was homogeneity between the test items both teams as the Levene's test is not significant (P > 0.5). However, there was heterogeneity between both teams in the test item (S2) [The top management has a clear idea on the needed resources and they make sure that all resources are available for staff training] as the Levene's test in significant (P < 0.5) p= 0.06. The reason that affects the final result is that in test item S2 there was the word "and" that might have affected the perception of respondents in team 1 and team 2.

Cronbach Alpha Reliability Test: The higher the Cronbach Alpha value is, the more reliable the test is. According to Nunnally (1978, citied by Chong 2007) the value of 0.7 and above is acceptable. However, it this test items the Cronbach Alpha value was lower (Cluster 1: Team Synergy: 0.195, Cluster 2 Performance Objective: 0.414, Cluster 3 Skills: 0.522, Cluster 4 Resources and Innovation: 0.094). As a result, it was found that when the Cronbach Alpha value improved when deleting some question items as follows:

Table 5.1: Cronbach Alpha Value

Cluster Num.	Cluster Description	Number Sample		After Deleting some question	
		Number of Variables	Cronbach-Alpha Value	Number of Variables	Cronbach-Alpha Value
1	Team Synergy	10	0.195	None of the items were deleted because all Cronbach's Alpha results if item deleted were low (range from .038 to .0284). in future, new test items need to be added in this cluster	
2	Performance Objective	5	0.414	3	0.570
3	Skills	3	0.522	None of the test items were deleted because this cluster consists of 3 variables only. Therefore, the best measure to improve the Cronbach Alpha value is to introduce new variables.	
4	Resources and Innovation	5	0.094	1	0.424

Population Size and Number of Variables: It was found that the size of population and number of variable is adequate for educational level only. However, in real life projects, larger numbers of respondents and variables are required.

5.2 Discussion:

At the beginning of this research, six main objectives were set up. First of all, explore the different types of teams and how they are related to group. Secondly, explore effective team characteristics. Thirdly, explore team building / formation stages. Fourthly, explore the role of leaders in team effectiveness. Fifthly, examine the competencies that make effective teams. Finally, measure the relationship between team synergy, performance, skills, resources and innovation and team effectiveness.

These research objectives were formulated in the following research questions:

1. What are teams, their types and how are they distinguished from groups?
2. What are the characteristics of an effective team?
3. What factors contribute toward building teams?
4. How does a team leader affect team effectiveness?
5. What are the competencies that affect team member effectiveness?
6. Do synergy, performance, skills, resources and innovation have an effect on team effectiveness?

This chapter will outline answers for the above research question.

Q.1) What are teams, their types and how are they distinguished from groups?

As illustrated in the literature review, there are several definitions of team. First of all, team can be defined as a group of members working together towards a specific goal, interacting to share information about the best procedures which help them in encouraging each others to achieve the maximum outcome (Mussnug and Hughey 2007). Also, Rabey (2003) defined teams as a group of members with complementary skills working together for an agreed purpose.

On the other hand, as was illustrated previously, there are number of various types of teams that can be found in organisation. Wood et al (2004) outlined that the four common types of teams are employee involvement team, problem solving team, self-managing team and virtual teams. On the other hand, McGreevy (2006) suggested three types of team which are operational teams, service teams and cross-functional teams. Finally, Duke Corporate Education (2005) points out that there are three types of team the can be found in working organisations which are management teams, specific project teams and Ad hoc teams.

Finally, teams can be distinguishing from group in the following context:

- **Goal:** team mostly has collective performance goals; however group share the information about goals
- **Synergy:** Teams has a positive attitude toward synergy; however, group attitude toward synergy is neutral.
- **Accountability:** Teams has an individual and mutual accountability; however, groups possess individual accountability only.
- **Skills:** team member acquiring a complementary skills; on the other hand, group acquiring a random and varied skills
- **Communication:** The team members possess a free flowing and candid communication. On the other hand, the group possess guarded and inconsistent communication skills

- **Trust:** team members have an autonomy trust between each other. However, group has a bureaucratic trust between its members.

Q.2) What are the characteristics of an effective team?

There are a number of different characteristics of team effectiveness as is illustrated in the literature review chapter. Smith (2004) illustrated that the effective team members should be positively interdependent by focusing on the common goals of their team. In addition, accountability for the individual and the group in managing own works or the work of the team. Also, there is promotive interaction between team members usually by face to face communication. Another issue is teamwork skills such as of effective communication, solving problems, decision making, leadership and managing conflict.

On the other hand, according to the literature review, Wood et. al (2004) identified ten characteristics that can help in identifying the effectiveness on team as follow:

- Sense of urgency and direction
- A lot of work done at start of the project
- A broad sense of shared responsibility for the team outcome
- Effective approaches in decision making and problem solving
- Team member have high level of commitment and trust between them
- Team members satisfied from their individual needs
- Cohesiveness between team members
- Ability to confront differences and deal with conflict
- Effective in dealing with minority opinions
- High communication pattern

Q.3) What factors contribute toward building effective team?

The research illustrates that there are two important factors contributing toward building effective team which are the ability to select team members and recognize the stages of team development.

First of all, McGreevy (2006, citing Belbin 1993) identified Belbin's nine team role preferences and the attributes of each role. In addition, Belbin proposed team role preferences at work to show which people according to the nine preferences can work well together and which would not.

The second issue contributing towards building effective teams is the recognizing and implementing the stages of team development in projects which consist of five stages The first stage of team development, which is the preliminary entry of members to the team. The second stage is storming which is a period marked of high emotion and tension among team members. The third stage is Norming at which team start to work together as a coordinated unit. The fourth stage is performing in which the team members will be seen as an organised, matured and well functioning team. The final stage adjourning in which the team will disband after they complete their job.

Q.4) How does a team leader affect team effectiveness?

Studies have found that a team leader can affect team effectiveness in different ways. First of all, the team leader must secure individual members involvement in the team and manage conflict between them. Secondly, the leader can help team establish goals for the individual and the whole team, while maintaining the direction to achieve them. Providing the needed resources, dealing with challenges are another issues helps team leader in affecting team effectiveness.

The team member satisfaction is another issue discussed which has significant impact on the overall effectiveness of the team. According to (Miles and Mangold, 2002, P114) there are numbers of factor contribute to team member satisfaction which are:

- **Communication:** team leaders must be competent to communication effectively that help in resolve conflicts to fulfill teams objectives

- **Team leader conflict resolution:** conflict resolution can be achieved through communication. As a result, communication must be a core competency to the team leader by which he/she will be able to communicate the team goals, resolve any conflict and build consensus.

- **Team leader Performance:** Likewise, team leader performance has an enormous affect on team effectiveness. To be effective, organisations which operate in team-based management style, need to aware their team leader to manage people instead on managing work (Stewart,1994). Consequently, team leaders will have to focus on building effective relations with individual team members and between the whole members of the team (Hill,1982).

Q.5) What are the competencies that affect team effectiveness?

An extensive research has been done to illustrate the competencies that affect team effectiveness. Harris and Harris (1996) pointed out that the required competencies are a mixture of technical and interpersonal skills. However, the most important competency is the ability to communicate in writing or orally at both levels of interpersonal and organisation levels.

On the other hand, the work of Margerison (2001) indicates that there are nine important competencies essentially to team members which are:

1. Advising : Gathering and reporting information
2. Innovation : Experimenting new ideas
3. Promoting : Exploring and presenting opportunities
4. Developing : Assessing new approaches
5. Organising : Arranging how things will work
6. Producing : Making or Delivering outputs
7. Inspecting : Controlling and auditing the working systems
8. Maintaining : Upholding and safeguarding standards and processes
9. Linking: Coordinating and integrating the above competencies.

Q.6) Do synergy, performance, skills, resources and innovation have effect on team effectiveness?

This research question was answered by the survey conducted as a part of this measure of team effectiveness. As analysed in chapter 4, there is a strong relationship between the above 4 clusters and team effectiveness, which was demonstrated by manual development team members and software development team members.

The results show that the cluster 4 (Resources and Innovation) in question RI3 **(Feedback on project progress is submitted to the project team in regular basis)** had the highest mean level of members' responses across the four clusters with a mean score of 2.222. The second highest mean score was 2.074 in cluster 1 (Team Synergy) in question TS9 **(All Individuals try to perform to the best of their ability within the team)**. The third highest mean score result was 2.037 in cluster (Performance and Objectives) in question PO4 **(The triple constrains on the project (Time, Cost, Quality) were managed professionally).**

On the other hand, two questions had the lowest mean score which was 1.629 in cluster 1 (Team Synergy) question TS4 question **(While executed the project, did you feel that your team operated in effective way)** and in cluster 2 (Performance Objective) question PO1 **(There are clear goals for all individual in the team)**.

On the other hand, the following table illustrated a comparison between the combined results from manual development team and software development team about the mean responses and standard deviation across the different clusters. The results shows that performance and innovation clusters had the highest scored mean of 1.9 and the standard deviation 0.92, which means that both teams belief in the variables of this cluster. The mean score for skills and performance objective clusters were almost the same with result of 1.85, however the standard deviation results were 0.78, 0.9 respectively. Finally, team synergy cluster scored the lowest mean of 1.73 and standard deviation of 0.73.

Table 5.2: Mean and Standard Deviation from All Clusters

Cluster	Variable	Mean	SD
1	Team Synergy	1.73	0.73
2	Performance Objective	1.84	0.9
3	Skills	1.85	0.78
4	Resources and Innovation	1.9	0.92

6 CONCLUSIONS AND RECOMMENDATION:

6.1 Conclusions

In conclusion, I would say that teams are the most valuable asset for any organisation. Teams play a fundamental role in the success of organisations.

- The purpose of this research was to explore the importance of having effective team to the success of organisations. Building an effective team is not an easy process and needs a lot of effort in order to improve the results of the teams

- The result shows that performance and innovation clusters had the highest scored mean and standard deviation (1.9 and 0.92) respectively, which means that both teams members were confident from the variables of this cluster. However, team synergy cluster scored the lowest mean and standard deviation (1.73 and 0.78) respectively. This signifies that the organisation needs to focus in this cluster to improve team effectiveness in the future projects.

- The Crosstabulation and Chi-square test shows that there is a highly significant relationship with zero significance between (Team Synergy question 1& Resource and Innovation question 4) and (Performance Objectives question 5 and Skills question 3).
- It was proved that the questionnaire is one of the most important tools to measure team effectiveness.
- Team competency is the key to team performance. Therefore, organisations need to trained their teams to be experienced in the interpersonal competency, technical and managerial competencies.

- Organisations need to learn, change and improve their effectiveness to develop and improve the generic competences of their teams. It is the management's responsibility to set up a strategic plan to meet certain competencies required by their leaders and members.

Finally, I would say that this research will add to the body of knowledge of Dubai government organisation and will help a department to improve it competitiveness in the ever changing environment of business.

6.2 Recommendation:

As a result of this preliminary research, a number of recommendations can be suggested.

To implement teams within organisation with high effectiveness, several recommended actions must be taken at different levels which are:

- Top management needs to build a culture within their organisation that supports team work by helping teams in setting up clear objectives, providing them with resources.
- Top management must ensure that team leaders and members possess the interpersonal, managerial and technical competencies that can help them success in their project.
- Team leaders should understand the interpersonal relationship between teams and members within the same team to reduce the conflict.
- Set up the required evaluation systems in order to assess teams while implementing projects.
- Team members must be willing to acquire the needed capabilities to be an effective team member through training and development.
- Improve the communication skills between team members.
- Organisations need to implement team effectiveness training courses which cover the important issues.
- It is recommended that organisations focus on the following competencies that contribute toward improvement of team leader effectiveness:

Table 6.1: Team leader competencies (Thomas, 1994)

Experience	Experience in the context of corporate significant issues.
Sensitivity	The leader sense of accountability to the team members and the organisation.
Judgment	Knowledge in business and commercial judgment.
Awareness	Team leader needs to be aware about the business environment and what added value to the customers.
Knowledge	Understand the structure and the operation of the team and the important matters which helps to success.
Skills	Skill in the area of decision making, strategy determination, formulating and achieving objectives, organising and motivating team members and monitoring the performance.
Strategy	The strategic perspective that help in embrace team performance
Monitoring	Monitor the performance of the team members and motivate them to achieve objectives.
Ethics	Team leader must be aware and sensitive to the attitudes and values of others.
Legal and financial	Knowledge in the legal and financial status of the organisation.

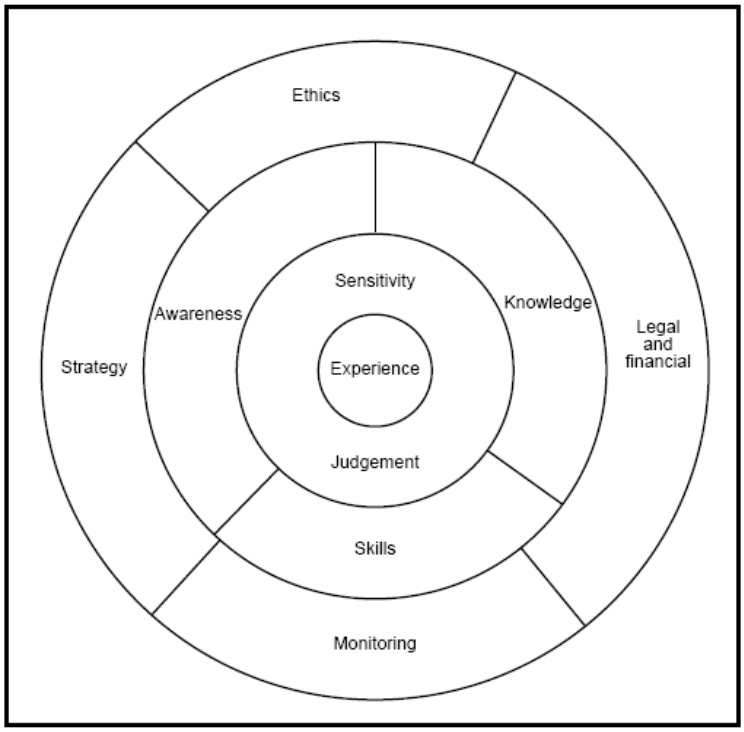

Figure 6.1: The Competent Leader

Dubai Government Organisations which are competing to win the distinguished team award can use this research as the preliminary guide into implementing team effectiveness measurement models that can be used by different teams to compare results. This will help in indicating required improvement; thereby enabling corrective intervention to target areas for performance improvement.

6.3 Limitations

Numerous limitations were encountered while this research carried out. The following points show some of these limitations:

- Due to lack of time, a pilot survey has not been done to test the clarity of the questionnaires. This will affect the way people interact with the questions.
- Number of questions (variables) in the questionnaire was not sufficient which might affect some test results using SPSS software.
- The first language of the population is Arabic; however the questionnaire was designed in English. This might affect the preciseness of the answers.

6.4 Future Researches

This research was the starting point toward further researches in the field of team effectiveness in the United Arab Emirates. As a result, further studies need to be conducted particularly in Arab Region. It would be useful if, further research addresses all related issues to team effectiveness such as team satisfaction and team communication in order to maximise the benefit to organisation. The following are some issues which needs further research:

- Address new ways of measuring team effectiveness in terms of achieving its main objectives.
- Further research needs to address how government organisations can implement team effectiveness measurement initiatives.
- Investigate the possibility of implementing personality tests before team members selection. This is because; it can be difficult to blend some personality into effective teams. Implementing such tests will help in effectively matching teams members.

6.5 Dissertation Programme

The dissertation Programme is attached in Appendix N.

7 REFERENCES

Baterman, Billy; Wilson, Colin F.; Bingham, David "Team effectiveness- development of an audit questionnaire" February 2002.
Available from http://www.emeraldinsight.com/0262-1711.htm [18 Nov. 2008]

Beagrie, Scott "How to…..build effective teams" 2005. Contract Journal, 428 (6523), pp. 91-91 [25 Oct 2008]

Chong, Yu "An introduction to computing and interpreting Cronbach Coefficient Alpha in SAS" May 2007.
Available http://www.psyphz.psych.wisc.edu/~shackman/cronbach.doc [10 April 2009]

Fisher, Stephen G; Hunter, Terri A.; Macrosson, W.D. Keith "Team or group? Managers' perceptions of the differences. 1997
Journal of Managerial Psychology, 12 (4), pp. 232-242 [25 Oct 2008]

Fuller, Mark A.; Valacich, Joseph S; George, Joey F. (2008) Information Systems Project Management (A process and Team Approach). 1st ed. Pearson Education International, U.S.A 77-118, ISBN: 978-0-13-145417-0

Goldberg, Steve "Team Effectiveness Coaching: An Innovative Approach For Supporting Teams in Complex Systems" January 2003.

EBSCO Publishing 2002 Leadership and Management in Engineering pp 15-17

Gustafson, Kim ; Klenier, Brian H. " New Development in Team Building" December 1994.

Work Study, Vol (43) No.(8),1994, pp.16-19 MCB University Press[25 Oct 2008]

Harris, Philip R.; Harris, Kevin G. "Managing effectively though teams" 1993. Team Performance Management: An International Journal, Vol.2 No.3 1996 pp 23-26

Heap, Nick "Building the organizational team" 1996. Industrial and Commercial Training, 28 (3), pp. 3-7

Heller, Robert (2002) Manager's Handbook. 1st ed. Dorling Kindersley Limited, London 149-243, ISBN: 9780751212379

Hoegl, Martin; Parboteeah, Praveen K. “Team reflexivity in innovative projects” February 2006. R&D Management, Blackwell Publishing Ltd

Lippitt, Gordon L. “Effective Team Building Develops Individuality” January 2008. Emerald Backfiles 2007.

Mussnug, Kenneth J.; Hughey, Aaron W. “The truth about teams” 1997, Training in Quality, 5 (1), pp.19-25

Palleschi, Patricia; Heim, Patricia “The Hidden Barriers to Team Building” 1980

EBCOhost, Training and Development Journal, 1 (1) 16-18 [25 Oct 2008]

Prichard, Jane S.; Stanton, Neville A. “Testing Belbin’s team role theory of effective groups”. 1999. The Journal of Management Development, Vol. 18 No. 8,1999 pp.652-665

Rabey, Gordon “The paradox of teamwork” 2003. Industrial and Commercial Training, 35 (4), pp. 158-162 [25 Oct 2008]

Robbines, Sterphen P. (2003) Organizational Behavior. 10th ed. Pearson Education International, U.S.A 1-395, ISBN: 0-13-120203-0

Ross, Meredith T.; Jones, Erick C.; Adams, Stephaine G. “Can team effectiveness be predicated” March 2008.
Available http://www.emeraldinsight.com/1352-7592.htm [19 Oct. 2008]

Sexton, Carol “Self-managed Work Teams: TQM Technology at the Employee Level” 1994. Journal of Organisational Change Management, 7 (2), pp. 45-52

Shutb, Avraham ; Bard, Jonathan F.; Globerson, Shlomo (2005) Project Management Processes, Methodologies, and Economics. 2nd ed. Pearson Education International, U.S.A 1-395, ISBN: 0-13-041331-3

Thomas, Colin “Developing Directors: Building and Effective Boardroom Team” 1994. Journal of European Industrial Training, 1 (6) 29-52 [21 Sep 2008]

Twomey, Karen; Kleiner, Brian H. “Teamwork: the essence of the successful organization” 1996 Team Performance Management: An International Journal, 2 (1), pp. 6-8 [25 Oct 2008]

van Emmerik, Hetty IJ. ; Euwema, Martin C. “Who is offering a helping hand? Association between personality and OCBs, and the moderation role of team leader effectiveness”. April 2007
Available on: www.emeraldinsight.com/0268-3946.htm [25 Oct 2008]

Wood, Jack ; Wallace, Joseph; Zeffane, Rachid M ; Chapman, Judith ; Fromholtz, Michele ; Morrison, Val (2004) Organisational Behavior “A Global Perspective”. 3rd ed. Singapore: Kyodo Printing Co (S’pore) Pte Ltd 214-345