UNIVERSITAS INDONESIA

LEADERSHIP STYLE OF PROJECT MANAGER AND TEAM'S WORK ENVIRONMENT IN AN IT PROJECT: STUDY CASE IN PT QUADRA SOLUTION

THESIS

ARSENO ADJI
1006793076

FACULTY OF ECONOMICS
MASTER OF MANAGEMENT PROGRAM
MM-MBA PROGRAM
JAKARTA
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Proposed as one of the requirement for obtaining a degree of Master of Management

ARSENO ADJI
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STATEMENT OF ORIGINALITY

This thesis is the work of my own,

and all sources that are quoted or referred to,

have been acknowledged correctly.

Name	:	**Arseno Adji**
NPM (Student Number)	:	**1006793076**
Signature	:	

Date : **June 2012**

CERTIFICATION PAGE

This thesis is proposed by :

Name	:	Arseno Adji
NPM (Student Number)	:	1006793076
Program	:	MM – MBA
Title	:	Leadership Style of Project Manager and Team's Work Environment in an IT Project: Study Case in PT Quadra Solution

Has successfully presented the thesis in front of Board of Examiners and already approved as one of the requirements to obtain the title Master of Management (MM) and Master of Business Administration (MBA) in Master of Management Program, Faculty of Economics, Universitas Indonesia.

BOARD OF EXAMINERS

Counselor : Riani Rachmawati S.E., M.A., PhD ( )

Examiner : Dr. Ir. Tengku Ezni Balqiah M.E ( )

Examiner : Mone Stepanus Andrias S.E., M.Psi ( )

Declared in : Jakarta

Date : July 2012

PREFACE

Alhamdulillah for The Blessing and The Grace so that I could complete this thesis as the end of my study at Master of Management program, Universitas Indonesia. I would like to thank all the individuals that helped me throughout the thesis process. There were many people that supported me through this journey and your kindness was truly appreciated. First of all, I would like to thank my lovely wife, Oklida Kilisuci, for her continuous love and support. And for my dear father and mother, you gave me the motivation I needed to attain this grand accomplishment. I would also like to thank my lovely son, M. Arsya Padischa Adji for his entertainment every time I felt bored.

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6. All MM-MBA class of 2010, I am very proud to be a part of this class.

Hopefully this research can be useful for those in need, and this research is a special dedication for my lovely company, PT Quadra Solution to provide some additional information about leadership and work environment.

STATEMENT OF PUBLICATION APPROVAL
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As a member of academic community of Universitas Indonesia, I the undersigned below:

Name	:	Arseno Adji
NPM (Student Number)	:	1006793076
Program	:	MM-MBA
Faculty	:	Economics
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(Arseno Adji)

ABSTRACT

Name : Arseno Adji
Study : Master of Management - MBA
Title : Leadership Style of Project Manager and Team's Work Environment in an IT Project: Study Case in PT Quadra Solution

In a software development project, the project manager has a strong role in managing the team to achieve project success. Managing a project team is different from managing team in usual business activity because sometimes it needs different approach to match the project's characteristic. According to PMI (2008), a project has a limited timeline (temporary) and unique requirements. Project manager's leadership style was the main focus in this research that had influences on leadership outcome (effectiveness, extra effort, and satisfaction). There was also a finding about team's work environment captured while they were in a software development project. Based on personal interview with 14 employees in PT Quadra Solution, they perceived that there were some problems toward their project managers. This research was addressed to examine the leadership styles of project managers and the outcome related to their leadership styles in this company and also to see the characteristic of the team's current work environment while they were in the software development project. The data were collected using questionnaires, Multifactor Leadership Questionnaire (MLQ) and Work Environment Scale (WES). The result of leadership style was the project manager implemented idealized behavior, idealized attribute and management by exception active as perceived by the team members. The leadership trait that was the most significant in influencing the outcome, effectiveness, was laissez-faire (negative). The most significant in influencing the outcome, extra effort, was individualized consideration. The most significant in influencing the outcome, satisfaction, was idealized behavior. The work environment perceived by the team members was characterized by relationship dimensions (involvement, peer cohesion, and supervisor support) and some personal growth dimensions (autonomy and work pressure).

Keywords: Leadership, Multifactor Leadership Questionnaire, Work Environment Scale, IT Project, Project Manager Leadership

ABSTRAK

Nama : Arseno Adji
Program Studi : Master of Management - MBA
Judul : *Leadership Style of Project Manager and Team's Work Environment in an IT Project: Study Case in PT Quadra Solution*

Dalam proyek pengembangan perangkat lunak, manajer proyek mempunyai peran yang kuat dalam mengatur tim untuk mencapai keberhasilan proyek. Mengatur tim proyek berbeda dari mengatur tim dalam aktifitas bisnis biasa karena terkadang dalam mengatur tim proyek membutuhkan pendekatan berbeda untuk menyesuaikan dengan karakter proyek. Menurut PMI (2008), sebuah proyek memiliki jangka waktu terbatas (bersifat sementara) dan kebutuhan yang unik. Gaya kepemimpinan manajer proyek menjadi fokus utama dalam riset ini yang memiliki pengaruh terhadap hasil dari kepemimpinan (efektivitas, usaha tambahan, dan kepuasan). Ada juga sebuah temuan tentang lingkungan kerja tim yang ditangkap ketika mereka sedang berada dalam proyek pengembangan perangkat lunak. Berdasarkan wawancara pribadi dengan 14 karyawan di PT Quadra Solution, mereka merasa ada masalah terhadap manajer proyek mereka. Riset ini ditujukan untuk mengusut gaya kepemimpinan dari manajer proyek dan hasilnya yang berkaitan dengan gaya kepemimpinan di perusahaan ini, dan juga untuk melihat karakteristik dari lingkungan kerja tim pada saat itu ketika mereka berada dalam proyek pengembangan perangkat lunak. Data dikumpulkan menggunakan kuesioner, *Multifactor Leadership Questionnaire* (MLQ) dan *Work Environment Scale* (WES). Hasil penelitian ini menunjukkan bahwa gaya kepemimpinan yang digunakan oleh manajer proyek berdasarkan persepsi tim adalah *idealized behavior*, *idealized attribute*, dan *management by exception active*. Ciri kepemimpinan yang paling signifikan dalam mempengaruhi hasil kepemimpinan, efektivitas, adalah *laissez-faire* (negatif). Ciri kepemimpinan yang paling signifikan dalam mempengaruhi hasil kepemimpinan, usaha tambahan, adalah *individualized consideration*. Ciri kepemimpinan yang paling signifikan dalam mempengaruhi hasil kepemimpinan, kepuasan, adalah *idealized behavior*. Lingkungan kerja yang dirasakan oleh anggota tim ditandai dengan dimensi hubungan (keterlibatan, kepaduan rekan kerja, dan dukungan supervisor) dan beberapa dimensi perkembangan perseorangan (kemandirian dan tekanan kerja).

Kata kunci: Kepemimpinan, Multifactor Leadership Questionnaire, Work Environment Scale, Proyek TI, Kepemimpinan Manajer Proyek

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDIX

CHAPTER 1
INTRODUCTION

1.1. Background

PT Quadra Solution (Quadra), an Information Technology (IT) company is having internal issues in project management that sometimes makes its clients unsatisfied, and creates bad perceptions from its employees. This problem could possibly make Quadra cannot optimize its business in software development project because of project late delivery and even project failure. Project late delivery and project failure made the clients unsatisfied. However they also created bad perceptions from employees of Quadra.

Based on personal interview with 14 employees, some of them had certain expectation through software development project they involved. For example in a project that would implement new technology, the employee involved in the project would be challenged to explore more about the technology. When the project is successfully deployed, the employee will gain achievement for his/her career, while project failure gives him/her no achievement.

In project late delivery or even project failure, the management tended to blame the programmers. They said that programmers did not perform well. It was very rare that the management evaluated the project managers as the leader of software development project. On the other words, the management rarely realized the role of project managers in leading the team members.

From those happenings, the employees felt disappointed of management's one-sided judgments. There were not few of them chose to resign because of this issue. Thus employee turnover was quite high in a year which most of them were programmers.

Employees are representing the company outside the office. They interact with the clients every day; install software to client; train clients, and the most important is to execute the project. The employees in this case are the persons who are involved in a software development project, including project manager,

system analysts, developers/programmers, testers, etc. And to compete with other competitors in software business, Quadra must keep its potential resources and maintain them as a part of supporting the company's vision and mission through successful software project delivery. Brown (1994) classified a success project if the project is delivered on time and in line with the contract's scope of work (Thite, 1999, p.298).

In a software development project, a project manager is assigned by the company to lead the project to success. The project manager is the one who responsible in managing the project team as a whole; directing them to achieve goal, taking decisions, and monitoring the project continuously (PMI, 2008). Managing a project team is different from managing team in usual business activity because sometimes it needs different approach to match the project's characteristics which are temporary and unique (PMI, 2008). A leadership is one of important interpersonal skills that a project manager must have in effectively managing the project (PMI, 2008).

Project manager as the top leader must have competencies on hard skills and soft skills (Smith, D.C., Bruyns, M., & Evans, S., 2009). According to Arnold (2008), Fielder (1967), Krahn (2005), Pinto et al. (1998), Reilly (2007), Turner & Muller (2006), Shenhar et al. (2007b), Shi & Chen (2006), Slevin & Pinto (1991), Williams (1989), an environment that is created where project succeed is when the leadership element is included in the project itself and implemented in the proper way in practices and strategies (Toth, 2011, p.3).

This research will focus on the leadership style of project managers at Quadra and the outcomes of leadership style based on Bass' and Avolio's theory. And this research will also give some findings about the work environment from subordinates' point of view while they are in the software development project team. These two kinds of things, however, cannot be correlated to each other because of different scales in measurement.

1.2. Problem Identification

Quadra is now bigger than the previous year. It is shown by increasing number of employees from 190 to 300 employees this year. The number of developers is increasing as well, from 23 to 54 developers. And the number of project managers is increasing from 4 to 7 project managers. However, there was no special attention in Quadra about project manager's leadership.

The huge number of employees could bring certain problems which among them are basically about communication, responsibility, and relationship. In this case, the problems occur when we are in a project management life cycle where a project manager cannot drive the team properly and sometimes lose the control of it. The research will discuss about the common leadership behavior of project manager in this company as the top leader from a functional structure.

The functional structure is a hierarchical chart of a team in a software development project. The team usually consists of 5 to 18 members to finish a project and each member in the team structure has his own responsibility.

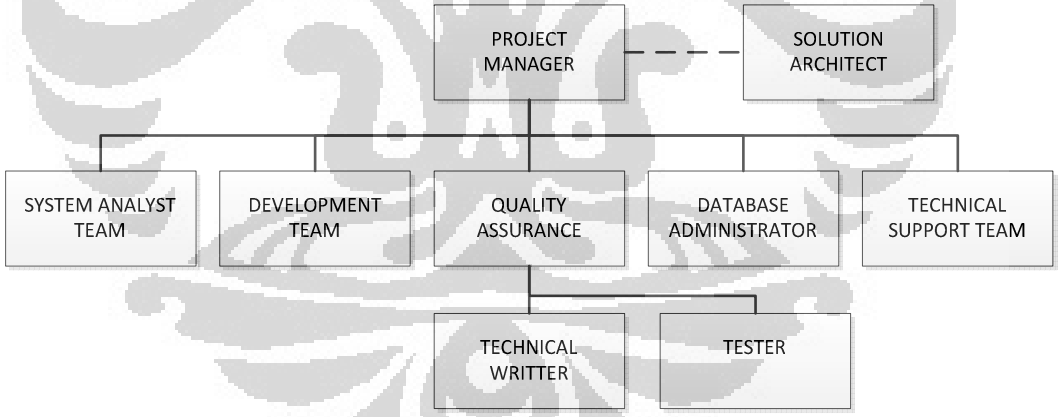

Figure 1.1 Functional Structure of Project Team

Source: Quadra Solution (2011)

Based on personal interview with 14 employees, the problems in the existing project management in this company as perceived by them are:

1. Some project managers think that they are the boss or customers in a restaurant, since customer is assumed as a king. It means that all they should do is giving orders while the others are taking the orders.

2. Some project managers rarely monitor the subordinates' working progress. And when there is a delay target or any problems or conflict in internal team, they like to blame the developers.
3. Some project managers sometimes do not report non-technical problem to the higher level of management.
4. Some project managers cannot firm on some decision-making to avoid wrong decision.
5. Some project managers always assume that each developer can do the tasks without supervision and will make no mistake.

Those negative judgments above showed that the employees had a negative perception toward their project managers. This research is going to find out how leadership traits of project managers influence the outcomes, and what the outcomes are available in this study. The researcher hopes this information will make a clear understanding among employees toward their project managers' leadership style and the outcomes.

1.3. Research Questions

From what are identified in Problem Identification, there are questions of this research to be analyzed and discussed further:

1. What is the project manager's leadership style based on team's perception and what are the outcomes related to the leadership style as perceived by team members in this company?
2. What is the team's perception about their work environment while they are in the software development project team?

1.4. Research Objectives

The objectives of this research are:

1. To obtain information of project manager's leadership style and the outcomes related to the leadership style in this company.
2. To obtain information about team's work environment in the company.

1.5. Research Benefits

This research will give result of leadership styles of project managers in the company and the related outcomes that gives benefits to the company for a better management in software development projects. From the management side, there is certain level of satisfaction expected from particular projects to make a good relationship with the clients/customers through projects success. This good relationship will bring this company to another project and perhaps with another client because of good recommendation from the others.

From the employee side, there is an expectation of a good leader in a team work of software development project in order to enhance their creativity for a better quality of result. While on the other side, employee turn-over is expected to be reduced as a result of the strong commitment to the organization.

And after all, this company is ready to prepare for a software development project in a bigger scale or using virtual team which means enter the globalization. As Khazanchi and Zigurs (2008) said about virtual project, the virtual project is operated cross country and developed by virtual team by relying on internet or any other information and communication strategies (Arora, P., Owens, D., & Khazanchi, D., 2010, p.62).

1.6. Research Methods

The method of research used in this study is survey method by distributing questionnaires. There are two kinds of questionnaires, Multifactor Leadership Questionnaire (MLQ) and Work Environment Scale (WES). MLQ measures a broad range of leadership types of a leader and WES measures the work environment perceived by the employees. The team members (programmers, system analysts, testers, and technical writers) will be given this questionnaire (MLQ) to rate their project managers as a leader in a project. At the same time, they will also be given another questionnaire (WES) to assess their work environment during working together with the project managers.

In this research, the writer will also obtain information from literatures, internet and previous journals about leadership style and work environment. The

purpose of this research method is to identify and analyze the situation in the field, and then the results are used to answer the problems occurred.

1.7. Assumptions and Limitations

This research has several assumptions and limitations to scope the problem analysis and the research methods. The assumptions are:

1. The researcher assumes that the leadership styles that are appropriate for the software project management environment are transformational leadership, transactional leadership, and passive/avoidant leadership from Bass' and Avolio's model.
2. The researcher assumes that the MLQ (by Bernard M. Bass & Bruce J. Avolio) produced by Mind Garden (mindgarden.com) accurately measure the concepts of transformational, transactional, and passive/avoidant leadership style and their outcomes; extra effort, effectiveness and satisfaction.
3. The researcher assumes that the WES (by Rudolf H. Moos & Paul M. Insel) produced by Mind Garden (mindgarden.com) accurately measure the concepts of work environment dimension (innovation, peer cohesion, supervisor support, autonomy, task oriented, work pressure, clarity, management control, innovation, and physical comfort).
4. Lastly, the researcher assumes that the participants will truthfully answer the MLQ questions and the WES questions.

And the limitations of this research are:

1. This research is limited to Bass' and Avolio's measurements of transformational leadership, transaction leadership, and passive/avoidant leadership.
2. This research is limited to Moos' and Insel's measurements of work environment.
3. The research's participants are limited to the employees of PT Quadra Solution and may not represent the other employees outside PT Quadra Solution.

1.8. Writing Systematic

Systematic way of writing that will be used in preparing this thesis consists of five chapters which are:

Chapter 1: Introduction

This chapter contains the background of thesis writing, problem identification, research question, research objectives, research purpose, research method, and systematic of writing.

Chapter 2: Literature Review

Describing literatures utilized in analyzing the problem occurs in the company. It will explain about the concepts and theories of project management, leadership style, work environment, and the measurement of them. The translation of these theories will be used as a basis for analysis in Chapter 5.

Chapter 3: Company Profile

This chapter contains the background of the company being studied, that includes business history, organization structure, company's business services, the clients and partners and some company's achievements.

Chapter 4: Research Methods

This chapter identifies the methodology used in the research. It explains how the research has been done using MLQ and WES, and describes the measurement taken to analyze the relationship between leadership styles and work environment, specifically by using the SPSS 19.

Chapter 5: Analysis and Findings

This chapter describes the findings found through the research and analysis to the results. Here the research questions are answered by combining conceptual framework and the analysis.

Chapter 6: Conclusion and Recommendation

This chapter contains conclusions based on the results of analysis in the previous chapter and the various suggestions proposed as an input for the continuation of the project management.

CHAPTER 2
LITERATURE REVIEW

2.1. Project Management

Project management is described as the knowledge, skills, tools, and techniques to handle activities in a project in order to fulfill its requirements (PMI, 2008). Additionally Software Project Management can be described as a project management in information technology field, specialized in software creation or engineering. A project usually has a strict time schedule that a leader should identify the subordinates' behavior and should create a good working environment in a limited time as well.

Project Management Institute (PMI) provides guidelines for managing project that have been followed by many project managers, through its Project Management Body of Knowledge (PMBOK® Guide). The PMBOK® Guide is the standard for managing many projects across many types of industries including information technology industry.

A project is led by a project manager that is assigned by a company to achieve the project objectives (PMI, 2008). In achieving the assignment, a project manager should have the soft-skill and hard-skill in managing project. The soft-skills include the knowledge of leadership, communication, decision making, and monitoring. On the other hand, hard-skills include the technical knowledge of project life cycle and software development life cycle in general.

There is a project life cycle in a project management that covers all the activities or processes in the project. PMBOK® Guide classifies several major process of a project into following life cycle structure:

1. Initiating: the process of identifying the requirements of the projects or assessing the user requirements.
2. Planning: the process of thinking about the actions based on what is identified previously and making the objectives.
3. Executing: the process of taking action about what is planned.

4. Monitoring & Controlling: The processes of continuously controlling what is doing and monitoring to identify problems earlier.
5. Closing: the condition when objectives are completed and evaluate the previous process groups.

These processes are the key steps in project management; all kinds of projects, either one-phase of multi-phase projects will have project life cycle which include these processes. For example in a project that have only one phase, as shown in Figure 2.1 and a project that have two or more phases, as shown in Figure 2.2.

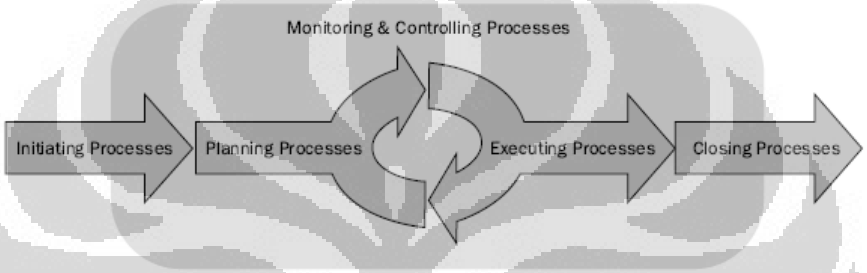

Figure 2.1 Example of One Phase Project

Source: PMBOK® Guide (2008)

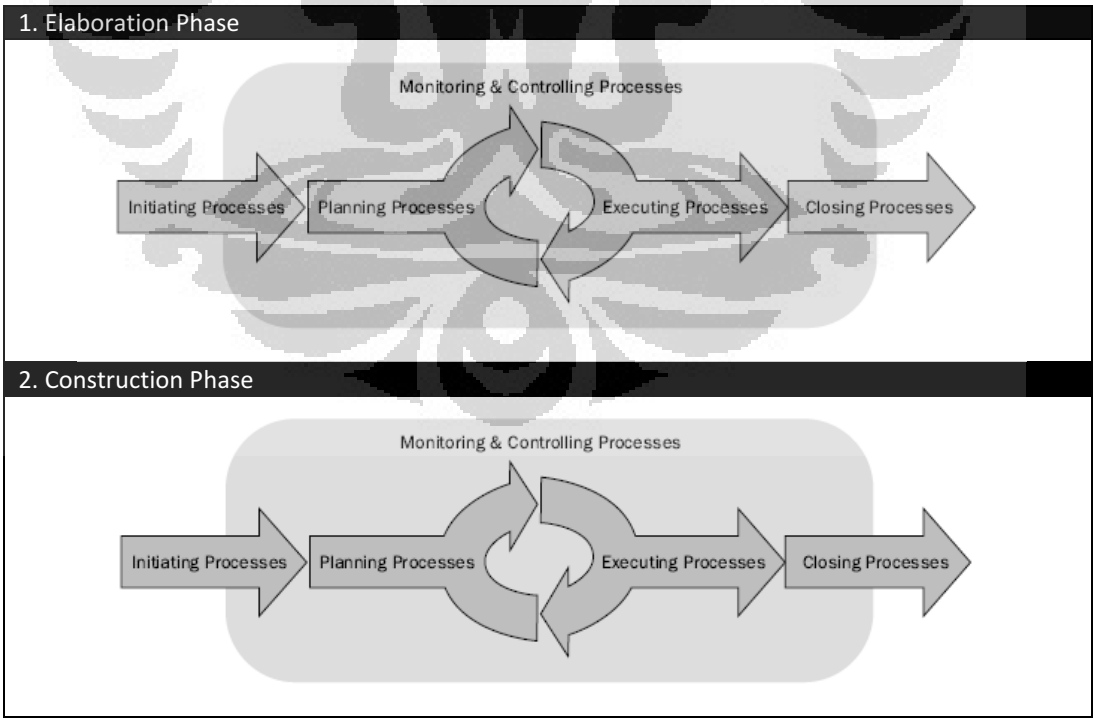

Figure 2.2 Example of a Two-Phase Project

Project manager is the leader in each process. He or she should ensure that each process is running smooth and each process is not allowed to move to next process before it is clearly stated as closed or done. For example, before all requirements in the initiating process are clear, everyone cannot move to the planning process.

2.2. Leader and Leadership

In a group of people, we usually find a person who is considered to be more influential than the others. The people in that group will listen to his words and follow his instructions or even commands. That kind of person could be considered as a leader of that group, perhaps because of his traits, his behavior, or even his ages and experiences. To conclude, a leader is a person who can influence the others (Gibson, Ivancevich, Donnelly, & Konopaske, 2009).

On the other hand, leadership can be defined as an activity to manage or drive a group of people to achieve certain goals. It can be argued that a leader drives people to do things in order to achieve goals, through his leadership (Gibson, Ivancevich, Donnelly, & Konopaske, 2009). Many leaders implement different leadership styles to exercise their influences to their followers.

> According to Bass (1990): "leadership has been conceived as the focus of group processes, as a matter of personality, as a matter of inducing compliance, as the exercise of influence, as particular behaviors, as a form of persuasion, as a power relation, as an instrument to achieve goals, as an effect of interaction, as a differentiated role, as initiation of structure, and as many combinations of these definitions".

The study of leadership has evolved from "Great Man" and "Trait" theories that focused on the characteristics and behaviors of leaders to "Transformational" leadership that consider the role of followers and the contextual nature of leadership (Bolden, Gosling, Marturano, & Dennison, 2003).

In project management, a leader is also required to motivate, support, and inspire the subordinates to achieve goals and organizational objectives using transactional or transformational leadership (West, 2010). According to El Emam

& Koru (2008) and Mukherjee (2008), a project manager who leads the project must be able to do improvements of leadership processes to adapt with the ongoing growth and the complexity in technical environment (West, 2010, p.12).

Thus, this study focuses on the leadership of project manager and team's work environment to at least bring knowledge to the management of the company about the importance of leadership in a project management and the subordinates' work environment while in a project.

2.3. Leadership Style

Leadership styles that are used in this research are proposed by Bernard M. Bass and Bruce J. Avolio in the Multifactor Leadership Questionnaire (MLQ). According to Avolio (1996), the leadership styles have evolved following the nature of the relationship between leaders and followers (Ng, & Walker, 2008, p.406) as shown in Figure 2.3. It can be concluded that leadership style could be shaped by leaders' behavior and followers' perceptions. Starting from Laissez-Faire where someone avoids of being a leader, then moving through Passive Management-by-Exception and Active Management-by-Exception. In Management-by-Exception, a leader will only intervene when something is not going right. From this Management-by-Exception, leadership style then moves to Constructive Transaction where roles are well-defined, then moving through more complex style that considers many aspects in the relationship of leaders and followers, 4Is. The 4Is or could be said as Transformational consists of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. This research only focuses on the transformational leadership, transactional leadership, and laissez-faire.

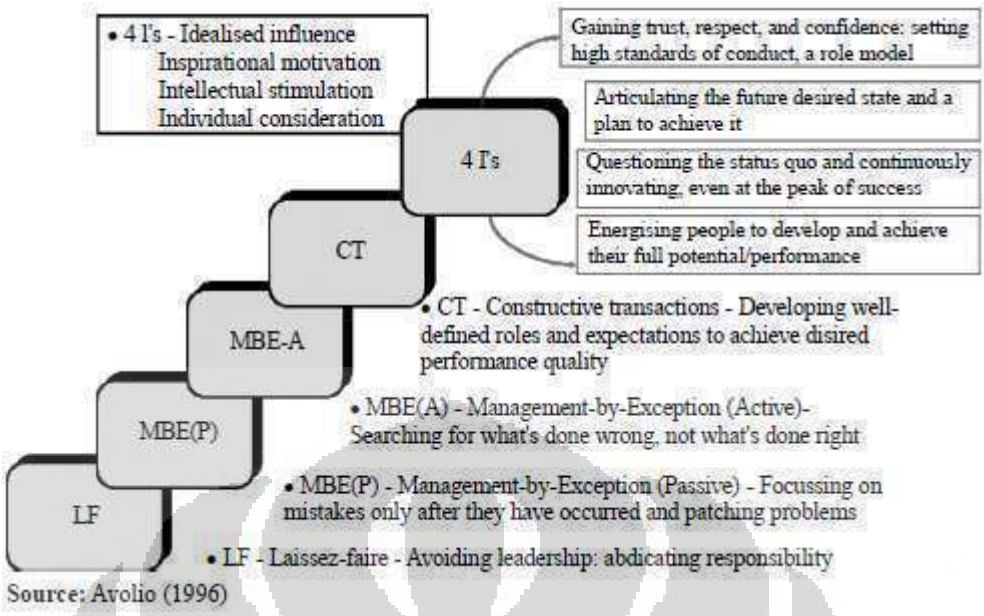

Figure 2.3 Leadership Style Progressions

Source: Ng & Walker (2008)

2.3.1. Transformational Leadership

Transformational leadership is described as a leader's ability to motivate followers with the leader's vision to achieve great results or achievements and self-actualization for internal rewards (self-rewarding) (Gibson, Ivancevich, Donnelly, & Konopaske, 2009). According to Bass (1985b); Bass & Avolio (1988), the transformational leader motivates the followers to perform over and beyond expectation through expressing the vision to persuade them to do so (Davis, 2008, p.18). Some famous people that are recognized as transformational leaders are Michael Eisner at Walt Disney and Bill Gates at Microsoft (Davis, 2008).

Transformational leader is a risk-taker, inspiring the followers to be more innovative (Davis, 2008), and a charismatic leader (Gibson, Ivancevich, Donnelly, & Konopaske, 2009). Avolio (1996) argued that transformational leadership was characterized by four factors or components which were known as 4Is (Ng & Walker, 2008, p.406), which are idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Avolio et al. imply the idealized influence to become idealized influence (behavior) and idealized

influence (attribute) (Davis, 2008). According to Davis (2008), numerous studies indicated that transformational leadership:

1. increases organizational performance,
2. is linked to long-term market share and customer satisfaction,
3. potentially makes employees have higher commitment to the organization,
4. increases employees' satisfaction with their job and the leader, and
5. potentially makes employees have more trust in the management and organization.

The leader shares mutual interest with the followers through discussion or talk about the vision, mission, and purposes to get the sense of belongings and the feeling of a family (Bass & Avolio, 1993). This kind of activity will create a long-term commitment because everyone is involved within the organization; and therefore feeling of importance or needed.

2.3.1.1. Idealized Influence

The first dimension of transformational leadership is the idealized influence. Idealized leader influences the followers through his charisma or to be the role model for the followers. The leader shares a sense of mission to the followers with prides, faith, and respects. According to Bass (1997) and Northouse (2001), "leaders with this quality usually have high standards of moral and ethical conduct, are most often trusted to do the right thing, and provide followers with a vision and sense of mission" (Janis, 2004, p.37).

This dimension is divided into two things: attribute idealized influence and behavioral idealized influence. The attribute idealized influence is generated from the follower's perceptions of the leader's attributes, and the behavioral idealized influence is generated from the follower's perceptions of observable leader's behaviors (Janis, 2004).

2.3.1.2. Inspirational Motivation

The second dimension of transformational leadership is the inspirational motivation. The leader motivates the followers through the use of images or symbols or simple language (Davis, 2008) to raise their beliefs and expectations. The leader also shares enthusiasm among the followers to become committed to the mission and vision of the organization.

2.3.1.3. Intellectual Stimulation

The third dimension of transformational leadership is the intellectual stimulation. This dimension relates to the courage of creating new innovation or new idea without being bounded by something. There is freedom for the followers to think differently to tackle problems and to challenge everything that is stimulated by the leader.

2.3.1.4. Individualized Consideration

The fourth dimension of transformational leadership is the individualized consideration. In this dimension, the leader treats each follower equally as an individual. The leader also cares about the followers' needs and takes action to the competencies development of the followers by coaching them and teaching them. Leaders of transformational use delegation to support the followers to grow and mature in term of competencies (Janis, 2004).

2.3.2. Transactional Leadership

According to Bass (1985), transactional leadership focuses on goal orientation and the authority of the leader with certain rewards to subordinates for completing the task (Janis, 2004, p.29). According to Bass (1997a), the transactional leader drives the followers to be motivated through the exchanged values (rewards) (Davis, 2008, p.18). Transactional leadership is defined as a leader's behavior in treating his follower by giving rewards upon the follower's achievement as an exchange value (Davis, 2008). In follower's perception, there

must be benefits exchanged in performing tasks from the leader. Otherwise, the follower is no longer interested in enacting the goals led by the leader. There is a short-term commitment from the follower because the motivation is tagged as a price (Bass & Avolio, 1993).

In this style of leadership, the leader recognizes the follower's job description and clarifies his role to attain desired outcomes. At the same time, the leader recognizes the follower's expectation and then the follower feels confidence with what is offered by the leader as an exchanged value for the follower. And the follower develops own motivation to meet the desired outcomes, as shown in Figure 2.4.

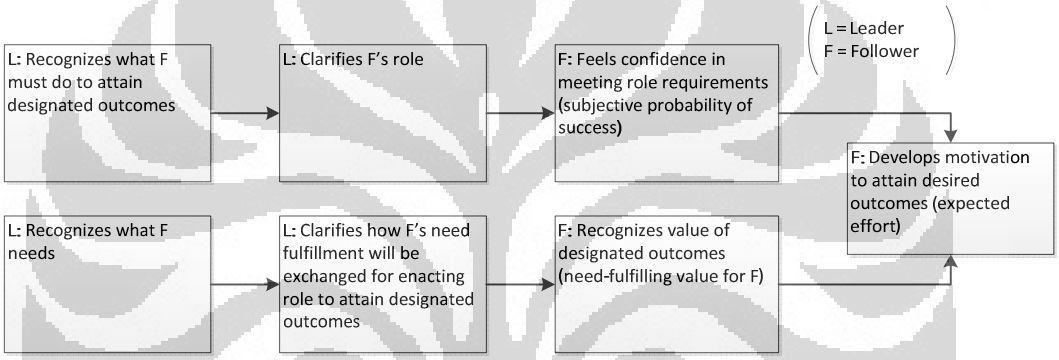

Figure 2.4 Transactional Leadership

Source: Gibson, Ivancevich, Donnelly, & Konopaske (2009)

According to Bass & Avolio (1993); Gibson, Ivancevich, Donnelly, & Konopaske (2009), a leader who uses transaction style relies on a contingent reward and management by exception in exercising the leadership style. With contingent reward, the leader can drive the followers to increase the followers' performance or satisfaction because the followers are expecting the desired rewards. With management by exception, the leader does not have to be involved in achieving the objectives except there are some issues that caused the failure in achieving the objectives.

2.3.2.1. Contingent Reward

Contingent reward is one of the dimensions of transactional leadership. In maintaining the relationship with the followers, the leader often offers a reward

for task completion. The reward could be in term of monetary, promotions or recommendations. This is the way of the transactional leader motivates the followers to achieve the goals. A simple example is in the interaction between parents and children. When parents want their children to be in the first rank of the class, they will buy them a set of expensive toy.

2.3.2.2. Management by Exception

Management by exception is another dimension of transactional leadership. This dimension is divided into two things: active management by exception and passive management by exception. The leaders who use management by exception do not intervene except the followers' performance is not satisfied. The difference between active management by exception and passive management by exception is on the event of problem occurs. According to Bass (1985); Bass & Avolio (1995), the leader of passive management by exception will take action after the problems occur (Janis, 2004, p.34), while the leader of active management by exception will keep monitoring the followers and immediately make correction (Janis, 2004).

2.3.3. Laissez-Faire Leadership

Laissez-Faire leadership is exercised by a leader who is avoiding the responsibilities as a leader. According to Bass (1985), "the laissez-faire leaders avoid taking action and providing direction to subordinates" (Janis, 2004, p.30). The leader is allowed to take own decision to not to be a leader and delegate the executive decision to somebody else (Davis, 2008). According to ChangingMinds (2004), this kind of leader is more effective in a group that each member in it is having high motivation in making own decision to do something so the central control is no longer necessary (Davis, 2008, p.22).

2.4. Leadership Outcomes

Based on Multifactor Leadership Questionnaire (MLQ), there are three outcome variables to be examined in relationship to those variables of leadership

styles (transformational, transactional, and passive/avoidant). The outcome variables are extra effort, leaders' effectiveness, and satisfaction with the leader.

2.4.1. Extra Effort

The first dependent outcome variable of this study is extra effort. This refers to the willingness of the subordinates in doing more than they expected to do, the desire to succeed, and the willingness to try harder (Bass & Avolio, 2004). Extra effort has a significant correlation between variables associated with transformational, transactional, and passive/avoidant (Janis, 2004).

2.4.2. Effectiveness

The second dependent outcome variable is leader's effectiveness. This refers to the leader's effectiveness in meeting subordinate's expectations and needs, in representing subordinates to higher management, in leading the team, and in meeting the company's requirements (Bass & Avolio, 2004). An effective leader could bring an effective team to achieve goals and also this effectiveness indicator could represent the subordinates' behaviors such as satisfaction.

2.4.3. Satisfaction

The last dependent outcome variable is subordinates' satisfaction with the leader. This refers to the leader's method of leadership that satisfies the subordinates and the leader's way of working with others (Bass & Avolio, 2004). This variable is the indicator of overall subordinates' contentment to the leader's performance (Janis, 2004).

2.5. Work Environment

Work environment in this research refers to the social environment or work settings proposed by Rudolf H. Moos in his Work Environment Scale (WES). The dimensions of work environment are relationship dimensions, personal growth or goal orientation dimensions, and system maintenance dimensions.

Relationship dimensions explain about the relationship among the employees and the commitments of the employees (Moos, 2008). The relationship among the employees shows how is communication happens between each other and how supportive are them to each other. Personal growth or goal orientation dimensions explain about employees' perception about the task assigned to them and how they would be encouraged to do the task (Moos, 2008). And system maintenance dimensions explain about the rules and policies communicated among the employees, and the physical comfort of work environment (Moos, 2008). Managers and supervisors are responsible to create a good work environment to keep motivating the workforce (Al-Anzi, 2009), so that the employees will somehow enjoy to their work environment.

However, the relationship among employees is one of the factors influencing the success of project management based on the study of Dwivedula & Bredillet (2009). The study was about the relationship between work motivation and project management success. Work climate, one of work motivation's dimensions, was more about formal and informal communication in the project team. And project management success' dimensions were customer satisfaction, implementation success, and project quality. The study found that work climate has become a strong predictor of customer satisfaction (β*=.42; p=.000*) and project quality (β*=.39; p=.000*).

According to Al-Anzi (2009), Robert Half International Inc. surveyed that one-third of executives now say that the most critical factor in keeping an employee satisfied in today's business world is the work environment. The employee turnover is expected to be reduced if the management could provide a good work environment to the employees, by not ignoring the other factors such as praise and recognition, as well as compensation and benefits.

As quoted from Barry L. Brown, President of a Florida-based consulting group, a supervisor behavior will impact to the subordinates' productivity that a good supervisor will motivate, inspire, encourage and reward good performance while the opposite will not (Al-Anzi, 2009). A happy employee usually has a positive attitude that triggers him to do an extra effort to maximize his

contribution. And the working condition is one factor that can make employee happy in doing their activities for the company.

CHAPTER 3
COMPANY PROFILE

3.1. Company Background

PT. Quadra Solution (Quadra) is an Information Technology (IT) company that is owned and managed by Indonesians who are active IT professional consultants. Quadra was established in 1993 which at first was one of the business solution partners of PT Oracle Indonesia in the field of information system using Oracle technology as its basis. Since its establishment, Quadra has been actively in cooperation with clients to add value to their businesses. Clients such as big Government Organizations, State-owned Enterprises and Large Private Corporation have been using this company's services to improve their operations, to build new services and to broaden market coverage.

Recognizing that the development of information technology and information systems market in Indonesia is increasingly diverse, so since 1997 Quadra expanded by forming a single business unit or department that specializes in web-based application development with technology solutions from SUN Microsystems (Java). In 2007 the department grew into three main service units, namely: Java-based service unit (SUN Microsystems that is now owned by Oracle), .NET-based service unit (Microsoft Solution) and graphical information systems solutions service unit (GIS) based technology from ESRI (ArcGIS).

Between 2002 and 2007, Quadra was broken down into several units of services or business units, including:

- Information Systems Management Solutions Unit (technical support) based on the principles of ITSM/IT-IL
- Integrated Solutions Application based on the architecture framework of TOGAF (the Open Group Architecture framework) and SOA (Service Oriented Architecture)

- Data Management Solutions or information based on the method of ECM (Enterprise Content Management) starting from the EDM (Electronic Data Management) to the Document Management System (DMS)
- Data Cleansing
- Quality and Data Integrator
- Data Warehouse (DWH)
- Data Mining and the Analytical Services Unit such as Business Intelligence and Decision Support Systems Application.

The development of those business units is expected to give the totally integrated information technology solutions which focuses on the achievement of strategic performance and able to collaborate with the existing information systems. These functional business units are basically directed to support the organization vision and mission, to bring PT Quadra Solution Group as one of the leading IT solutions providers in Indonesia.

In line with the organization vision and mission, the partnership orientation is built between PT Quadra Solution and its customers which emphasizes on the implementation of the principles of Good Corporate Governance (GCG) by using the governance or management of performance-based service (an implementation of the Balanced Scorecard). This implementation has been used in the various agencies within the government and private company that focusing on the IT support to enable their business functions in order to support reformation of the bureaucracy through the integration of business functions and IT functions (business and IT alignment). Those years of engagements have taught this company that partnership with clients is the most important ingredient in company's success.

Today, Quadra has more than 40 clients and has more than 280 technical and professional staff employed in Jakarta and Surabaya office. There is also a close collaboration with internationally known organizations in various lines of IT services which Quadra provides. With those valuable assets, Quadra is ready to take large scale of undertaking locally and regionally.

Based on description above, the business unit structure of PT Quadra Solution Group can be described as below in Figure 3.1.

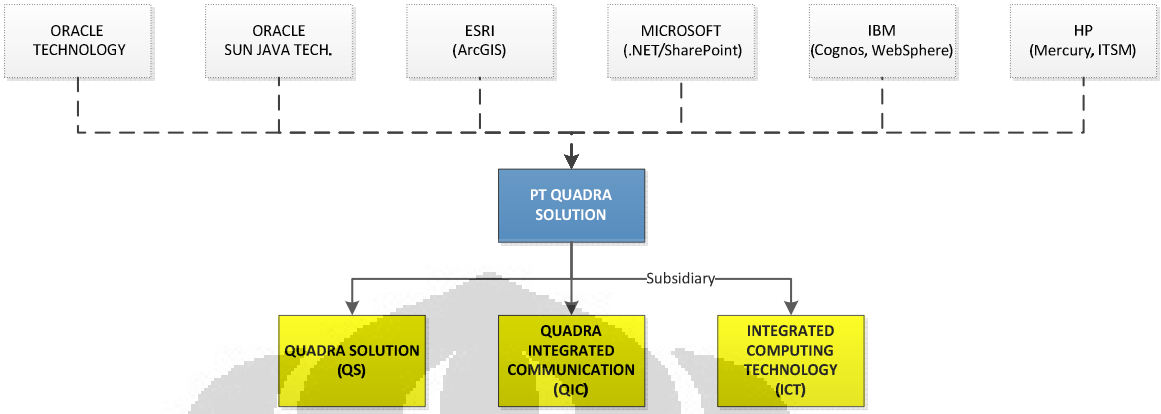

Figure 3.1 Business Unit Structure

Source: Quadra Solution (2011)

Quadra has a big dependency on IT project because the base foundation of this company is providing IT services for a total IT solution. The scopes of IT services are providing IT blueprint or master plan, IT consulting and assessment, and IT software development and maintenance. An IT project is started from the Marketing and Sales Division that is responsible to find the customers that need IT solution, usually through a tender. And the execution of the project is held by the Operation Division that the division organization structure is figured below.

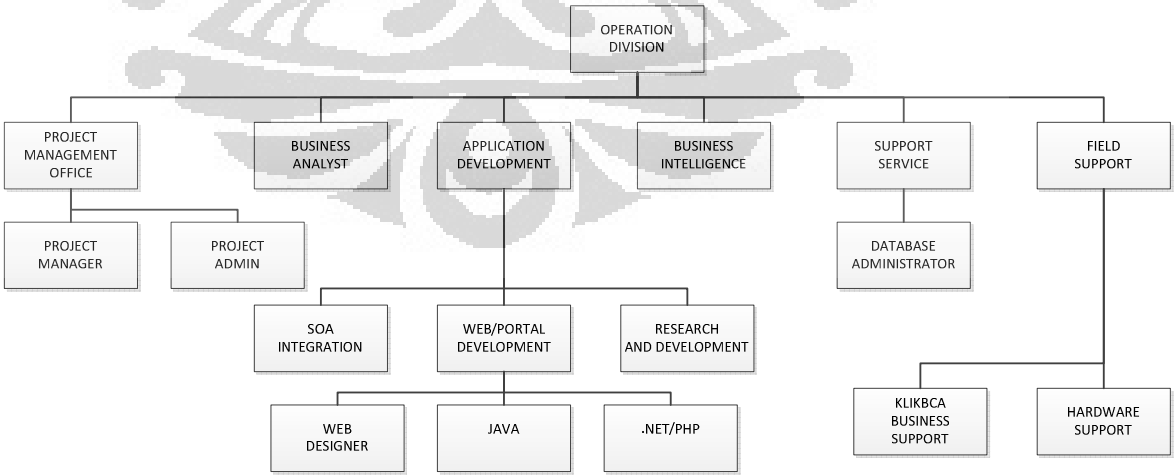

Figure 3.2 Operation Division Organization Structure

Source: Quadra Solution (2011)

3.2. Business Services

3.2.1. Application Development and Maintenance

Quadra as a rapid IT company only provides IT solution for its clients. Since 1993 by using many development tools and services such as Oracle, Microsoft Share Point Server, Java, and PHP, Quadra had produced many solutions and services for its clients. Quadra's consultant team provides full business solutions through the entire Project Life Cycle (PLC) Management; including business requirement definition, functional and technical specification, design and development, testing, installation, documentation, training and post-implementation support.

3.2.2. Service Oriented Architecture (SOA)

Integration and Java are two kind closely related technologies. For some years ago, integration and Service Oriented Architecture (SOA) became focus of business strategic in Quadra Solution. A trend in software development today is the thoughts of the relationship between entities or applications into one system. Thus, SOA as well as support in terms of software development, can achieve many benefits as well, such as development speed (time to market), ease of maintenance and subsequent functional update or leveraging the business target.

Quadra has had much experience with system integration and distributed applications that require the media as a bridge to unite the various kinds of information as well as an ideal centralized system in the implementation of services oriented architecture. Both of these describe the general situation in the application of SOA-based technology in a variety of both government and private industry companies.

Many things are associated to middleware system which is in a position of critical missions with high priority duty, as the central bridge that provide various service and as a connecting systems that should be able to accommodate a variety of both legacy and open systems platforms. In this position Quadra has many advantages and strengths of being able to utilize its resources' skills so that a comprehensive solution for development, integration specialist, and optimization

are more related to tuning and infrastructure configuration and support system. Two kind of industry those are telecommunication and banking become the most important of Quadra's SOA portfolios because of they have complex and heterogeneous of IT system and thus become the backbone of their business system.

3.2.3. Implementation of Application Package

Quadra also provides solution for implementation of application packages that is about delivering identical service, tools, methodologies, training and philosophies. Quadra's teams share solid functional, technical and industry knowledge and have strong project and change management skills. This company normally assembles a team of outstanding professionals, bringing some specialists along in each field of expertise, such as Project Risk Assessment, ERP system implementation, applications packages, system integration, and Business Process Improvement and Technology.

Quadra`s functional and technical consultants not only have depth knowledge of the respective application modules but also the industry process knowledge which is gained from previous implementations such as Process Manufacturing and Distribution, TV Broadcasting, Integrated Textile Manufacturing, Oil Production Sharing Company, Shipping/Transportation and Telecommunications.

In the implementation of application packages, Quadra deploys proven standard methodology that is usually tailored specifically to meet client's needs and requirements. The methodology provides clients the key benefit of skill transfer of Application to client's team. The close interaction with Quadra's consultants and the extensive and varied type of exposure to the application will ensure by the end of the project, a general level of self-sufficiency for clients to maintain the application system. Existing clients such as Indonesia TV Broadcaster, Integrated Textile Manufacturing Company, and Oil Production Sharing Company have used these services to solve their problem and streamline the operation.

3.2.4. Outsourcing and Supporting

Quadra offers a comprehensive outsourcing & supporting services portfolio that features a range of innovative offerings designed to drive better business outcomes. Quadra expertise in IT outsourcing in general and IT professional outsourcing (from programmer, database administrator, and system engineer) in particular, has become the company's competitive edge. Quadra provides clients with consultants based on contract for agreed period of service.

Quadra's engagement in tuning and fixing application are derived from its expertise in application development. Quadra has helped many clients to improve their performance. The competencies of this are in Oracle database and Java programming.

The Supporting Services can be described as a deployment services for risk-reducing of installation and start-up, implementation, and integration; helpdesk and onsite services for reducing downtime and meet client's services level commitments; and application support for providing technical support needs such as setting-up, training, and trouble-shooting of banking application for corporate and retail consumers.

3.3. Strategic Alliance and Clients

Quadra is having a strategic alliance with Xybase Sdn Bhd. from Malaysia that is becoming Xybase Indonesia located in Jakarta. And below is the list of clients that have been a partner through contract service:

- PT Bank Central Asia (BCA), Tbk.
- PT XL Axiata
- PT Telkomsel
- PT Pratama Jaringan Nusantara
- PT Bank Rakyat Indonesia, Tbk. (Persero)
- Badan Pertahanan Nasional
- BAKOSURTANAL
- Departemen Hukum & HAM

  - Dirjen Hak dan Kekayaan Intelektual
- Departemen Tenaga Kerja & Transmigrasi
  - Badan Penelitian Pengembangan dan Informasi (Balitfo)
  - Dirjen Pembinaan Pengembangan Masyarakat dan Kawasan Transmigrasi (P4T)
  - Dirjen Pembinaan Penyiapan Pemukiman dan Penempatan Transmigrasi (P2MKT)
- Departemen Transmigrasi
  - Dirjen Penyiapan Lahan Transmigrasi
- Departemen Keuangan
  - Dirjen Pajak
  - Dirjen Bea dan Cukai
  - Dirjen Anggaran Belanja
- Departemen Perdagangan
  - Dirjen Perdagangan Dalam Negeri
- Departemen Perindustrian
  - Dirjen Industri Agro Kimia dan Hasil Hutan
  - BPPI
- Departemen Pekerjaan Umum
  - Dirjen Tata Ruang
  - Sekretariat Jenderal Pekerjaan Umum - Pusat Data dan Informasi (Pusdatin)
- Palang Merah Indonesia (PMI)
- Perpustakaan Nasional Republik Indonesia
- Perum PERURI
- LKBN Antara
- PT PELINDO III
- PT PELINDO IV
- Bank Indonesia
- BP MIGAS
- PT Bukit Muria Jaya
- PT Humpuss Intermoda Transportation

- PT EMP Kangean Limited
- PT Sulindafin
- PT Astra Credit Company
- PT Bakrie & Brothers
- PT Petrokimia Nusantara Interindo (PENI)
- Standard Chartered Manufacturing Ltd. Singapore
- PT HM Sampoerna, Tbk.
- PT Oracle Indonesia
- PT Yamaha Motor Indonesia
- PT Rajawali Citra Televisi (RCTI)
- Teijin Indonesia Fiber Corporation, Tbk. (TIFICO)
- PT Vico Indonesia
- BP Indonesia
- PT Handal Logistik Nusantara
- PT Microsoft Indonesia
- CISCO
- Hewlett Packard (HP)

3.4. Some Projects List Accomplishment

3.4.1. Oracle Implementation

PT Teijin Indonesia Fiber Corporation (TIFICO)

In order to overcome the problem they are facing, TIFICO has decided to replace the existing PC based in-house developed applications with more sophisticated ERP application package. After evaluating some ERP products, finally TIFICO choose Oracle e-Business Suite. The modules they decide to implement consist of Oracle Financial (GL, AP, AR, FA, and CM), Oracle Purchasing, Oracle Inventory and Oracle Process Manufacturing (OPM). The project also includes development of DT Scanner and Label Printing application and its interfacing with Oracle e-Business Suite.

Quadra has been appointed as an implementer for this project. The project started on August 2003 and went life on January 2004. Quadra provide full range of services on this project, which cover:

- Software Acquisition
- Key Team Member Training on Oracle Application
- Full Implementation Life Cycle, including customization
- Development of DT Scanner and Label Printing applications

PT Pratama Jaringan Nusantara (PJN)

To improve the company performance through efficiency and streamlining the business process, PT Pratama Jaringan Nusantara (PJN) has decided to implement the Integrated Application Clearing System (Sistem Kliring Trafic Telekomunikasi/SKTT) in 2004. The Integrated Clearing Application system is started from Intec InterConnect System integrates with Oracle AR-DMS system in the middle and finally ended by Oracle e-Business suite (Oracle Financial). The purpose of this application is to manage all clearing between cellular operators in Indonesia. Since implemented in 2004, the application is not go live because of various reasons.

In February 2007, Quadra is requested by PJN to review all the application involved in the system, to address some issues and problems that might happen, to review setup, to conduct functional test, integration test and preparing a plan for going live. New requirements for PJN internal use are also implemented. This implementation involved Full Oracle Financial module (GL, AP, AR, CM and FA) plus Purchasing (PO) module.

3.4.2. Application Development

PT PELINDO III

To streamline the operations and improve the efficiency in providing related port services to their customer, in September 1999, PELINDO III has initiated a project to develop application called Sistem Informasi Usaha dan Keuangan

Terpadu (SIUKT). The application consists of Ship Services Application, Goods Services Application, Property and Finance Application. The application has been developed using Oracle RDBMS and Oracle Development Tools.

Quadra was appointed to handle the full project life cycle, including hardware/software acquisition, and implementation at 8 port location under PELINDO III territory.

3.4.3. SOA Development

Ditjen Administrasi Kependudukan, Ministry of Internal Affair

The project called Sistem Informasi Administrasi Kependudukan (SIAK) Konsolidasi (Consolidation of Population Administration Information System) is about consolidation application of population data from the entire district (national) into a centralized database. The functionalities of consolidation are all of kind of people registries, activities and mutation. The main purpose of this project is to establish the single or unique of personal identity so this is part and also to support the e-KTP program that is the national project.

PT Bank Central Asia, Tbk. (BCA)

Enterprise Application Integration (EAI) that is the middleware that bridging all of kind of customer relationship application channels such as internet banking (individual and corporate), teller system, ATM and also mobile banking. All of those channel need to access the common banking common functionality such as payment, purchase, fund transfer and statement that eventually need to access that back end, legacy, gateway and all kind of enterprise information system via both the open system and/or proprietary. The EAI system provides of those functionalities. Quadra have many and good experience in this job including how to configure and optimize the high load and volume system and also the any standard and connectivity in finance industry all is the ideal model of complex system.

PT Telekomunikasi Selular (Telkomsel)

In telecommunication industry Enterprise Application Integration (EAI) become the backbone of enterprise resource planning and telecommunication specific back end including network system, intelligent network, billing system and legacy system. All of back end system must supplied information data to the ERP system for consolidation and collaboration. Then this become project called Integrated Financial System (IFS) that is to integrate the telecommunication applications support (Billing system, Procurement system, Interconnection and Monitoring) passed into financial application system (General Ledger, Account Payment/Account Receivable etc.).

3.4.4. Data Warehouse Development

Bank Indonesia (BI)

Payment System is one of the most critical systems to support Bank Indonesia as a Central Bank of Indonesia. There are 2 categories of payment; they are Real Time Gross Settlement (RTGS) and Sistem Kliring Nasional Bank Indonesia (SKN BI).

Initially, in order to have integrated data, Bank Indonesia had developed the Enterprise Data Warehouse, with RTGS as the subject area using Oracle 10g and Cognos as the tool. However, as the data growth and needed to be more stable, comprehensive and integrated, Bank Indonesia need to enhance the system to comply all the stakeholders data information needed both in Fixed Reports and Data Multi Dimension.

Quadra then was appointed and came with the methodology and solution to complete their needs, using Oracle 10g as the Database, IBM Ascential Datastage as the ETL tools and Cognos 8 as the BI tools.

CHAPTER 4
RESEARCH METHODS

4.1. Research Model

The research model in this study is based on Avolio's & Bass' theory about leadership styles (transformational, transactional, and passive/avoidant) related to their outcomes (extra effort, effectiveness, and satisfaction) in Multifactor Leadership Questionnaire (MLQ).

This model is applied in the environment of project management especially Information Technology (IT) project management, where the leadership styles are measured from the project manager's behaviors as perceived by the project team (subordinates). The outcomes of these leadership styles are the willingness of subordinates to exert extra effort, the perception of project manager's effectiveness, and the subordinates' satisfaction with the project manager. In this research model, each leadership styles dimensions will be the independent variables and each dimension of leadership outcomes will be the dependent variables.

Hypotheses were created to answer the research questions described in chapter I of this study as follows:

Extra Effort:

H_0: There are no leadership traits of project managers that influence team members' exertion of extra effort.

H_1: There are leadership traits of project managers that influence team members' exertion of extra effort.

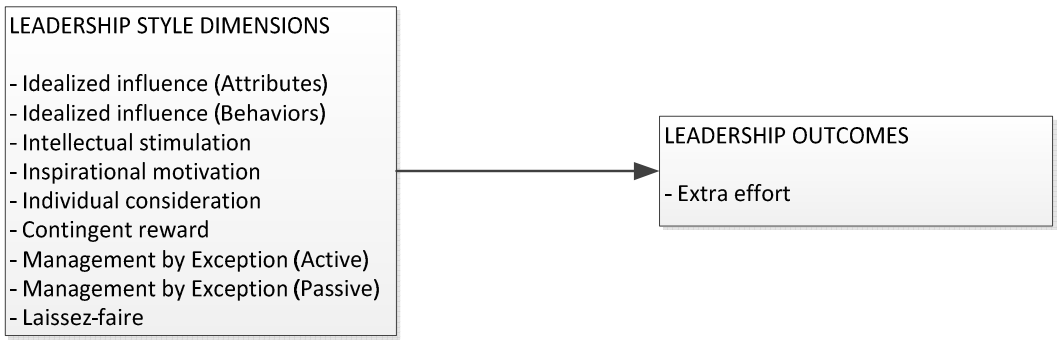

Figure 4.1 Hypothesis Model of Leadership Style Dimensions with Extra Effort

Effectiveness:

H_0: There are no leadership traits of project managers that influence team members' perception of their project managers' effectiveness.

H_1: There are leadership traits of project managers that influence team members' perception of their project managers' effectiveness.

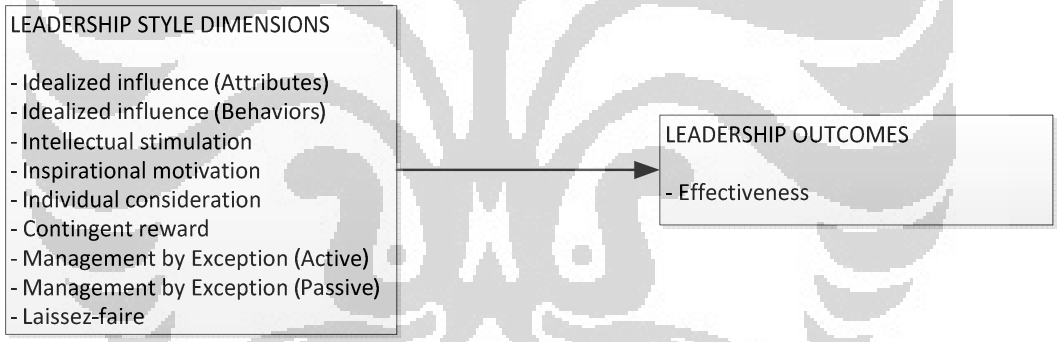

Figure 4.2 Hypothesis Model of Leadership Style Dimensions with Effectiveness

Satisfaction:

H_0: There are no leadership traits of project managers that influence team members' satisfaction with their project managers.

H_1: There are leadership traits of project managers that influence team members' satisfaction with their project managers.

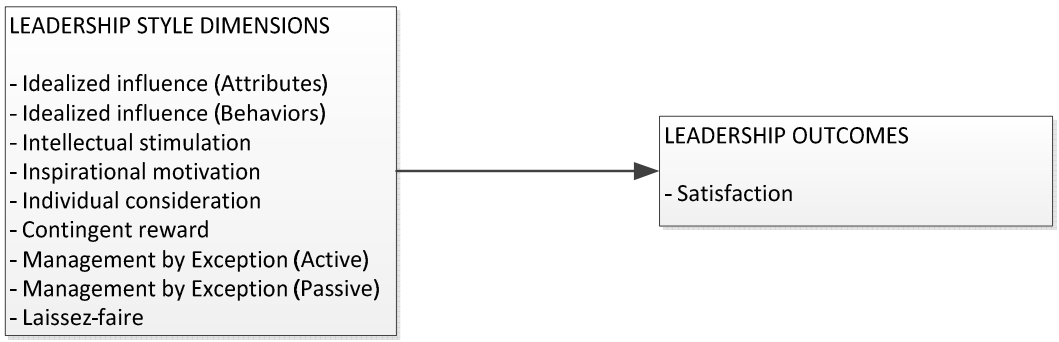

Figure 4.3 Hypothesis Model of Leadership Style Dimensions with Satisfaction

4.2. Data Collection Method

This research used questionnaire as the data collection methods. There are two types of questionnaires: Multifactor Leadership Questionnaire (MLQ Form 5X) to assess the project managers' leadership styles and the outcomes from subordinates' perceptions using Rater Form, and Work Environment Scale (WES) to assess the employees' perception of their daily work environment using Real Form (Form R).

The data collection was conducted started from 03 May 2012 until 16 May 2012 at the head office of PT Quadra Solution. The respondents rated their project managers in each ongoing project using MLQ and at the same time they assessed about their work environment during the project using WES.

4.2.1. Multiform Leadership Questionnaire (MLQ)

The Multiform Leadership Questionnaire (MLQ Form 5X-Short) is one of research instruments that are used to measure the leadership styles. The MLQ Form 5X was purchased from MindGarden. This questionnaire was developed by Bernard M. Bass (1985) of the Center for Leadership Studies at Binghamton University. The MLQ helps individuals discover the characteristics of a transformational leader and measure it up within 15 minutes completion (MindGarden, 2012a). The participants of this questionnaire will indicate how frequently their superior display in each item, and the answer will be scaled from 0 (means "not at all") to 4 (means "frequently, if not, always").

There are two MLQ (5X-Short) forms available to measure the leadership styles and leadership outcomes, a rater form and a leader form. The rater form is used to assess leadership style of a leader from a subordinate and the leader form is used to assess leadership style of a leader from his/her self on a leadership style constructs. The form used in this research was the rater form to assess leadership style of project manager from his/her team members.

According to MindGarden (2012a), the MLQ evaluates different type of leadership styles that is shown in table 4.1. There is one sample of statement for each style quoted from the MLQ as shown in table 4.1.

Table 4.1 Leadership Items in MLQ (Rater Form)

Description	Example Statement
Transformational Leadership	
Idealized attributes	Instills pride in me for being associated with him/her
Idealized behaviors	Talks about their most important values and belief
Inspirational motivation	Talks optimistically about the future
Intellectual stimulation	Re-examines critical assumptions to question whether they are appropriate
Individualized consideration	Spends time teaching and coaching
Transactional Leadership	
Contingent reward	Provides me with assistance in exchange for my efforts
Management-by-exception (active)	Focuses attention on irregularities, mistakes, exceptions, and deviations from standards
Passive/Avoidant	
Management-by-exception (passive)	Fails to interfere until problems become serious
Laissez-faire	Avoids getting involved when important issues arise
Outcomes of Leadership	
Extra effort	Gets me to do more than I expected to do
Effectiveness	Is effective in meeting my job-related needs
Satisfaction	Uses methods of leadership that are satisfying

The MLQ has been used in many researches in military, government, educational, manufacturing, high technology, church, hospital, and volunteer organizations for the last 25 years. It has been reliable to differentiate the effective leaders from ineffective leaders (Bass & Avolio, 2004).

4.2.2. Work Environment Scale (WES)

The Work Environment Scale (WES) is a research instrument developed by Rudolf H. Moos in 1994, which is used to measure the employees' current work environment from their perception. The WES was purchased from MindGarden. This instrument measures the productivity, employee's satisfaction, and employee's expectations to their current work environment (MindGarden, 2012b). The participants of this questionnaire will indicate how their work environment is displayed in each item, and the answer will be true or false.

The WES by default has three kinds of forms: the Real Form (Form R), the Ideal Form (Form I), and the Expectations Form (Form E). Form R is used to measure employees' perceptions of their current work environment; Form I is used to measure employees' perceptions of their ideal work environment; and Form E is used to measure employees' perceptions of their expectations about the work environment (Moos, 2008). In this research, the researcher intended to assess only the current work environment (Form R) perceived by the employees' while they were working with their project manager.

According to MindGarden (2012b), the WES measures 10 subscales that each subscale is grouped into 3 dimensions: Relationship, Personal Growth or Goal Orientation, and System Maintenance and System Change as pointed below and the sample of statement for each subscale (Form R) is shown in table 4.2.

- Relationship Dimension
  - Involvement: the measurement of employees' commitment and concern to their jobs.
  - Coworker Cohesion: the relationship among employees in a work setting to support each other.

- Supervisor Support: the relationship between management and employees.

- Personal Growth/Goal Orientation Dimension
  - Autonomy: the chance for employees to be self-supporting to make their own decision.
  - Task Orientation: the concern in making a good planning, efficiency in working, and getting the job done.
  - Work Pressure: how the work pressure and time urgency dominate the work environment.
- System Maintenance and System Change Dimension
  - Clarity: how the employees understand about what to expect in their daily routine and their understanding on the rules and policies.
  - Control: how the employees respond to management's rules and policies and how the management uses the rules and regulations to keep their employees under control.
  - Innovation: the concern in variety, change, and new approaches in a work setting.
  - Physical Comfort: the contribution of physical environment to the work environment.

Table 4.2 WES Sample Question (Form R)

WES Subscale	Example Statement
Involvement	The work is really challenging
Peer Cohesion	People go out of their way to help a new employee feel comfortable
Supervisor Support	Supervisors tend to talk down to employees
Autonomy	Few employees have any important responsibilities
Task Orientation	People pay a lot of attention to getting work done
Work Pressure	People pay a lot of attention to getting work done
Clarity	Things are sometimes pretty disorganized
Control	There's a strict emphasis on following policies and regulations

Innovation	Doing things in a different way is valued
Physical Comfort	It sometimes gets too hot

4.2.3. The Respondents

The target respondents in this research should be currently in a software development project, no matter whether permanent employees or still in contract period (except for those who are still in probation period). The second requirement is the target respondent should be part of Operation Division of this company. There are 50 employees taken as the respondents in this research and they are divided based on job position or role in a project as shown in table 4.3.

Table 4.3 Sample Research per Job Position

Job Position	Total Employees	Total Samples
Programmer	67	39
System Analyst/Business Analyst	15	8
Quality Assurance/Tester	4	2
Technical Documentation	1	1
Total	**87**	**50**

4.3. Questionnaire Framework

4.3.1. Multiform Leadership Questionnaire (MLQ) Design

The Multiform Leadership Questionnaire (MLQ) consists of 45 items. From 45 items, 36 items measure the leadership styles (transformational, transactional, and passive/avoidant), while 9 items measure the outcomes (extra effort, effectiveness, and satisfaction). The scale used in this questionnaire is range value from 0 to 4 that represents the level of agreement or disagreement of every statement in the questionnaire. The five levels used in the scale were:

0 = not at all

1 = once in a while

2 = sometimes

3 = fairly often

4 = frequently, if not, always

At the beginning, the researcher explained the purpose of the research and requested the respondents to answer all the questions in the questionnaire. On the first page of the questionnaire booklet, the respondents were requested to give information, such as gender, age, educational background, working experience at the company, job position, and name of project manager to be assessed. Then they should answer 45 items based on the real experience with their project manager, as the object of assessment. The statements in the questionnaire are the variables of leadership styles and the outcomes which are going to be measured in this research as shown in table 4.4.

This proportion of MLQ 5X has been constructed through constructs validity. The MLQ 5X survey tested by using LISREL to find the fit indices, including the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and Root Mean Squared Residual (RMSR). Mind Garden also used the Normed Fit Index (NFI) and Tucker-Lewis Index (TLI) (Bass & Avolio, 2004).

Table 4.4 MLQ 5X Proportion

Dimensions	**Statement Number**	**Total Statement**	**Proportion (in %)**
Idealized Influence Attribute (IA)	10, 18, 21, 25	4	8.9
Idealized Influence Behavior (IB)	6, 14, 23, 34	4	8.9
Inspirational Motivation (IM)	9, 13, 26, 36	4	8.9
Intellectual Stimulation (IS)	2, 8, 30, 32	4	8.9
Individual Consideration (IC)	15, 19, 29, 31	4	8.9
Contingent Reward (CR)	1, 11, 16, 35	4	8.9
Management by Exception Active (MA)	4, 22, 24, 27	4	8.9
Management by Exception Passive (MP)	3, 12, 17, 20	4	8.9
Laissez-Faire (LF)	5, 7, 28, 33	4	8.9
Extra Effort (EE)	39, 42, 44	3	6.6
Effectiveness (EF)	37, 40, 43, 45	4	8.9

Satisfaction (SA)	38, 41	2	4.4
Total		**45**	**100**

The scoring of MLQ 5X is conducted by calculating the total answer of the respondents (answer in the statement number) and dividing it by total statement for each dimension. For example items and scales for the rater form is shown in table 4.5. Assuming the items in table 4.5 are representing extra effort dimensions. If the respondent answers item number 1, 2, and 3 with scale 3, 3, and 1, then the extra effort score is 2.3 (*EE Score = 2.3*).

Table 4.5 Example Items and Scales of MLQ 5X

Items	Scales
1. Talks optimistically about the future	0 1 2 3 4
2. Spends time teaching and coaching	0 1 2 3 4
3. Avoids making decisions	0 1 2 3 4

After they completed the MLQ, they were asked to continue to the next questionnaire, Work Environment Scale (WES). These two kinds of questionnaires were assessed by the same person at the same time.

4.3.2. Work Environment Scale (WES) Design

The Work Environment Scale (WES) consists of 90 items. From 90 items, 9 of each are representing one dimension of WES. The scale used in this questionnaire is true (T) or false (F) that represents the agreement or disagreement about the current work environment perceived by the respondents. The WES was developed using a combination of conceptual and empirical criteria (Moos, 2008).

The statements in this questionnaire that are going to be measured are shown in table 4.6. For each dimension is interpreted as (Moos, 2008):

- Considerably Below Average (*lowest level*)
- Well Below Average
- Below Average

- Average (*moderate level*)
- Above Average
- Well Above Average
- Considerably Above Average (*highest level*)

Table 4.6 WES Proportion

Dimensions	Statement Number	Total Statement	Proportion (in %)
Involvement (I)	1, 11, 21, 31, 41, 51, 61, 71, 81	9	10
Peer Cohesion (PC)	2, 12, 22, 32, 42, 52, 62, 72, 82	9	10
Supervisor Support (SS)	3, 13, 23, 33, 43, 53, 63, 73, 83	9	10
Autonomy (A)	4, 14, 24, 34, 44, 54, 64, 74, 84	9	10
Task Orientation (TO)	5, 15, 25, 35, 45, 55, 65, 75, 85	9	10
Work Pressure (WP)	6, 16, 26, 36, 46, 56, 66, 76, 86	9	10
Clarity (C)	7, 17, 27, 37, 47, 57, 67, 77, 87	9	10
Control (Ctl)	8, 18, 28, 38, 48, 58, 68, 78, 88	9	10
Innovation (Inn)	9, 19, 29, 39, 49, 59, 69. 79. 89	9	10
Physical Comfort (Com)	10, 20, 30, 40, 50, 60, 70, 80, 90	9	10
Total		**90**	**100**

The scoring of WES is conducted by matching the answer sheet and the key score sheet to become a raw score. The raw score is then converted to standard score using appendix tables in WES Manual (Moos, 2008).

This questionnaire was assessed after the respondents finished with the MLQ. It was expected to capture the work environment perceptions from the respondents after or during working together with the project manager. The respondents should answer all 90 statements in the WES survey based on current work environment which they experienced.

4.4. Data Analysis Method

The data analysis is started by scoring all questionnaires based on their scale of measurement and put the values into each variable explained on the previous sub-chapter. Then the researcher input the variables to a Statistic Application Software, IBM SPSS 19. This data analysis is expected to help the researcher to answer all the questions regarding to this research.

4.4.1. Descriptive Analysis

The method used in the research is a descriptive analysis that includes the mean, standard deviation, skewness, and kurtosis. The descriptive analysis is used to give explanation about the research observation, to summarize the data in order to be more easily understood, and to draw conclusions from those data (Levine, Stephan, Krehbiel, & Berenson, 2011).

4.4.2. Multiple Regression Analysis

Multiple regression is used to answer the hypotheses as mentioned previously in the beginning of this chapter. The hypothesis model can be seen in figure 4.1 to 4.3. Multiple regression analysis is used to analyze the relationship between the dependent variables and the independent variables, in which numerical independent variables are used to predict the changes of a numerical dependent variable (Levine, Stephan, Krehbiel, & Berenson, 2011). In this regression analysis, the researcher used the goodness of fit test (R square or coefficient of multiple determination), f-test, and t-test. R square is used to determine the influence of independent variables to dependent variable. According to Levine, Stephan, Krehbiel, & Berenson (2011): "In multiple regression, the coefficient of multiple determination represents the proportion of the variation in *Y* that is explained by the set of independent variables", where *Y* is the dependent variable. F-test is used to determine whether the influence of group of independent variables is significant to dependent variable (Levine, Stephan, Krehbiel, & Berenson, 2011). Using a 0.05 level of significance, independent variables has significant influence to dependent variable if the probability value

(sig.) is less than 0.05. And the t-test is used to determine the significant influence of one independent variable to dependent variable.

CHAPTER 5
ANALYSIS AND FINDINGS

5.1. Sample Characteristic

The sample characteristics are described in demographic data gathered from the survey. The information available in this demographic data is gender, age, educational background, working experience at the company, and job position. There were 50 respondents that took part in this research as shown in table 5.1 where 78% of respondents were programmers, 16% of respondents were system analysts or business analysts, 4% of respondents were quality assurances or testers, and 2% of respondents were technical documentations or technical writers.

Table 5.1 Proportion of Respondents

Job Position	Total Samples	Percentage
Programmer	39	78%
System Analyst/Business Analyst	8	16%
Quality Assurance/Tester	2	4%
Technical Documentation	1	2%
Total	**50**	**100%**

The distribution of respondents based on gender is shown in table 5.2. There were 78% of respondents were males, and 22% of respondents were females. And the distribution of respondents based on age is shown in table 5.3. It described that 42% of respondents were between 20-25 years old, 36% of respondents were between 26-30 years old, 18% of respondents were between 31-40 years old, and 4% of respondents were 41-50 years old.

Table 5.2 Distribution of Respondents based on Gender

Gender	Total Samples	Percentage
Male	39	78%
Female	11	22%
Total	**50**	**100%**

Table 5.3 Distribution of Respondents based on Age

Range Age	Total Samples	Percentage
20 – 25 years old	21	42%
26 – 30 years old	18	36%
31 – 40 years old	9	18%
41 – 50 years old	2	4%
Total	**50**	**100%**

The distribution of respondents based on educational background is shown in table 5.4. Majority of the respondents were undergraduate or S1 (62%) followed by diploma 3 or D3 (34%). The respondents who have educational background in diploma 4 or D4 and master or S2 were indicated by only 2% each.

Table 5.4 Distribution of Respondents based on Educational Background

Education	Total Samples	Percentage
Diploma (D3)	17	34%
Diploma (D4)	1	2%
Undergraduate (S1)	31	62%
Master (S2)	1	2%
Total	**50**	**100%**

The distribution of respondents based on their working experience in this company is shows in table 5.5. It described that 32% of respondents had less than 1 year working in this company, 66% of respondents had been working for between 1-5 years, and only 2% of respondents had been working for between 6-10 years in this company.

Table 5.5 Distribution of Respondents based on Working Experience

Working Experience	Total Samples	Percentage
Less than 1 year	16	32%
1 – 5 years	33	66%
6 – 10 years	1	2%
Total	**50**	**100%**

5.2. The Leadership Style in Quadra

5.2.1. Descriptive Statistics for Leadership Style

Mean score for leadership style variables is shown in table 5.6. The scores were produced from the average value of each sub-item of leadership styles (see MLQ Proportion in table 4.2). The minimum value of MLQ was zero and the maximum value of MLQ was four. Thus Likert scale was used to measure the set of rating of leadership trait (Trochim, 2006). The levels used to interpret this mean score were:

0.0 – 1.0 = very low
1.1 – 2.0 = low
2.1 – 3.0 = high
3.1 – 4.0 = very high

Table 5.6 shows that there were three leadership traits had high mean score: Idealized Attribute (IA), Idealized Behavior (IB), and Management-by-Exception Active (MA). IA and IB showed that team members in Quadra trusted their project managers. It indicated that the project managers influenced the subordinates through charisma. MP indicated that the project managers managed the subordinates through monitoring them by looking for mistakes and immediately making correction. The passive/avoidant behavior (Management-by-Exception Passive and Laissez-Faire) had low mean score in this research. This is considered as good since the passive/avoidant behavior is not recommended in software development project.

Table 5.6 Descriptive Statistics for Leadership Style

Items	Mean	Interpretation
Idealized Attribute (IA)	2.0750	High
Idealized Behavior (IB)	2.1800	High
Inspirational Motivation (IM)	2.0400	Low
Intellectual Stimulation (IS)	1.9500	Low
Individualized Consideration (IC)	1.8650	Low
Contingent Reward (CR)	1.9250	Low
Management-by-Exception Active (MA)	2.0500	High
Management-by-Exception Passive (MP)	1.9150	Low
Laissez-Faire (LF)	1.4700	Low

5.2.2. Descriptive Statistics for Leadership Outcome

Mean score for leadership outcome is shown in table 5.7. All leadership outcomes were interpreted as low. There were no strong extra effort exerted by the team members, low project manager's effectiveness perceived by them, and low satisfaction. This is considered as not good because of these low leadership outcomes.

Table 5.7 Descriptive Statistics for Leadership Outcome

Items	Mean	Interpretation
Extra Effort (EE)	1.9267	Low
Effectiveness (EF)	1.9550	Low
Satisfaction (SA)	1.7800	Low

5.3. The Influence of Leadership Style on Leadership Outcome

5.3.1. The Influence of Leadership Style Dimension on Extra Effort

The influence of leadership style dimension on extra effort is shown in table 5.8 – 5.10. Table 5.8 shows that 70.4% (*Adjusted R Square = .704*) of extra effort variance could be explained by leadership style dimension variances all together. And this group of leadership style dimension variables reliably predict the extra

effort variable as shown in the Analysis of Variance (ANOVA) in table 5.9 (*Sig. = .000*).

There is no correlation between each leadership style dimension variable (independent variable) or we called multicollinearity problem. It is shown in table 5.10 by Variance Inflationary Factor (VIF) value for each variable is below 10 (*VIF < 10*). According to Marquardt (1980), there is too much correlation problem between independent variables if VIF is greater than 10 (Levine, Stephan, Krehbiel, & Berenson, 2011). Furthermore for each variable that statistically has significant influence on extra effort is explained by p-value (Sig.) in table 5.10. It shows that Individual Consideration (IC) is the most significant variable that statistically shows positive influence on extra effort (*Sig. = .018*) using 5% level of significant (*.018 < .050*). Therefore, the null hypothesis (H_0) of this model is rejected. The result indicated that there is leadership trait of project managers that influences team members' exertion of extra effort.

A positive influence means that an increase in individual consideration variable will also increase the extra effort variable as well (holding all the other independent variables constant), and otherwise the decrease in individual consideration variable will also decrease the extra effort variable (holding all the other independent variables constant). This relationship can be shown in a case of developing subordinate's skill (through coaching and mentoring) to build a mutual cooperative relationship. This potential benefit for subordinates gains greater self-confidence and increase performance (Yukl, 2010).

Table 5.8 Model Summary of Leadership Style Dimension on Extra Effort

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.758	.704	.53003

Table 5.9 ANOVA[b] of Leadership Style Dimension on Extra Effort

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.272	9	3.919	13.950	.000[a]
	Residual	11.237	40	.281		
	Total	46.509	49			

Table 5.10 Coefficients[a] of Leadership Style Dimension on Extra Effort

Model	Unstandardized Coefficients		Std. Coef.	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tol.	VIF
1 (Constant)	-.349	.371		-.940	.353		
Idealized Attribute (IA)	.234	.186	.189	1.259	.215	.268	3.738
Idealized Behavior (IB)	.118	.171	.089	.692	.493	.364	2.745
Inspirational Motivation (IM)	.237	.236	.186	1.004	.322	.175	5.706
Intellectual Stimulation (IS)	.156	.171	.114	.909	.369	.383	2.612
Individual Consideration (IC)	.418	.169	.382	2.478	.018	.254	3.933
Contingent Reward (CR)	.223	.218	.200	1.022	.313	.158	6.348
Management-by-Exception Active (MA)	-.216	.154	-.179	-1.403	.168	.373	2.682
Management-by-Exception Passive (MP)	-.068	.124	-.047	-.551	.585	.839	1.192
Laissez-Faire (LF)	.076	.121	.053	.626	.535	.854	1.171

5.3.2. The Influence of Leadership Style Dimension on Effectiveness

The influence of leadership style dimension on effectiveness is shown in table 5.11 – 5.13. It shows that 70.4% (*Adjusted R Square = .704*) of effectiveness variance could be explained by leadership style dimension variances all together. And this group of leadership style dimension variables reliably predict the effectiveness variable as shown in the ANOVA in table 5.12 (*Sig. = .000*).

For each variable that statistically has significant influence on effectiveness is explained by p-value (Sig.) in table 5.13. It shows that Laissez-Faire (LF) is the most significant variable that statistically shows negative influence on

effectiveness (*Sig. = .021*) using 5% level of significant (*.021 < .050*). Therefore, the null hypothesis (H_0) of this model is rejected. The result indicated that there is leadership trait of project managers that influences team members' perception of their project managers' effectiveness.

A negative influence means that the decrease in laissez-faire variable will increase the effectiveness variable (holding all the other independent variables constant). On the other words, the less laissez-faire exercised by the leader, the more leader's effectiveness perceived by the followers (holding all the other independent variables constant). According to Boss (1978), the subordinates did not show growth and there were failures in organization development because of the lack of support from the leader (Bass, 1990, p.547). Although laissez-faire does not seem to be the exact opposite of active leadership, the correlation of laissez-faire with the leaders' contribution to the effectiveness found to be negative in the previous research (Bass, 1990).

Table 5.11 Model Summary of Leadership Style Dimension on Effectiveness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.759	.704	.4135056

Table 5.12 ANOVA[b] of Leadership Style Dimension on Effectiveness

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.497	9	2.389	13.969	.000[a]
	Residual	6.839	40	.171		
	Total	28.336	49			

Table 5.13 Coefficients[a] of Leadership Style Dimension on Effectiveness

Model	Unstandardized Coefficients		Std. Coef.	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tol.	VIF
1 (Constant)	.316	.290		1.092	.282		
Idealized Attribute (IA)	.152	.145	.157	1.048	.301	.268	3.738
Idealized Behavior (IB)	.224	.133	.216	1.681	.100	.364	2.745
Inspirational Motivation (IM)	.031	.184	.032	.171	.865	.175	5.706
Intellectual Stimulation (IS)	.131	.134	.123	.981	.332	.383	2.612
Individual Consideration (IC)	.095	.131	.112	.724	.473	.254	3.933
Contingent Reward (CR)	.321	.170	.369	1.886	.067	.158	6.348
Management-by-Exception Active (MA)	-.088	.120	-.093	-.733	.468	.373	2.682
Management-by-Exception Passive (MP)	.123	.096	.108	1.273	.210	.839	1.192
Laissez-Faire (LF)	-.227	.094	-.202	-2.401	.021	.854	1.171

5.3.3. The Influence of Leadership Style Dimension on Satisfaction

The influence of leadership style dimension on satisfaction is shown in table 5.14 – 5.16. It shows that 73.7% (A*djusted R Square = .737*) of satisfaction variance could be explained by leadership style dimension variances all together. And this group of leadership style dimension variables reliably predict the satisfaction variable as shown in the ANOVA in table 5.15 (*Sig. = .000*).

For each variable that statistically has significant influence on satisfaction is explained by p-value (Sig.) in table 5.16. It shows that Idealized Behavior (IB) is the most significant variable that statistically shows positive influence on satisfaction (*Sig. = .006*) using 5% level of significant (*.006 < .050*). Therefore, the null hypothesis (H_0) of this model is rejected. The result indicated that there is leadership trait of project managers that influence team members' satisfaction with their project managers.

This evidence explains that the team members perceived their satisfaction of their project managers through the behavior of project managers in giving

example (leading by example) in day-to-day interaction with them as a role model (Yukl, 2010). Bass (1990) also stated that the leader can affect the followers' satisfaction through taking any leadership action, such as delegation, direction, and consultation. The followers' favorable behavior toward their leaders that related to the productivity of the work group, had contributed to their satisfaction (Bass, 1990).

Another significant variable that has significant influence on satisfaction is Contingent Reward (CR). The p-value of CR is 0.018 which is lower than the level of significant in this research. Based on study conducted by Podsakoff & Schriesheim (1985), the subordinates were more satisfied if their leader provided them with rewards that depended on their performance (Bass, 1990). Otherwise, that satisfaction was not present if the rewards were not contingent.

Table 5.14 Model Summary of Leadership Style Dimension on Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886[a]	.786	.737	.4834194

Table 5.15 ANOVA[b] of Leadership Style Dimension on Satisfaction

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.232	9	3.804	16.276	.000[a]
	Residual	9.348	40	.234		
	Total	43.580	49			

Table 5.16 Coefficients[a] of Leadership Style Dimension on Satisfaction

Model	Unstandardized Coefficients		Std. Coef.	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tol.	VIF
1 (Constant)	-.013	.339		-.039	.969		
Idealized Attribute (IA)	.284	.169	.238	1.679	.101	.268	3.738
Idealized Behavior (IB)	.453	.156	.353	2.909	.006	.364	2.745

Inspirational Motivation (IM)	-.053	.215	-.043	-.245	.808	.175	5.706
Intellectual Stimulation (IS)	.167	.156	.126	1.067	.292	.383	2.612
Individual Consideration (IC)	.055	.154	.052	.357	.723	.254	3.933
Contingent Reward (CR)	.489	.199	.454	2.460	.018	.158	6.348
Management-by-Exception Active (MA)	-.263	.141	-.224	-1.871	.069	.373	2.682
Management-by-Exception Passive (MP)	-.192	.113	-.136	-1.702	.097	.839	1.192
Laissez-Faire (LF)	-.095	.110	-.068	-.858	.396	.854	1.171

5.4. Discussion on Leadership Styles and Outcomes

From descriptive statistics as shown in table 5.17, the three highest leadership traits in Quadra are identified as Idealized Attribute, Idealized Behavior, and Management by Exception Active. Idealized influence (attribute and behavior) dimension measures the leader's social charisma that was perceived by the followers, and active management by exception dimension measures the leader's action of problem occurs. The leader continuously monitors the follower and immediately takes action when a problem occurs.

Table 5.17 Leadership Style and Leadership Outcome in Quadra

Items	Mean	Interpretation
Idealized Behavior (IB)	2.1800	High
Idealized Attribute (IA)	2.0750	High
Management-by-Exception Active (MA)	2.0500	High
Inspirational Motivation (IM)	2.0400	Low
Intellectual Stimulation (IS)	1.9500	Low
Contingent Reward (CR)	1.9250	Low
Management-by-Exception Passive (MP)	1.9150	Low
Individualized Consideration (IC)	1.8650	Low
Laissez-Faire (LF)	1.4700	Low
Extra Effort (EE)	1.9267	Low
Effectiveness (EF)	1.9550	Low
Satisfaction (SA)	1.7800	Low

In this research, the team member in a software development project perceived their project managers were a charismatic leader through their behaviors and attributes. It is considered as good since this idealized influence determines the quality of the project managers in Quadra in terms of charismatic aspect. The team members in a project have a big trust to their project managers in leading the software development projects. As a role model perceived by the team members, the project managers should be able to bring radical transformation in this company through charismatic leadership. Charismatic leaders really influence the followers in extraordinary way that inspired them with moral inspiration and purpose (Bass, 1990).

However, some project managers were worried of project execution failure. They tended to continuously monitor the follower through weekly meeting with the team members or through online project management monitoring application (e.g. Redmine). Although there are many forms of monitoring behavior, monitoring term in management by exception active is defined as looking for mistakes and enforcing rules to avoid mistakes (Yukl, 2010).

A low interpretation of laissez faire behavior in this research is considered as good since laissez-faire leadership is only exercised by project managers who avoid from being a leader, leaving the responsibilities as a leader and avoid providing direction to team members. A project manager who practices this style often lets the team members take their own decisions to achieve goals. This kind of team members are usually highly motivated to do so and thus the existence of project manager is considered as unnecessary.

The project managers' effectiveness as perceived by the team members indicates the project managers' ability to meet the team members' expectations and needs, to represent the team members to higher management, to lead the team, and to meet the company's requirements. In this company, project managers tended to be more effective in meeting the team members' needs related to work than in leading the team and in representing the team members to higher management (e.g. performance reports). In Quadra, project managers rarely give performance report of each team member to higher management. Thus,

performance is less appraised objectively in this company. In addition to it, there is no exact measurement tool to measure the performance of the employees in this company, especially programmers.

The team members' extra effort indicates their willingness to do more than they expected to do, their desire to succeed, and their willingness to try harder. In Quadra, project managers tended to encourage the team members to try harder in doing their assignments in order to success. In encouraging the team members, project managers often delegate some critical assignments and sometimes express satisfaction to team members when they are success in achieving something. However the interpretation of extra effort was considered as low in this company.

The satisfaction outcome expressed the satisfaction of team members toward the project managers' method of leadership and the project managers' way of work with others. In this research, the team members in this company are mostly dissatisfied with the project managers' method to guide and direct them in software development project.

5.5. Discussion on the Influence of Leadership Style Dimension to Leadership Outcome

From the regression analysis, the researcher wanted to see the association between leadership styles as the independent variables and leadership outcomes as the dependent variables. There were nine leadership style dimensions that were used as independent variables and there were three leadership outcomes that were used as the dependent variables in this research.

The influence of leadership style dimension to the first leadership outcome, extra effort is shown previously in table 5.10. It indicates that individualized consideration is the most significant variable that showed a strong significant influence to extra effort (*Sig. = .018*). The association between individualized consideration and extra effort is significantly positive, which means that if the project managers exercise more individualized consideration then more extra efforts will be exerted by the team members.

Individualized consideration is a behavior which the project managers treat each team member equally as an individual. Sometimes the project managers use delegation to support the team members to grow and mature in term of competencies. This behavior of transformational leadership was perceived as favorable by the team members to exert extra effort.

The influence of leadership style dimension to the second leadership outcome, effectiveness is shown previously in table 5.13. It indicates that laissez-faire is the most significant variable that shows a strong significant influence (negative) to project managers' effectiveness as perceived by the team members (*Sig. = .021*). The association between laissez-faire leadership and project managers' effectiveness is significantly negative, which means that if the project managers exercise less laissez-faire leadership then more effectiveness will be perceived by the team members to their project managers.

Laissez-faire leadership indicates that the project managers are avoiding the responsibilities to be a leader and avoiding in providing direction to the team members. In Quadra, there was only few project managers exercised this style of leadership. They used to delegate the executive decisions to system analyst or development leader, even there was once a case when a project manager delegated the decision of development execution to a group of programmers. This dimension of passive/avoidant behavior was perceived by the team members as a correlated factor to project managers' effectiveness.

The influence of leadership style dimension to the last leadership outcome, satisfaction is shown previously in table 5.16. It indicates that there were two leadership style dimension, idealized behavior and contingent reward that show strong significant influences to the team members' satisfaction. Idealized behavior showed .006 of significant influence while contingent reward showed .018 of significant influence. The association between both leadership style dimensions (idealized behavior and contingent reward) and the team members' satisfaction is significantly positive, which means that if the project managers exercise more idealized behavior then more satisfaction will be perceived by the team members.

The same relation is applied for the association between contingent reward and satisfaction.

Idealized behavior is a part of idealized influence that is generated from the subordinates' perceptions of leader's behavior. Based on descriptive analysis above, the project managers in Quadra often exercise this behavior to their team members. It means that statistically they were showing their charisma to influence their team members to achieve goals. In team members' perceptions, among the dimensions of transformational leadership, idealized behavior was considered to be one of factors that influenced the team members' satisfactions mostly.

Contingent reward is one of transactional leadership dimension that is often used by the project managers to motivate the team members in achieving goals. The reward could be in term of monetary, promotions or recommendations. In Quadra, the implementation of contingent reward could be seen in an offering of project incentive. In team members' perception, the contingent reward was also considered to be another factor that influences the team members' satisfactions.

The following research question is answered based on discussion above: Question 1: *What is the project manager's leadership style and what is/are the outcome(s) related to the leadership style in this company?*

Based on the team members' perception, statistically the project managers in Quadra tended to exercise idealized influence traits (attribute and behavior) and management-by-exception active. While the leadership outcomes perceived by the team members in relation with the leadership styles (the most significant) are effectiveness had opposite relationship with laissez-faire, extra effort had unidirectional relationship with individualized consideration, and satisfaction has unidirectional relationship with idealized behavior and contingent reward.

5.6. Findings about Work Environment

There is also finding in this research that related to the work environment experienced by the team members. The team members evaluated their work environment based on their involvement in the software development project, and

during working together with the project manager whom they evaluated as the object of this research.

The outcome of this work environment comprises three set of dimensions: the relationship dimensions, the personal growth or goal orientation dimensions, and the system maintenance and system change dimensions. The relationship dimension comprises involvement, peer cohesion, and supervisor support. The personal growth or goal orientation dimension comprises autonomy, task orientation, and work pressure. While the system maintenance and system change dimension comprises clarity, control, innovation, and physical comfort.

The Real Form (Form R) of the Work Environment Scale (WES) was completed by 50 employees who were involved in a project. The WES profile in Quadra is shown in figure 5.1 and the WES score interpretation is shown in table 5.18. They show the team members' perception of their current work environment while they were working in a software development project.

The relationship dimension showed moderate emphasis: involvement and supervisor support were average and peer cohesion was above average. On the personal growth dimension: autonomy was average, work pressure was above average, but task orientation was well below average. On the system maintenance and change dimension: clarity showed considerably below average, managerial control was below average, innovation was average, and physical comfort was well below average.

Thus, the work environment was characterized by relationship dimensions (involvement, peer cohesion, and supervisor support) and some personal growth/goal orientation dimensions (autonomy and work pressure). Although the work pressure was above average, the team members experienced lack of task orientation. They also did not understand what to expect in their daily routine which made them confuse of what to do and the low physical comfort made them uncomfortable in their work environment.

Table 5.18 WES Score in Quadra

Scale	Raw Score	Standard Score	Interpretation
Involvement	6.1	51	Average
Peer Cohesion	6.1	54	Above Average
Supervisor Support	5.4	48	Average
Autonomy	6	57	Average
Task Orientation	4.1	30	Well Below Average
Work Pressure	5.3	48	Above Average
Clarity	3.2	26	Considerably Below Average
Control	4	37	Below Average
Innovation	4.1	48	Average
Physical Comfort	3.6	41	Well Below Average

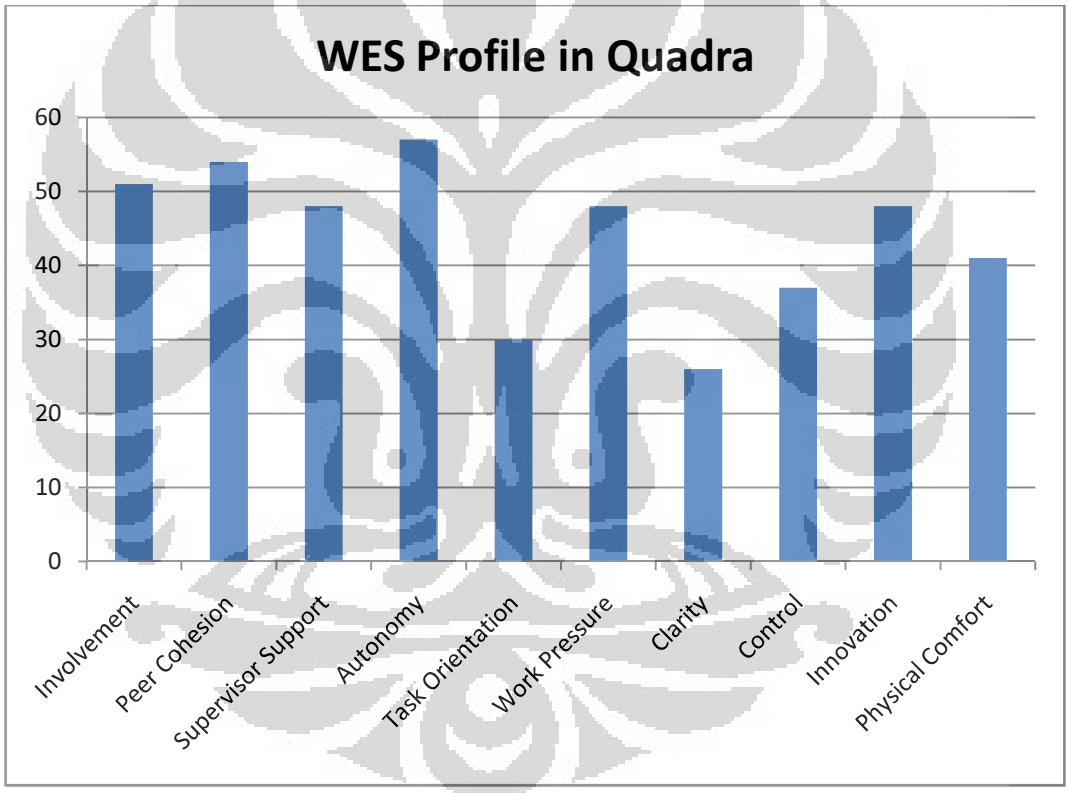

Figure 5.1 WES Profile in Quadra

The scoring of WES is conducted by matching the answer sheet of WES that was filled by the respondent and the scoring key sheet that was provided by Mind Garden. The individual raw score is determined by counting the number of correct answers in the answer sheet. The group raw score is determined by grouping the individual raw scores and finding the group mean score. While the standard score

is determined by converting the raw score by using the tables in Appendix A of WES Manual (Moos, 2008).

5.6.1. Involvement

The involvement subscale measures team members' commitment and concern to the job. In this company, involvement perceived by the team members was average which means most of them felt that the work was so challenging that they put quite a lot of effort into what they did, they felt the spirit of working as group, they easily did any extra work, and they felt that the work was interesting.

5.6.2. Peer Cohesion

The peer cohesion subscale measures team members' relationship to each other in order to support or to share something. In this company, peer cohesion perceived by team members was above average. It was a good sign indicated that they were friendly to each other, they shared the same interest, and they hung out together after work and often ate lunch together.

5.6.3. Supervisor Support

The supervisor support subscale measures the relationship between management and employees in term of supporting each other at work. In this company, supervisor support was considered to be average by the team members. Their supervisor in this research referred to the project managers. The project managers tended to treat them very well and gave compliment when they did something well.

5.6.4. Autonomy

The autonomy subscale assesses the emphasis of employees in being of self-sufficient to make their own decision. In this company, autonomy was considered to be average by the team members. The team members were having a great deal of freedom to do as they like, they could use their own initiative to do things, they

were encouraged to learn things, and there were some time to discuss the future work goals with their project managers.

5.6.5. Task Orientation

The task orientation subscale measures the concern in making a good planning, efficiency in working, and getting the job done. In this company, task orientation perceived by team members was well below average. The team members had a strong attention to getting work done but they perceived that there was a lot of time wasted because of inefficiencies. Some employees liked to come late to the office because of many reasons or just without any reason at all. It had been a habit to come late for team members because the emphasis of working was only to get the job done or sometimes we called as result oriented work. Though there is always a debate among management about this type of work, but some team members just keep doing what they want to do. The rules and policies are not strictly implemented: there is no pay cuts for those who always come late to the office because there is no absence system for the employees.

5.6.6. Work Pressure

The work pressure subscale measures how the work pressure and time urgency dominate the work environment. In this company, work pressure was considered as above average by the team members. The team members really could afford to relax but there were always deadlines to be met. They perceived that nobody worked too hard but there was always urgency about everything that in the end they had to work overtime to get their work done.

5.6.7. Clarity

The clarity subscale measures how the employees understand about what to expect in their daily routine and their understanding on the rules and policies. In this company, clarity perceived by team members was considerably below average. They perceived that things are sometimes pretty disorganized which

made their daily routine unorganized. They also perceived that the rules and regulations from the management were somewhat ambiguous.

5.6.8. Control

The control or managerial control measures how the employees respond to management's rules and policies and how the management uses the rules and regulations to keep their employees under control. In this company, managerial control was considered as below average. There were some team members who used to wear wild looking clothing or informal shirt while at work. The project managers seemed not to watch their team members strictly about this and there were lack of project managers' attention and response when the rules and regulation from the company was breached by the team members, for example there was no punishment for some fouls. However, some team members who came in late could make it up by staying late at the office by their own initiative.

5.6.9. Innovation

The innovation subscale assesses the emphasis of variety, change, and new approaches in a work setting. In this company, innovation perceived by the team members was on average. Team members often tried new and different ideas. It was shown on every technical discussion between programmers and system analyst in solving problems. Though sometimes some of them did not agree of it because of the reliability of the ideas had not tested yet.

5.6.10. Physical Comfort

The physical comfort subscale measures the contribution of physical environment to the work environment. In this company, physical comfort perceived by the team members was well below average. The workspace was awfully crowded sometimes when some of onsite employees were returning to the office. The team members perceived that the room needed some air purifier or good air ventilator because sometimes there were some employees smoking inside

the air-conditioned room. And they perceived that the office really needed some new interior decorations.

5.7. Work Environment Perceived Based on Demographic Data

5.7.1. Work Environment Based on Position

Work environment profile based on position in a software development project could show the comparison of work environment perceived between programmer, system analyst/business analyst, quality assurance/tester, and technical documentation (technical writer). The WES score is shown in table 5.19 and visualized on graph in figure 5.2. There were 78% of samples were programmers, 16% were system analysts/business analysts, only 4% were quality assurance/testers, and only 2% were technical documentation in this research.

Programmer and technical documentation involvement in a project was higher than system analyst and tester. The high involvement perceived by programmers was because they were the persons who put the design into reality. It means that they were working on someone's dream (system analyst). The challenging work in this research was perceived more by the programmers than the system analyst. And the effort put by the programmers was quite more than the effort put by the system analyst.

Thus, the work environment profile for programmers was characterized by involvement, peer cohesion, supervisor support, autonomy, work pressure, and innovation. While the system analysts' work environment was characterized by work pressure and managerial control. The quality assurance's or tester's work environment was characterized by work pressure and innovation. And the technical writer's work environment was characterized by all dimensions of WES.

Table 5.19 WES Score Based on Position

Job Position	Dimensions	Raw Score	Standard Score	Interpretation
Programmer	Involvement	6.6	56	Average
	Peer Cohesion	6.4	54	Above Average
	Supervisor Support	6.1	59	Above Average

	Autonomy	6.4	57	Above Average
	Task Orientation	4.3	30	Well Below Average
	Work Pressure	5.3	48	Above Average
	Clarity	3.4	26	Considerably Below Average
	Control	3.6	32	Well Below Average
	Innovation	4.2	48	Average
	Physical Comfort	3.7	41	Well Below Average
System Analyst/Business Analyst	Involvement	4.3	34	Well Below Average
	Peer Cohesion	4.5	38	Well Below Average
	Supervisor Support	2.4	17	Considerably Below Average
	Autonomy	4.8	37	Below Average
	Task Orientation	3.1	20	Considerably Below Average
	Work Pressure	5.8	52	Above Average
	Clarity	1.9	9	Considerably Below Average
	Control	5.3	47	Above Average
	Innovation	2.5	34	Well Below Average
	Physical Comfort	2.6	31	Considerably Below Average
Quality Assurance/Tester	Involvement	4.5	38	Well Below Average
	Peer Cohesion	5	43	Below Average
	Supervisor Support	4.5	43	Below Average
	Autonomy	4	30	Well Below Average
	Task Orientation	4	30	Well Below Average
	Work Pressure	4.5	43	Average
	Clarity	2.5	21	Considerably Below Average
	Control	3.5	32	Well Below Average
	Innovation	5	58	Average
	Physical Comfort	2.5	31	Considerably Below Average
Technical Documentation	Involvement	8	69	Well Above Average
	Peer Cohesion	8	76	Considerably Above Average
	Supervisor Support	7	69	Well Above Average
	Autonomy	6	57	Average
	Task Orientation	6	50	Average
	Work Pressure	4	39	Average
	Clarity	6	61	Average
	Control	7	67	Considerably Above Average
	Innovation	9	96	Considerably Above Average
	Physical Comfort	6	64	Above Average

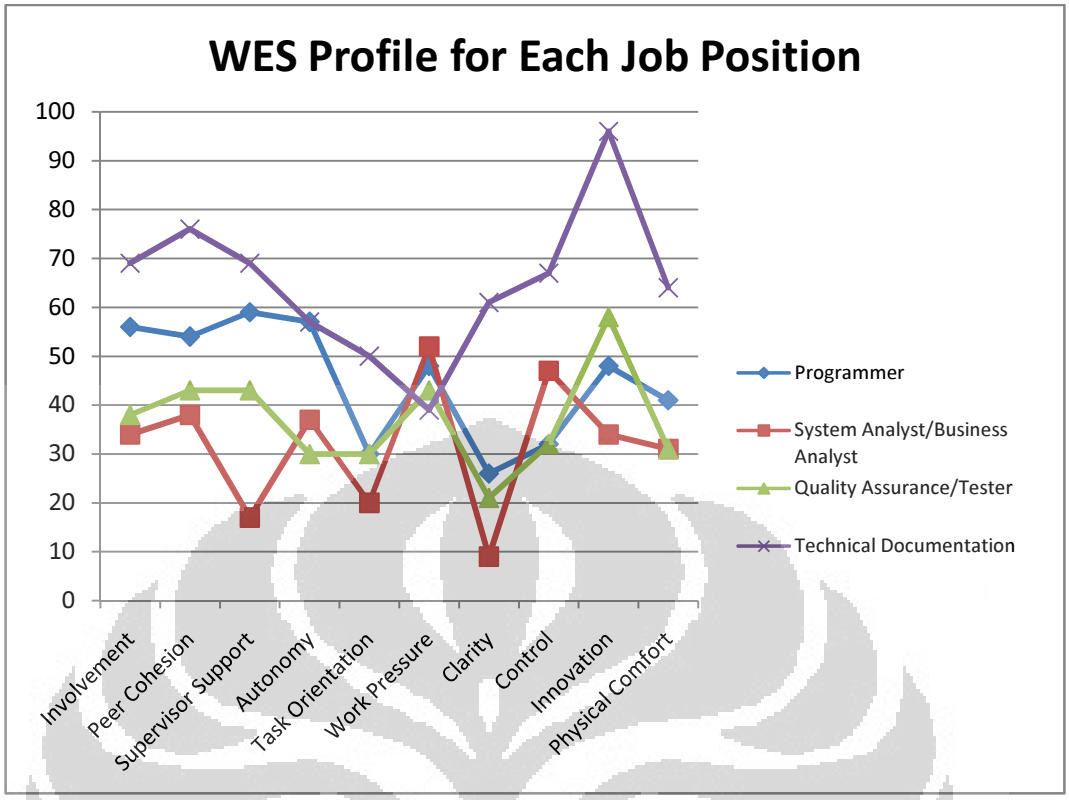

Figure 5.2 WES Profile for Each Job Position

5.7.2. Work Environment Based on Gender

Work environment profile based on gender in a software development project team could show the comparison of work environment perceived between male members and female members. The WES score is shown in table 5.20 and visualized on graph in figure 5.3.

There were 78% of samples were males, and 22% were females. Male members' work environment was characterized by involvement, peer cohesion, supervisor support, autonomy, and work pressure while female members' work environment was characterized by involvement, peer cohesion, supervisor support, work pressure, innovation, and physical comfort. In this research, male members were more encouraged to make their own decision than female members. And male members initiated more in doing things than female members. However female members perceived better physical comfort compared to male members.

Table 5.20 WES Score Based on Gender

Gender	Dimensions	Raw Score	Standard Score	Interpretation
Male	Involvement	6.2	51	Average
	Peer Cohesion	6.1	54	Above Average
	Supervisor Support	5.4	48	Average
	Autonomy	6.4	57	Above Average
	Task Orientation	4.1	30	Well Below Average
	Work Pressure	5.5	52	Above Average
	Clarity	3.1	26	Considerably Below Average
	Control	4	37	Below Average
	Innovation	3.8	43	Below Average
	Physical Comfort	3.4	36	Well Below Average
Female	Involvement	5.9	47	Average
	Peer Cohesion	6.1	54	Above Average
	Supervisor Support	5.4	48	Average
	Autonomy	4.8	37	Below Average
	Task Orientation	4.4	30	Well Below Average
	Work Pressure	4.4	39	Average
	Clarity	3.6	32	Considerably Below Average
	Control	3.7	32	Well Below Average
	Innovation	4.9	53	Average
	Physical Comfort	4.2	46	Average

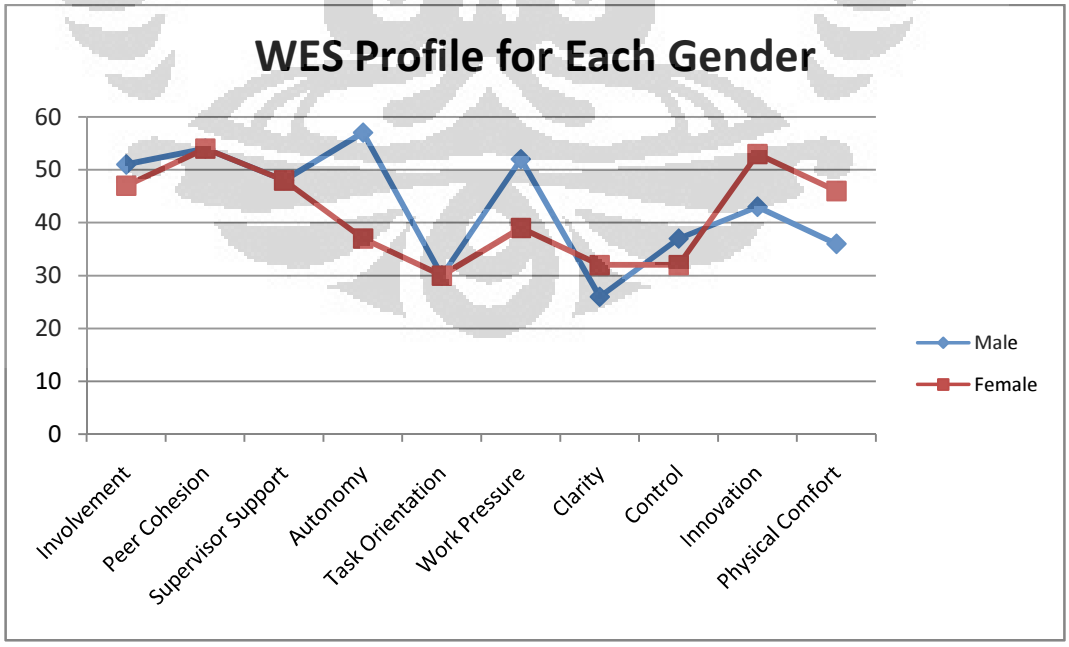

Figure 5.3 WES Profile for Each Gender

5.7.3. Work Environment Based on Age

Work environment profile based on age of team members in a software development project could show the comparison of work environment perceived between ranges of ages. The WES score is shown in table 5.21 and visualized on graph in figure 5.4.

There were 42% of samples were younger age (20 – 25 years old), 36% were young age (26 – 30 years old), 18% were mature age (31 – 35 years old), and only 4% were old age (36 – 40 years old) in this research. The younger age was characterized by involvement, peer cohesion, supervisor support, autonomy, task orientation, work pressure, and innovation. The young age was characterized by involvement, peer cohesion, supervisor support, autonomy, and work pressure. The mature age was characterized by involvement, peer cohesion, autonomy, work pressure, control, innovation, and physical comfort. And the old age was characterized by autonomy, work pressure, and control.

The task orientation dimension perceived by the young age, mature age, and old age was below average compared to the younger age. They perceived that there was a lot of time wasted because of inefficiency because they were forced to work until late. However working overtime is actually reducing the quality of work because the employees are no longer can focus to what they do.

The innovation dimension perceived by the young age and old age was below average. They perceived that their ideas for doing something in a different way were not valued because variety was not particularly important and new approaches to things were rarely tried. Everything was evaluated to stay just about the same.

The control dimension was perceived in between average and above average by mature age and old age compared to the younger and young age. They did feel the enforcement of rules and regulations from their project managers. The management's rules and regulations could keep them under control.

Table 5.21 WES Score Based on Age

Age	Dimensions	Raw Score	Standard Score	Interpretation
20 – 25 years old (younger age)	Involvement	6.9	56	Average
	Peer Cohesion	6.6	60	Above Average
	Supervisor Support	6.3	59	Above Average
	Autonomy	6	57	Average
	Task Orientation	5.1	40	Average
	Work Pressure	5	48	Average
	Clarity	3.9	32	Considerably Below Average
	Control	3.6	32	Well Below Average
	Innovation	4.3	48	Average
	Physical Comfort	3.9	41	Well Below Average
26 – 30 years old (young age)	Involvement	5.2	43	Average
	Peer Cohesion	6.1	54	Above Average
	Supervisor Support	5.2	48	Average
	Autonomy	5.7	50	Average
	Task Orientation	3.2	20	Considerably Below Average
	Work Pressure	4.8	43	Average
	Clarity	2.4	15	Considerably Below Average
	Control	3.7	32	Well Below Average
	Innovation	3.6	43	Below Average
	Physical Comfort	2.9	31	Considerably Below Average
31 – 40 years old (mature age)	Involvement	6.6	56	Average
	Peer Cohesion	5.3	43	Average
	Supervisor Support	5	48	Below Average
	Autonomy	6.9	63	Above Average
	Task Orientation	3.9	25	Considerably Below Average
	Work Pressure	6.2	57	Well Above Average
	Clarity	3.4	26	Considerably Below Average
	Control	4.4	37	Average
	Innovation	5.2	58	Above Average
	Physical Comfort	4.2	46	Average
41 – 50 years old (old age)	Involvement	5	43	Below Average
	Peer Cohesion	4	32	Well Below Average
	Supervisor Support	0	0	Considerably Below Average
	Autonomy	6.5	63	Above Average
	Task Orientation	4	30	Well Below Average
	Work Pressure	8	75	Considerably Above Average
	Clarity	2	15	Considerably Below Average
	Control	8	77	Considerably Above Average
	Innovation	0.5	15	Considerably Below Average

	Physical Comfort	3	36	Well Below Average

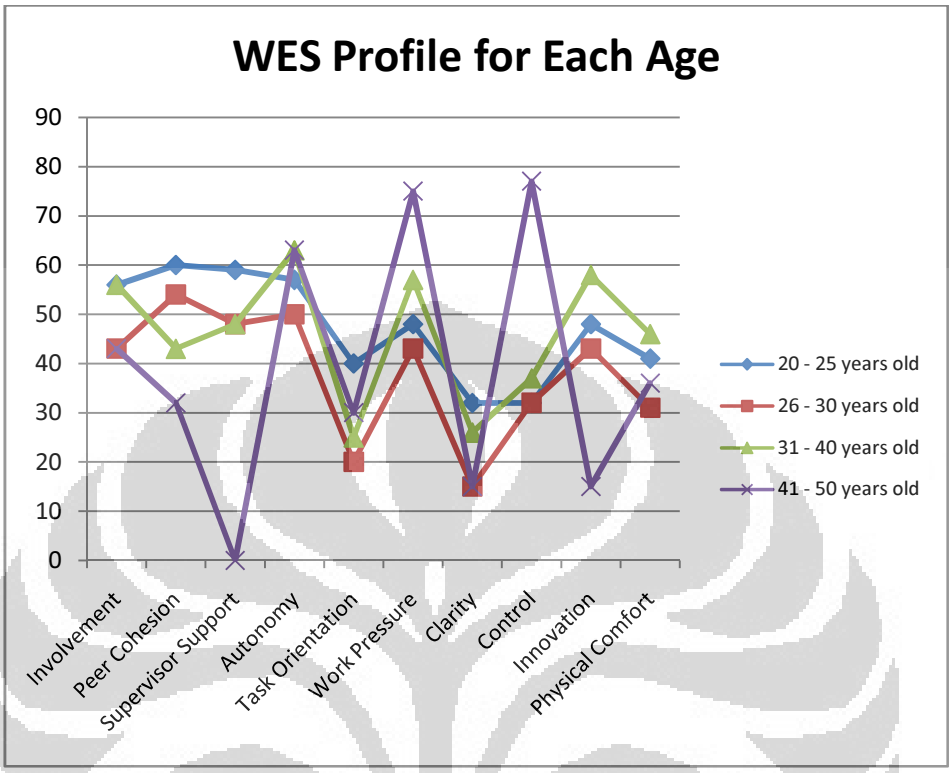

Figure 5.4 WES Profile for Each Age

5.7.4. Work Environment Based on Education

Work environment profile based on educational background of team members in a software development project could show the comparison of work environment perceived between diplomas, bachelors, and masters. The WES score is shown in table 5.22 and visualized on graph in figure 5.5.

There were 34% of samples were diploma 3 (D3), 2% were diploma 4 (D4), 62% were bachelor (undergraduate or S1), and 2% were master degree (S2). The D3's work environment was characterized by involvement, peer cohesion, supervisor support, autonomy, work pressure, and innovation. The D4's work environment was characterized by involvement, peer cohesion, supervisor support, autonomy, task orientation, work pressure, innovation, and physical comfort. The S1's work environment was characterized by involvement, peer cohesion, supervisor support, autonomy, work pressure, control, and innovation.

And the S2's work environment was characterized by involvement, autonomy, work pressure, and control.

Table 5.22 WES Score Based on Education

Education	Dimensions	Raw Score	Standard Score	Interpretation
Diploma 3	Involvement	6.5	56	Average
	Peer Cohesion	6.6	60	Above Average
	Supervisor Support	5.9	53	Average
	Autonomy	6.6	63	Above Average
	Task Orientation	4.3	30	Well Below Average
	Work Pressure	4.6	43	Average
	Clarity	3.5	32	Considerably Below Average
	Control	3.7	32	Well Below Average
	Innovation	4	48	Average
	Physical Comfort	3.4	36	Well Below Average
Diploma 4	Involvement	8	69	Well Above Average
	Peer Cohesion	7	65	Well Above Average
	Supervisor Support	7	69	Well Above Average
	Autonomy	7	70	Well Above Average
	Task Orientation	6	50	Average
	Work Pressure	7	66	Considerably Above Average
	Clarity	4	38	Well Below Average
	Control	2	17	Considerably Below Average
	Innovation	7	77	Considerably Above Average
	Physical Comfort	7	74	Considerably Above Average
Bachelor Degree (Undergraduate)	Involvement	5.9	47	Average
	Peer Cohesion	5.8	49	Average
	Supervisor Support	5.2	48	Average
	Autonomy	5.7	50	Average
	Task Orientation	4	30	Well Below Average
	Work Pressure	5.5	52	Above Average
	Clarity	3.1	26	Considerably Below Average
	Control	4.1	37	Average
	Innovation	4	48	Average
	Physical Comfort	3.6	41	Well Below Average
Master Degree	Involvement	6	51	Average
	Peer Cohesion	4	32	Well Below Average
	Supervisor Support	2	17	Considerably Below Average
	Autonomy	6	57	Average
	Task Orientation	5	40	Below Average
	Work Pressure	9	84	Considerably Above Average

	Clarity	1	4	Considerably Below Average
	Control	7	67	Considerably Above Average
	Innovation	3	39	Below Average
	Physical Comfort	2	27	Considerably Below Average

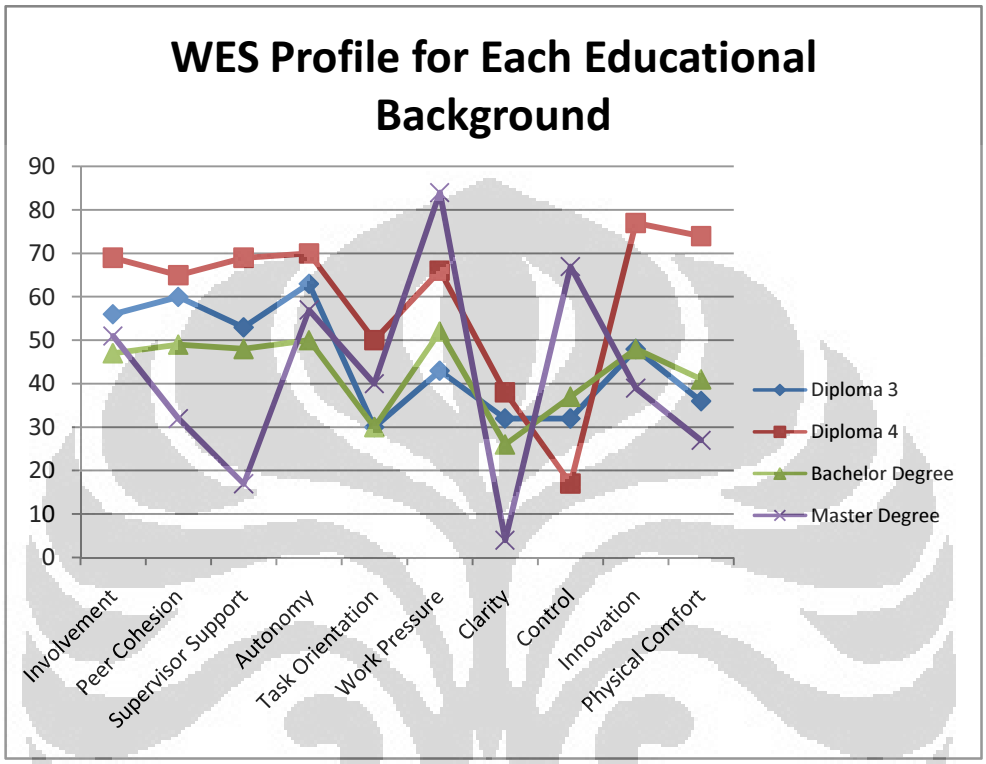

Figure 5.5 WES Profile for Each Educational Background

5.7.5. Work Environment Based on Working Experience

Work environment profile based on working experience of team members could show the comparison of work environment perceived between members who had worked for less than 1 year, 1 to 5 years, and 6 to 10 years. The WES score is shown in table 5.23 and visualized on graph in figure 5.6.

There were 32% of samples were working for less than 1 year at this company (junior), 66% had worked for between 1 to 5 years (senior), and only 2% had worked for between 6 to 10 years (veteran). The work environment perceived by junior was characterized by involvement, peer cohesion, supervisor support, autonomy, work pressure, and innovation. The work environment perceived by senior was characterized by involvement, peer cohesion, autonomy, work

pressure, and control. And the work environment perceived by veteran was characterized by all dimensions of WES.

The senior perceived lesser supervisor support than the junior because in this research the senior received more criticism over minor things from the project managers and the project managers expected far too much from them. However the control dimension was experienced more by the senior than by the junior because the senior perceived strong emphasis on following policies and regulations.

Table 5.23 WES Score Based on Working Experience

Work Experience	Dimensions	Raw Score	Standard Score	Interpretation
Less than 1 year (Junior)	Involvement	6.1	51	Average
	Peer Cohesion	6.1	54	Above Average
	Supervisor Support	6.2	59	Above Average
	Autonomy	6.3	57	Above Average
	Task Orientation	3.8	25	Considerably Below Average
	Work Pressure	5.2	48	Above Average
	Clarity	2.9	21	Considerably Below Average
	Control	3.4	27	Well Below Average
	Innovation	4.3	48	Average
	Physical Comfort	3.8	41	Well Below Average
1 – 5 years (Senior)	Involvement	6.1	51	Average
	Peer Cohesion	6.1	54	Above Average
	Supervisor Support	5	48	Below Average
	Autonomy	5.9	50	Average
	Task Orientation	4.2	30	Well Below Average
	Work Pressure	5.4	48	Above Average
	Clarity	3.2	26	Considerably Below Average
	Control	4.2	37	Average
	Innovation	3.8	43	Below Average
	Physical Comfort	3.3	36	Well Below Average
6 – 10 years (Veteran)	Involvement	9	77	Considerably Above Average
	Peer Cohesion	6	54	Average
	Supervisor Support	6	59	Average
	Autonomy	6	57	Average
	Task Orientation	7	60	Above Average
	Work Pressure	4	39	Average
	Clarity	8	83	Considerably Above Average

	Control	5	47	Average
	Innovation	9	96	Considerably Above Average
	Physical Comfort	8	83	Considerably Above Average

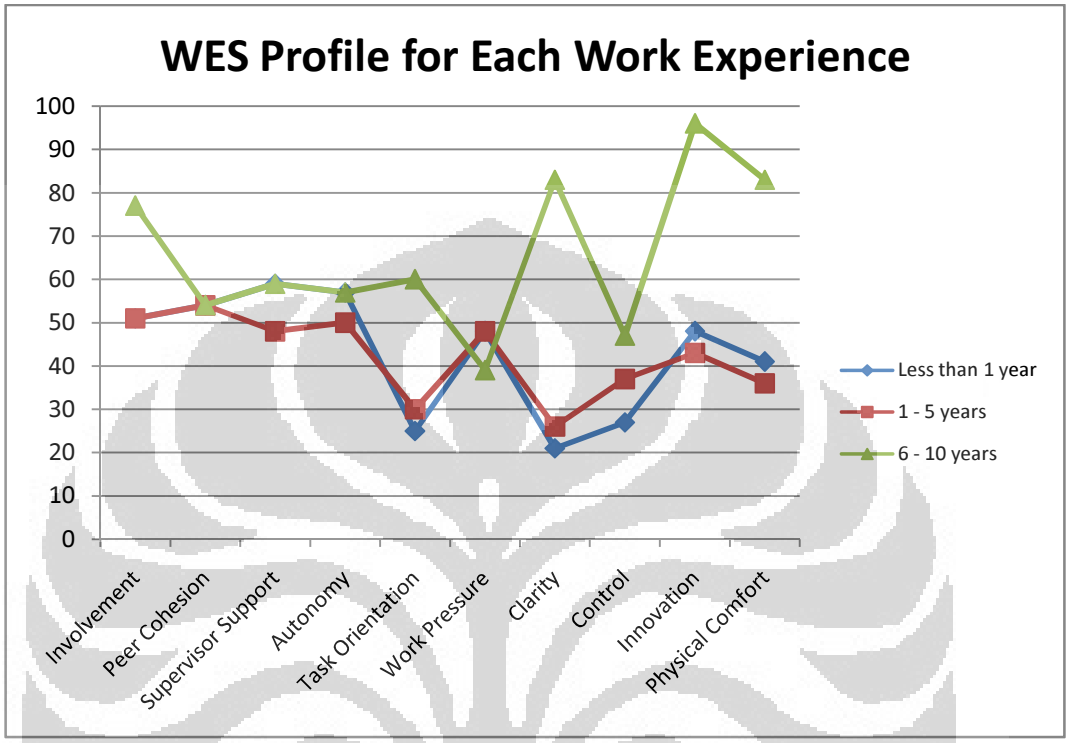

Figure 5.6 WES Profile for Each Work Experience

5.8. Discussion on Work Environment

From the assessment of work environment scale in this research, the overall work environment was dominated by relationship dimensions and some personal growth dimensions. The research could not correlate the association between this work environment and leadership style exercised by the project managers. However this work environment scale was assessed to capture the environment perceived by the team members while they were in a software development project.

All relationship dimensions: involvement, peer cohesion, and supervisor support were perceived in between average and above average by the team members. This dimension represents the relationship among the team members and their commitments to the job. It indicates that the team members had

experienced moderate relationship and commitment to the job. If the team members were in a project development, they would find a supportive environment. For example the situation when the junior members were having difficulties on doing the assignments, the senior members would help them and even guide them to finish the assignments.

Some personal growth dimensions: autonomy and work pressure were perceived in between average and above average by the team members. However the task orientation subscale was perceived as well below average. The inefficiency sometimes occurs when working as a team. The assignments were correlated to each other, so when someone was late in delivering his assignments there was a probability that the other one also could not delivery his assignment because he had to wait. The work environment scale for this dimension was considered as weak.

The following research question is answered based on finding and discussion above:

Question 2: *What is the result of team's perception about their work environment while they are in the software development project team?*

Based on the team members' perception, the work environment was characterized by the relationship dimensions (involvement, peer cohesion, and supervisor support) and some personal growth dimensions (autonomy and work pressure). The involvement was about the team members' commitment and concern to the job. The peer cohesion was about the relationship between each member to support or to share something. The supervisor support was about the relationship between project managers and team members in term of supporting each other at work. The autonomy was about the encouragement for employees to make their own decision. And the work pressure was about the emphasis of which the work pressure and time urgency dominate the work environment.

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1. Conclusion

Based on research conducted in PT Quadra Solution, there are some conclusions made from the analysis and findings on chapter 5:

- In PT Quadra Solution, IT Company, the leadership style dimensions used by the project managers were idealized influence (attribute and behavior) and management-by-exception active. The leadership style dimensions perceived by the team members (the subordinates) are related to the project managers' effectiveness, the willingness of team members in exerting extra effort, and the team members' satisfaction to the project managers.
- The laissez-faire behavior is the most significant factor that influences the project managers' effectiveness. It has a negative influence which means if project managers exercise less laissez-faire style (avoiding style), and then the team members will perceive more about project managers' effectiveness.
- The individual consideration is the most significant factor that influences the team members' willingness to exert extra effort. It has positive influence which means if project managers exercise more individualized consideration, then the team members will exert more extra effort. Individualized consideration is about caring about the team members' competencies and supporting them to grow and mature in term of competencies.
- The idealized behavior is the most significant factor that influences the team members' satisfaction to the project managers. Another significant factor is the contingent reward. Both of them have positive influence which means if project managers exercise more idealized behavior or more contingent reward, then the team members will perceive more satisfaction to the project managers' leadership. Idealized behavior is

about to be the role model for the team members, respects, faith, and pride (charismatic behavior). And contingent reward is about giving rewards to the team members for task completion.

- The work environment in PT Quadra Solution perceived by the team members was characterized by relationship dimensions (involvement, peer cohesion, and supervisor support) and some personal growth dimensions (autonomy and work pressure).

6.2. Recommendation

Based on the conclusion above, PT Quadra Solution has to do some improvements on some leadership style dimensions that have significant influences on the leadership outcomes. The improvement is expected to increase the quality of leadership of the project managers, for example through training or seminars about leadership. Leadership is considered to be important based on analysis of this research that showed the correlation between leadership style and leadership outcome, and a survey of job satisfaction conducted by Bergen (1939), Houser (1927), Kornhauser and Sharp (1932), and Viteles (1953), that uniformly reported that the employees' job satisfaction and the productivity of the work group were found to be contributed by the leadership behaviors of leader favored by the employees (Bass, 1990).

The first and easy thing to do is explaining the project managers about the laissez-faire leadership that is not favored by the team members. This action can be done by doing an internal meeting moderated by the Project Management Officer (PMO). This meeting is not conducted to blame some project managers but to explain the impact of laissez-faire leadership to the project managers' effectiveness. By being effective project managers, they will capture the team members' expectations and needs. They also can represent the team members to higher management, such as providing performance report of team members.

After explaining about laissez-faire leadership, PMO has to be able to motivate the project managers to take action to the competencies development of the team members by coaching them and teaching them. This action is related to

the individualized consideration dimension of transformational leadership. Being a project manager is not always concerning about the project, but the people working on that project through supporting and developing as parts of individualized consideration (Yukl, 2010). Next step after doing explanations, PMO can put the project managers to any trainings or seminars about leadership to sharpen their understanding about leadership.

To increase the team members' satisfaction, PMO must discuss with the management to provide better performance appraisal instead of providing project incentive only. The contingent reward is an easy way to boost team members' satisfaction, and indirectly motivate them to perform better to get a reward. It will be very helpful for a leader to lead a team if the team is satisfied by the leader's method of leadership.

Based on finding about work environment perceived by the team members, Quadra must consider the characteristic of the workplace that are most important to the organization. For example is to increase the managerial control and clarity about the organization's rules and regulations, the company should make strong procedures of doing things like Standard Operating Procedure (SOP). The researcher recommends the company to increase the clarity first, managerial control, task orientation, and then the last is physical comfort. Task orientation will be easier to be increased when there is guidance or SOP for doing things. Since there are a lot of smokers in the company, to improve the physical comfort is by providing smoking room inside the building so the smokers can still work while they are smoking. And the non-smokers will not be bothered by the unpleasant smell of cigarettes.

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APPENDIX 1

LICENSE OF MULTIFACTOR LEADERSHIP QUESTIONNAIRE

Multifactor Leadership Questionnaire

Instrument (Leader and Rater Form)

and Scoring Guide (Form 5X-Short)

English and Indonesian (Rater Form only) versions

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

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Robert Most
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APPENDIX 2
LICENSE OF WORK ENVIRONMENT SCALE

Work Environment Scale

Bulk Permission

Rudolf H. Moos and Paul N. Insel

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Vicki Jaimez
Mind Garden, Inc.
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APPENDIX 3
DESCRIPTIVE STATISTICS

Descriptive Statistics

Kurtosis		Skewness		Std. Deviation	Mean	N	
Std. Error	Statistic	Std. Error	Statistic	Statistic	Statistic	Statistic	
.662	-.396	.337	.083	.7877409	2.075000	50	Idealized Attribute
.662	.178	.337	-.500	.7354715	2.180000	50	Idealized Behavior
.662	.514	.337	-.405	.7665853	2.040000	50	Inspirational Motivation
.662	.474	.337	-.408	.7142857	1.950000	50	Intellectual Stimulation
.662	-.725	.337	-.234	.8910124	1.865000	50	Individual Consideration
.662	.030	.337	.002	.8751822	1.925000	50	Contingent Reward
.662	-.500	.337	-.154	.8049591	2.050000	50	Management-by-Exception Active
.662	.790	.337	-.138	.6693166	1.915000	50	Management-by-Exception Passive
.662	-.404	.337	-.048	.6769530	1.470000	50	Laissez-Faire
.662	-.470	.337	.160	.9742508	1.926666	50	Extra Effort
.662	.209	.337	-.017	.7604543	1.955000	50	Effectiveness
.662	-.023	.337	.122	.9430736	1.780000	50	Satisfaction
						50	Valid N (listwise)

APPENDIX 4
REGRESSION

Regression: EXTRA EFFORT

Variables Entered/Removed[b]			
Model	Variables Entered	Variables Removed	Method
1	Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward	.	Enter

a. All requested variables entered.

b. Dependent Variable: Extra Effort

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.758	.704	.5300345

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35.272	9	3.919	13.950	.000[a]
	Residual	11.237	40	.281		
	Total	46.509	49			

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

b. Dependent Variable: Extra Effort

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.349	.371		-.940	.353		
	Idealized Attribute	.234	.186	.189	1.259	.215	.268	3.738
	Idealized Behavior	.118	.171	.089	.692	.493	.364	2.745
	Inspirational Motivation	.237	.236	.186	1.004	.322	.175	5.706
	Intellectual Stimulation	.156	.171	.114	.909	.369	.383	2.612
	Individual Consideration	.418	.169	.382	2.478	.018	.254	3.933
	Contingent Reward	.223	.218	.200	1.022	.313	.158	6.348
	Management-by-Exception Active	-.216	.154	-.179	-1.403	.168	.373	2.682
	Management-by-Exception Passive	-.068	.124	-.047	-.551	.585	.839	1.192
	Laissez-Faire	.076	.121	.053	.626	.535	.854	1.171

a. Dependent Variable: Extra Effort

Regression: EFFECTIVENESS

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward	.	Enter

a. All requested variables entered.

b. Dependent Variable: Effectiveness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.871[a]	.759	.704	.4135056

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.497	9	2.389	13.969	.000[a]
	Residual	6.839	40	.171		
	Total	28.336	49			

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

b. Dependent Variable: Effectiveness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.316	.290		1.092	.282		
	Idealized Attribute	.152	.145	.157	1.048	.301	.268	3.738
	Idealized Behavior	.224	.133	.216	1.681	.100	.364	2.745
	Inspirational Motivation	.031	.184	.032	.171	.865	.175	5.706
	Intellectual Stimulation	.131	.134	.123	.981	.332	.383	2.612
	Individual Consideration	.095	.131	.112	.724	.473	.254	3.933
	Contingent Reward	.321	.170	.369	1.886	.067	.158	6.348
	Management-by-Exception Active	-.088	.120	-.093	-.733	.468	.373	2.682
	Management-by-Exception Passive	.123	.096	.108	1.273	.210	.839	1.192
	Laissez-Faire	-.227	.094	-.202	-2.401	.021	.854	1.171

a. Dependent Variable: Effectiveness

Regression: SATISFACTION

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward	.	Enter

a. All requested variables entered.

b. Dependent Variable: Satisfaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886[a]	.786	.737	.4834194

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.232	9	3.804	16.276	.000[a]
	Residual	9.348	40	.234		
	Total	43.580	49			

a. Predictors: (Constant), Laissez-Faire, Intellectual Stimulation, Management-by-Exception Passive, Idealized Attribute, Management-by-Exception Active, Idealized Behavior, Individual Consideration, Inspirational Motivation, Contingent Reward

b. Dependent Variable: Satisfaction

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.013	.339		-.039	.969		
	Idealized Attribute	.284	.169	.238	1.679	.101	.268	3.738
	Idealized Behavior	.453	.156	.353	2.909	.006	.364	2.745
	Inspirational Motivation	-.053	.215	-.043	-.245	.808	.175	5.706
	Intellectual Stimulation	.167	.156	.126	1.067	.292	.383	2.612
	Individual Consideration	.055	.154	.052	.357	.723	.254	3.933
	Contingent Reward	.489	.199	.454	2.460	.018	.158	6.348
	Management-by-Exception Active	-.263	.141	-.224	-1.871	.069	.373	2.682
	Management-by-Exception Passive	-.192	.113	-.136	-1.702	.097	.839	1.192
	Laissez-Faire	-.095	.110	-.068	-.858	.396	.854	1.171

a. Dependent Variable: Satisfaction