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Leadership in Engineering Management In Cyprus

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STATEMENT OF ORIGINAL AUTHORSHIP

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

…….

Odysseas Erodotou

ABSTRACT

Nowadays, where markets are becoming extremely demanding and competitive there is a need for project success. What is more, there is a need for someone who will be able to lead the process of the project, a leader, a project manager or someone special with the most appropriate skills. The main purpose of this research is to addresses the importance and key role of leadership in project management.

Some of the objectives of this thesis are to define the leadership styles in construction projects and to explore successful methodologies for project management. Especially, factors, such as time, budget and quality will be discussed. Importantly, another aim of this dissertation is to appraise the involvement degree of young engineers on project management. More especially, the below research questions will be tested:

- Do project managers need to have leadership qualifications?
- Do project managers in Cyprus have leadership qualifications?
- Which leadership style is employed in engineering companies in Cyprus?
- Do project managers in Cyprus use a specific project management methodology?
- Who can be a successful leader/ project manager? What are the skills for a successful leader/project manager?
- Are young engineers involved in project management?

This thesis consists of two parts: the literature review, which is the theoretical section and the questionnaires analysis which is the empirical section. The theoretical research focused on a considerable amount of background knowledge from books and academic journals, focusing on successful project management and leadership styles. However, the major research is then based on questionnaire analysis. The people answered the questionnaires included project managers, leaders and employees in the engineering industry.

The most important findings of the study include the following:

1. The relationship between project management and young engineers involvement is positive and significant.
2. The owner of the company is usually the project manager and the leader as well.
3. There is not a specific project management methodology on engineering project management.
4. Leadership is necessary on project management and a key factor for project success.
5. Training is important for people who wish to become a successful leader.
6. Although leaders haven't been trained on leadership subjects their leadership actions are characterized by the initiating structure and consideration leadership style.
7. Successful conflict management styles are established in the majority of tested companies
8. Engineers are lucking innovation and productivity

This research will provide a clearer understanding of the concept of successful project management and leadership in projects. Finally, the study concludes with recommendations for future research especially for young engineers involved in such projects.

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1. INTRODUCTION

1.1 Overview

Nowadays, where markets become extremely competitive and complex, quality project management seems to be crucial for companies and organizations. In fact, organizations and companies that undertake large scale projects are always concern for successful project management. Nevertheless, project management is a live subject- going on around us all the time, and not just in organizations that undertake large scale projects.

At this point it has to be mention that the success of any project seems to be directly or indirectly affected by leadership. What is more, leadership is a major key to project success with the right kind of leadership skills by the project manager. Thus, the effectiveness of project management in terms of leadership is becoming a great concern to professionals and organizations. Admittedly, most of the professions that are interested on this subject area are engineers. This might be because the majority of large scale projects involve engineers.

Over the last years the problem of project failure keeps recurring and this is might not be because of the economic crisis but because of the lack of knowledge. Unfortunately, there are many examples of projects in our country that are not well managed and as a result fail to succeed. What is more, it has been found that the literature related to the intersection of the fields of leadership and project management is generally lacking and more research is needed.

1.2 Background

Obviously, the construction industry is a major global business, and plays an essential role in sustaining economic growth. Moreover, construction companies and organisations are responsible for producing structures that add to productivity and quality of life, not only for its employees but also for the community in general. In

Cyprus, this industry employs a large amount of professionals. It is, actually, the second most important industry, after tourism, in which our economy is based. Undoubtedly, every engineering project needs a well-established project management in order to success. Possibly, the success of a project is not important only for the customers or the employer but it is also important for employees. In my opinion, project success motivates people to work better and harder.

1.3 Research Objectives

Nowadays, in Cyprus, many people believe that as long as a person has strong technical skills, demonstrated a certain amount of aggressiveness and enthusiasm, and has worked on several project teams, he or she could be given the role of project manager. However, this sometimes does not lead to the desire outcome. Therefore this thesis will examine the leadership styles on project management and the desire process for their success.

This thesis will first examine the importance of project management and success factors in engineering and then analyse the leadership styles in project management and the impacts of a positive leadership. In addition, through questionnaires will discover the leadership style of project management in Cyprus. Furthermore, because engineering management is an area that is still developing and more and more young engineers are involved, this thesis will appraise the degree of young engineers' involvement and attention will be also given on problems that engineers face on projects.

2. LITERATURE REVIEW

2.1 The Importance of Project Management

Projects found to be important issues to both organizations and individuals. According to Rosenau and Githens (2005) project is a temporary work effort that produces a unique result. In addition, Richman (2011, p.22) assumed that “project management is a set of knowledge, skills, methods, techniques, and tools that people use to effectively plan and manage project work”. What is more, project management can be defined as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management also can be defined as a methological approach to planning and guiding project processes from start to finish.

Generally speaking, project management can mean different things to different people. For instance, Freeman and Beale (1992) cited by Prabhakar (2008) mentioned that an interesting example of the different points of view of people is that “An architect may consider success in terms of aesthetic appearance, an engineer in terms of technical competence, an accountant in terms of dollars spent under budget, a human resources manager in terms of employee satisfaction, and chief executive officers rate their success in the stock market."

Nevertheless, for many people project management is strongly related to engineering. This might be because there are many examples of project management in engineering. Additionally, according to Kerzner (2013) “project management first appeared in the engineering disciplines.” Importantly, project management has a long history. Richman (2011, p.2)mentioned that although there have been brilliant project managers over the years such as Noah and the project managers of Egypt’s pyramids, project management was not recognized as a formal management concept until 1950s and 1960s. Nowadays, project management has become one of the main organizational activities performed within modern

organizations and project success is possibly the most frequently discussed topic in the field of project management. However, this topic is the least agreed upon.

More and more companies are now regarding project management as being mandatory for the survival of their firm. Therefore, today project management resides in every profession, including information systems, health care, consulting, pharmaceutical, banks, and government agencies.

Definitely, there is a growing need for a management model that helps project managers to deal with large and complex projects. Unfortunately, today most tools developed in the field of project management seem insufficient to fulfill this role. As a result most project managers appears to keep searching for their own method of a successful project management. According to Lim and Zain (1999, p.243) "doubts often arise about what and who actually determine project success". Nevertheless, Rosenau and Githens (2005) mentioned that considerable progress has been made in identifying the factors that lead to successful project management.

2.2 Leading projects to success

It is generally agreed that project management aims to plan, organize and control project so that it can be called success. Undoubtedly, project management is becoming increasingly a strategic competence for organizations. Many academics argue that cost, time and quality are linked to a successful project management. Writing in 1999, Atkinson (p.337) stated that "cost, time and quality (The Iron Triangle), over the last 50 years have become inextricably linked with measuring the success of project management." Furthermore, Munns and Bjeirmi (1996, p.81) noted that "the role of different project management techniques to implement projects successfully has been widely established in areas such as the planning and control of time, cost and quality." Richman (2011, p.22) stated that "the objective of project management is to ensure that project meet agreed goals of time, cost, and scope". Additionally, De Wit (1988, p.164) mentioned that "the criteria for success of the project management effort tends to be restricted to cost, time and quality /performance."

What is more, Cleland (1986) cited by Prabhakar (2008, p.4) suggested that project success is meaningful only if considered from two vantage points. Firstly, the degree to which the project's technical performance objective was attained on time and within budget and secondly, the contribution that the project made to the strategic mission of the enterprise. It is clear, therefore, that many academics agreed that the main criteria for success are the so-called golden triangle of time, budget and required quality.

Quality is a phenomenon, it is an emergent property of people's different attitudes and beliefs, which often change over the development life-cycle of a project. (Atkinson, 1999, p.337). As a rule, Time is a crucial factor which is uncontrollable and project's activities can either take shorter or longer amount of time to complete. Cost seems to be an amount that has to be paid or given up in order to get something or do something. While it is generally agreed that cost, time and quality should be used as success criteria, these are not exclusively the only criteria for success.

Clearly, many scholars argued that the issue of project success turned out to be far more subtle than the golden triangle. For example, Van Aken cited by Westerveld (2002, p.412) defined project success as "the satisfaction of all stakeholders." Moreover, De Wit (1988, p.164) stated that "when measuring project success, one must consider the objectives of all stakeholders throughout the project life cycle and at all levels in the management hierarchy." Undoubtedly, "assessing project outcome is of extreme importance to everyone involved: managers, customers and stakeholders" (Shenhar, Levy, & Dvir, 1997, p.5). Due to this, success assessment may differ, depending on the specific point of view.

In addition, Freeman and Beale (1992) identified seven main criteria for measuring the success of projects. However, five of them are more frequently used than others. These are the Technical performance, the Efficiency of execution, the Managerial and organizational implications (mainly customer satisfaction), the Personal growth, and the Manufacturability and business performance.

Going on from there, as Rosenau and Githens (2005) pointed out, there are nine knowledge areas for understanding the vital concept of successful project management: balancing competing demands. These are the project integration, the project scope management, the project time management, the project cost management, the project quality management, the project human resources management, the project communication management, the project risk management and the project procurement management.

It is worth stating at this point that "in any discussion on success, it is essential that a distinction is made between project success and the success of the project management effort, bearing in mind that good project management can contribute towards project success but is unlikely to be able to prevent failure" (De Wit, 1988, p.164). It has been found that there is a distinction between project success and project management success.

According to Cook-Davis (2002) project management is measured against the overall objectives of the project while project management success is measured against the widespread and traditional measures of performance against cost, time and quality. De Wit (1988, p.164) argued that the most appropriate criteria for success are the project objectives. In addition, he added that the degree to which these objectives have been met determines the success or failure of a project.

Generally, project success depends on the satisfaction and welfare of the customer. However, Shenhar, Levy and Dvir (1997, p.5) suggested to push the definition of project success even further by including the level of satisfaction of four different groups of stakeholders: the customer organization, the developing organization, the project team, and the end user.

Furthermore, Belout and Gauvreau (2004, p.1) discovered that the "Personnel factor" was the only factor in their research that was marginal for project success. Their results show that although there was a link between project success and the

Personnel factor, this factor did not have a significant impact on project success. Their results tend also to confirm that the relationships between the independent variables and project success will vary according to life cycle stage. The results also show that for three distinct structures (functional, project-based and matrix), the Management Support and Trouble-shooting variables were significantly correlated with success. Finally, their study confirms a moderating effect between the independent variables and project success, depending on the sector studied.

Another research made by Lim and Zain in 1999 proposes to classify project success into two categories: the macro and micro viewpoints. They suggested that two criteria are sufficient to determine the macro viewpoint of project success, which are completion and satisfaction. In addition they noted that the completion criterion alone is enough to determine the micro viewpoint of project success. Moreover, Verma cited by Prabhakar (2008, p.4) in 1995-96 write that communication, teamwork, and leadership are vital components of effective management of project human resources and are necessary to accomplish project objectives successfully. Additionally, Kerzner (2013) pointed out that effective project management requires an understanding of Quantitative tools and techniques, organizational structures and organizational behavior.

In their paper entitled “Mapping the dimensions of project success”, Shenhar, Levy and Dvir (1997, p.5) made the point that project success could be assessed along at least four distinct dimensions: project efficiency, impact on the customer, direct and business success, and preparing for the future. In fact, they added that, the exact content of each dimension and its relative importance may change with time and is contingent on the specific stakeholder.

Various measures have been offered to express the success of a project. The most common among them are meeting schedule, budget, and performance goals. It has been found that different people assess the success of project in different ways. Generally, cost, time and quality (The Iron Triangle), over the last 50 years have become inextricably linked with measuring the success of project management.

Probably, this is not surprising, since over the same period those criteria are usually included in the description of project management. However, according to De Wit (1988, p.164) to believe that, with such a multitude of objectives, one can objectively measure the success of a project is somewhat an illusion.

2.3 Project Management Methodologies

Methodology is a set of guidelines or principles that can be tailored and applied to a specific situation. In a project environment, these guidelines might be a list of things to do. A Project Management Methodology seems to be a structured approach for delivering a project and it consists of a set of processes with clearly defined inputs and outputs, tools & techniques, resources and activities.

The project management methods chosen depend to a large extent on the size and nature of the project. Writing in 2004, Lock argued that "a few large projects need very sophisticated techniques but most projects are relatively small and can be managed with a mix of common sense and fairly straightforward methods."

History, according to Maylor (2010, p.13), shows that before 1950 no generally accepted methods or recognized processes were existed. However, in 1950s there was a development of planning processes and numerical methods for quantifying uncertainty in high-profile, military projects, predominantly in the US. Additionally, in 1965 and 1969 IPMA and PMI founded. In 1970s there was a recognition of the role of project manager in large scale projects. What is more, in 1980s there was a continued interest in project management as a formalized means to manage large scale engineering and construction projects.

Maylor (2010, p.13) grouped the development of project management in three generations. The first generation was from 1950s until 1980s. The second generation was the 1990s, where more work undertaken called projects beyond engineering and construction. And finally the third generation of 2000s , where programme management becoming norm in organizations, there was a widespread acceptance of need for

developing PM and there was a development of lean and agile approaches to PM. It is generally agreed that from the extensive use of Project Management derived the need to develop a specific and standardised procedure to manage projects in a "single, common and structured method" (McHugh & Hogan, 2010).

In his book on construction project management entitled Project management in construction, Lock(2004, p.3) makes the point that there are some common-sense principles of project management like finding out exactly what you have to do, estimating the cost as accurately as you can, knowing your customers, having a plan, controlling changes, making acceptable by all parties contracts, controlling changes, taking steps to keep inconvenience to the public at a minimum, paying regard to health and safety and thinking about site security.

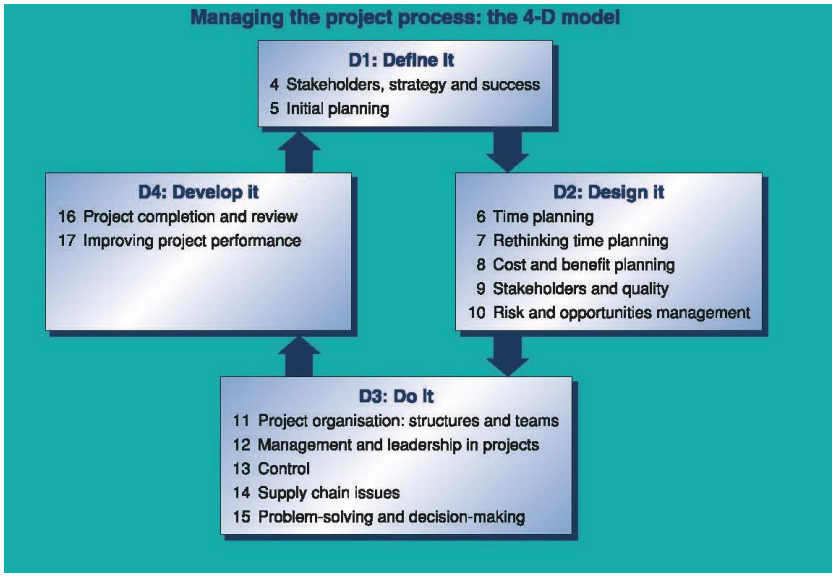

Figure 1: The 4-D model (Harvey, 2010)

It can be seen that sometimes organizations develop their own Project Management methodologies according to the specific nature and characteristics of each project. However, the increasing number of projects and their diversity might force organizations to acknowledge the importance and versatility of structured Project Management methodologies. According to Kerzner (2010) a structured methodology assists organisations to minimise impact on the daily activities of the organisation,

streamlines project objectives with organisation's strategy and minimises resistance to change.

In addition, Munns and Bjeirmi (1996, p.81) stated that among other objectives of the project management is the use of the existing organisational structure and resources to deliver results without adversely disturbing the routine operations of the company. Undoubtedly, such methodologies are flexible and can be tailored to any project type irrespectively of the nature of its deliverables.

In my opinion another important aspect of these methodologies is the "Organisational Assets." This might be a process with which organisations build a database with past projects' experiences and represents an important point of reference for future projects. These organisational assets are also invaluable to the Project Management research as they provide insights into the practice. Moreover, new members of a company can have this database as their template of their work.

Going on from there, "the American industrial engineer Henry Gantt, almost 100 years ago devised a planning chart that is very familiar in all kinds of project planning nowadays, not least in construction projects" (Lock, 2004, p.12). The charts are often called Gantt charts, but we can use the more common name which is "bar chart." However, White and Fortune (2002, p. 1) through their research found that project managers used only a small number of methods, tools and techniques with project management software and Gantt charts being the most widely used aids.

Admittedly, project management is a very broad subject. Generally speaking, the essential project management skills are the methods by which a project is organized, planned and controlled. These are also the essential processes needed to ensure that the project meets the three primary objectives of cost, time and performance.

Although research has shown that "every successful modern construction company of significant size has at least one project support office or planning group" (Lock, 2004), in Cyprus the vast majority of the construction companies are small

companies. As a result, such companies might not have project support offices or planning groups.

Writing in 2003 Charvat (p.24) mentioned that many companies today do not use any formalized project methodology. On the other hand "some people like to start their planning by listing all the jobs and then arranging them later in their timeframe" and "others prefer to go straight to the chart and sketch in the jobs directly as bars" (Lock, 2004, p.13). Personally speaking, it is really needed to list the jobs first because that will help to estimate the project cost. The evidence suggest that good project management methodologies allow work to be accomplished in less time, at low cost, with fewer resources, and without any sacrifice in quality.

2.4 Project manager's responsibilities

Charvat (2003, p.10) cited that throughout the life of any project, project managers are responsible for the key areas such as: obtaining approval for the project proceed, determine the project scope and its feasibility to the overall business, ensure the necessary project resources are identified and allocated, plan the project to the relevant detail it requires, ensure that the project methodology and associated processes are adhered to, monitor the project in terms of cost, quality and schedule, identify and monitor project issues and risks, provide updated reports and summaries to key stakeholders and provide leadership to the project team.

Generally, "the average construction project manager must be able to communicate and work with the client, the company accountant, the bank, the purchasing manager, the architect, the design engineer, specialist and constructors in specialist trades, site supervisors, the human resources manager, lawyers, insurers, various professional bodies, and with local authority officers and other statutory bodies" (Lock, 2004). Obviously, project management spans many management disciplines and relies on a wide range of diverse technical and managerial skills.

What is more, there are a number of different types of management project managers should be aware of as they might interface with them at different times during the project both inside and outside their own company. General management, production management, process management, programme management and portfolio management are some types of management that project manager might be involved.

Furthermore, “the construction industry, like many others, is awash with regulations, some of which carry severe penalties if they are flouted” (Lock, 2004). Therefore, the role of project manager seems to be crucial for every company.

According to PMBOK (2012) mentioned by Burke (2013, p.16) project manager is the person assigned by the performing organization to lead the team that is responsible for achieving the project objectives. Moreover, “the job of a construction manager is to efficiently and economically apply the required resources to realize a constructed facility of acceptable quality within the time frame and budget cost specified” (Halpin, 2006, p. 13). Finally, the project manager has to ensure that the project is finished to mutual satisfaction of the client and the contractor.

2.5 Leadership Styles in Project Management

Project management not only requires an efficient project manager, but also a qualified leader who can lead the team effectively. A leader found to be someone who sets direction in an effort and influences people to follow that direction. It is clear, therefore, that it is important to have skills in forming, leading and facilitating a project team.

Leadership seems to be one of the most important and essential factors in good project management. This might be because Leadership found to be the art of influencing others to achieve desired results. Therefore, leadership has a large influence on the whole project process, including the actions of others.

When “Napoleon declared that an army of rabbits commanded by a lion could do better than an army of lions commanded by a rabbit” (Bass, n.d., p.24) probably he did not have in mind the various leadership styles that exist nowadays. However, it seems that his phrase was not wrong and seems to be more contemporary in these years. Indeed, “good leaders do inspire confidence in themselves, but a truly great leader inspires confidence within the people they lead to exceed their normal performance level” (Prabhakar G.P., n.d., p.1). According to the Tooling University (2013), leader is “the role of a manager involving and fostering individual employees” and leadership is “the role of a manager involving motivating and fostering individual employees.”

Research showed that there are various Leadership style or leader’s style. In his book “Primal Leadership,” Daniel Goleman cited by The Wall Street Journal describes six different styles of leadership: the Visionary, the Coaching, the Affiliative, the Democratic, the Pacesetting and the Commanding leadership style. Additionally, Brown (2007) admitted that there are four primary leadership styles: Dictatorial, Authoritative, Consultative and Participative, which can be found in most organizations and business. Moreover, John and Denis Politis (2009, p.203-204) are mentioning another six types of leadership style: Self-Management leadership, Self-leadership, Transformational leadership, Transactional leadership, Consideration leadership and Initiating Structure leadership. Furthermore, according to Eagly and Johannesen-Schmidt (2001, p. 781) “as women increasingly enter leadership roles that traditionally have been occupied mainly by men, the possibility that the leadership styles of women and men differ continues to attract attention.” Probably, this means that more divisions of the leadership styles will be derived in the future.

Having established the various leadership styles which have been found in the literature, this thesis will next consider six leadership styles: Authentic leadership, Self-management leadership, Consideration leadership, Initiating structure leadership, Transformational leadership and Transactional leadership. These six leadership models seem to be the most representative leadership styles.

2.5.1 Authentic leadership

The word “authentic” seems to be a Greek word, which means real, true and original. However, in terms of leaders and leadership many scholars tried to enhance the definition of “authentic” or “authenticity.”

Especially, Shamir and Eilam (2005, p.395) suggested “a definition of authentic leaders, which is based on the leader's self-concept: his or her self-knowledge, self-concept clarity, self-concordance, and person-role merger, and on the extent to which the leader's self-concept is expressed in his or her behavior”. Additionally, according to William George (2003, p.12) “authentic leaders genuinely desire to serve others through their leadership” and “they are as guided by qualities of the heart, by passion and compassion, as they are by qualities of the mind”. Moreover, Kernis (2003) cited by Luthans, Norman and Hughes (2006, p.85) identified “four key components of authenticity: self-awareness, unbiased processing, authentic action, and relational transparency”. These, suggest that the actions of authentic leaders are based on their own abilities and their emotions.

Many academics argue that because of their true character and original actions, authentic leaders inspire people to trust and follow them. In fact, research show that “authentic leaders behaves consistently with deeply held personal values; this builds credibility in the eyes of followers, gaining their trust and respect” (Gardner and Schermerhorn, 2004; May et al., 2003 referred by Burke, 2006, p.16). Moreover, “authentic leaders, through processes of personal and social identification, enhance positive emotions of followers (hope, trust, optimism), which impact followers’ work attitudes (commitment, engagement) resulting in followers behaviours that increase performance (more effort, fewer withdrawal behaviours)” (Burke, 2006, p.16). Gardner, Avolio, Luthans, May and Walumbwa (2005, p.343) agreed that the“ posited outcomes of authentic leader–follower relationships include heightened levels of follower trust in the leader, engagement, workplace well-being and veritable, sustainable performance.” Therefore, authentic leadership seems to be an attractive and effective way of leadership.

Nevertheless, William George (2003, p.12) points out that although authentic leaders use their natural abilities, they are not by their nature authentic leaders. Undeniably, some people are having by their nature leadership gifts but they have to strengthen their abilities. They, also have their weaknesses which have to be overcome with hard work.

Writing in 2005, Shamir and Eilam (p. 395) argued that “authentic leadership rests heavily on the self-relevant meanings the leader attaches to his or her life experiences, and these meanings are captured in the leader's life-story. They also suggested that “self-knowledge, self-concept clarity, and person-role merger are derived from the life-story”. Furthermore, William (2003, p.12) claimed that “authentic leaders are dedicated to developing themselves because they know that becoming a leader takes a lifetime of personal growth”. It is clear, therefore, that authentic leaders follow this style of leadership mainly because of their life time experiences and knowledge.

Going on from there, certain academics point out that authentic leadership is related with other leadership styles such as transactional and transformational leadership. In fact, Luthans, Norman and Hughes (2006, p.85) supported that they “treat authentic leadership as a root construct and foundation that serves as a point of departure for other forms of leadership (e.g. transactional or transformational leadership).” In addition, Avolio and his colleagues mentioned by Burke (2006, p.16) “believe that authentic leadership incorporates transformational and ethical leadership”. Consequently, authentic leadership can be the cornerstone for other leadership styles.

As has been shown, authentic leadership is an important leadership model. Generally, through this type of leadership leaders can have positive relations with their followers because of their authentic attitude. As a result, in a workplace with an authentic leader, the employees can increase their performance. Obviously, because of this the productivity, innovation and creativity of the employees can be raised.

2.5.2 Self-management leadership

Self-management literally means the control of our self. The self-control might be the control of our emotions or the control of our actions. According to Goleman, Boyatzio and Mckee (2002, p. 1) self-management "covers attributes like emotional self-control, transparency, adaptability, achievement, initiative and optimism. Self-management is also "needed to control our feelings, facilitate mental clarity and provide controlled energy" (Goleman, Boyatzio & Mckee, 2002, p. 1). However, in terms of leadership, the term "self-management leadership" is more complex.

According to some experts, the self-management leadership style focuses on specific techniques that encourage employees to develop their skills. In fact, certain academics such as Manz and Sims (1987, 1989; 1993) cited by Politis (n.d., p.5) established 'self-management' leadership as the "style that focuses on specific techniques that encourage employees to develop greater autonomy, shared commitment, and self-motivation." Moreover, Manz and Sims (1987) mentioned by Politis (n.d., p.6) found the six leader dimensions of self-management leadership style. These leader dimensions seems to be the encourage of self-observation, the encourage of self-goal settings, the encourage of self-reinforcement, the encourage of self-expectations, the encourage of rehearsal and finally the encourage of self-criticism.

Generally, it has been found that by having a self-observation, the employees of a working group can by monitoring their performance to gather the appropriate knowledge. Additionally, by encouraging employees to set their self-goals the members of a team can set also their performance goals. Furthermore, the members of a working team can identify and enhance their performance by encourage their self-reinforcement. Moreover, by encouraging the self-expectations of the team, the members of the team can set high performance expectations. Then, by encourage rehearsal the employees of a working team can practice a task before they perform it. At the end, by encouraging self-criticism the employees can discourage performance of low quality. Indeed, research has shown that the "participative

leadership style fosters creativity (Monge et al. 1992), and employees are more creative when they are given high levels of autonomy (King and West 1985)" (Politis, n.d., p.5.).

In self-management leadership, according to Politis (n.d., p.6), "leaders are facilitators, not heroes, and they "take inordinate steps to scout for the right mix of talents and coach each team member… they encourage team members to improve their inherent, and necessarily distinctive, talents" (Jassawalla and Sashittal, 2000: 39), i.e. 'creative talents'". Thus, it is worth noting that self-management leadership which aims to develop an autonomy climate between employees can influence and encourage creativity, innovation and productivity. This might be because by giving autonomy to employees the employer shows respect and trust to their work and as a result to their performance. All these can be stimulant components for creativity, innovation and productivity. Consequently, the amount of influence in performance depends on the percentage of encouragement of autonomy by the leader.

2.5.3 Transformational and Transactional Leadership

Generally, in the literature, transformational and transactional leadership styles, found to be discussed and analyzed together. This is probably, because they are strongly related or they can be combined in a leadership style.

Certain researches such as Avolio and Bass point out that transformational leadership style is based on the ability of the leader to positively transform his or her employees in a way which they can achieve better performance. In fact "transformational leaders motivate others to do more than they originally intended and often even more than they thought possible." (Avolio & Bass, 2002, p. 1). Additionally, in Tooling University (2013) they referred that transformational leadership is the "theory of leadership that focuses on how leaders can transform their followers positively, and how followers can do the same for a leader." Moreover, according to Bass (n.d., p.19) "transformational leaders inspire, energize, and intellectually stimulate their employees".

Bass (n.d., p.22) analysed four characteristics of transformational leader as below:

The first characteristic is charisma. *Charisma:* Provides vision and sense of mission, instills pride, gains respect and trust.

The second characteristic is inspiration. *Inspiration:* Communicates high expectations, uses symbols to focus efforts, expresses important purposes in simple ways.

The third characteristic is intellectual stimulation: *Intellectual Stimulation:* Promotes intelligence, rationality, and careful problem solving.

Finally, the forth characteristic is individualized consideration: *Individualized Consideration:* Gives personal attention, treats each employee individually, coaches, advises.

Furthermore, it has been found that leaders can be learnt how to be transformational leaders. Actually, transformational "leaders set more challenging expectations and typically achieve higher performances" (Avolio & Bass, 2002, p. 1). Politis and Politis (2009, p.204) agreed that "transformational leadership inspires followers to exceed their own self-interest for the good of the organization".

On the other hand, Bass (n.d., p.20) claims that the method of leadership, which is based on transactions, is called "transactional leadership." For example, "transactional leadership emphasizes the transaction or exchange that take place among leaders, colleagues and followers" (Avolio & Bass, 2002, p. 1). According to Politis and Politis (2009, p.204) the "transactional leader clarify follower's role and what must be done to obtain designated outcomes.

According to Bass (n.d., p.22) three characteristics of transactional leader can be established as below:

The first characteristic is contingent reward: *Contingent Reward*: Contracts exchange of rewards for effort, promises rewards for good performance, recognizes accomplishments.

The second characteristic is management by exception, which can be active or passive: *Management by Exception (active):* Watches and searches for deviations from rules and standards, takes corrective action. *Management by Exception (passive):* Intervenes only if standards are not met.

And, the third characteristic is the laissez-faire: *Laissez-Faire*: Abdicates responsibilities, avoids making decisions.

Although the definitions and the characteristics of transformational and transactional leadership appear to be different, some academics tried to consider their relations or make comparisons between them.

In fact, "since the 1980s, research has supported the idea that transformational leadership is more effective than transactional leadership in generating the extra effort, commitment and satisfaction of those led" (Avolio & Bass, 2002, p. 1). This might be because as Bass (n.d., p.22) stated in a transformational leadership the leaders seems to have better relationships with their supervisors and thus make more contribution to the organisation than do those who are only transactional. As a result, it is assumed that the productivity of the followers of a transformational leader is more than for transactional followers.

In addition, certain academics such as Politis and Harkiolakis (2008) mentioned by Politis and Politis (2009, P.204) in their study found that the "transformational leadership is strongly and more positively related to entrepreneurial orientation factor of innovation compared to transactional leadership". Probably, this is because according to (Bass 1985, cited by Politis & Politis, 2009, P.204) the transformational leader raises the motivation and the confidence of the employees to reach their highest performance, a performance beyond expectations. Due to this, the followers of a transformational leadership can be more innovate and more creativity than the employees of a transactional leadership organisation. Moreover, Bass (n.d., p.21) in one of his questionnaire research found that the followers of a transformational leader recognise their leader to be more satisfying and effective leaders than a transactional leader.

On the other hand, there are organisations that have leaders which behave both like a transformational and a transactional leader. For instance, the research from Egri and Herman (2000) tried to create the model of the "environmental leadership." Their research found that the leaders of such organizations "acted as 'master managers', performing both transformational and transactional leadership behaviors". In addition their study found that the "nonprofit environmentalist organizations were highly receptive contexts for transformational leadership, whereas for-profit environmental organizations were at least moderately receptive in this regard" (Egri & Herman, 2000, p.571). In particular, Avolio and Bass (2002, p. 1) clarify that transformational leadership is an expansion of the transactional leadership. On this statement they emphasised that "the most effective leaders are both transformational and transactional in their leader style" (Avolio & Bass, 2002, p. vii).

Finally, it can be said that the transformational leadership style is more effective in terms of productivity, creativity and innovation. It has been found that these three components of good performance are more related with the transformational leadership than the transactional leadership. However, the research suggests that the transformational and transactional leadership styles are sometimes related and can be found together in the behaviour of some leaders. Hence, transformational and transactional leadership styles are related with innovation, productivity and creativity.

2.5.4 Consideration and Initiating Structure leadership

Having established the transformational and the transactional leadership styles, this thesis will next examine the consideration and initiating structure leadership. It is worth noting at this point that "transformational leadership was a stronger predictor of technical quality in research projects, whereas initiating structure was a stronger predictor of technical quality in development projects" (Keller, 2006, p. 202). This suggests that the various types of projects might perform better in a different

leadership style. Therefore, the choice of the most appropriate leader or leadership style for a specific situation is very crucial.

The Tooling University (2013) is giving the two definitions of initiating structure and consideration. They suggest that initiating structure is the "ability to get people organized, to set goals, and to make sure that such goals are met." In addition, they argue that consideration is "the ability of a leader to care about those he or she is leading." Moreover, they add that a good leader is the leader who has the ability to show that he or she understand the issues of his followers and tries to help them solve them. Furthermore, according to Robbins and Judge (2009: 423) cited by Politis and Politis (2009, p.204) initiating structure leadership "include behavior that attempts to organize work, work relationships and goals." In contrast, consideration leadership refers to "the extent to which a person has a job relationships characterized by mutual trust and respect for subordinates ideas and feelings". Due to these it can be seen that the initiating structure leadership is based on organisation and meeting goals. Nevertheless, the definition of consideration seems to be an emotional type because the leader cares about his followers and respect their ideas or fillings.

Bass (1990), mentioned by Politis and Politis (2009, p.204), stated that "leaders high in initiating structure and consideration tended to achieve high subordinate performance and satisfaction more frequently than those rated low on either consideration, initiating structure, or both". Therefore, it can be noticed that the level in consideration and initiating structure of a leader can be related in the performance related with creativity, innovation and productivity.

In contrast, another research by Schriesheim (1982, P. 221) found that the superiority of the high-Consideration and the high-Initiating Structure leadership style is not related with the satisfaction of the subordinates. In fact, "on the basis of the regression results, it was concluded that the superiority of the high-high leadership style is indeed a myth, and that Consideration alone explains almost all of the variance in subordinate satisfaction" (Schriesheim, 1982, P. 221).

Kerr, Schriesheim, Murphy and Stogdill (1974,p.62) in their literature review found that the leader effectiveness in a consideration and in an initiating structure leadership depends on some variables. In fact, “among the variables found by researchers to significantly moderate relationships between leader behavior predictors, and satisfaction and performance criteria are the following: subordinate need for information, job level, subordinate expectations of leader behavior, perceived organizational independence, leader's similarity of attitudes and behavior to managerial style of higher management, leader upward influence; and characteristics of the task, including pressure and provision of intrinsic satisfaction” (Kerr, Schriesheim, Murphy & Stogdill, 1974,p.62).

2.6 Interpersonal Conflict Management Styles at Work

Conflicts occur when two different parties with different believes have to work together. Interpersonal seems to be “the roles of a manager that deal with working with other people” (Tooling University, 2013). Generally, “conflict is a common part of human interaction and occurs regularly in different contexts of our lives, e.g. family relationships, in the workplace, with our closest friends, in our communities” (Pearson& Shapiro, n.d.).

Especially, “interpersonal conflict occurs when parties whose goals are interdependent perceive that they cannot both reach their goals” (Pearson& Shapiro, n.d.). Moreover, “interpersonal conflict occurs in any setting where two or more people must work together, such as corporations, marriages, friendships and entrepreneurial endeavors (Pearson, 2013). Furthermore, according to Wilmot and Hocker (2001) interpersonal conflict is “an expressed struggle between at least two independent parties who perceive incompatible goals, scarce resources, and interference from others in achieving their goals.” It is agreed, therefore, that interpersonal conflict is related with the different goals of two or more groups.

It is worth stating at this point that in the literature there are many different styles of conflict management. According to Pearson and Shapiro (n.d.) patterns of expression

for conflict learned in childhood can be carried forward into our adult methods of dealing with conflict. Such patterns or roles played in their childhoods can be the victim, martyr, peacemaker, rebel etc. These, patterns can be also related with the mature definitions, in a work environment, of a “Yielding pattern”, a “Compromising pattern”, a “Forcing pattern”, a “Problem Solving pattern” and an “Avoiding pattern”.

As Mikoluk (2013) points out that each manager has his own method for handling conflicts in their workplace and defines five common conflict management styles.

Firstly, he established the compromise style. Generally, “this approach to conflict gives each person some, but not all, of what she wants”. In fact compromise conflict management style can “help ease tension among team members because each person’s desires are partially fulfilled; however, it typically does not provide the most effective overall solution for meeting company goals”. It is suggested that this style of conflict management “can be appropriate when each party’s goals are similar in importance”.

Secondly, the competition style, which appears to be appropriate “for situations in which rapid, decisive action is needed to keep a project on track.” Importantly, the “competition style of conflict management involves fulfilling the needs of one party to the exclusion of others”.

Thirdly, the accommodation, another conflict management style according to Mikoluk (2013) is the style of conflict management which involves the fulfilling of the needs of others at the expense of your own needs and goals. Clearly, it is noted that “this approach can help preserve relationships with employees and facilitate future team cooperation”.

The fourth conflict management style established by Mikoluk (2013) is the avoidance style. Obviously, “this conflict management style simply involves avoiding the conflict without supporting your own needs or those of your employees”. In particular,

Mikoluk (2013) suggest that this style “is not an effective strategy except in cases involving trivial disputes that are not likely to compromise company goals”.

Finally, the last conflict management style of Mikoluk (2013) is the collaboration style. This model “involves working with parties to the conflict to arrive at a mutually agreeable solution”. An advantage of this style is that it “can foster innovation and teamwork.” Nevertheless, a disadvantage of this method is that “it can take considerable time and effort to reach an effective solution.”

Similarly to the above, according to Thomas, K.W., and R.H. Kilmann cited by JD (2011) the five conflict management styles are: Accomodating, Avoiding, Collaborating, Competiting and Compromising. In the same way Pearson (2013) established the same five interpersonal conflict management styles.

Going on from there, “the way virtual teams manage internal conflict is a crucial factor in their success and that temporal coordination has some significant moderating effects” (Montoya-Weiss, Massey & Song, 2001, 1251).

According to the Management Help website mentioned by Pearson (2013) “interpersonal conflict is essential for business productivity and personal growth”. Pearson (2013) also acknowledged that “while there are several styles of handling interpersonal conflict, some are more effective than others” and “the style you choose can affect the resolution of conflict, as well as the willingness of participants to work together.” Furthermore, it has been found that the “conflict management behavior was positively related to performance” (Montoya-Weiss, Massey & Song, 2001, p. 1251). Due to this, it can be said that the productivity, innovation and creativity factors are related to the choice of the appropriate interpersonal conflict management style for each case of conflict.

2.7 The Successful Leader

Definitely, Leadership involves the ability to influence people to take actions toward completing a goal or project. Projects contain a number of components – the main three being scope, cost, and time. Possibly, these three components are influenced from the productivity, innovation and creativity of the employees. For the project team to effectively meet scope, cost, and time goals, one must appreciate the impact of positive leadership. In other words, successful leader might be the one who enhance his or her group innovation, creativity and productivity.

2.7.1 Creativity

Creativity may have various dimensions. Boden (1996, p.1) stated that creativity is a prized feature of the human mind. Furthermore, according to some academics mentioned by Politis (2004, p.23) creativity means the ability of people to combine ideas in a unique way or to make unusual associations between ideas. Generally, when we think about creativity, great people in science or in art are coming in our mind, such as Einstein, Newton, Michelangelo or Picasso.

At this point it is worth stating that "creativity is a topic of wide scope that is important at both the individual and societal levels for a wide range of task domains" (Sternberg and Lubart , 1999, p.3). Writing in 1999, Sternberg and Lubart (1999, p.3) argued that individual creativity is related with the solution of daily life problems, such as job problems. Therefore, "organisations need to create a climate that encourages and stimulates employees' creative thinking" (Ambile, Reiter-Palmon & Illies cited by Politis, 2004, p.23). For example, by having creative people a company might have less problems and this possibly will lead the company to be more productive.

Sternberg and Lubart (1999, p.3) pointed out creativity is important in terms of economic because it might create new products or services that will produce jobs.

Undoubtedly, this citation is important, especially nowadays where jobs are difficult to be found.

Additionally, Sternberg and Lubart (1999, p.3) mentioned that creativity at a social level can lead to new scientific findings and innovations. On the other hand, Arieti (1976, p. 267-268) cited by Boden (1996, p.15) admitted that "not all scientific discoveries rely on creativity." In my opinion, some scientific finding may have been derived through mathematical equations or much studying. However, sometimes a minor amount of creativity might help to bring some inspiration, in how to solve a problem.

Certain academics mentioned by Politis (2004, p.23) have been interested in studying the environmental and work factors that influence creativity and innovation. Martindale (1999, p.144) claims that "creativity seems not to be based upon self-control or willpower." However, "supportive leadership will enhance employees' creativity through intrinsic motivation" (Politis, 2004, p.23).

2.7.2 Innovation

Innovation, in general means the act by which something new or different is introduced. Research has shown that the various leadership styles are related with the innovation. Writing in 2003, Jung, Chow and Wu (2003, p.525) argued that there is a wide range of factors, which affect the organization innovation. Nevertheless, they stated that one of the most important factor related with innovation is the manager's leadership style.

Additionally, according to Somech (2006, 132) "found that in high functionally heterogeneous teams, participative leadership style was positively associated with team reflection, which in turn fostered team innovation; however, this leadership style decreased team in-role performance". Moreover, the findings of Jung, Chow and Wu (2003, p.525) suggest that there is a "direct and positive link between a style of leadership that has been labeled as "transformational" and organizational

innovation". Furthermore, the study of Scott and Bruce (1994, p.580) agreed that the leadership style is affecting innovative behaviour directly. In addition, the results of another study show that "a project manager's transformational leadership style has a positive impact on actual project performance, that emotional intelligence ability contributes to a project manager's transformational leadership style and subsequent actual project performance" (Leban & Zulauf, 2004, p. 554). As a result, the above mentioned leadership styles can promote innovation as well.

2.7.3 Productivity

Productivity seems to be defined as the rate at which goods or services are produced. Especially, appears to be the output per unit of labor. It is worth noting at this point that "a manager's approach can have an influence on the productivity of his/her staff and the rest of the organization" (Anderson & Media, 2014). Therefore, it can be assumed that the leadership style of a company or organization can affect the performance of its staff in terms of productivity.

Research has shown that there are many different factors which can increase or decrease productivity. Firstly, productivity is related with the leader's abilities and his/her leadership style. It can be seen that "transformational leaders expect the best from everyone on their team as well as from themselves leading to improved motivation and high productivity"(Allemann, 2013). Furthermore, Anderson and Media (2014) supported that "leadership styles can affect communication and productivity." In fact, "managers who set clear goals maximize employee productivity" (Anderson & Media, 2014). On the other hand, it has been found that the "excessive use of authority will decrease productivity in the long-term" (Brown, 2007). In addition, the "higher productivity was related to higher job satisfaction" (Wilkinson & Wagner, 1993, p.15). Undoubtedly, productivity is related to the manager abilities and leadership style.

It is clear, therefore, that it is up to the project manager to manage issues related to scope, cost, and time, as well as to lead the team to successful completion of these goals and the project as a whole. Research has shown that a project manager have to play many roles and to handle many difficult tasks. The more important role for a project manager to play is the role of the leader. Among all the skills in project management, the leadership skill component seems to be one of the significant values in the present, and is predicted to become more important in the near future.

3. METHODOLOGY

The thesis consists of two parts: the literature review, which is the theoretical section and the questionnaires analysis which is the practical section. The former is based mainly on desktop research. The theoretical research focused on a considerable amount of background knowledge from books and academic journals, focusing on successful project management and leadership styles. However, the major research is then based on the analysis of the experimental survey results, which have been collected through questionnaires.

The questioner survey was designed to solicit input from those in the field of engineering and project management in Cyprus concerning leadership. Questions cantered on the importance of leadership, the kinds of leadership styles people pursue, and the most-commonly used skills. Moreover, the questions focused on the degree of education concerning project management and the methodologies used.

The collection of data began in the beginning of November and ended in the end of November in 2015. The survey is applied on ten companies/organisations, mainly in the field of engineering and construction in Cyprus, in order to understand the importance of leadership in project management and the leadership skills people should pursue for a successful project. More especially, the hypothesis of the testing was to identify whether project managers in Cypriot engineering companies can bring success in projects because of their leadership skills. In addition, the involvement degree of young engineers in project management will be also tested. This chapter will first describe the business, demonstrate the data collection and will then analyse the data. At the end ethical considerations will be examined.

3.1 Description of Business

The businesses and organisations for ethical reasons, as it has been explained below decided to keep their anonymity. Nevertheless, admission for a short description of the company was given.

The study applied on ten construction companies/organisations in Cyprus mainly in the area of Paphos. The companies/organisations located in a small region of 33000 residents which during the summer period is a touristic destination. This might means that the customers are a combination of locals and foreigners. Generally, the companies/organisations began their operation at about 10 years before. Moreover, the sample consisted of small and larger scale companies and organisations.

3.2 Collecting of data method

The method which has been established in this research for the collection of data was the method of questionnaires. This method considers of being the most appropriate for our investigation because it has the ability to collect and analyse data of separate variables. Such variables are behaviours, facts and attitudes. For this research, anonymous questionnaires have been engaged because of ethical considerations (see the section below "Ethical considerations").

Firstly, the owners/managers of the companies/organisations have been contacted to obtain their consent for our research in their business/organisation. This was also the first obstacle which our research comes through because the owners/managers of the business/organisation were not interested in taking part in our survey. However, after a long discussion and by giving the alternative solution of anonymity the author manage to convince them to take part in the research. Thus, for ethical reasons the names of the companies/organisations will stay anonymous.

Firstly, orally consent was given by the owner and the research was announced to the employees of the company/organisation. Secondly, verbal explanations were given to the employees of the company/organisation and told that the questionnaires were anonymous. After that the questionnaires were distributed. At this point it has to be mentioned that because the author wanted to be considerate and did not want to disturb the employees from their jobs during their work time he

gave one month time limit for the questionnaires to be completed and returned. Unfortunately, some of the questionnaires for unknown reasons have not returned.

3.3 Questionnaire Design and Analysis

The Questionnaire design process seems to be one of the most difficult sections of a study that almost every researcher has to cope with it. Capturing the information from the respondents is a tricky task as the respondents can give responses which may not reflect their opinion for the subject. This can lead to incorrect analysis and wrong decisions being taken. Thus, the questionnaire design is a significant subject for every research.

Firstly, the questionnaire divided into six sections (Section A, B, C, D, E and Section F) to be more comprehensible by the readers. Section A focused on the assessment of the sample's age, gender and work experience especially on projects. In addition, this section tends to explore sample's role on projects and the level of their education. This section might be one of the most important sections because of its ability to conduct important personal information which can lead to significant results later on. For example, it can discover in which extent young engineers (20-40 years old) are involved on project management or which gender is more involved.
Then, Section B aimed to explore the project management methodologies used by the participants and their training experiences.

Importantly, Section C created to ask the opinion of the participants related to successful leadership on project management. What is more, Section C presents some statements. The participants were asked to answer whether they agree or disagree with those statements. However, the main objective of this section was to find the correlation between leadership and successful project management. The type of the questionnaire used in this section was chosen because the author wanted to create a convenience feeling to the respondents. Actually, he aimed to attract the answers more easily.

Now, Section D was one of the most important parts of this questionnaire because its objective was to identify the leadership style used from managers of Cypriot companies. For each leadership style a table was created and some characteristics for each leadership style where mentioned. The respondents were asked to judge their leader, manager or boss. From these statements the author thought that it was easily to define the general leadership style in Cypriot organisations.

Going on from there, interpersonal conflicts always occur in projects. Especially, conflicts happen when people are working by using their knowledge and support their ideas. Thus, Section E attempted to define the participants' attitude during a conflict by using some statements. Finally, by circling the most appropriate response in Section F, the author wished to investigate the creativity, innovation and productivity of the participants. These three important tools can lead projects to success.

Generally, the presentation of the questionnaire had to be pleasant for the readers, thus the questions presented on tables. The author of this thesis also considered that some of the respondents might not be well acknowledge on the subject area tested. Due to this the author tried to made the questionnaire as simple as possible and provide as much information as he could.

3.4 Analysis of data method

The data analysis has been done on Microsoft Excel. This tool seems to be very common for the statistical analysis in social science research. This might be because it is easy to be learnt, especially from students, and has the ability to conduct statistical results easily.

3.5 Ethical considerations

Ethical issues are really important in how to conduct an effective and reliable research. In fact, in the case of questionnaires where the publicity of the answers

may harm people or influence companies' operation the researcher should be cautious. For example, when people of a business must be approach and their answers might influence their employability the researcher should think the anonymity of the questionnaires. In my opinion, confidentiality is important for meaningful research. This is because people by having a protected confidentiality will not hesitate to give right answers. Therefore, the research will be reliable and will bring accurate results.

During the questionnaire preparation I take into account that project managers are the busiest staff in a company, thus I create my questioner as simple and quick as possible.

4. DATA ANALYSIS AND DISCUSSION

This chapter aims to illustrate and discuss the findings of the research. Importantly, it will examine the importance of leadership style in project management and the leadership style people pursue for projects. Through this discussion, the main objective of this chapter is to prove or disapprove the hypothesis identified in the methodology chapter of this thesis, which will finally lead to the determination of the validity of the overall aim of the dissertation.

The survey is designed to solicit input from those in the field of engineering and project management in Cyprus concerning leadership. Questions cantered on the importance of leadership, the kinds of leadership styles people pursue, and the most-commonly used skills. Moreover, the questions focused on the degree of education concerning project management and the methodologies used.

The respondents were selected from the construction or relevant project management field and all have certain knowledge or experience in project management. The population of the people answered the questionnaires included also project managers of various construction companies. Surveys were sent by e-mail or give by hand. Several telephone communications and in-person communications were also conducted for question explanations. The total number of responses for this survey is 70 out of 150. The response rate is 46.67% which seems to be an acceptable percentage.

SECTION A

Questions One to Five (SECTION A) intended to collect general information from all the respondents. These responses are presented below. From the table (table 1) and Pie Chart (Figure 2) below it can be noticed that the male sample of the respondents in our research is almost double of the female sample. Generally, in engineering and especially in the construction engineering one might find more males than females. For this reason, the study had these results. However, this might also reveal that the majority of the engineers involved in project management are males.

The results of a further frequency analysis demonstrates that 61.0% (N = 43) of respondents were male and 39% (N = 27) of respondents were female.

Gender	Frequency	Percentage
Male	43	61%
Female	27	39%
Total	70	100%

Table 1: Respondent's Gender

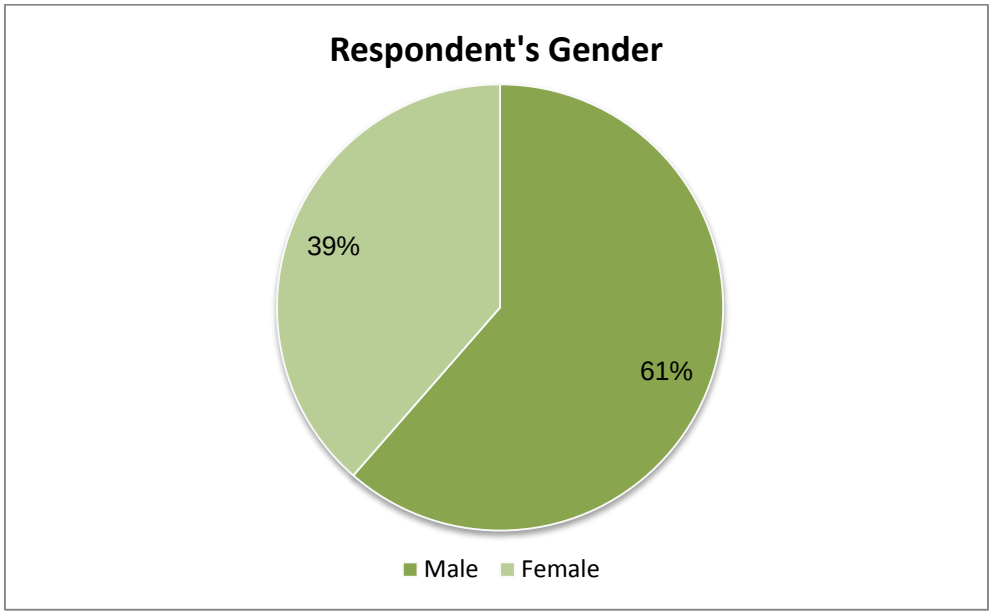

Figure 2 : Respondents' Gender

The results of the descriptive analysis which was conducted to examine the age profile of respondents revealed that the youngest respondents is 20 years old and the oldest one is 50+ years old with a mean and standard deviation of 16 and 18, respectively. The frequency analysis presented in the Table 2 demonstrates that the 10 % of respondents were aged between 20 - 15 years old (N = 7), 60% of them were between 26 - 30 years old (N = 42), 10% of them were between 31 - 40 years old (N = 7), 17% of them were between 41- 49 years old (N = 12) and 50+ of them were between 50+ years old (N = 2).

Age	Frequency	Percentage
20-15	7	10%
26-30	42	60%
31-40	7	10%
41-49	12	17%
50+	2	3%
Total	70	100%

Table 2 : Respondent's Age

At this point it is worth noting that the participants' age is slightly young (26-30). This is also illustrated on the pie chart below (Figure 3). This might also answer one of the main objectives of this research, the involvement degree of young engineers in project management. Undoubtedly, this shows that young engineers are involved in project management.

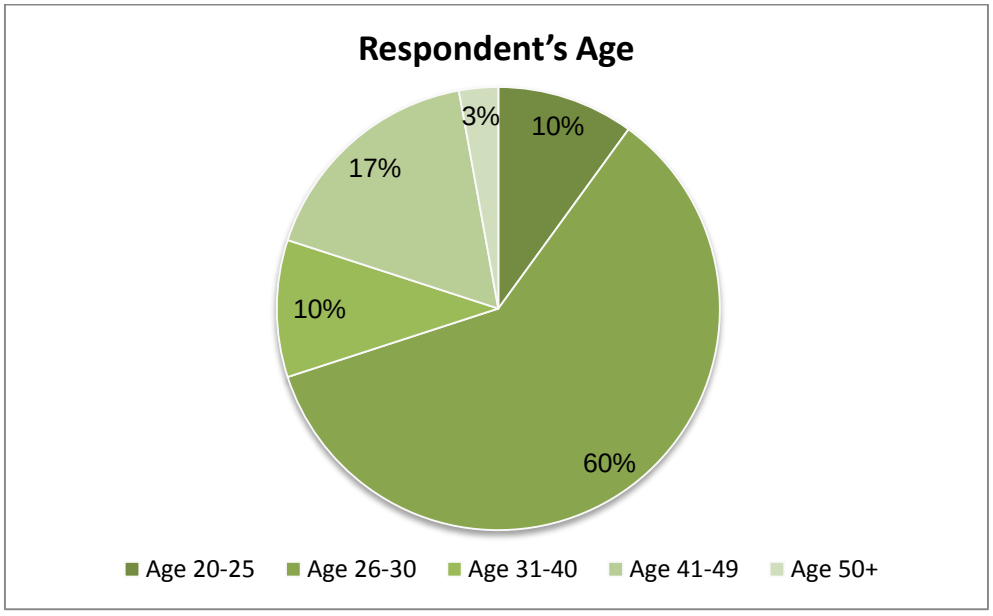

Figure 3 : Respondent's Age

Going on from there, frequency analysis presented in the Table 3 demonstrates that 10% of respondent are experienced for 1 to 2 years (N = 7), 30% have experience for 2 to 5 years (N=21), 40% have experience for 2-5 years (N =28) and 20% of them have experience for more than 7 years (N=14), in project management field.

Experience	Frequency	Percentage
Less than 6 months	7	10%
1-2 years	21	30%
2-5 years	28	40%
5-7 years	0	0%
More than 7 years	14	20%
Total	70	100%

Table 3 : Respondent's Years of Experience

Moreover, the experience of the research participants is illustrated on the pie chart (figure 4) below.

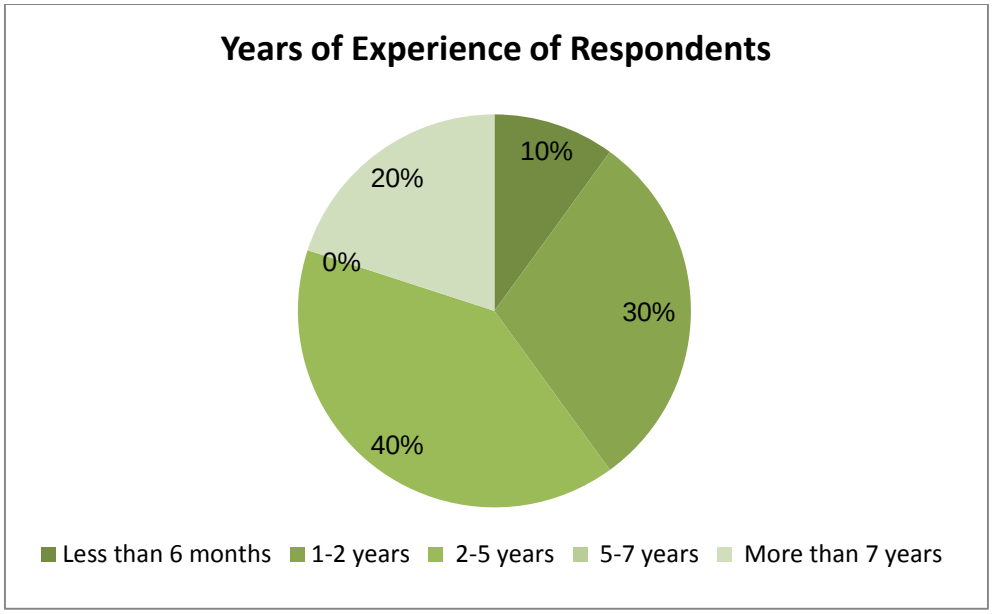

Figure 4 : Respondent's Years of Experience

Furthermore, the frequency analysis presented in the Table 4 demonstrates that the 20% of respondent were owners (N = 14), the 10% were or are a project manager (N=7) and 100% of the respondent were engineers (N = 70).

Role	Frequency	Percentage
I am the owner	14	20%
I am or have been a project manager	7	10%
I am an engineer	70	100%
Total	70	100%

Table 4 : Respondent's company role

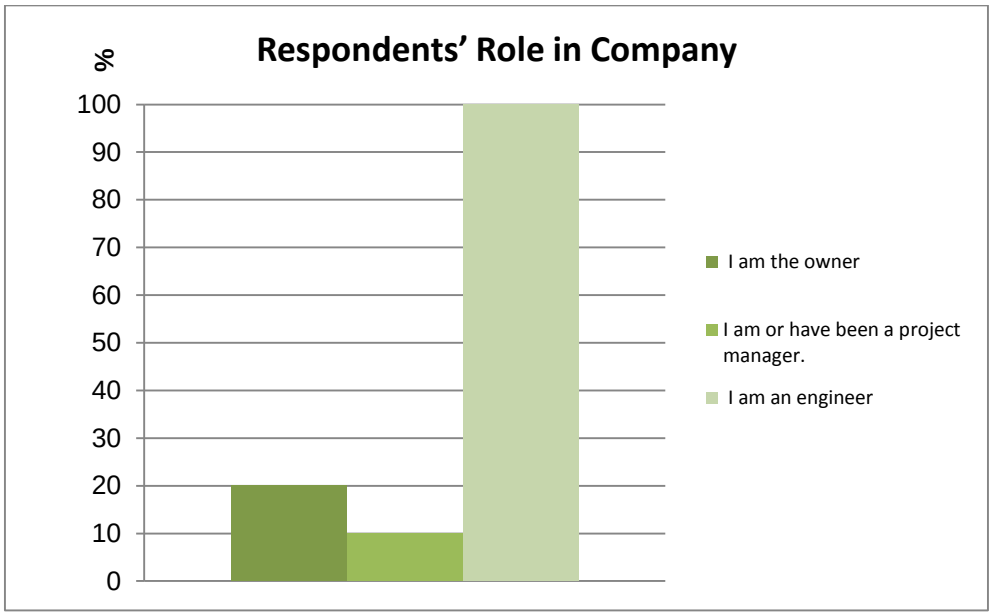

Figure 5 : Respondent's role in company

The results above show the respondents' role in the company and actually the role in the project process. It has been found that generally the role of project manager is occupied by the owner of the company. This might be because most of the Cyprus companies are small scale companies with a small number of employees. As a result, the employer sometimes takes the role of project manager. On the other hand, this research aimed to be more accurate thus it has also considered the larger scale companies that their project manager was not the owner.

Moreover, the frequency analysis presented in the Table 5 demonstrates that the 100% of respondent had a bachelor degree (N = 100), and 70% of the respondent had a Master decree (N = 49).

Education	Frequency	Percentage
High School graduate	0	0%
Associates degree	0	0%
Bachelor's degree	70	100%
Master's degree	49	70%
Doctorate	0	0%
Total	70	100%

Table 5 : Respondent's level of Education

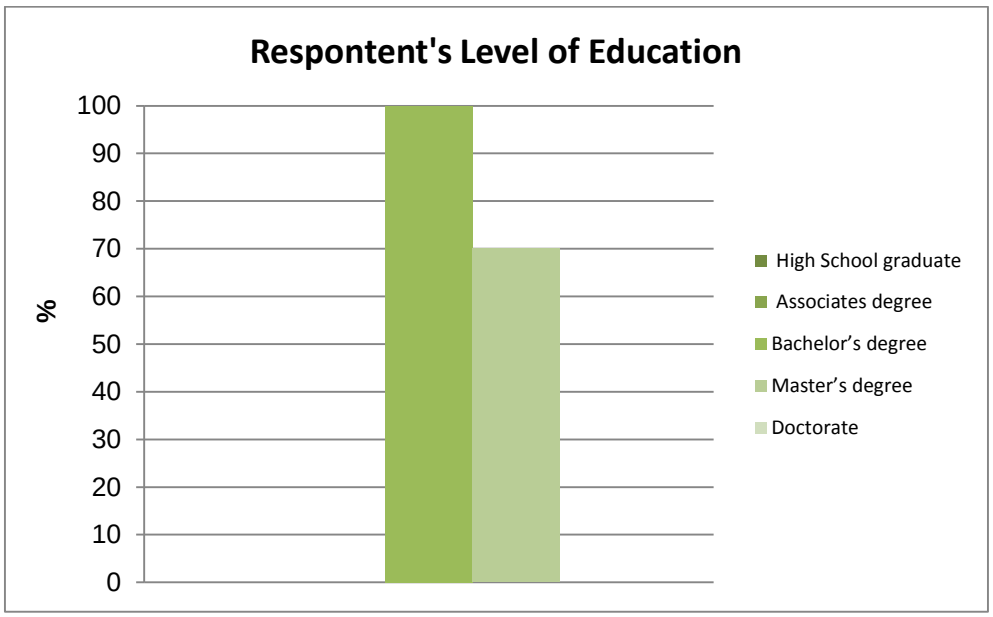

Figure 6 : Respondent's level of Education

Fortunately, this thesis found that the sample is well educated. All the participants have their bachelor degree and more than the half of them have also a master degree. Probably, this is because the sample is taken in Cyprus and generally all people in Cyprus are educated.

SECTION B

At this part respondents were asked whether they had any training on project management or leadership. Although there are a large number of respondents that have received training on project management, they do not use any project management methodology. In addition, the table below shows that despite the fact that the majority of people have been trained on project management, there have not been trained on leadership subjects.

	Training on Project Management or Leadership	Frequency		Total	Percentage		Total
		YES	NO		YES	NO	
1	Have you received any training on project management?	42	28	70	60%	40%	100%
2	Do you use any specific project management methodology?	0	70	70	0%	100%	100%
3	If yes mention the methodology that you usually use.	0	0	0	0%	0%	0%
4	Have you received any training on leadership?	21	49	70	30%	70%	100%

Table 6 : Training on project management and leadership

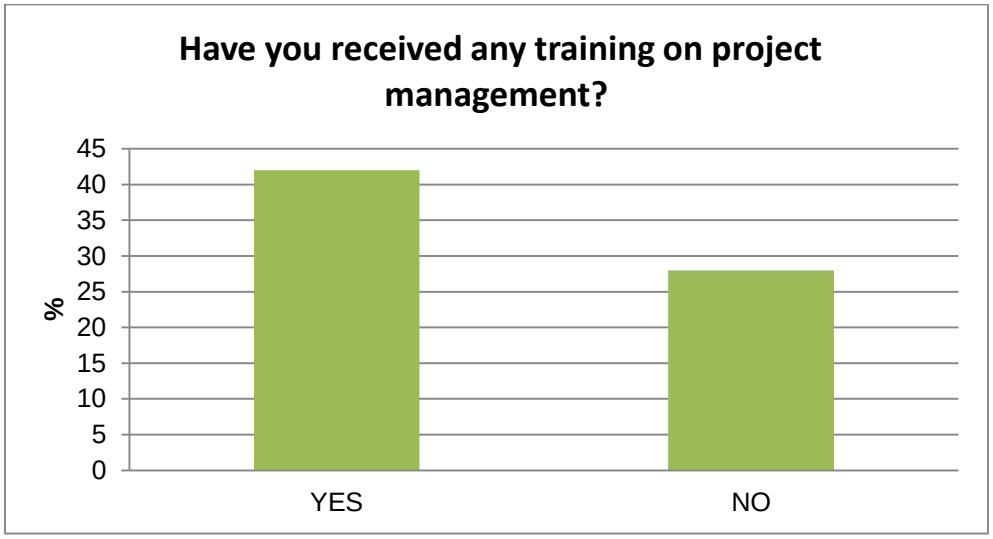

Figure 7 : Have you received any training on project management?

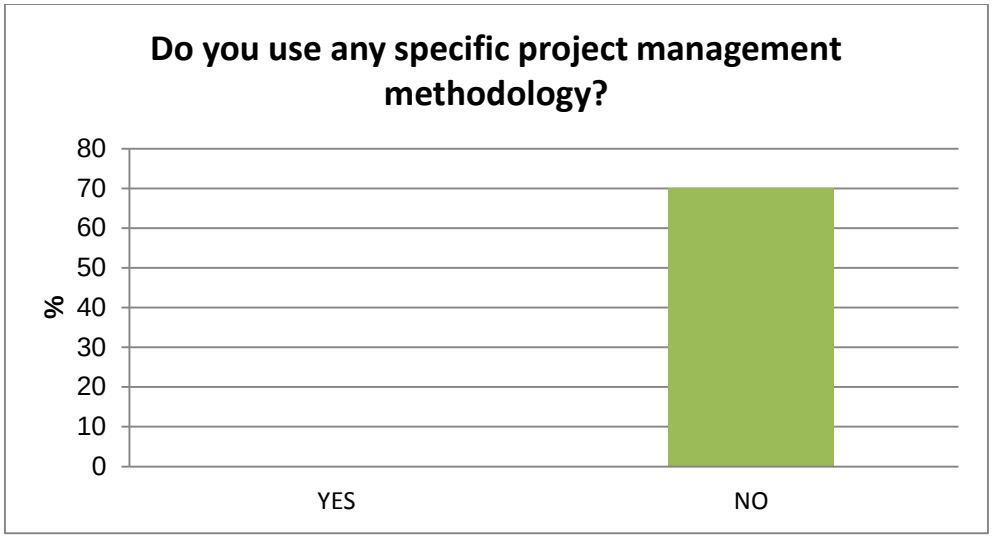

Figure 8 : Do you use any specific project management methodology?

Figure 9 : Have you received any training on leadership?

What is important, it can be assumed that there is luck of training programs, especially in Cyprus and it can be also assumed that most companies do not appreciate much the trainings outcomes. However, some of the respondents found to be trained on the project management techniques. This might be because most of them are engineers and in most Universities there are courses on project management that should be complete to take a degree. On the other hand, despite the fact that the majority of the research respondents have not been trained on leadership, it is assumed that the leader of each company, inevitably, is following a leadership style.

SECTION C

By and large, Leadership found to be a significant factor in the whole project process, and the importance of leadership is growing with the increasing quantities of global projects. It is clear, therefore, that as people from across the globe work collaboratively on meeting project goals, leadership and a good team environment are needed for success. Thus, at this section the respondents were asked to assess the importance of leadership in the following survey questions. In fact, respondents were asked whether they agree, partially agree, disagree or have no opinion on the statements below. Results are shown in table 7 and figure 8.

- **Leadership Importance**

Leadership Importance						
		strongly agree	agree	uncertainnot applicable	disagree	strongly disagree
1	Leadership is necessary in completing projects successfully.	21	49	0	0	0
2	It is important for a leader to have formal leadership training to be successful.	7	49	7	0	7
3	I feel that successful project managers have high level leadership skills.	7	56	7	0	0
4	I feel extremely satisfied with my job when working for a project manager.	0	42	28	0	0
5	I feel that it is important for someone to demonstrate leadership in order to be promoted to a leadership position.	7	35	14	14	0
6	I feel that it is best to create an environment where the team members take ownership of the project. Everyone should participate in the decision making process.	21	35	7	7	0
7	I feel that project manager should ask employees for their vision of where they see their jobs going and then use their vision where appropriate.	21	42	7	0	0

Table 7 : Leadership Importance

An ANOVA test was conducted to see if the Leadership Importance varied by the seven statements above. Mean scores for each of the statements groups are displayed in Table 8. The analysis of variance displayed in Table 9 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	301	4.3	0.213043478
Statement 2	70	259	3.7	1.024637681
Statement 3	70	280	4	0.202898551
Statement 4	70	168	2.4	3.895652174
Statement 5	70	133	1.9	3.946376812
Statement 6	70	280	4	0.811594203
Statement 7	70	294	4.2	0.365217391

Table 8: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	380.8	6	63.46666667	42.47526673	1.29514E-41	2.117341067
Within Groups	721.7	483	1.494202899			
Total	1102.5	489				

Table 9: Anova for Leadership Importance

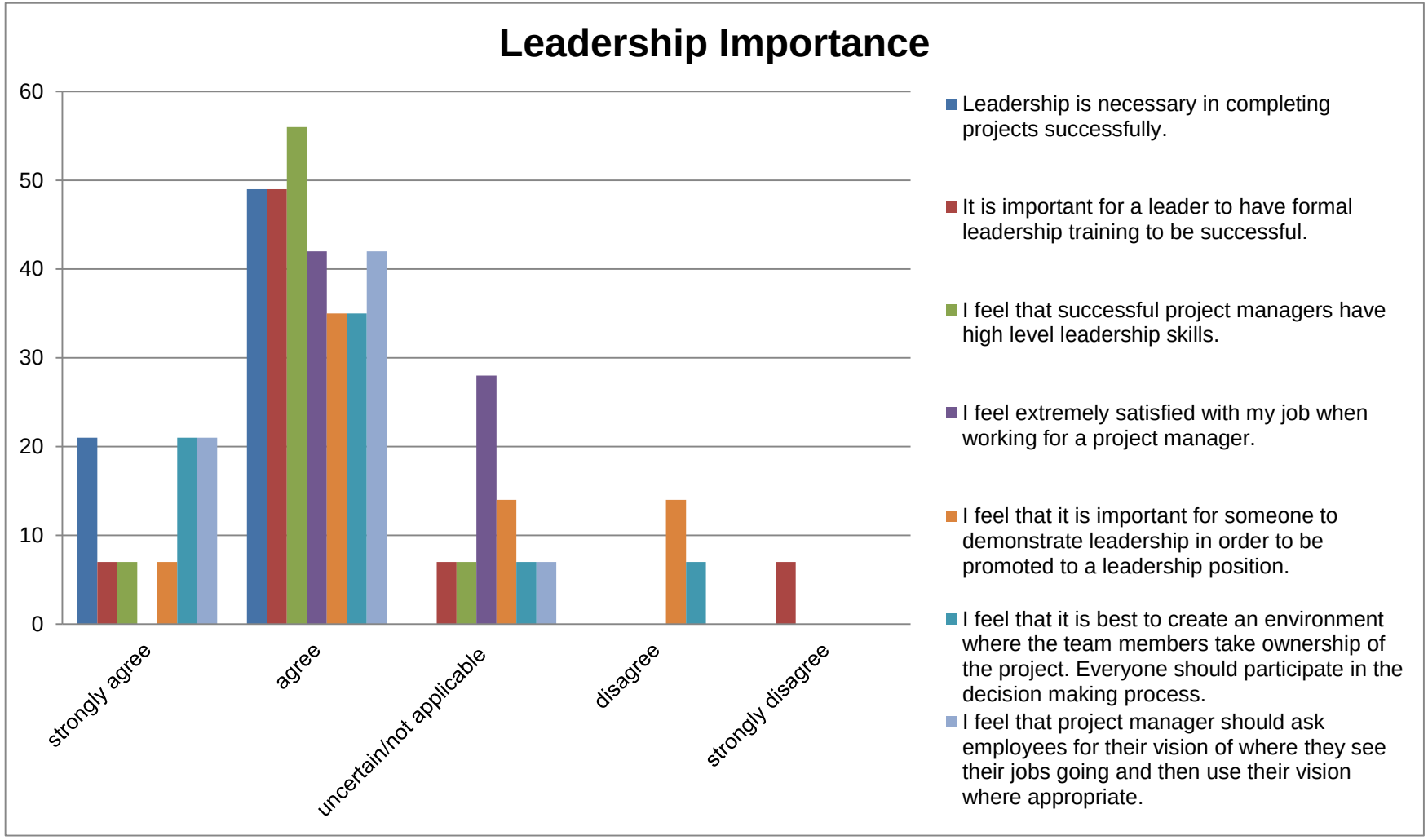

Figure 10 : Leadership Importance

According to the survey, the majority of respondents believe that leadership is necessary and a key factor of success in project management.

At this point it has to be mentioned that there is some disagreement concerning whether formal training is required for individuals to be successful leaders. Some academics argued that leadership skills are gained through daily life and practical experience or that some individuals are naturally born leaders, and, thus, no formal training is required. Nevertheless, others argued that formal training is a requirement to successful leadership, particularly as projects and problems grow in complexity. On the other hand, according to this research the participants believe that leadership training is important and necessary for people who want to become a successful leader.

Of the respondents, almost everyone in the survey agreed that successful project managers have a high level of leadership skills. Admittedly, leadership skills can help people run a project more easily, but they are not guarantees of project success. However, while project managers might be successful with leadership skills, they will definitely fail without those skills. In some cases, projects may be completed by a leader with low-level skills, but, if this leader could acquire more skills, the project may be more successful in some aspects. For instance, the project may have greater time-savings, reduced total costs or lead to greater profit.

One of the asked questions aimed to address the project manager's performance in the real world, and how the application of leadership skills, in turn affects the job satisfaction of team members. Actually, the respondents were asked to provide their opinion of the following statement: "I feel extremely satisfied with my job when working for a project manager".

According to the survey, the 60% of people seems to be satisfied with their project managers, while 40% of the participants found not to be sure if they are satisfied or not. There may be several reasons for this result. Possibly, the employees are not pleased but they couldn't mention it. Or they may don't know if they are pleased or not. Nevertheless, a good leader is supposed to be respected by his or her followers.

On the other hand, the reality is that almost one thirds of the project managers are not considered successful leaders. Although they may be able to complete a project, they may not inspire faith or confidence in their abilities from their subordinates. Clearly, this may show a lack of leadership skills. On the other hand, the result can be interpreted in support of the results from Section B, concerning the importance of leadership and the need for formal leadership training.

Leadership training might be needed also for those attempting to get a promotion. However, the research showed that there is a confusion regarding the statement that leadership skills play an important role in career promotion.

Finally, the last two questions of Section C focus on the project team member's participation in the decision making and on the project vision. The vast majority of employees agreed that everyone in the project should participate in the decision-making process. Indeed, on a team project, it is necessary and important for everyone to participate in the process. Due to this, in my opinion, time will not be wasted and the right decisions will be taken. Especially, for some key decisions which can affect the whole project, everyone should participate and be responsible for making decisions.

Since completing a project is a team effort, no one individual can claim success in a project without the contributions of others. The research results support the idea that leaders should gain opinions from the team members and consider team members an essential part to successful project execution. Moreover, it is generally agreed that for a successful project not only the leader should show his/her best performance but the followers as well. Employees need leaders to trust them and share their vision with them.

SECTION D

Besides all the analysis above, the researcher attempt also to define the leadership style of the sample companies' leader. The participants were asked to answer the following questions to consider the leadership style in general for the sample.

- **Authentic Leadership Assessment**

Authentic Leadership Assessment						
		Not At All	Once In A While	Some Times	Fairly Often	Frequently, If Not Always
1	My leader seeks feedback to improve interactions with others.	28	7	28	7	0
2	My leader says exactly what he or she means.	7	28	21	7	7
3	My leader demonstrates beliefs that are consistent with actions.	7	14	21	28	0
4	My leader is willing to admit mistakes when they are made.	7	56	7	0	0
5	My leader listens carefully to different points of view before coming to conclusions.	7	35	21	7	0
6	My leader openly shares his/her feelings with others.	28	7	28	0	7
7	My leader seeks other's opinions before makes up his or her own mind.	14	35	21	0	0
8	My leader rarely presents a "false" front to others.	0	14	21	14	21

Table 10 : Authentic Leadership Assessment

An ANOVA test was conducted to see if the Authentic Leadership Assessment varied by the eight statements above. Mean scores for each of the statements groups are displayed in Table 11. The analysis of variance displayed in Table 12 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	154	2.2	1.176811594
Statement 2	70	189	2.7	1.227536232
Statement 3	70	210	3	1.014492754
Statement 4	70	140	2	0.202898551
Statement 5	70	168	2.4	0.649275362
Statement 6	70	161	2.3	1.633333333
Statement 7	70	147	2.1	0.497101449
Statement 8	70	252	3.6	1.257971014

Table 11: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	142.7125	7	20.387	21.294034	1.85425E-25	2.0261549
Within Groups	528.5	552	0.9574			
Total	671.2125	559				

Table 12: Anova for Authentic Leadership Assessment

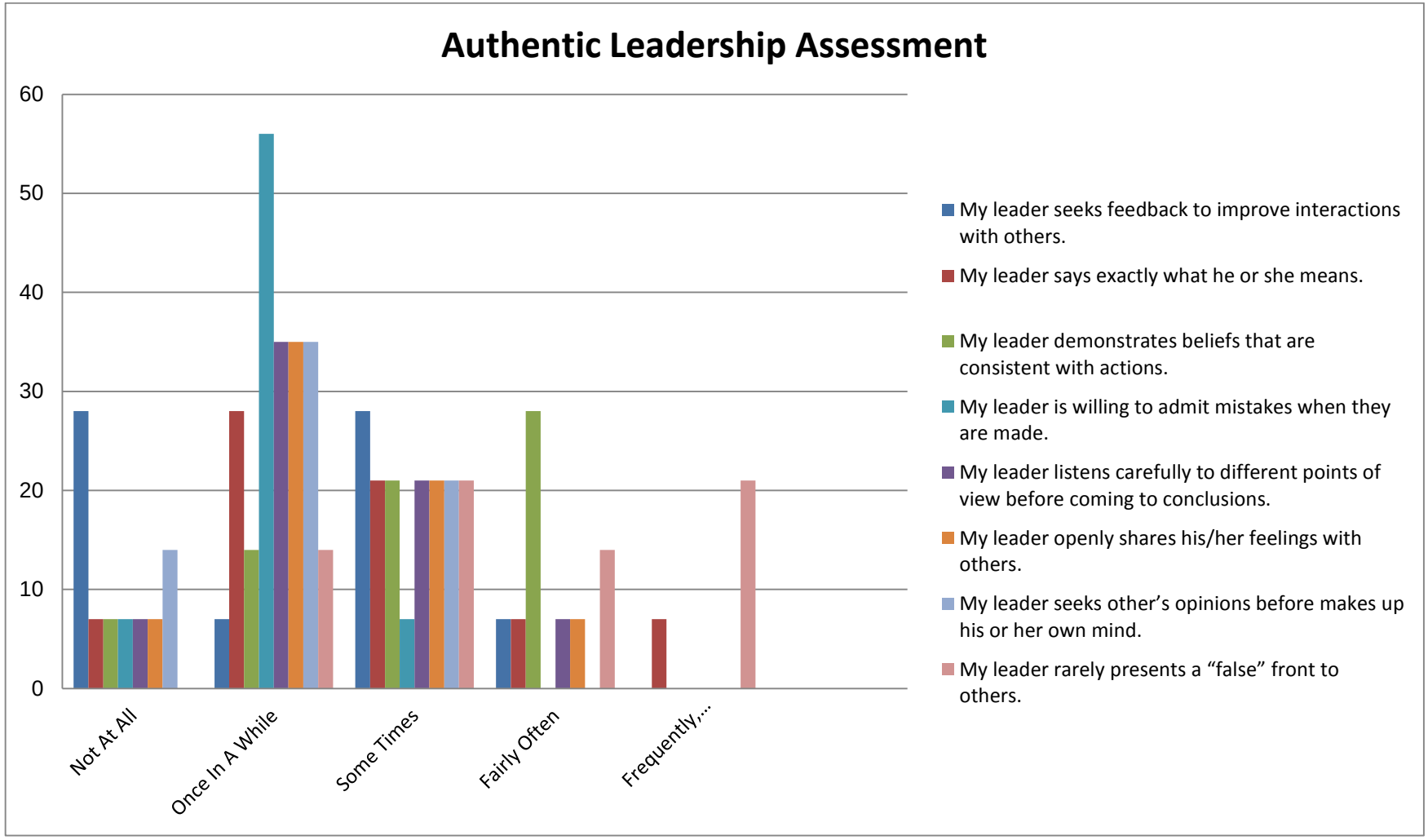

Figure 11: Authentic Leadership Assessment

- **Self-Management Behaviour Assessment**

Self-Management Behaviour Assessment								
		Definitely Not True	Not True	Slightly Not True	Uncertain	Slightly True	True	Definitely True
1	He/she encourages us to go over an activity before we attempt it.	0	7	7	35	0	21	0
2	If we do an assignment especially well, then he/she encourages us to feel positive about ourselves.	7	21	7	21	7	7	0
3	My leader demonstrates beliefs that are consistent with actions.	0	21	7	14	7	21	0
4	He/she expects us to be tough on ourselves when our performance is not up to standard.	0	21	0	0	35	14	0
5	He/she encourages us to establish our own task goals.	7	21	21	0	14	7	0
6	He/she encourages us to expect a lot from ourselves.	0	21	28	0	14	0	7

Table 13 : Self-Management Behaviour Assessment

An ANOVA test was conducted to see if the Self-Management Behaviour Assessment varied by the six statements above. Mean scores for each of the statements groups are displayed in Table 14. The analysis of variance displayed in Table 15 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	301	4.3	1.633333333
Statement 2	70	231	3.3	2.242028986
Statement 3	70	280	4	2.637681159
Statement 4	70	301	4.3	2.444927536
Statement 5	70	224	3.2	2.394202899
Statement 6	70	238	3.4	1.866666667

Table 14: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	90.65	5	18.13	8.2291634	2.00226E-07	2.235788
Within Groups	912.1	414	2.2031400			
Total	1002.75	419				

Table 15: Anova for Self-Management Behaviour Assessment

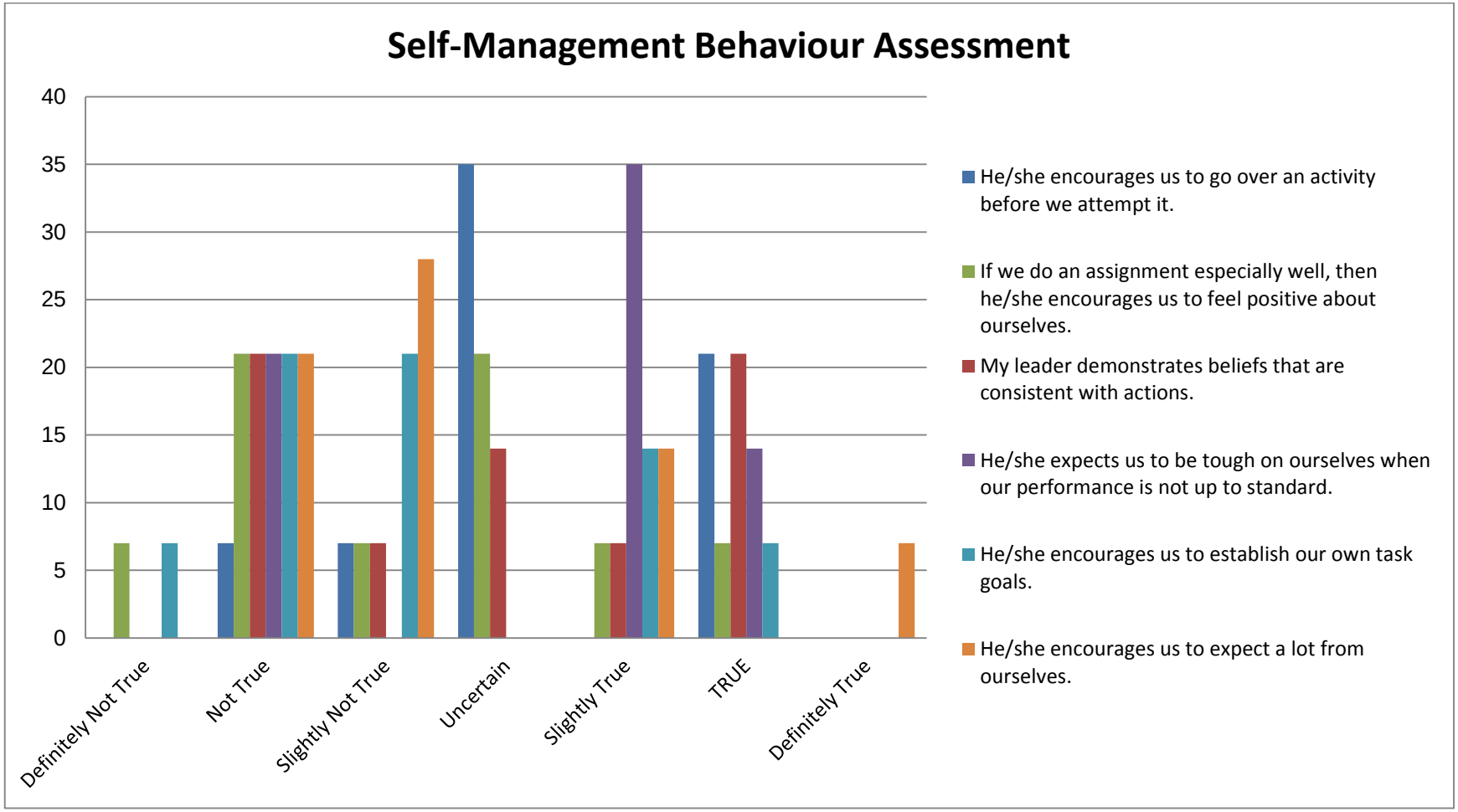

Figure 12: Self-Management Behaviour Assessment

- **Initiating Structure & Consideration Behaviour Assessment**

Initiating Structure & Consideration Behaviour Assessment						
		Not At All	Comparatively Little	To Some Degree	Fairly Much	A Great Deal
1	He/she decides in detail what shall be done and how it shall be done.	14	0	28	21	7
2	He/she is easy to understand.	0	35	21	7	7
3	He/she criticises poor work.	0	14	0	42	14
4	He/she backs up the people under him/her in their actions.	7	14	35	14	0

Table 16 : Initiating Structure & Consideration Behaviour Assessment

An ANOVA test was conducted to see if the Initiating Structure & Consideration Behaviour Assessment varied by the four statements above. Mean scores for each of the statements groups are displayed in Table 17. The analysis of variance displayed in Table 18 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	217	3.1	1.511594203
Statement 2	70	196	2.8	0.973913043
Statement 3	70	266	3.8	0.973913043
Statement 4	70	196	2.8	0.771014493

Table 17: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	46.725	3	15.575	14.7266187	6.36823E-09	2.637311
Within Groups	291.9	276	1.057608			
Total	338.62	279				

Table 18: Anova for Initiating Structure & Consideration Behaviour Assessment

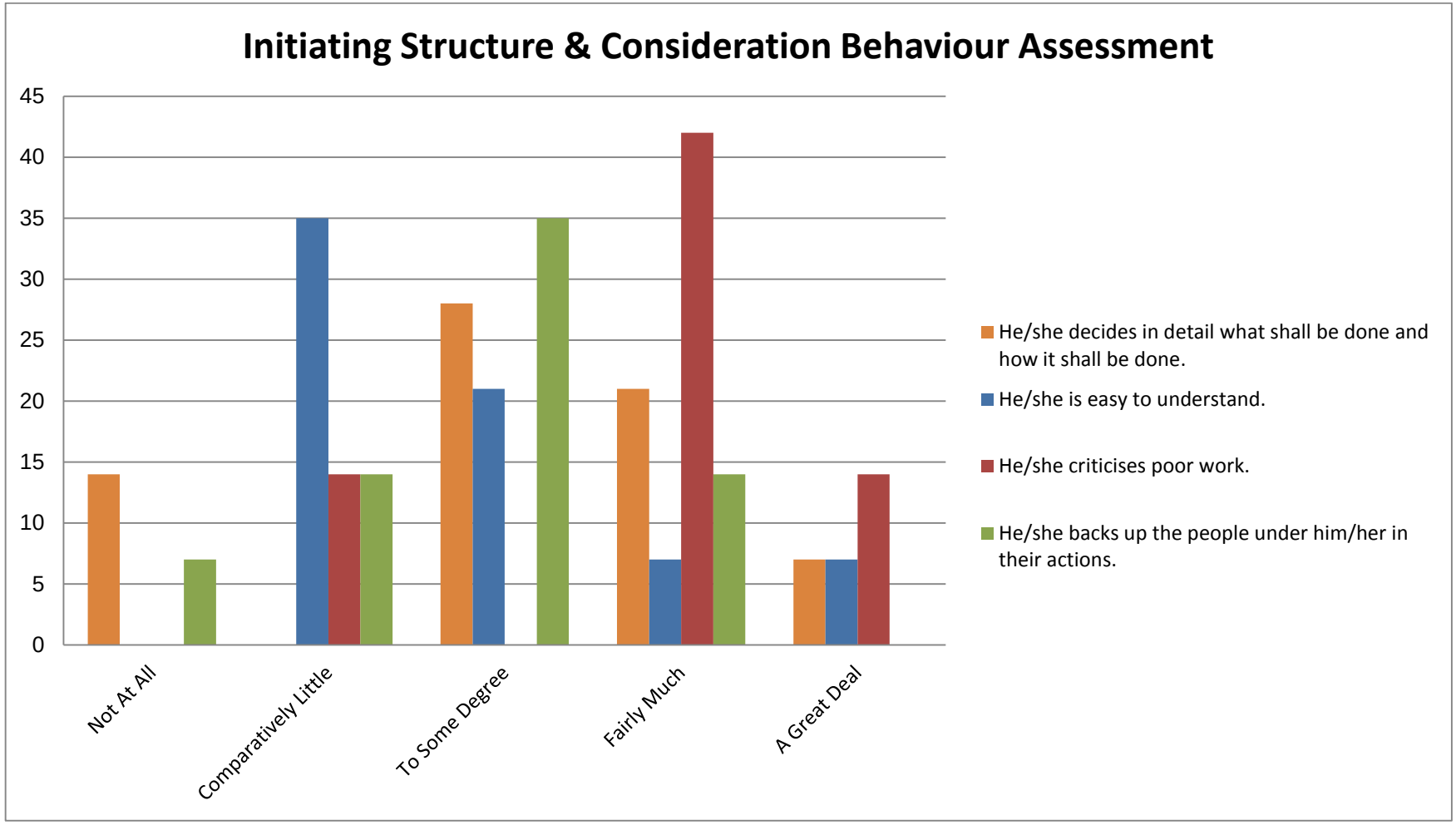

Figure 13 : Initiating Structure & Consideration Behaviour Assessment

- **Transformational & Transactional Behaviour Assessment**

Transformational & Transactional Behaviour Assessment						
		Not At All	Once In A While	Some Times	Fairly Often	Frequently, If Not Always
1	He/she is satisfied when I meet the agreed-upon standards for good work.	0	14	42	14	0
2	He/she has provided me with new ways of looking at things which used to be a puzzle for me.	7	28	7	21	7
3	He/she is content to let me continue doing my job in the same way as always.	21	7	35	7	0
4	I decide what I want; he/she shows me how to get it.	28	28	14	0	0
5	He/she is an inspiration to us.	7	35	7	14	7

Table 19 : Transformational & Transactional Behaviour Assessment

An ANOVA test was conducted to see if the Transformational & Transactional Behaviour Assessment varied by the five statements above. Mean scores for each of the statements groups are displayed in Table 20. The analysis of variance displayed in Table 21 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	210	3	0.405797101
Statement 2	70	203	2.9	1.511594203
Statement 3	70	168	2.4	1.055072464
Statement 4	70	126	1.8	0.568115942
Statement 5	70	189	2.7	1.430434783

Table 20: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	65.24	4	16.31	16.40510204	2.5773E-12	2.397828
Within Groups	343	345	0.9942028			
Total	408.24	349				

Table 21: Anova for Transformational & Transactional Behaviour Assessment

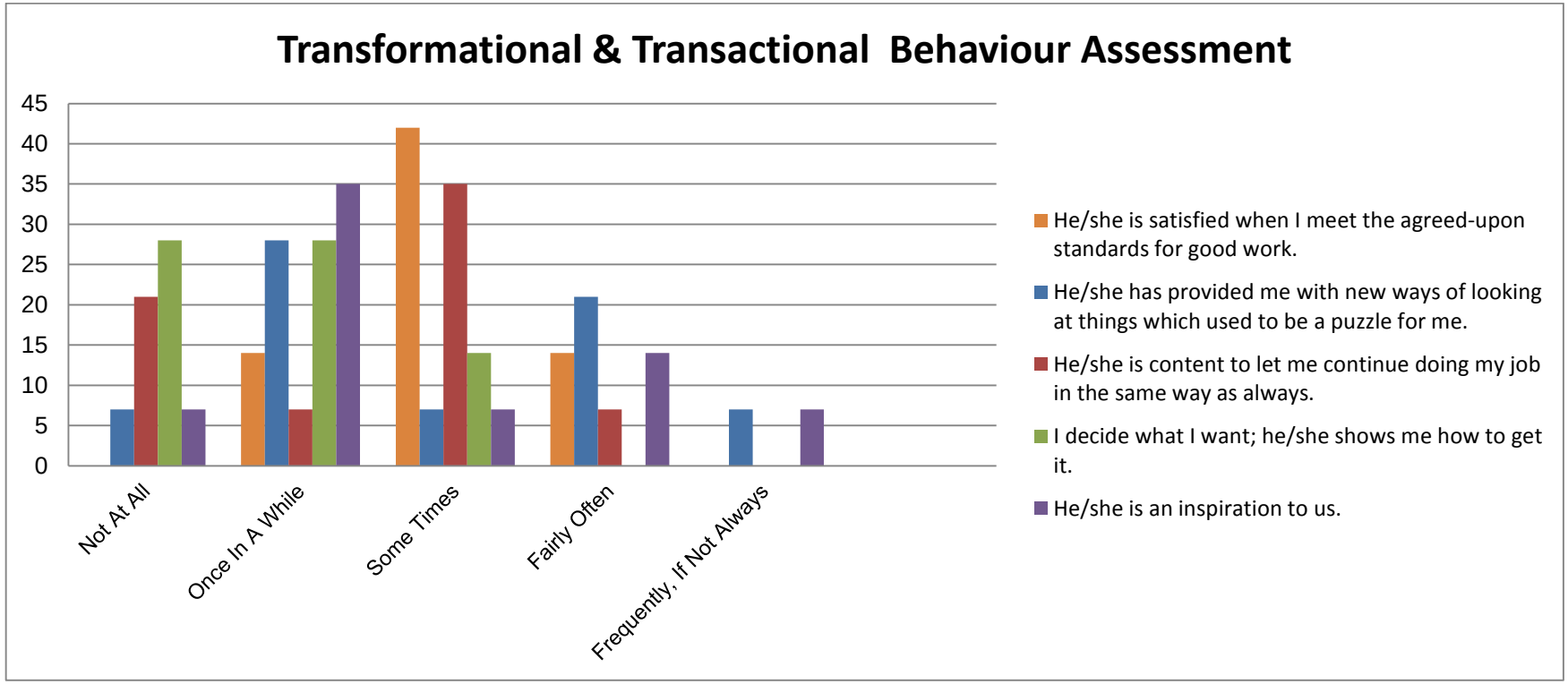

Figure 14 : Respondent's level of Education

The above analysis tried to approach the general Cyprus leadership style on project management. It has been found that although leaders haven't been trained on leadership subjects they are using various leadership styles. Some of the leadership styles which are being used are authentic leadership, self-management leadership, transformational and transactional leadership and consideration and initiating structure leadership. However, the characteristics of initiating structure and consideration found to be used more recently in Cypriot organisations

SECTION E

Going on from there, there has been an attempt to define the conflict management styles at work during the process of a project. Undeniably, during a project conflicts are always appearing. More especially, conflicts appear when people from different disciplines have to work and take decisions together. For example, in engineering, architects, civil engineers, mechanical engineers, electrical engineers and surveyors have to cooperate for a successful project result. Good cooperation are more likely to bring projects to success. Therefore, a well-managed conflict style should always be employed in order to eliminate the disaster of a misunderstanding between all the engineering disciplines.

- **Interpersonal Conflict Management Styles at work**

Interpersonal Conflict Management Styles at work						
		Not At All	Comparatively Little	To Some Degree	Fairly Much	Very Much
1	I give in to the wishes of the other party.	0	0	56	14	0
2	I try to realize a middle-of-the road solution.	0	21	0	49	0
3	I push my own point of view.	0	56	7	7	0
4	I examine issues until I find a solution that really satisfies me and the other party.	0	7	21	14	28
5	I avoid confrontation about our differences.	21	7	7	28	7

Table 22 : Interpersonal Conflict Management Styles at work

An ANOVA test was conducted to see if the Interpersonal Conflict Management Styles at work varied by the five statements above. Mean scores for each of the statements groups are displayed in Table 23. The analysis of variance displayed in Table 24 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	224	3.2	0.162318841
Statement 2	70	238	3.4	0.852173913
Statement 3	70	161	2.3	0.415942029
Statement 4	70	273	3.9	1.105797101
Statement 5	70	203	2.9	2.120289855

Table 23: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	98.84	4	24.71	26.532679	3.35374E-19	2.397828
Within Groups	321.3	345	0.9313043			
Total	420.14	349				

Table 24: Interpersonal Conflict Management Styles at work

Figure 15 : Interpersonal Conflict Management Styles at work

Fortunately, the above results illustrated that the participants follow a successful conflict management style at work. They generally, try to find a middle of the road solution and they avoid pushing their own point of view. It is clear, therefore, that employees are usually finding a solution through cooperation.

SECTION F

Having considered the conflict management style at work in Cyprus, this study will now test the innovation, creativity and productivity of the employees. The participants were asked to answer the following statements. Actually, they were asked how often are feeling innovative, productive or creative.

- **Creativity, Innovation Types & Productivity In Organisation**

Creativity, Innovation Types & Productivity In Organisation					
		Never	Sometimes	Often	Always
1	My area of this organization is innovative.	35	7	28	0
2	We have launched products that are the first of their kind in the world.	42	21	7	0
3	My area of this organisation is productive	14	14	42	0

Table 25 : Creativity, Innovation types & Productivity in Organization

An ANOVA test was conducted to see if the Creativity, Innovation types & Productivity in Organization varied by the three statements above. Mean scores for each of the statements groups are displayed in Table 26. The analysis of variance displayed in Table 27 shows the p-value to be below the threshold of 0.05. Therefore, there is a statistically significant difference between statements.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Statement 1	70	133	1.9	0.902898551
Statement 2	70	105	1.5	0.456521739
Statement 3	70	168	2.4	0.649275362

Table 26: Mean scores for each of the statements groups

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	28.466667	2	14.233333	21.257575	4.01235E-09	3.039508
Within Groups	138.6	207	0.6695652			
Total	167.066667	209				

Table 27: Anova for Transformational & Transactional Behaviour Assessment

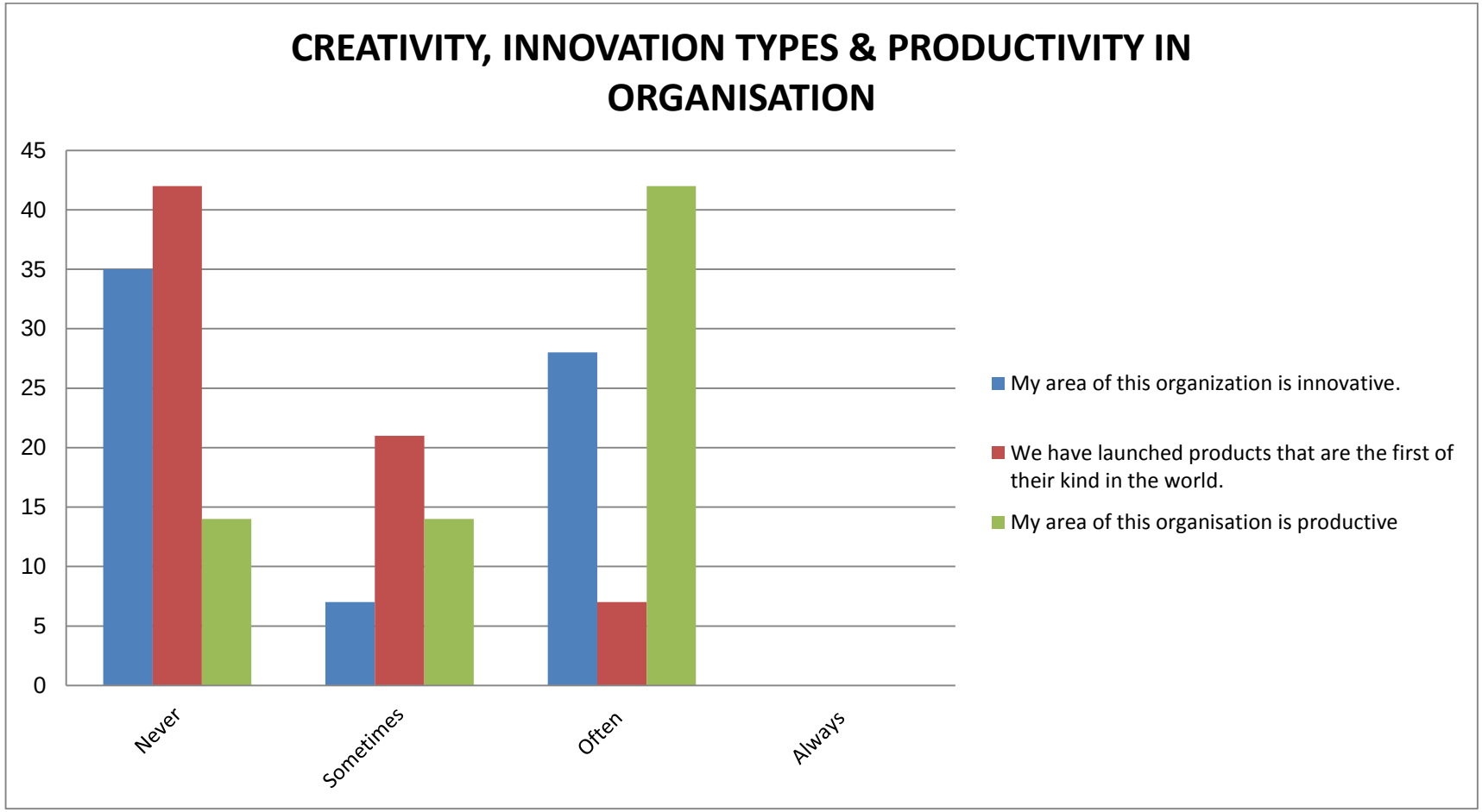

Figure 16 : Creativity, Innovation types & Productivity in Organization

Unfortunately, people are not generally using their innovation or creativity. However, they claimed that they are productive. Here come the following two questions:

Are people more productive while they are not using their creativity or innovation?

Do people on such projects need their innovation or creativity?

These are two questions that can be tested in another study.

In my opinion, creativity and innovation are two key skills that all engineers must have to lead projects to success. Innovation and creativity may limit the cost and time of projects and as a result they can lead a project to success. In addition, through their creativity and innovation engineers may enhance the quality of the work done.

As a result, while Leadership is one of the most important and essential factors in good project management. Leadership is more than simply managing people or projects: it is the art of affecting other team members' behavior in order to achieve the goals and accomplish the tasks successfully. Therefore, a good leader may teach their followers to be more innovative and creative. Consequently, a good leadership always brings success not only for the project but also for his/ her followers.

5. CONCLUSIONS/RECOMMENDATIONS

Research shown that leadership is one of the most important and essential factor in good project management. Although the questionnaire based survey has some limitations to support the entire research, other literature review including journals and books make the entire research convincing.

5.1 Main Findings of the Research

Quality leadership appears to be important not only for individual's career pursuits, but also significant because it influences the whole project process. Research illustrated that leadership is growing in importance, especially in the construction market. Additionally, in a world that is growing, projects are becoming even more complex. One can no longer assume that a manager can solve all problems by himself because one person cannot deal with all of today's rapid changes, competitive threats, and escalating customer demands.

Companies need to hire the best qualified person for each position. This suggests that Cypriot companies if they want to succeed, they need to hire a project manager with leadership qualifications. Furthermore, leaders on project management must be trained and enhanced their knowledge regarding successful leadership on project management. In my opinion an effective leader can be developed through a continuing process of self-study, education, training, and experience.

As demonstrated by the results of the survey, young engineers are involved in project management. Consequently, young people in the construction industry, in order to gain leadership skills, formal training is necessary. And this is also a must for the one who wants to gain success in the future.

It is clear therefore that the role of project manager could not be given to a person who has only the strong technical skills and has worked on several project teams.

The project manager role should be given to a qualified person who has leadership skills not only by his/her nature but from training. On this subject area literature review and questionnaire research produce the same result.

Nowadays, companies are regarding project management as being mandatory for the survival of the company. However, most project managers found to keep searching for their own method of a successful project management. It is assumed that each person develops his/her own project management methodology and according to the specific nature and characteristics of each project. In general, cost, time and quality are linked to a successful project management. Nevertheless, different people assess the success of project in different ways.

Additionally, it has been found that leadership is one of the most important factors in a successful project management. What is more, successful leader might be the one who enhance his or her group innovation, creativity and productivity. In my opinion, creativity and innovation are two key skills that all engineers must have to lead projects to success. In my opinion, innovation and creativity may limit the cost and time of projects and as a result they can lead a project to success. In addition, through their creativity and innovation engineers may enhance the quality of the work done. Unfortunately, according to the questionnaire research people are not generally using their innovation or creativity. However, they claimed that they are productive. For this reason, companies need project managers who have the appropriate skills to develop the most suitable leadership style for each situation or a specific project to make their followers to be more productive and innovative.

Going on from there, consideration and initiating structure leadership style found to be the most commonly used leadership style in Cyprus. What is more, the choice of the most appropriate leadership style for a special situation is very crucial as it have been mention before. According to the literature this leadership style has the ability to get people organized, to set goals, and to make sure that such goals are met.

What is more, many academics argued that leaders high in initiating structure and consideration skills tended to achieve high subordinate performance and satisfaction more frequently than those rated low on consideration, initiating structure, or both. Indeed, according to the questionnaire survey the performance –productivity of the sample found to be on high levels.

The survey results also show that interpersonal conflicts do exist in project management. This supports the idea that people are working by using their knowledge and support their ideas, they do not use a passive attitude. This research shows that in most situations the participants find a middle of the road solution. At this point is has to be mention that interpersonal conflict is essential for business productivity and personal growth. However, engineers on projects are lucking innovation and creativity, two of the most important skills which can lead projects to success.

5.2 Correlation of the Literature review and Questionnaire Results

According to the literature review Leadership found to be a significant factor in the whole project process, and the importance of leadership is growing with the increasing quantities of global projects. It is clear, therefore, that as people from across the globe work collaboratively on meeting project goals, leadership and a good team environment are needed for success. Project management not only requires an efficient project manager, but also a qualified leader who can lead the team effectively. A leader found to be someone who sets direction in an effort and influences people to follow that direction. It is clear, therefore, that it is important to have skills in forming, leading and facilitating a project team.

According to the questionnaire survey, the majority of respondents believe that leadership is necessary and a key factor of success in project management. In fact, of the respondents, almost everyone in the survey agreed that successful project managers have a high level of leadership skills. Admittedly, leadership skills can help people run a project more easily, but they are not guarantee of project success. However, while project managers might be successful with leadership skills, they will

definitely fail without those skills. In some cases, projects may be completed by a leader with low-level skills, but, if this leader could acquire more skills, the project may be more successful in some aspects. For instance, the project may have greater time-savings, reduced total costs or lead to greater profit.

Going on from there, certain Academics in the literature review chapter of this dissertation stated that companies do not use any specific project management methodology. Especially, writing in 2003 Charvat (p.24) mentioned that many companies today do not use any formalized project methodology. Nevertheless, there are some academics who assumed that organizations develop their own Project Management methodologies according to the specific nature and characteristics of each project. Indeed, "the American industrial engineer Henry Gantt, almost 100 years ago devised a planning chart that is very familiar in all kinds of project planning nowadays, not least in construction projects" (Lock, 2004, p.12). The charts are often called Gantt charts, but we can use the more common name which is "bar chart."

On the other hand, regarding the questionnaire research, all the participants have not mention any project management methodology. However, the increasing number of projects and their diversity might force organizations to acknowledge the importance and versatility of structured Project Management methodologies. The evidences suggest that good project management methodologies allow work to be accomplished in less time, at low cost, with fewer resources, and without any sacrifice in quality.

5.3 Limitations

Unfortunately, as every study has its obstacles and limitations, this thesis encountered a variety of unexpected problems. At first, one of the limitations was our attempt to attract information from significant organisations in Cyprus such as ANAD and KEPA. Both organisations contacted by email. ANAD is responsible for the development of the human resources in Cyprus and the author thought that any

reference from this organisation could be an advantage for his thesis. However, ANAD did not have any data in this thesis subject area thus they couldn't advice the author. On the other hand, KEPA which is the Cyprus Productivity Centre haven't response to the email.

Moreover, another limitation was that some of the contacted businesses didn't give permission for the questionnaire survey. In addition, some businesses although they give permission for the research, they preferred to keep their anonymity. This last limitation have been also analyse on methodology's chapter "Ethical Considerations."

5.4 Area for further research

Although the questionnaire research admits that engineers are productive, it acknowledges that engineers are lucking of innovation and creativity. Undeniably, these two are some of the most important employees' skills which can lead projects to success.

Having consider the above here come the following two questions:

Are people more productive while they are not using their creativity or innovation?

Do people on such projects need their innovation or creativity?

These are two questions that can be tested in another study and can be taken up by future researchers.

5.4. Recommendations

The construction industry is a major global business which plays an essential role on economic development and projects are important issues to such organisations. Project success depends on various elements and project manager has to handle such elements successfully. However, among all the skills in project management, the leadership skill component seems to be one of the most significant values in the present, and is predicted to become more important in the near future. Due to this, it is suggested that all engineering companies must recruit the best qualified persons for the position of the project manager.

By saying qualified, the author means the people who are well educated and train on leadership and project management subjects. Today, many Universities are offering Bachelors and Master degrees on project management. Thus, it is suggested that companies must employee people on project manager positions who have such degrees not only for the good of the company but also for the good of the economy.

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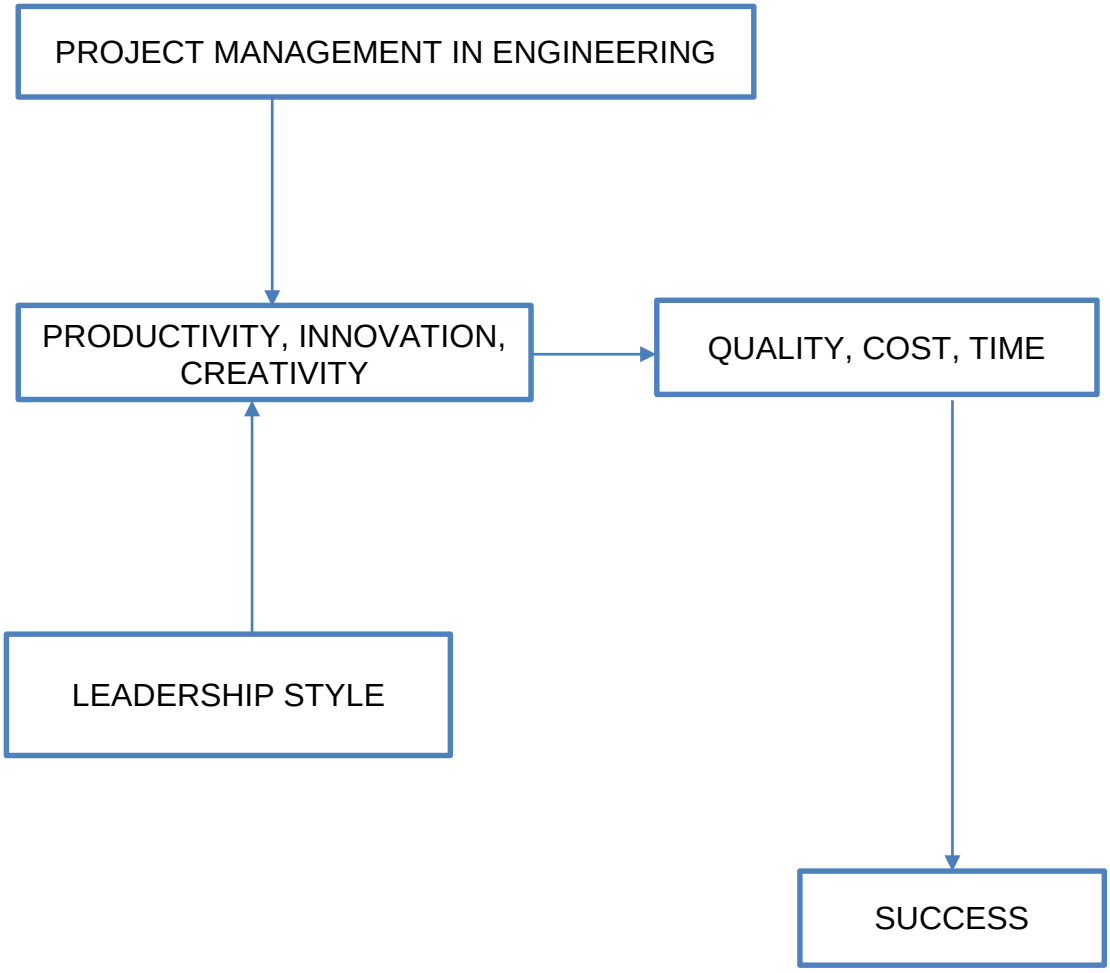
7. APPENDICES

APPENDIX 1: Illustration of the Research Methodology Process



APPENDIX 2: Questionnaire

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Management in Cyprus

SECTION A

Please complete the following questionnaire by placing a cross [X] in the appropriate box.

Male ☐	Female ☐

Age: 20-25 ☐ 26 - 30 ☐ 31-40 ☐ 41-49 ☐ 50+ ☐

I have worked on projects for:

- ☐ Less than 6 months
- ☐ 1-2 years
- ☐ 2-5 years
- ☐ 5-7 years
- ☐ More than 7 years

Your role is:

- ☐ I am the owner
- ☐ I am or have been a project manager.
- ☐ I am an engineer.

What is your level of education?

- ☐ High School graduate
- ☐ Associates degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate

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SECTION B

Please answer each of the following questions.

1. Have you received any training on project management? Yes / No
2. Do you use any specific project management methodology? Yes / No
3. If yes mention the methodology that you usually use.

.....

.....

4. Have you received any training on leadership? Yes / No

SECTION C

Please complete the following questionnaire by placing a cross in the appropriate box.

		strongly agree	agree	uncertain/ not applicable	disagree	strongly disagree
1.	Leadership is necessary in completing projects successfully.	☐	☐	☐	☐	☐
2.	It is important for a leader to have formal leadership training to be successful.	☐	☐	☐	☐	☐
3.	I feel that successful project managers have high level leadership skills.	☐	☐	☐	☐	☐
4.	I feel extremely satisfied with my job when working for a project manager.	☐	☐	☐	☐	☐
5.	I feel that it is important for someone to demonstrate leadership in order to be promoted to a leadership position.	☐	☐	☐	☐	☐
6.	I feel that it is best to create an environment where the team members take ownership of the project. Everyone should participate in the decision making process.	☐	☐	☐	☐	☐
7.	I feel that project manager should ask employees for their vision of where they see their jobs going and then use their vision where appropriate.	☐	☐	☐	☐	☐

Neapolis University Pafos

SECTION D

Please answer each of the following questions which are about your bosses (eg. Group Leader and Team Leader) leadership behaviour.

Read each question carefully and circle the appropriate response.

A1. Authentic Leadership Assessment		For My Leader; My Supervisor				
		Not At All	Once In A While	Some Times	Fairly Often	Frequently, If Not Always
1	My leader seeks feedback to improve interactions with others.	0	1	2	3	4
2	My leader says exactly what he or she means.	0	1	2	3	4
3	My leader demonstrates beliefs that are consistent with actions.	0	1	2	3	4
4	My leader is willing to admit mistakes when they are made.	0	1	2	3	4
5	My leader listens carefully to different points of view before coming to conclusions.	0	1	2	3	4
6	My leader openly shares his/her feelings with others.	0	1	2	3	4
7	My leader seeks other's opinions before makes up his or her own mind.	0	1	2	3	4
8	My leader rarely presents a "false" front to others.	0	1	2	3	4

A2. Self-Management Behaviour Assessment		For My Manager						
		Definitely Not True	Not True	Slightly Not True	Uncertain	Slightly True	True	Definitely True
1	He/she encourages us to go over an activity before we attempt it.	1	2	3	4	5	6	7
2	If we do an assignment especially well, then he/she encourages us to feel positive about ourselves.	1	2	3	4	5	6	7
3	He/she expects us to be tough on ourselves when our performance is not up to standard.	1	2	3	4	5	6	7
4	He/she encourages us to be aware of our level of performance.	1	2	3	4	5	6	7

5	He/she encourages us to establish our own task goals.	1	2	3	4	5	6	7
6	He/she encourages us to expect a lot from ourselves.	1	2	3	4	5	6	7

A3. Initiating Structure & Consideration Behaviour Assessment		For My Manager					
		Not At All	Comparatively Little		To Some Degree	Fairly Much	A Great Deal
1	He/she decides in detail what shall be done and how it shall be done.	1	2		3	4	5
2	He/she is easy to understand.	1	2		3	4	5
3	He/she criticises poor work.	1	2		3	4	5
4	He/she backs up the people under him/her in their actions.	1	2		3	4	5

A4. Transformational & Transactional Behaviour Assessment		For My Manager				
		Not At All	Once In A While	Sometimes	Fairly Often	Frequently If Not Always
1	He/she is satisfied when I meet the agreed-upon standards for good work.	0	1	2	3	4
2	He/she has provided me with new ways of looking at things which used to be a puzzle for me.	0	1	2	3	4
3	He/she is content to let me continue doing my job in the same way as always.	0	1	2	3	4
4	I decide what I want; he/she shows me how to get it.	0	1	2	3	4
5	He/she is an inspiration to us.	0	1	2	3	4

Neapolis University Pafos

SECTION E

If you have a conflict at work please indicate what do you do by circling the appropriate response.

Please Circle Your Response		When I Have a Conflict at Work, I Do the Following				
		Not At All	Comparatively Little	To Some Degree	Fairly Much	Very Much
1	I give in to the wishes of the other party.	1	2	3	4	5
2	I try to realize a middle-of-the road solution.	1	2	3	4	5
3	I push my own point of view.	1	2	3	4	5
4	I examine issues until I find a solution that really satisfies me and the other party.	1	2	3	4	5
5	I avoid confrontation about our differences.	1	2	3	4	5

SECTION F

Please indicate the degree of your agreement with each statement by circling the appropriate response.

Please Circle Your Response		Never	Sometimes	Often	Always
1	My area of this organization is innovative.	1	2	3	4
2	We have launched products that are the first of their kind in the world.	1	2	3	4
3	My area of this organisation is productive	1	2	3	4

Thank you for your help and contribution towards this independent study

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