BIRZEIT UNIVERSITY

Faculty of Business and Economics
Master Program of Business Administration
Graduate Studies

The Impact of Transformational leadership Behaviors on Innovation
A Focus on IT Companies in Ramallah and Al-Bireh City

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Palestine, February 2017

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تأثير سُلوكيات القِيادة التَحويلية على الإبداع في شركات تكنولوجيا المعلومات في مدينة رام الله والبيرة

This Thesis was submitted in Partial Fulfillment of the Requirements for the Degree of Master in Business Administration, from the Faculty Business and Economics at Birzeit University, Palestine

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Date of Examination: February 11, 2017

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ACKNOWLEDGMENT

I would like to express my special gratitude and thanks to my advisor Dr. Samah Abu Assab, you have been a great supporter for me. I would like to thank you for encouraging my research and to have the opportunity to build this comprehensive study, also thank you for guiding me over almost a year of improvement, and for allowing me to grow as a researcher.

I would also like to thank my committee members, Dr. Nojoud Habash and Dr. Samir Baidoun, for accepting to be in my examination committee. Thank you for your valuable remarks, comments, and suggestions as members of the examination committee. Additionally, I would like to express appreciation to Dr. Suhail Sultan for supporting me from the beginning to reach my goal.

A special thanks to my family. Words cannot express how thankful I am to my mother, father, for all of the sacrifices that you have made on my behalf. Your prayers helped me to reach where I am. I would also like to thank all of my friends who supported me and motivated me to endeavor towards my goal.

At the end, I would like to thank everyone who contributed in a way or another to the successful achievement of this thesis.

ABSTRACT

Purpose – The main purpose of this research is to investigate and explore the impact of Transformational leadership behaviors on Innovation; in addition to investigating the different employee's perspective to transformational leadership behaviors due to their years of experiences and their gender characteristics at IT companies in Ramallah and Al-Bireh city.

Design/Methodology/Approach – This research is uses the quantitative research design, therefore in order to achieve the objectives of the study, the researcher designed a questionnaire to gather the primary information. The Statistical Package for Social Sciences (SPSS) program was used for analysis. The study sample consists of (141) individuals from the mid-level managers and employees at IT Companies in Ramallah and Al-Bireh city to explore the Impact of Transformational leadership behaviors on Innovation at their companies.

Findings – the analysis and testing of the hypotheses, the key findings of this research are:

1. Inspirational motivation has the highest score among the five dimensions of transformational leadership. By contrast, the dimension of attributes has the lowest score among the five dimensions with mean value. The overall score of transformational leadership is 3.62 out of 5 points-scale.

2. Inspirational motivation and attributes have a positive impact (statistically significant) on process innovation whereas the other three dimensions of transformational leadership have no impact on process innovation at the 0.05 level.

3. Inspirational motivation and attributes have a positive impact (statistically significant) on product innovation whereas the other three dimensions of transformational leadership have no impact on product innovation are at the 0.05 level.

5. None of the five dimensions of transformational leadership (individualized consideration, idealized influence, and intellectual stimulation, Inspirational Motivation, and Attributes) is statistically significant at the 0.05 level. This means that each of these dimensions has no impact on administrative innovation.

5. There is no significant statistical difference in employee's perspective at IT Companies in Ramallah and Al-Bireh city to Transformational leadership behaviors due to years of experience at level 0.05.

6. There is no significant statistical difference in employee's perspective at IT Companies in Ramallah and Al-Bireh city to Transformational leadership behaviors due to their gender at level 0.05.

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Abbreviations

MLQ: Multi Leadership Questionnaire

MTIT: Ministry of Telecommunications *and* Information Technology

PITA: Palestinian Information Technology Association

TL: Transformational leadership

Chapter 1: Introduction

1. Introduction

This chapter intends to present the general framework of study. Specifically, it gives an introduction to the study, states its problem, highlights its importance, outlines the objectives to be achieved, lists the questions to be answered, develops the hypotheses to be tested, specifies the main limitations, and outlines the organization of study.

These days, almost all organizations and companies, especially technologically-driven ones, face a active setting that is mainly characterized by fast technological changes. Therefore, these companies need to create innovative products and services in order to be able to survive, compete, grow, and lead (Jung et al., 2003; Tierney et al., 1999).

Existing writings includes several definitions of innovation. A broadly accepted definition states that innovation is the successful application of creative ideas within an organization (Amabile, 1983, 1998; Amabile et al., 1996).

A wide range of factors has been found to affect organizational innovation. Many factors are found to have an effect on organizational innovation. Leadership style is identified as one of the most important factors affecting organizational innovation (Cummings & O'Connell, 1978). This can be explained by the fact that leaders have an impact on organizational characteristics including, among other things, culture, strategy, structure, and resources (Woodman et al., 1993). In addition, leaders through their behavior have a direct influence on workers' originality (Oldham & Cummings, 1996) and motivation (Tierney et al., 1999).

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Leaders can create an environment at work that is supportive of creativity (Amabile et al., 2004). They can also establish an organizational climate that serves as a tool guiding for more creative work processes (Scott & Bruce, 1994). Finally the leaders can implement a system that rewards creative performance (Jung et al., 2003).

Several studies all over the world have showed that transformational leadership (TL) positively effects on innovation (Hussain et al. (2014, Gumusluoglu and Ilsev 2009). However, few studies have examined this topic in Palestine in general and in the IT sector in particular, this prompts the present research which primarily aims to study the impact of TL on innovation at the IT companies working in Ramallah and Al-Bireh city in Palestine.

1.1 Problem statement

Markets are changing rapidly all over the world. Adapting to continuous changes in markets is crucial for organizations to stay successful. Thus, innovation is increasingly becoming important for organizations in common and those working in the IT sector in particular. Organizations can create new markets by designing innovative products. To do this, organizations have to manage innovation.

Many factors are believed to have an impact on innovation. Different leadership styles are one of these factors. Therefore, the main objective of this study is to explore and examine the impact of transformational leadership behaviors on innovation in Palestinian IT companies working in Ramallah and Al-Bireh city.

1.2 Importance of the study

The impact of transformational leadership and organizational innovation has received little attention in Palestine in general and in the IT sector in particular. Therefore, this study is important to both future researchers and managers at IT companies. If transformational leadership behaviors have an impact on organizational innovation, then teaching programs could be targeted to improve these behaviors in managers, which in turn will enhance the innovation.

1.3 Research Objectives

The main objective of this research is to assess the effect of transformational leadership on innovation in IT companies in Ramallah and Al-Bireh city. The specific research objectives are:

1. To assess the degree to which transformational leadership behaviors are available among middle level managers and employees at IT companies in Ramallah and Al-Bireh city.

2. To assess the degree of innovation among middle level managers and employees at IT companies in Ramallah and Al-Bireh city.

3. To assess the impact of transformational leadership on process innovation among middle level managers and employees at IT companies in Ramallah and Al-Bireh city.

4. To assess the impact of transformational leadership on product innovation among

middle level managers and employees at IT companies in Ramallah and Al-Bireh city.

5. To assess the impact of transformational leadership behaviors on administrative innovation among middle level managers and employees at IT companies in Ramallah and Al-Bireh city.

6. To assess whether there is a difference in the perceptions of employees at IT companies in Ramallah and Al-Bireh city regarding transformational leadership behaviors due to years of experience.

7. To assess whether there is a difference in the perceptions of employees at IT companies in Ramallah and Al-Bireh city regarding transformational leadership behaviors due to gender.

1.4   Research Questions

In order to accomplish the objectives outlined above, the following research questions will be answered:

1. What is the degree to which middle level managers working at IT companies in Ramallah and Al-Bireh city have the behaviors of transformational leadership?

2. What is the level of organizational innovation in IT companies in Ramallah and Al-Bireh city?

3. Does the behavior of transformational leadership affect the innovation in IT companies in Ramallah and Al-Bireh city? The sub-questions are:

a. Does the behavior of transformational leadership affect the process innovation in IT companies in Ramallah and Al-Bireh?

b. Does the behavior of transformational leadership affect product innovation in IT companies in Ramallah and Al-Bireh?

c. Does the behavior of transformational leadership affect administrative innovation in IT companies in Ramallah and Al-Bireh?

4. Is there a variance in the perceptions of employees regarding TL behaviors due to years of experience?

5. Is there a difference in the perceptions of employees regarding transformational leadership behaviors due to their gender?

1.5 Study limitations

The following limitations are worth mentioning:

1. The study is conducted on the IT sector. Hence, the results may not be generalizable to other sectors.

2. Although secrecy is guaranteed to all applicants, some of them may have felt anxious about assessment their managers and this may cause some bias in the outcomes.

3. Lack of cooperation and communication by the companies.

4. The study is conducted in Ramallah and Al-Bireh city. Hence, we can't generalize the results to other cities.

1.6   Organization of the study

The study is organized as follows:

Chapter one highlights the general framework of study. In particular, it gives an introduction about the study, states its problem, describes its importance, determines its objectives, states the questions to be answered, develops the hypotheses to be tested, and specifies the main limitations.

Chapter two reviews the literature related to transformational leadership.

Chapter three reviews the literature related to organizational innovation.

Chapter four describes the IT sector in Palestine in general and in Ramallah and Al-Bireh city in particular.

Chapter five discusses the research design and methodology.

Chapter six discusses data analysis and results.

Chapter seven presents the main conclusion key recommendations of study.

Data source: data used in this study was collected through primary sources: through Questionnaire & research instruments such as empirical testing for data sets using correlation analysis, Secondary sources (books & articles, previous studies). **Research approach:** the primary data was collected through quantitative data using empirical testing for 70 randomly selected companies listed are listed in MTIT and PITA.

Chapter 2
Transformational Leadership

CHAPTER 2: Transformational leadership

This chapter starts with an introduction. Then, leadership is defined, leadership theories are and styles discussed, historical evolvement of transformational leadership is presented, transformational leadership (TL) is defined, impact and behavior of TL are discussed, and the dimensions of transactional leadership style are reviewed.

2.1 Introduction

The current era witnessed many fast developments and successive changes as a result of the revolution of communication and information, companies and institutions start using new information systems, which make institutions face several challenges and difficulties in order to cope and adapt with it. This forced organizations and institutions to find new innovational non-traditional methods by finding innovational individuals and providing appropriate means, which help to invent new ways and fast administrative solutions. Every new association is challenging changes in information systems, from using book to digital processing. The trend that will be proposed study the effect of new technologies on the process of leadership by fast-moving up the inputs, required quicker and more personal transformation of the product, all in a business climate that builds rivalry between companies and try to do fast "response time" to customer demands. The purpose of leadership in the short-range will be impacted by the current information revolution. (García-Morales et al., 2008)

There are many factors internal and external the organization that affect the level of creativity and innovation among the workers, but there are many ways that indicate that the administrative leadership within the organization has a significant role in making an appropriate work setting that is able to stimulate creativity. Current information and information society needs new leaders can challenge and be innovative to accomplish developments within the organization (García-Morales et al., 2008).

The development and progress in technology and science produced new styles of leadership, such as transactional and transformational leadership. Bass (2008) well-defined leadership as "an interaction between two or more members of a group that often involves a structuring or restructuring of the situation and of the perceptions and expectations of the members". TL has high aptitude to lead the business in confronting challenges and new developments by influencing the behavior of subordinates, growing their innovational abilities, and encouraging them to face problems and difficulties in organizations. TL can make improvements within the organizations standards through executing and following the leaders' vision. (Tichy & Ulrich, 1984).

Generally, the organizations whatever the type, size, and the tasks of their operations, their leaders and workers are facing several problems that need to think in reducing the dependence on the traditional methods which rely on trial and error in solving the problems, and try using innovative methods in these issues. (Jung et al., 2003)

All writers and administrators agree that all organizations have an urgent need for innovation imposed by the economic, social, political, and cultural changes in society, in addition to the complexity of situations that current organizations face. Innovation is considered as an essential factor to keep up with the successive changes that need providing administrative environment encouraging and making it renewable inherent phenomenon (Al-Kobesi, 2002).

Where organizations must succeed in a setting described by ambiguity and volatility as a result of continuous economic, industrial, administrative and social changes. Organizations in the present time witnesses environments which request continuous acclimation. In such setting, organizations require an active and efficient leadership to lead them over tough variations that are expected to face the fast developments in technology. Organizations must convert their practices in order to keep their success, if not succeed; they require to add and execute several gradual changes to their strategy. Organizations require a vigorous conversion to be more competitive and achieve their vision. Organizations need to refresh their administrative values to achieve the required modifications (Jung et al., 2003).

2.2 Definition of Leadership

There is no consensus on the definition of leadership. However, researchers define leadership according to their own perspectives. Below are the most important definitions of leadership.

Hemphill and Coons (as cited in Yukl, 2006) defined leadership as guiding the activities of other persons toward a common goal. Robbins (2001) said that leadership is the process of influencing a group of people to achieve desired objectives.

Tosi et al. (1994) proposed that leadership is the interactive influence where one individual is capable to improvement compliance the organization wanted goals.

According to many researchers, leadership is a process of interpersonal influence (Chemers, 1984; Hitt et al., 2007). For example, Yukl and Van Fleet (1992) said that leadership involves, among other things, influencing the goals and strategies of an organization, influencing people to implement the strategies and accomplish the goals, and influencing organizations' culture.

Leadership consists of attaining specific objectives by utilizing the scare resources (Ololube, 2013). Moreover, Northouse (2007) and Rowe (2007) defined leadership as the ability to influence people to accomplish a common objective.

Leadership includes a type of obligation intended at accomplishing specific goals by executing the accessible capitals (Ololube, 2013). In addition, Northouse (2007) and Rowe (2007) defined leadership as a process that an individual impacts a group of persons to do a mutual objective.

2.3 Review of Leadership Theories

There are two major types of leadership theories. The first type is personality-based theories of whereas the second is situation theories. The second type of leadership theories says that the condition in which leadership is exercised is shaped by the leadership abilities and characteristics of the leader (Avolio et al., 2009),

All modern leadership theories belong to one of the following: (1) leadership as a process, (2) leadership as a mixture of traits and personality features, or (3) leadership as behaviors.

The main theories of leadership view leadership as a process of influencing people to attain specific goals (Wolinski, 2010).

The most impotent theories of leadership are: (1) great man theory, (2) trait theory, (3) contingency theories, (4) situational theory, (5) behavioral theory, (6) participative theory, (7) transactional theory, (8) transformational theory, and (9) skill theory. Each of these theories is briefly discussed below.

"Great Man" Theory

These theories assume that leadership abilities are inherent and leaders are born rather than made. These theories view leaders as heroic. The phrase "great man" is adopted since at that time leadership was believed to be a male quality, particularly in military leadership (Ololube, 2013).

Trait Theory

This theory says that individuals inherit some qualities or characters that make them great leaders. The trait theory usually pinpoints certain personality characteristics that are common among leaders. The main criticism to this theory is that if specific characteristics are key features of leaders, how can we explain individuals who have these characters but are not leaders? This weakness finally led researchers to move to other clarifications for good leadership.

Contingency Theory

This theory emphasizes on specific factors connected to the business environment that might determine which one of leadership styles is the best for given work conditions. Based on this theory, no specific leadership style fits all circumstances. Leaders' success is determined by a number of factors, including among other things, leadership style, characteristics of followers, and situations (Charry, 2012). A contingency variable is a situation in any given environment that should be taken into consideration while designing the organization or any of its components (Naylor, 1999). The contingency theory therefore says that good leadership is based on the level to which there is fit between leader's characteristics and leadership style in a particular condition (Lamb, 2013).

Situational Theory

The situational theory suggests that leaders select the most appropriate alternative depending on situational circumstances. Different leadership styles may be more

applicable for different kinds of decision-making. For instance, an authoritarian leadership style may be the best alternative if the leader is the most knowledgeable and experienced one of the team. On the other hand, a democratic style of leadership may be more appropriate if group members are skilled experts.

Behavioral Theory

The behavioral theory says that leaders are made and not born. This theory emphasizes on the acts of leaders instead of their qualities. Based on this theory, individuals can be leaders through training.

According to Naylor (1999), studying leaders' behavior is driven by the need to compare between autocratic and democratic leader. These two styles of leaders behave in a different way:

1. Teams that are led by autocratic leaders tend to work as long as the leaders are supervising them. Team members, though, are not satisfied with this style of leadership and may express aggression.

2. Teams that are led by democratic leaders achieve almost the same as the teams that are led by autocratic leaders. However, team members have positive feelings and no aggression. Above all, the efforts of team members carry on even when the leader is not available.

Participative Theory

Participative theories of leadership propose that the best style of leadership is one that takes the input of others into consideration. Participative leaders inspire involvement and contributions from team members and aid those members to feel important and dedicated to the decision-making process. Managers using participative leadership style include other employees which in turn increase commitment and cooperation. This results in improved decisions and more success in the business (Lamb, 2013).

Transactional Theory

Transactional theories of leadership emphasize on the role of direction, organization and team performance, and the interactions that between both leaders and followers. The rewards and punishments system is the basis of these theories (Charry, 2012). To put it differently, these theories are based on the idea that the leader makes structures that explain what is expected of followers and the rewards or punishments linked to attaining or not attaining these expectations (Lamb, 2013).

Employees are compensated when they are productive and they are punished when they fail (Charry, 2012). Transactional theories of leadership are still an important constituent of numerous leadership models and institutional structures (Lamb, 2013).

Transformational Theory

The transformational theories of leadership concentrate on the relationships between the leaders and their followers. According to these theories, leadership is defined as the process by which an individual is engaged with others to "create a connection" that lead

to enhanced motivation and morals in followers as well as leaders. These theories are usually compared to charismatic theories of leadership in which leaders having given abilities are perceived as being capable of motivating their followers (Lamb, 2013).

Transformational leaders stimulate and motivate employees by assisting team members realize the importance of the task. Those leaders concenter on the performance of team members as well as on each individual to satisfy his or her potential. Transformational leaders usually possess high ethical values (Charry, 2012).

Skills Theory

The skills theory of leadership proposes that acquired knowledge and skills are important determinants of effective leadership. The theory does not reject the link between inherited qualities and the capability to lead effectively but also contends that acquired skills and knowledge are the actual determinants of leadership effectiveness. This theory of leadership requires dedicating substantial effort and resources to training and development (Wolinski, 2010).

2.4 Leadership Styles

Leadership styles can be defined as the methods used in order to motivate employees. Leadership styles should be chosen to suit organizations, circumstances, teams, and individuals. It is beneficial to understand the different leadership styles since this increases the tools that are available to lead employees more effectively.

The most important leadership styles are briefly discussed below.

Autocratic Style

Autocratic leaders exercise full authority over their followers. Team members don't have the chance to make suggestions even if these suggestions are very important for the organization. The main advantage of this leadership style is that it is extremely efficient. Decisions are made rapidly and they can be implemented immediately. However, the main disadvantage of this leadership style is that most team members hate being dealt with in this manner. This leadership style is usually suitable in crisis conditions when decisions have to be made rapidly.

Bureaucratic Style

Bureaucratic leaders follow instructions strictly and make sure that their followers also follow these instructions accurately. This leadership style is suitable for work including safety risks or when huge amounts of money are involved. It is also suitable in organizations where staff do routine job (Shaefer, 2005). The main disadvantage of this leadership style is that it is not effective in organizations that depend on on flexibility, creativeness, and innovation (Santrock, 2007).

Charismatic Style

Charismatic theory of leadership defines what to be expected from leaders and followers. Charismatic leaders stimulate enthusiasm in the teams and are active in encouraging staff to go forward. The enthusiasm and commitment from teams is a main advantage to productivity and goal attainment. The disadvantage of charismatic leadership is the extent of trust placed in the leader rather than in staff. This can cause a project or an

organization to collapse if the leader leaves. Furthermore, charismatic leaders may believe that they do not make mistakes even if other employees warn them. This feeling can damage the team or organization.

Democratic Style

In the democratic leadership style, leaders make the ultimate decisions but they let team members to be part of the decision-making process. Those leaders enhance innovation and creativity since their followers are usually involved in projects and decisions. Democratic leadership style has several advantages. One of these advantages is that group members have job satisfaction and are therefore more productive. In addition, this leadership style advances employees' abilities. Team members are motivated by more than financial incentives.

However, the risk of democratic leadership style is that it is not effective in conditions where speed or efficiency is critical. For instance, team members may waste time collecting input during a crisis. Another risk is that team members who lack knowledge or expertise may be required to provide high quality input.

Laissez-Faire Style

Laissez-faire style of leadership may be the most appropriate or the worst styles leadership (Goodnight, 2011). Laissez-faire leadership style refers to those leaders who let employees work on their own. Laissez-faire leaders abandon responsibilities and evade decision-making. In addition, they give team members full authority to do their work and set their own deadlines. Those leaders generally grant their followers the

authority to make decisions about the work (Chaudhry & Javed, 2012). Laissez-faire leaders provide group members with needed resources and guidance but do not get involved.

The laissez-fair leadership style is optimal when leaders evaluate performance and provide feedback to employees on a regular basis. The key advantage of this leadership style is that granting employees much autonomy results in more satisfaction and productivity. This leadership style can be destructive in case that employees do not manage their time effectively or do not possess the necessary knowledge, abilities, or incentive to work efficiently. This leadership style can also be suitable when leaders have no enough control over their employees (Ololube, 2013).

Transactional Style

The transactional style of leadership is based on the notion that group members conform their leader when they accept the job. The transaction typically means that the organization pays group members for their work. According to this leadership style, leaders have the right to penalize group members if the work doesn't match the set standards. The relations between employees and leaders depend on the transaction of work in return for pay.

The different leadership styles are summarized in Figure 2.1.

Figure 2-1 : Leadership Styles

2.5 Historical Evolvement of Transformational Leadership

The roots of transformational leadership date back to Weber et al. who elaborated on charisma style. They said that the legality and power of leaders are defined through the perceptions of their followers (Weber et al., 1947).

In 1979, Burns elaborated on the leaders and followers relation. Specifically, he viewed leadership as the process by which leaders encourage their followers to achieve specific aims that represent the wants, ambitions, and expectations of leaders and followers (Burns, 1979).

He emphasized the interaction between leaders and followers. He said that leaders and followers are both described by different levels of motivation, authority, and skill.

Leaders and followers struggle for a shared goal (Burns, 1979). He presented two types of interactions between leaders and followers.

Leaders and followers negotiate to exchange "valued things" in transactional leadership (Burns, 1979). Under this kind of relationship, there is neither strong connection nor "mutual pursuit of a higher purpose" (Burns, 1979). In contrast, transformational leadership takes place when one or more individuals behave in a manner that make leaders and followers move one another to upper levels of inspiration and morality (Burns, 1979). This reciprocal transformation of leaders and followers is the distinctive feature of transforming leadership as stated by Burns. Burns (1979) perceives transactional and transformational leaderships as two extremes of leadership styles.

On the basis of Burn's theory (1979), Bass (1985, 1998) expanded his theory on styles of leadership by including transformational and transactional leadership styles and afterwards extending it to the full-array model of leadership (Bass, 1998).

A key difference between the theories of Burns and Bass is that leadership styles do not exclude each other. As Bass (1985) said, leaders can and should exhibit both styles of leadership based on a given situation. In the full-array model of leadership, both Bass and Riggio (2006) expanded more on this notion of different leadership styles. They incorporated the leadership styles of conditional reward, management-by-exception, and laissez-faire leadership in the full-array model of leadership. They contended that the ideal leader exhibits all different leadership styles in a balanced manner.

Nevertheless, transformational leadership emphasizes on the positive attribution for attaining "performance beyond expectations".

2.6 Definition of Transformational Leadership

In the past thirty years, TL has appeared as one of the most largely studied theories in the field of organizational thinking (Sivanathan & Fekken, 2002). There are three leadership styles according to the transformational leadership theory: (1) transformational, (2) transactional, and (3) passive-avoidant leadership (Bass 1985).

Burns first presented the theory of TL in his book "Leadership" in the late of 1970's, through his study of political leadership, but type of leadership is also being used currently in organizational psychology. He defined it not as a group of particular activities, but rather as an continuing process where leaders and followers increase themselves to higher levels of ethics and inspiration. TL offers a drive that exceeds short-term aims and focuses on greater essential necessities.

The original formulation of transformational leadership theory is attributed to Burns (1978). The concept of transformation or change of the organization is at the core of transformational leadership

TL is a leadership style that pursues positive changes "in those who follow" to accomplishes wanted modifications by the "strategy and structure" of the business (Geib & Swenson, 2013).

Transformational leadership can be defined as a leadership style which organizes the relations among concerned parties "around a collective purpose" in a way that "transforms, motivates, and enhances the actions and ethical aspirations of followers"

(Simola et al., 2012). Moore and Rudd (2006) said that transformational leaders motivate their followers to accomplish greater results than originally planned or projected.

According to Rafferty and Griffin (2004), transformational leadership means using the attraction element and relevant personal qualities by the leader to raise aspirations and transform individuals and systems to high level of performance.

Kark et al. (2003) define transformational leadership as an interaction between leaders and subordinates leading to increased motivation and rise to the highest levels and overcome personal interests to the public interest. Bono and Judge (2003) found that followers of transformational leaders noticed their work as more significant and stable with their values and principles when compared to transactional leaders.

Conger (2002) defines transformational leadership as the type of leadership that goes beyond incentives in exchange for the desired performance to the developing and encouraging subordinates intellectually, creatively and transforming their self-interest to be an essential part of the organization's mission.

Trofino (2000) defines transformational leadership as the extent of awareness of the transformational leader to raise the level of his subordinates for achievement and self-development, and work on the development of groups and the entire organization. Transformational leaders encourage followers beyond their own needs by sharing values such as honesty, unselfishness, equality, and supportiveness (Engelbrecht & Murray, 1995).

Burns focused on transformational leadership through which the leader endeavors to reach the apparent and internal motives among his followers. Transformational leadership has witnessed a remarkable development through the contributions of Bass when he developed a methodology for transformational leadership theory. He developed models and standards to assess leadership behavior called "Multifactor Leadership Questionnaire" (MLQ), which includes three factors for transformational leadership: (1) idealized influence, (2) intellectual stimulation, and (3) individualized consideration. In

1990, Bass added a fourth factor called inspirational motivation. The behavior of transformational leaders supports their followers and increases their motivation (Masi & Cooke, 2000).

Finally, Bass (1985) defined transformational leadership as the ability of leaders to motivate followers to perform beyond what they would normally expect. Burns (1978, p. 20) defined transformational leadership as a process in which "leaders and followers raise one another to higher levels of morality and motivation". A principal element of transformation is the ability to improve the needs of followers. According to Burns, concentrating on needs makes leaders accountable to followers.

2.7 Impact of Transformational Leadership

Several studies have written significant correlations between transformational leadership and organizational effectiveness. Transformational leadership has been associated to a variety of results, such as work fulfilment and contentment with a leader (Koh et al., 1995), worker obligation to the association (Kelloway et al., 1996), and individual levels, the transformational teams effectiveness and organizations (Bass, 1997; Tichy & Devanna, 1990).

The study of Gumusluoglu and Ilsev (2007) showed that transformational leadership is directly linked to organizational innovation. The results showed that transformational leadership has important effects on creativity at both the individual and organizational levels. They implemented their study on 163 research and development (R&D) employees as well as managers at 43 Turkish software companies. Using the MLQ, they found that transformational leadership had a measurable, incremental effect in the predictability of innovation level at IT organizations.

Gumusluuouglu and Ilsev (2009) in their study have results informed that TL has significant positive effect on innovation, their sample was telecommunication managers in IT sector in Pakistan. Sosik et al. (1998) found that TL improved the innovative skills of workers in a computerized thinking application.

Gumusluuouglu and Ilsev (2009) revealed that there is a positive and significant influence of transformational leadership on innovation.

Also, Shin and Zhou (2003) found that positive followers' creativity and transformational leadership are positively related. Jung et al. (2003) studied the effect of transformational leadership on organizational innovation. They indicated that is positive and significant relationship between these variables.

Also, Yukl (1999) described transformational leadership in the following points:

1. Improve an inspiring and attractive vision with the employees.

2. Link the vision to a strategy for achieving it.

3. Improve the vision, specify and transform it to activities.

4. Shows confidence, authoritativeness and positivity about the vision and its execution.

5. Implementing the vision through small scheduled steps and achievements.

Keller (1995) found that certain characteristics of transformational leadership expected higher performance of groups. Also, Seltzer and Bass (1990) found sensible correlations between transformational leadership and efficiency of the leader, more effort by subordinates, and satisfaction between subordinates and their leader. (Hater & Bass, 1988) found that transformational leadership expected higher evaluations of effectiveness and satisfaction by employee, compared to transactional leadership, In conclusion, top

performance managers are seen more transformational in their leadership style compared to ordinary managers.

A review of Avolio and Bass (1997) of organizational research studies found that transformational leaders as measured by the Management Leadership Questionnaire (MLQ) were more effective and filling leaders than were transactional leaders. Transformational leaders act to be more communicative and less emotional when dealing with stress and conflict. They demonstrate internal position of control and confidence to their self.

Finally, it is shown that managers who are evaluated higher on transformational leadership dimensions were connected with higher levels of extra effort and higher organizational innovation and behavior (Howell & Higgins, 1990; Koh et al. 1995; Podsakoff et al. 1990).

Transformational Leadership Behavior

The transformational leadership theory based on leadership motivation, transformational leaders provides unusual incentives to their followers, which increase their morale and values, provoke their thinking for finding new and creative solutions to problems they face during work. The followers feel confident, loyalty, admiration and respect for their leaders.

Transformational leaders are those who are able to clearly envision the future alternatives for their companies, contribute to enhancing workers' confidence by helping them to realize their potential, communicate an attainable mission and vision, and participate with employees to identify their needs and satisfy these needs (Peterson et al., 2009).

The leader can motivate their follower by encouraging them to recognize the value of their work toward achieving the organization goals.

Transformational Leadership (TL) looking to change and improve in the organization for confronting the changes in both external and internal environment, this change Such a change requires the leadership to do three key activities, (Naji, 2000) as follow:

1. Generating a renewed vision for the future of the organization, a vision that extends to all parts and units of the organization.

2. Creation collective acceptance of everything new and modern by officials in the organization.

3. Provide all that is needed to make a change in the organization, whether at the level of technical, financial, marketing or administrative.

(Aminuddin, 1998) confirms that the Transformational leadership is positively correlated to excellence in performance and job satisfaction for employees, where most of the studies revealed that transformational leadership leads to the following:

1. Raise performance levels in the organization.

2. Effective response to changes in the climate of the work of organizations and fluctuations in the needs and wishes of employees and customers with the organization.

3. Raising the level of confidence of workers in the Organization and make them feel the spirit of citizenship and belonging to organization, and increase in them the motivation needed to achieve outstanding performance.

2.8 Dimensions of Transformational Leadership

Based on Avolio and Bass (2004), transformational leadership consists of four dimensions: (1) idealized influence, (2) inspirational motivation, (3) individualized consideration, and (4) intellectual stimulation. Idealized influence is displayed when followers admiration and belief their leaders. Also, leaders tend to put the followers' needs over their own. Inspirational motivation happens when leaders act in an approach that motivates followers to work better. Individualized consideration is revealed when leaders give attention to employees and are concerned with their individual needs. Finally, intellectual stimulation is shown when leaders ask questions to increase productivity and innovation.

Bass and Avolio (1997) indicated that transformational leadership consists of five factors:

1. Idealized influence (behavior), which reveals the extent to which leaders behave in a way that reflects their beliefs, values, and sense of work.

2. Idealized influence (charisma), which indicates the extent to which followers respect and trust their leaders.

3. Inspirational motivation, which is related to the way in which leaders spread and express their vision. Transformational leaders perform in ways that motivate and stimulate those around them by providing challenge to their followers' effort.

4. Intellectual stimulation, which indicates the extent to which leaders indorse the growth and intellectual independence of their followers. Transformational leaders make his or her followers more aware of the problems that hinder the achievement of performance. Transformational leaders listen to ideas and suggestions and participate in their emotions and feelings to motivate employees to find creative solutions to the problems of the organization (Krishnan, 1998).

5. Individualized consideration, which is related to the socio-emotional behaviors of followers, as well as their individual acknowledgement. Also, transformational leaders pay attention to the needs of their staff. At the same time, transformational

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leaders focus on building confidence and find out the weaknesses and strengths in the performance of employees (Krishnan, 1998).

Avolio et al. (1991) show respect for the feelings of others and build mutual trust and confidence in the organization's mission, where the leader can make his staff affected by its practices, when his staff feel its ability to accomplish the organization's aims. The effect of idealized influence is seen through the establishment of workshops that develop the skills of workers and make them able to lead themselves.

Bass (1990) says that transformational leadership is distinguished by several behaviors. First of all, transformational leadership hires the charisma of leaders to get the respect and trust of others. Charisma features the delivery of a common vision and mission necessary for the transformation. The second one is inspiration in which leaders use symbols to direct employees' efforts; they express the essential goal of the transformation process, and communicate the expectations. The third one is intellectual stimulation. Leaders intellectually stimulate their followers by stressing rationality and creativity in problem-solving conditions. Lastly, transformational leadership shows individualized consideration: leaders treat employees independently offering them personal attention as well as training and advice.

Transformational leader must work to find strong grounds for workers to reconsider their ways of thinking towards business technical and human problems, and their personal values. Assist them to solve old difficulties in new methods, through dialogue and providing evidences and arguments that support of the creative solutions.

Bennis (2001) believes that it is time to put an end to the practice of traditional hierarchical leadership (from top to bottom) and adopt various forms of leadership copes with the age of information and globalization, he indicates that the environment of modern organizations witnessing shifts and changes as follows:

1. The importance of leadership began to emerge as an important element in the economy based on knowledge.

2. There is a clear awareness of the crucial significance of human capital, whether in the form of building knowledge, innovations or innovations.

3. There are big changes associated with the transition from the world of standard and analog equipment and to the digital world of modern technology.

Accordingly, he believes that enterprises need innovative in order to ensure its survival, organizations can no longer remain on the rigid hierarchy of the system, but it is also obligated to adopt a more flexible regulatory formulas, In such a framework, the successful leader must be a coach to go by faith toward the projected mission, and characterized by certain characteristics, such as efficiency, ingenuity, ambition and integrity.

Transformational leadership can be divided into four forms according to Burns (1978):

1. Idealized influence (Charisma): It is the amount to which the leader acts in worthy ways. Charismatic leaders display conviction and take stand to the emotional level of subordinates (Judge & Piccolo, 2004). According to Elenkov et al. (2005), these leaders are endowed by their subordinates as having great personal capabilities.

2. Inspirational motivation: It is the amount to which the leader articulates his/her vision towards the subordinates that is accepted as inspiring. The inspirational motivational leader communicates optimism about goals, sets a high standard and provides meaning for the tasks of the subordinates (Judge & Piccolo, 2004). Elenkov et al. (2005) add to these criteria that the leader communicates clear and sets expectations that subordinates want to meet.

3. Intellectual stimulation: It is the degree to which the leader solicits the ideas of subordinates, takes risks and challenges assumptions. Intellectual simulative leaders encourage creativity in their subordinates. Leaders who stimulate intellectual, question existing assumptions and reframe issues in new ways (Elenkov et al.,

2005). It can be supposed that this leadership style has an impact on the innovation process of an organization.

4. Individualized consideration: It is the degree to which the leader attends to each of the subordinates needs. The individualized considerative leader behaves as a coach and listens to the requirements and worries of the subordinates (Judge & Piccolo, 2004). These leaders create a supportive climate for new learning opportunities (Elenkov et al., 2005).

Bass (1985) believes that transformational leadership needs three main characteristics:

1. The ability to instill the meaning of value, respect and pride to express their vision.

2. Personal attention to the needs of personnel and to identify projects that will enable growing.

3. Homology intellectual with the help of followers to re-think rationally and examine the attitudes and creativity.

Table 2.1 summarizes the dimensions of transformational leadership as mentioned in previous studies.

Table 2-1: Dimensions of Transformational Leadership

Writer	Dimension	Year
Bass	1. Idealized Influence (behaviors). 2. Inspirational Motivation. 3. Intellectual Stimulation. 4. Individualized Consideration.	1985
Avolio et al.	1. Idealized Influence (behaviors). 2. Inspirational Motivation. 3. Intellectual Stimulation. 4. Individualized Consideration.	1991

Geisel & Berg	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	1999
Avolio et al.	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration, 5. Idealized influence (charisma).	1999
Trofino	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2000
Mackenzie et al.	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2001
Kent et al.	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2001
Hetland & Sandal	1. Idealized influence (behaviors). 2. Inspirational motivation 3. Intellectual stimulation. 4. Individualized consideration.	2003
Judge & Piccolo	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2004
Piccolo & Colquitt	1. Idealized influence (behaviors). 2. Inspirational motivation. 3. Intellectual stimulation.	2006

	4. Individualized consideration.	
Mohammed et al.	1. Idealized influence. 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2012
Hussain et al.	1. Idealized influence. 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2014
Gholam et al.	1. Idealized influence. 2. Inspirational motivation. 3. Intellectual stimulation. 4. Individualized consideration.	2015

Through the above table, the current study is based on the dimensions set by the majority of researchers on the Transformational leadership, therefore, based on the mentioned table, most of the researchers have used MLQ-5X in their studies to explore and measure the behaviors of TL in different sectors such as IT, Health, educational, management, manufacturing, and many other sectors. MLQ-5X included 5 dimensions which mentioned in the table. Therefore, I have used MLQ-5x in this study to explore the effect of TL on Innovation in local IT companies.

Chapter 3
Innovation

Chapter 3: Innovation

This chapter is designed to present theoretical framework of innovation. Specifically, it defines innovation, lists its dimensions, discusses its trends, types, stages, determinants, obstacles, and gives an insight on the support of transformational leadership to innovation.

3.1   Definition of Innovation

The concept of innovation gained an attention of a number of researchers. Below is a review of the most important definitions of innovation.

The concept of innovation means a tool used by companies to adjust to varying circumstances of rivalry, technological progress, and market growth by creating new products, methods, and systems (Utterback, 1994; Dougherty & Hardy, 1996).

Innovation is the ability of a company to create new or better goods and services and offering those products and services in the market (Gumusluoglu and Ilsev, 2009). Moreover, it can be defined as the ability of an organization to renew its ideas and knowledge into new products, services, or processes for the advantage of its stakeholders.

In this context, it is important to distinction between creativity and innovation. Amabile (1998) defined creativity as making creative and positive ideas whereas he defined innovation as the fruitful implementation of innovative ideas within the company. Furthermore, Oldham and Cummings (1996) said that creativity occurs at the individual level whereas innovation occurs at the organizational level.

It is also useful to distinguish between invention and innovation. Invention generally refers to the creation of a new idea, product, or technique. By contrast, innovation refers to the introduction of new product or service that no one utilized it previously (Shahin et al., 2010).

Innovation can be defined as a process including deliberating new idea, obtaining necessary knowledge from different techniques, converting knowledge or technology or ideas to new product or service, and offering that to customers (Shahin et al., 2010).

In the context of technology, innovation is defined as ''an iterative process initiated by the perception of a new market and/or new service opportunity for a technology-based invention which leads to the development, production, and marketing tasks striving for the commercial success of the invention'' (Garcia & Calantone, 2002, p. 112).

Innovation is defined as the deliberate introduction and application of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society (West, 2002).

Janssen (2000) described innovative behavior as the formation of valuable products or services within a company in order to benefit that company.

Innovation is defined as the creation of unique, essential, and beneficial products or services in an organizational setting (Woodman et al., 1993). Several scholars considered innovation as a process to create an idea, move it out, respond to it, and amend it where necessary (Van de Ven, 1986).

Finally, Schumpeter, J.A., [1911] (2008), who considered the concept of innovation for the first time, defined it as the creation and implementation of new ideas, products, processes, and policies.

(Leede & Looise 2005, P. 108) defined it as "a deliberate and radical change in existing products, processes, or the organization in order to achieve a competitive advantage over competitors"

In this study, organizational innovation is defined as the ability of a company to make new or better products and services and bringing those products and services to the market.

3.2 Theories of Organizational Innovation

There are many theories of organizational innovation. The most important theories are: (1) organizational design theories, (2) theories of organizational cognition and learning, and (3) organizational change and adaptation theories. Each of these theories is briefly discussed below.

Organizational Design Theories

According to these theories, organizational innovation is defined from the view of structural features of companies. Using these theories, researchers like Mintzberg (1979) and Teece (1998) interested in determining the impact of organizational structural variables on product and process innovation by focusing on the connection between structural variables and the tendency of a company to innovate.

Theories of Organizational Learning

The organizational learning theories of innovation describe institutional innovation depending on cognitive bases of organizations at the micro-level. Focusing on the organizational learning process, scholars examined innovation competencies of organizations based on the organizations' ability to generate and apply new knowledge (Nonaka & Takeuchi, 1995).

Organizational Change and Adaptation Theories

According to these theories, innovation is the result of making new organizational procedures. In the perspective of technological advances and environmental changes, innovation is defined as a tool to react to changes in the environment and to impact and form it (Child, 1997).

3.3 Creation and Diffusion of Innovation

The following four viewpoints are used while studying innovation (Birkinshaw et al., 2008): (1) the institutional viewpoint, (2) the fashion viewpoint, (3) the cultural viewpoint, and (4) the rational viewpoint.

The institutional viewpoint says that organizational circumstances affect the formation and dissemination of innovation. In the fashion viewpoint, fashion setters constantly redefine their fashion followers' joint opinions on what management methods lead to sensible management progress. The cultural viewpoint states that the culture of an organization impacts the formation and distribution of innovation. Finally, the rational

viewpoint says that managers play a role in making and applying organizational innovation (Birkinshaw et al., 2008).

In addition to the above viewpoints, another viewpoint was used by Alange et al. (1998). This viewpoint is system innovation which is partly affected by the institutional viewpoint (Lundvall 1992). Researchers have used one of the above viewpoints or a mixture of them while studying organizational innovation (Birkinshaw et al., 2008).

3.4   Dimensions of Innovation

Three dimensions of innovation are worth mentioning: (1) product innovation, (2) process innovation, and (3) administrative innovation. Each of these dimensions is briefly defined below.

A product innovation is the act of getting something new to the market that develops the quality and features over current products. A process innovation is a new way of making or delivering goods or services. Finally, administrative innovation is the execution of new administration practices, structures and processes that represent an important difference from present standards.

Table 3.1 summarizes the most important dimensions of innovation.

Table 3-1 :Dimensions of Innovation

Researcher	Dimensions	Year
OCDE	1. Product innovation. 2. Process innovation. 3. Management innovation.	2005
Jimenez et al.	1. Administrative innovation. 2. Product innovation. 3. Process innovation.	2008
Yamin et al.	1. Administrative innovation. 2. Product innovation. 3. Process innovation.	2009
Gopalakrishnan & Bierly	1. Technical innovation. 2. Management innovation. 3. Process innovation. 4. Product innovation.	2010
Crossan & Apaydin	1. Management innovation. 2. Process innovation. 3. Product innovation. 4. Personal innovation.	2010
Al-Ali	1. Product innovation. 2. Process innovation. 3. Management innovation. 4. Personal innovation.	2013
Prajogo et al.	1. Product innovation. 2. Performance innovation. 3. Process innovation.	2014

3.5 Trends and Types of Innovation

The general trends in the management thought suggest that the concept of innovation starts from five conceptual frameworks covering the image comprehensiveness concept of creativity, namely:

1. Process innovation: It refers to the process by which organizations are using their skills and resources to develop new services or improve the process can achieve a better response to the needs of its customers (Raweya, 2000).

2. Product innovation: It expresses the activity that leads to the making of a product or service that characterized by value and novelty and authenticity to the community (Raweya, 2000).

3. Administrative innovation: It refers to implementation a new administration management process and systems, and program for staff improvement. (Subramanian & Nilakanta, 1996). Administrative innovation possibly indorses work restructure and systems of work, skills improvement, management framework, and changes in encouragements (Yamin et al., 1997).

   Also, administrative innovation is defined as new processes, procedures and rules that obviously supports firms deal with the instability of external atmospheres and is a significant driver of long-term business achievement in an active markets. In actual fact, it grow into a main contributing factor of competitive advantage, business performance, and firm accomplishment. (Armbruster et al., 2008).

4. Generate or adopt new ideas: It involves generate new ideas and put it to practical application and this focus in the research and development R & D, as (Dension , 2000) explained, the public spending of the organization on research and development is considers as an indicator of the organizational innovation.

The main types of innovation are shown in Figure 3.1[1].

Figure 3-1: The main types of Innovation
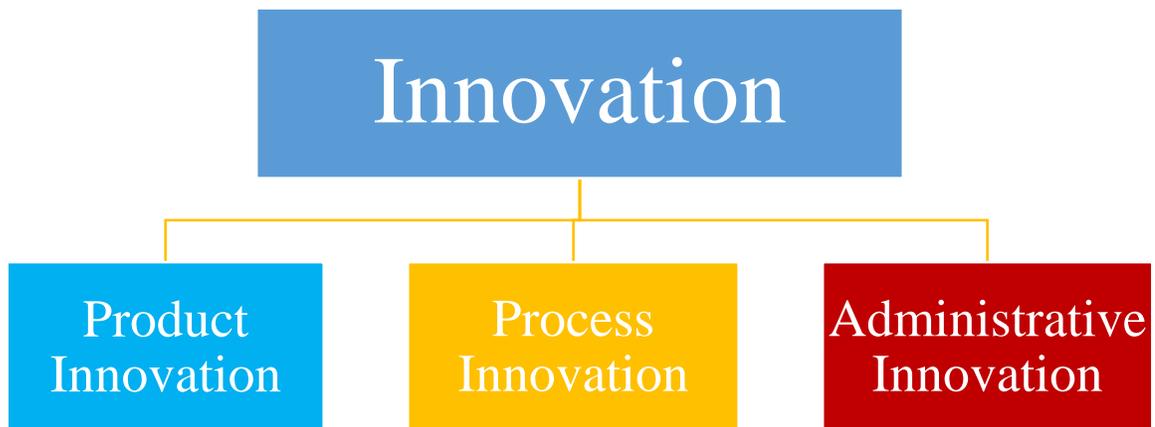
[1] Oslo Manual (2005), Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition.

3.6 Stages of Innovation

The main steps of innovation are follows (Pelz and Munson,1978):

1. Diagnosis

In this step, the assignment is viewed as a difficulty and perceived as a problem. The problem is then analyzed and an action is decided on. Two main questions arise in this stage: (1) what is the problem? And (2) what are the possible solutions for the problem?

Diagnosis typically starts with an evaluation of the company. It is essential to see the operation of the company to decide if the performance is sufficient or satisfactory. If not, it is essential to detect the source of the problem. When the problem is detected, a decision must be made as to the most suitable solution. For instance, if a company is has a difficulty retaining employees, it is essential to decide if the solution is designing better recruiting procedures, increasing the salaries, or improving working conditions.

2. Design

In this stage, a group of work guidelines is designed to provide solid outline to the technological content of the solutions. These guidelines have to be adequately detailed for practitioner use.

In the design stage, it is likely to recover a current invention that appears to address the identified problem. Also, it is usually possible to issue an agreement to a research and demo company, related industry, or independent inventor to develop the technological content of the innovation required to solve the problem. Nevertheless, more is generally required than merely selecting or developing the suitable hardware and/or software. It is

essential to perform development actions for adapting the new technology to the institution and the institution to the technology.

It is not likely that the design for the content can be acquired by issuing a contract. Much of it must be completed by the organization that will adopt the new technology. A contracting company is not likely to possess the adequate knowledge of the work of the adopting organization. Therefore, it needs to identify or create a mechanism that will allow the adaptation process to proceed. The mechanism may be a present department or division, a newly-made unit or committee, or the duty can be given to a given individual. It is necessary that the institutional adaptations have to be practical and sound so that the innovation is perfectly understood and implemented.

3. Implementation

This stage deals with integrating the action guidelines into an organization in a way that guarantees its effective use and long-run stability.

Implementation is usually referred to as a demo or development of a pilot program since it means a test that occurs over a limited time period and in a restricted geographic region. The test phase of implementation is skipped in some circumstances. Because chance of success under these circumstances is limited, a local implementation is desirable. Sometimes innovations have to be applied throughout a system or organization, but this is usually more difficult.

Another risk is conducting a demonstration in a "hot-house" atmosphere with special direction and help. This is not regarded as an actual trial implementation; it too closely

looks like a laboratory test. Consequently, industrial demonstrations often involve a chain of tests before introducing adoption of the innovation on an organization level.

Organizations must not only carry out tests of new innovations but also they must have a concrete plan to assess their effects. They need to make sure that innovations are performing as planned and that they have advantages that justify their implementation. If organizations are not certain that innovations are making progress, it is meaningless to adopt these innovations.

Assessment measures are part of the implementation stage. The aim of evaluation is to get information that will enable informed decisions as to whether to maintain the innovation, amend it, or expand it further than the test region into other segments of the organization.

Evaluation is usually a hard process to outsource within the implementing organization. Employees may view the evaluation process with doubt and regard it as a try to evaluate their personal proficiency. Hence, vigilant presentation of the objective of the evaluation (e.g., to get measurements of the practicality of the innovation) is essential. Generally speaking, the more observable the advantages of an innovation, the more probable it is to be implemented.

4. Diffusion

In the diffusion stage, the focus is on wide-range replication of innovation which has been developed in stage 2 and applied in pilot sites in stage 3. Diffusion may involve both internal and external dimensions. Internally, a positive pilot test is generally

followed by the decision to disseminate the innovation into other segments of the organization. Externally, diffusion happens when other institutions borrow the innovation that has successfully been tested. This external diffusion of the innovation may involve a sequence of compressed replications of the first three stages of the innovation process. Each replication may create deviations in the innovation to be fit in new and different situations. Finally, a typical set of deviations may arise in the innovation. A typical set of variations may result in more diffusion.

3.7   Determinants of Innovation

Several researches has been carried out on the reasons that support and help employees' innovative activities. Below is a review of the most important literature in this context.

Eisenbeiss et al. (2008) stated that TL is directly linked to innovation in research and development groups. Also, researchers found leadership to be one of the most vital elements effecting innovation within organizations (Mumford et al., 2002; Jung, 2001; Mumford & Gustafson, 1998).

The factors that are found to encourage innovation include, among other things, leadership style (Mumford & Gustafson, 1998), good business environment (Amabile, 1998), type of direction (Oldham & Cummings, 1996), as well as organizational culture and climate (Mumford & Gustafson, 1988).

According to Damanpour (1987), innovation is subject to three different influences: individual, organizational, and environmental influences. Of these three influences, organizational influences have been the most studied influence in the theory. According

to Damanpour (1987), Kim (1980), and Kimberly and Evanisko (1981) organizational influences are the primary determinants of innovation.

Creativity is considered as an important factor for innovation. For example, Burgelman et al. (1988) described creativity as the key-factor of the innovation process. Through creativity new products and processes are created, people who are creative are one of the factors of these creating processes.

Many researchers (Oke et al., 2009; Jung et al., 2003) concluded that transformational leadership has a major effect on innovation. Bass (1990) states that transformational leaders motivate their employees to go beyond their own-interest and contribute to the attainment of institutional objectives by means of the following behavioral dimensions: (1) charisma, (2) intellectual stimulation, (3) consideration of persons, and (4) inspiration. Also, transformational leaders support innovation (Jung et al., 2003) by affecting the commitment of their employees (Avolio et al., 2004) as well as creating an environment within the organization that inspires employees to produce innovative ideas.

Amabile (1998) has identified three factors as being important in stimulating creative behaviors in groups and organizations: (1) individuals' intellectual capacity (creative thinking skills), (2) expertise based on past experience, and (3) a creativity-conducive work environment. Oldham and Cummings (1996) also have identified creativity-relevant personal attributes as well as characteristics of the organizational context like job complexity, supportive supervision, and controlling supervision.

According to many researchers (e.g. Avolio, 1994; Bass & Riggio, 2006; Garcia-Morales et al., 2008), both transformational leadership and organizational innovation are related. Namely, transformational scholars of leadership (Bass, 1985) suggest that transformational leaders exhibit innovative behavior. Moreover, those leaders provide intellectual stimulation that may stimulate their followers to think in a different way (Jung et al., 2003). Finally, they make their followers question current assumptions and work techniques which may improve organizational innovation (Bass, 1985).

Abbey and Dickson (1983) concluded that climate is an important predictor of innovation. Hulsheger et al. (2009) reported that support for innovation is one of the main factors that cause innovation to arise. Explicitly, it is found that one of the key drivers of innovation is an environment that is conducive of creativity (Amabile, 1998).

Consequently, an environment that is supportive of innovation should let group members feel more relaxed in assuming risks, attempting new things, and exchanging data. This kind of environment is more likely to result in innovative procedures (Gilson & Shalley, 2004).

The conclusions on the direct association between transformational leadership and innovation propose that transformational leadership affects innovation in the following ways:

1. Promotion of intrinsic motivation:

   Transformational leadership brings the intrinsic motivation of the employees out. People are most creative primarily via this type of motivation and their ability to

generate new ideas depends largely on their perception to the work environment particularly organizational support for innovation. Studies showed that employees who value tradition, security, and conformity were highly influenced by the transformational leadership in their creative traits (Shin & Zhou, 2003).

2. Psychological empowerment:

Several studies as conducted by Zhou (1998) and Jung et al. (2003) found that creative people demonstrated high performances under personal autonomy. Transformational leadership increases this autonomy by means of allowing psychological empowerment of the employees. Psychological empowerment involves self-confidence building and personal development of the followers (Conger, 1999).

3. Innovative organizational climate:

Transformational leadership influences creativity and innovation of the employees by rebuilding characteristics of their organization and by replacing with innovative organizational climate (Scott & Bruce, 1994). Flexible leaders allow an organizational structure that encourages creativity at the workplace and gives incentives to followers to take risk.

4. Success of the innovations:

Transformational leaders can make positive impact on the success of the innovation by displaying clear vision, confidence and inspiring employees to pursue innovative projects (Jung et al., 2003).

5. Boundary spanning:

   Transformational leaders play an important role in improving organizational abilities to perform creatively by means of boundary spanning which is mainly important for speeding up the success of creative ideas and activities (Howell & Higgins, 1990).

As said previously, the focus of this research is on the impact of transformational leadership on organizational innovation.

3.8 Obstacles of Innovation

There are several obstacles to organizational innovation, and the most important obstacles in the work environment as follow:

1. Bad administrative climate: such as focusing on appearances, the system of incentives, giving rewards to the wrong people, the lack of financial and moral support to workers, holding numerous meetings at work, poor communication, the process of dialogue between workers, and political problems.

2. The administrative application: such as lack of independence of action or lack of choices in the decisions and how to apply it ,this constraint is associated to an individual to express his personality, whether it be through his thoughts or feelings, and this freedom, of course, does not necessarily mean that the person always can implement his creative ideas (Hayjan, 1999).

3. Administrative carelessness: such as lack of emotional support, loss of enthusiasm and interest, and lack of faith and confidence in the project's success (Hayjan, 1999).

4. Bad project management: such as poor management planning, setting targets difficult to achieve, the loss of communication skills among workers, distrust on the project, and the adoption of direct orders management style.

5. Inadequacy of resources: such as the shortage of equipment needed for work , materials , information or human resources.

6. Retaining the familiar habits: such as resistance to change in all its forms, and the unwillingness of the administration to take the risk even to think about other ideas. (Hayjan, 1999)

Also, Plesk and Bevan (2003) have developed a valuation tool that classifies seven dimensions of organizational culture that influence organizational innovation. The dimensions are as follows:

1. Risk taking – The extent to which there are psychological support to teams and individuals to do new things.

2. Resources – the accessibility of money, information, time and authority to execute their actions.

3. Broadly shared knowledge – The extent to which there are approach and clear knowledge is broadly gathered (from within and outside the organization), easily obtainable, rapidly spread, and connected all over the organization.

4. Specific targets – The extent to which official leaders how can express that Innovation is highly needed in specific areas that that are cleverly or operationally vital to the organization.

5. Tool and techniques – The extent to which the organization supports a development, technique and processes for innovation.

6. Reward systems – The extent to which the organization rewards the hard work of innovative groups and individuals.

7. Rapidly formed relationships – The extent to which the organization easily forms high-performing teams of motivated individuals.

3.9 Transformational Leadership and Insight of Support for Innovation

Transformational leaders could also have an optimistic impact on the marketplace accomplishment toward innovations. Leaders who expressive a strong visualization of innovation and show an influence and self-assurance will endeavor to make sure to improve the innovation within the organization. This type of leaders organize their groups to make sure the achievement of innovations (Jung et al., 2003).

Also, transformational leaders enhance innovation in the organization; the innovate direction by organizations to introduce to products to market. Also, Leaders who behaves with inspirational and intellectual motivation and is important for innovation (Elkins and Keller, 2003). Transformational leaders encourage innovative intellect inside their

organizations; this activities reveals the supporting act of transformational leaders (Howell and Higgins, 1990).

(Mumford et al., 2002) Transformational leaders have a visualization that stimulates their followers, increases their enthusiasm to achieve beyond prospects, and challenges them to implement innovative methods in their organizations. The result of high level of inspiration is expected to improve innovation in the work environment.

Chapter 4
ICT Sector in Palestine

Chapter 4: ICT Sector in Palestine

This chapter starts with an overview of the ICT sector in Palestine. Then, SWOT analysis of the sector is presented, challenges facing the sector are outlined, and finally necessary recommendations are given.

4.1 Overview of ICT Sector in Palestine

The information and communications (ICT) sector in Palestine dates back to 1980's when ICT products and services included mainly computer hardware and other basic services. ICT companies were able to deliver software services such as accounting programs in early 1990's. Nevertheless, an increasing demand for ICT products and services occurred in the early 1990's due to emergence of private and public sectors in Palestine as a result of Oslo Agreement which opened the door for the establishment of Palestine National Authority (PNA) (MAS, 2012; USAID, 2009).

Since its establishment, the Palestine National Authority (PNA) has significantly contributed to the growth of the ICT sector in Palestine. This is because it demanded software programs and hardware equipment for its newly-established organizations. On the other hand, the ICT sector has grown due to privatization of the sector in 1997 when the Palestine Telecommunication Company (PALTEL) was created. In addition, entrance of the first mobile operator in 1999 and the second mobile operator has positively affected the ICT sector in Palestine.

In 2006, the ICT sector contributed to nearly 5% of the Palestinian GDP compared to 3% in 1999[2]. Compared to other countries, the Palestinian ICT contribution to GDP is a good indicator that the sector has not reached its full potential yet. For instance, the contribution of the ICT sector to the GDP in Jordan was 14% in 2009 and 10% in 2005. The ICT revenues in Jordan have been growing incessantly reaching $882 million in 2007 compared to $440 million in 2004. The ICT sector attracted foreign direct investments (FDI) of about $110 million during the period 2003-2008[3].

In 2015, 3.5% of the GDP in Palestine is credited to the ICT sector and other services activities compared to 3% in 2014[5]. GDP per capita has increased by 0.5% during 2015 compared with 2014. The largest contributor to the increase in GDP in 2015 was the ICT sector and other items activity, the total number of employees increased by 6.1%[5]. These statistical information indicated that ICT sector in Palestine is one of the vital factors of supporting economic growth through increasing GDP and contributes significantly in reducing unemployment rate.

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[2] The Palestinian ICT Cluster Report, Palestine Enterprise Development Project, USAID, 2006.
[3] Information Technology Association of Jordan.

4.2 SWOT Analysis for ICT Sector

The SWOT analysis for the ICT sector in Palestine is as follows (March, 2012):

Strengths

1. Educated population.

2. Large labor force.

3. Stable growth in the demand for ICT services.

4. Increasing competition within the ICT sector.

5. Low cost of labor.

6. More and more consumer interest in ICT services.

7. Liberalization of ICT sector.

8. Desire to build the knowledge economy.

Weaknesses:

1. Lack of professional ICT labor force.

2. Lack of coordination among ICT companies.

3. Limited access to foreign ICT markets.

4. Lack of economies of scale in most ICT companies.

5. Insufficient growth in local needs of ICT services.

6. Poor connections between the public and private sectors.

7. Lack of commitment to ICT initiatives in most Palestinian ministries.

8. Outdated ICT services from many companies.

9. Lack of legal and regulatory framework for the ICT industry.

10. Lack of loans to ICT firms by Palestinian banks.

11. Lack of innovation and creativity in the ICT products and services.

12. No encouragement of critical-thinking, problem-solving, and self-learning in schools and universities.

13. Poor infrastructure.

Opportunities:

1. Many multinational firms in local ICT market.

2. International donations to ICT sector.

3. Low cost of providing ICT services.

4. Outsourcing of ICT services.

5. Growing demand for e-commerce and e-governance services.

6. Expansion of mobile software technology.

Threats:

1. Unstable political environment.

2. Division between the West Bank and Gaza Strip.

3. Unlicensed Israeli mobile operators in the West Bank.

4. Control of ICT infrastructure by Israel.

5. Loss of qualified IT graduates to markets abroad.

6. No alignment between educational output and development needs in Palestine.

4.3 Challenges Facing ICT Sector in Palestine

The most significant challenges facing the ICT sector in Palestine can be summarized as follows:

1. Overall political environment.

2. Poor ICT infrastructure.

3. Lack of ICT regulations.

4. Lack of funds.

5. Restrictions on movement of people and goods.

6. Availability of appropriate skills.

7. Limited market.

8. Bad perception of the Palestinian ICT sector.

9. Market access and business opportunities.

10. Access to equity based finance and investment.

11. Insufficient regulations in the ICT sector.

12. Lack of government incentives to the ICT sector.

4.4 Recommendations

The following recommendations are made to promote the ICT sector in Palestine (MAS, 2012; USAID, 2009):

USAID, 2009):

1. The Ministry of Education should take the necessary actions to improve the curricula of schools and universities to cope with advances in the fields of science and technology.

2. Teaching methods at schools and universities should be modified so as to enhance student-focused teaching instead of teacher-focused teaching.

3. Introducing courses on entrepreneurship and innovation into technology-based subjects in all educational levels.

4. Palestinians and Israelis should conduct regular meetings to address the issues linked to ICT sector in Palestine.

5. Palestinian officials should do their best to encourage Israel to give the Palestinians the needed frequencies.

6. Government bodies should encourage competition among ICT by liberalizing this sector.

7. Government officials should give tax incentives for ICT companies that hire more and more IT graduates in their companies.

8. Enhancing the level of cooperation among the different related parties including universities, private companies, and civil society organizations to understand the different needs regarding the ICT in Palestine.

9. In order to compete with ICT companies in other countries, governmental agencies should provide Palestinian ICT companies with appropriate tax incentives.

10. Encouraging banks to provide loans to ICT companies to enhance their liquidity.

11. ICT graduates should be given training programs to train them on the provision of ICT services in Palestine.

Chapter 5
Research Methodology

CHAPTER 5: Research Methodology

5.1   Introduction

This chapter describes the research methodology. Specifically, the hypotheses of study are developed, the research design is selected, the population and sample are determined, the type of investigation is chosen, the researcher involvement with the research is described, the study setting is explained, the unit of analysis is determined, the time horizon is specified, and the instrumentation is explained.

5.2   Hypotheses of Study

The main hypotheses to be tested in this study are:

H1:

There is significant impact of transformational leadership on process innovation.

H2:

There is significant impact of transformational leadership on product innovation.

H3:

There is significant impact of transformational leadership on administrative innovation.

H4:

The level of transformational leadership is the same regardless of gender.

H5:

The level of transformational leadership is the same regardless of years of experience.

5.3 Research Design

This study is quantitative in nature. It describes data in summarized terms using statistical analysis (Sprinthall, 2000). Two models, the Multifactor Leadership Questionnaire (MLQ-Form 5X) (Bass & Avolio, 1995) and the Innovation Performance Index (Jimenez et al., 2008) have applied to gather the necessary data for this research.

The transformational leadership is measured using 20 items (4 items for each dimension) of the MLQ- Form 5X. The questionnaire requires about 7 minutes or less to be answered. The questionnaire design is selected to ensure that the data are gathered in the best efficient way. In this study, the independent variables are the five components of transformational leadership: (1) idealized influence (behaviors), (2) idealized influence (charisma), (3) inspirational motivation, (4) intellectual stimulation, and (5) individualized consideration (Bass & Avolio, 2000). The dependent variable is innovation.

5.4 Purpose of the study

The purpose of this study is to explore the effect of TL on Innovation at IT companies in Ramallah and Al-Bireh city among the middle level managers and employees, on the other hand is to describe the effect of that on the innovation, In this study the hypothesis will be tested since it aims to propose an improved perception of the effect that of TL on Innovation among the employees and middle level managers in IT companies in Ramallah city.

5.5 Population and Sample

To study the effect of TL on Innovation, the researcher determined the sample size by using table Krejcie and Morgan Table (Krejcie & Morgan, 1970), the sample size is approximately 350 employees from 4800 employees in IT companies Ramallah and Al-Bireh city, but due to limitations from IT companies, the researcher has distributed questionnaires to a sample of 330 employees and middle managers. The researcher collected 180 questionnaires among them, 141 questionnaires are valid for analysis. The sample size is determined based on a formula with confidence interval of $\pm$ 5% and confidence level of 95% to test the effect of TL on innovation. The 141 participants are from 86 IT companies located in Ramallah and Al-Bireh city in the state of Palestine. The participants are mainly IT employees and middle level managers. In order to have a representative sample of employees, convenience sample is applied. The maximum number of employees is selected from each company by the researcher. The list of these companies is obtained from PITA "The Palestinian Information Technology Association of Companies" and the Ministry of Telecom and Information Technology.

5.6 Type of Investigation

This study is an exploratory one since the researcher is interested in testing the effect, if any, between TL behaviors and innovation at IT companies. The exploratory study is conducted when the researcher is concerned in exploring the important variables related to the problem (Sekaran, 2005, P.124).

5.7 Researcher Interference with Study

The researcher's interference could be changing the research variables either in normal settings or made-up settings according the way they used to manipulate and control the variables. Generally exploratory studies have least interference with tested environment, but the "causal studies" try to operate and manipulate specific variables to study the effects of dependent variable (Marczyk, 2005, Sekaran, 2003, P.128) Based on that, the researcher had no interference ,whatsoever on the existing situation in IT companies in Ramallah, consequently it is considered exploratory study with minimum intervention; executed in the normal setting of the companies without change or effect the normal nature of settings.

5.8 Study Setting

The study settings may be contrived or non-contrived. In non-contrived settings, work proceeds normally with minimal researcher interference. Correlational studies are regularly conducted in non-contrived settings (Sekaran, 2003, P.130). Accordingly, the present study is carried out in a non- deliberated setting.

5.9 Unit of Analysis

The unit of analysis states to the level of collected data during the subsequent data analysis stage. The unit of analysis could be individuals, dyads, groups, divisions, or organizations. Selecting the appropriate unit of analysis determined by the collected data throughout the data analysis step (Sekaran, 2003, P.133). The unit of analysis in this study is individuals since the researcher will collect and analyze data at the individual level (employees and middle managers).

5.10 Time Horizon

The time spent in gathering the data will determines the time horizon of the study. It is either longitudinal or cross sectional. Studies over a period of days, weeks, or months are considered cross sectional. Longitudinal studies, on the other hand, need studying individuals or nation over more various phases of time (Marczyk et al., 2005; Sekaran, 2003, P.135).

The study is done in such a way that the data are collected only once. Therefore, this study is one shot or cross-sectional in nature.

5.11 Instrumentation

Two instruments are used in this study. The first one is used to measure employees' perception of their managers' transformational leadership behaviors. The second one is used to measure the innovation level in IT companies in Ramallah.

The researcher used Multifactor Leadership Questionnaire (MLQ) Form 5X to measure transformational leadership behaviors. This questionnaire was developed, tested, and copyrighted by Bass and Avolio (2000). It is based on leadership concept by Bass (1985) MLQ measure several types of leadership such as transactional, laissez-faire and transformational leaderships. Also, it measures three results of leadership: (1) effectiveness, (2) additional effort, and (3) fulfillment. It has been used in hundreds of master's thesis and doctoral dissertations, ,it has used in different sectors including the, public, government and private.

Table 5.1 shows the reliability coefficients for every dimension of TL (Bass & Avolio, 2000)

Table 5-1: MLQ-5X Reliabilities Coefficients

Subscale	Item Number	Reliability Coefficient
Transformational Leadership Dimensions		
Idealized attributes	10,18,21,25	0.86
Idealized behaviors	6,14,23,34	0.87
Inspirational motivation	9,13,26,36	0.91
Intellectual stimulation	2,8,30,32	0.90
Individualized consideration	15,19,29,31	0.90

The researcher used the rater form which used by IT employees to mark their leader's behaviors in IT companies. The MLQ-5X includes 45 Likert scale items based on 5 point scale ranging from "not at all" to "frequently, if not always". The first 36 questions describes the three mentioned leadership styles, the questions divided into 9 subscales. Each subscale has 4 items. The transformational style scale is grouped under five factors (each factor has 4 elements): (1) individualized consideration, (2) intellectual stimulation, (3) idealized behaviors, (4) inspirational motivation, and (5) idealized attributes (Bass & Avolio, 2000).

The following table 5.2 describes the construct of 20 items that are extracted from MLQ-5x by (Bass & Avolio, 2000), it describing the 5 dimensions of the Transformational leadership which I have used in this research to measure TL behaviors in IT companies in Ramallah and Al-Bireh city.

Table 5-2 : Construct the five dimensions of TL based on MLQ-5X.

Item	Construct
Idealized Influence (Attributes)	1.Instills pride in others 2. Goes beyond self-interest for the good of the group. 3. Acts in ways that build others 4.Display a sense of power and confidence
Idealized Influence (Attributes)	1. Talks about most important beliefs and values. 2. States the importance of having a strong sense of determination. 3. Considers the ethical and moral consequences of decisions. 4.Emphazises the importance of having a collective sense of mission
Inspirational Motivation	1. Talks optimistically about the future. 2. Talks enthusiastically about what needs to be accomplished. 3. Articulates a compelling vision of the future. 4. Expresses confidence that goals will be achieved.
Intellectual Stimulation	1.Re-ecamines serious assumptions for appropriateness 2. Pursues contrast viewpoints when solving problems. 3. Make others view problems from several different perspectives. 4. Suggests new ways of looking at how to complete assignments.
Individualized Consideration	1. Spends time teaching and training. 2. Treats others as an individuals rather than just as a part of a group. 3. Considers an individuals as having various needs, abilities, and aspirations from others. 4. Helps others to develop strengths.

Through this table, the current study is based on the dimensions set by the majority of researchers on the Transformational leadership, therefore, based on table 2.1 , most of the researchers have used MLQ-5X in their studies to explore and measure the behaviors of TL in different sectors such as IT, Health, educational, management, manufacturing, and many other sectors. MLQ-5X included 5 dimensions which mentioned in the table. So, I have used MLQ-5x in this research to explore the effect of TL on Innovation in local IT companies.

The second instrument is intended to assess the innovation level for IT employees constructed on the model of innovation performance (Jimenez et al, 2008). The model divides innovation into three groups: (1) product, (2) process, and (3) administrative.

Figure 5.1 shows the indicators of the three groups of innovation that are used in this study.

Figure 5-1 Innovation Performance Indicators
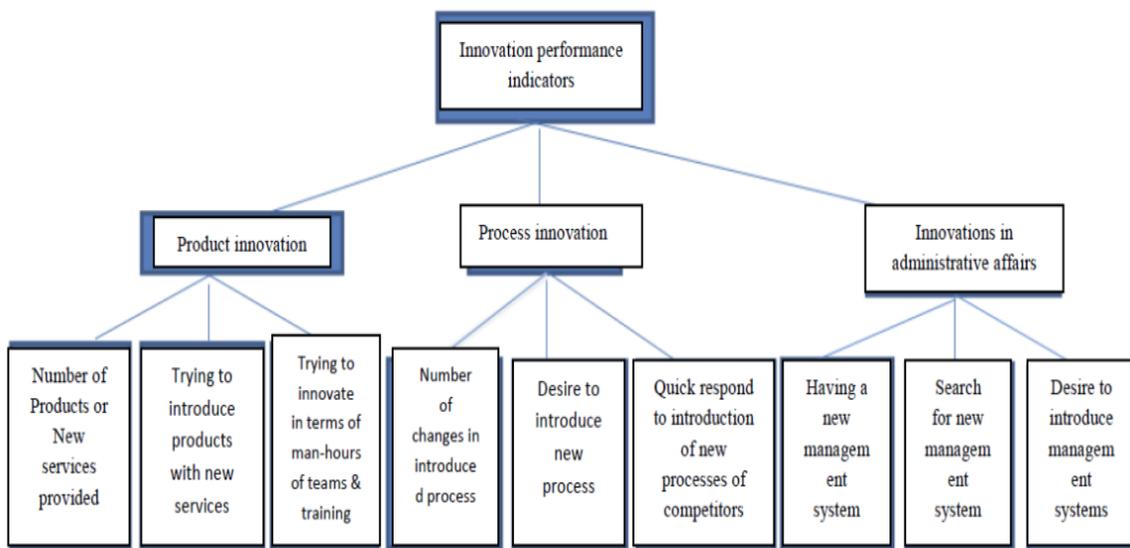
Reference: Jimenez et al., 2008

Based on Table 3.1 in chapter 3, the three mentioned dimensions of innovation in the above figure 5.1 have set by the majority of researchers to explore and measure the innovation in different sectors such as IT, Health, learning, administration, and other several sectors. The above model by (Jimenez et al., 2008) was applied in many companies around the world in numerous industries, therefore, I have used "Innovation Performance Indicators" to study the impact of TL on Innovation in local IT companies in Ramallah and Al-Bireh city.

5.12 Theoretical framework:

The below figure shows the theoretical framework of this research:

Independent Var.

| Idealized influence (Attributes) |
| Idealized influence (Charisma) |
| Inspirational motivation |

| Intellectual stimulation |
| Individualized consideration |

Transformational leadership

Dependent Var.

Innovation

| Product innovation |
| Process Innovation |
| Adminstrative Innovation |
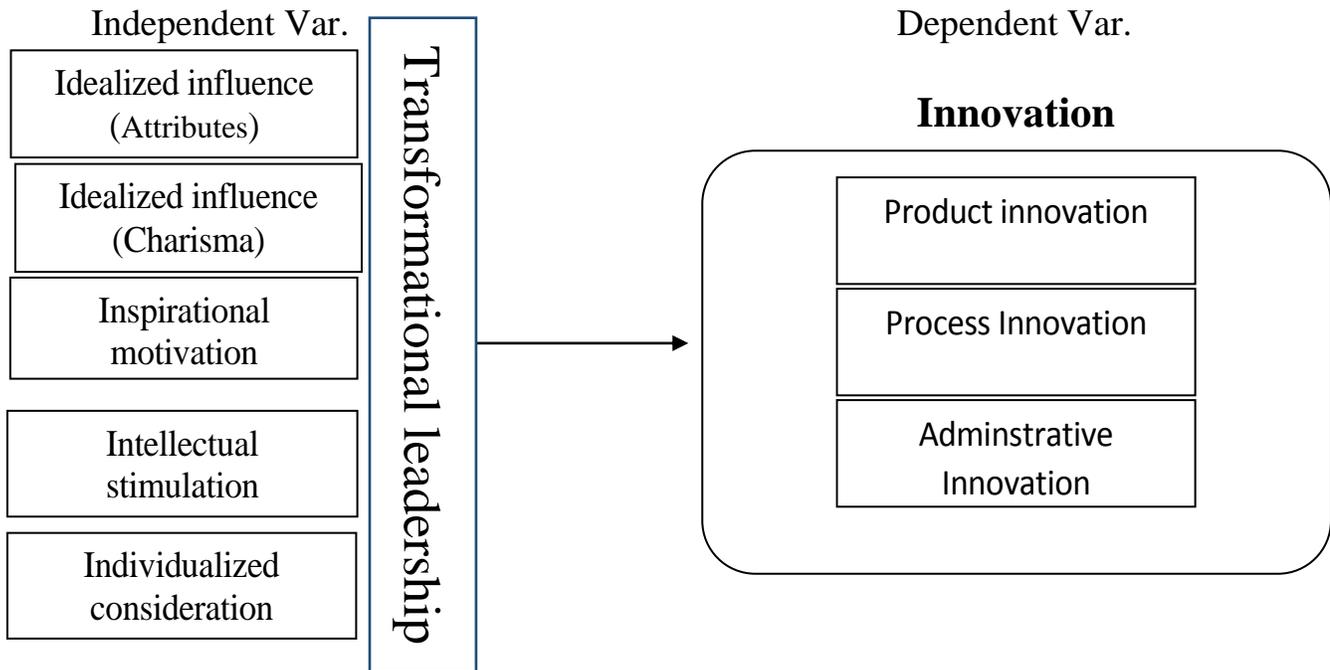
CHAPTER 6: Data Analysis and Discussion

CHAPTER 6: Data Analysis and Discussion

6.1 Introduction

This chapter aims to show the results of using statistical methods that emerged from the questionnaires, through analysis the views of the study sample on the effect of transformational leadership on innovation in IT companies in Ramallah. In this study frequency distribution tables, percentages, Arithmetic means, standard deviations (SDs), T-test, and ANOVA test are used to describe that effect.

6.2 Sample Characteristics

Gender:

Table 6.1 shows the distribution of the sample size by gender.

Table 6-1 Distribution of Sample Size by Gender

Table 6.1 : Distribution of Sample Size by Gender				
Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	94	66.7	66.7	66.7
Female	47	33.3	33.3	100.0
Total	**141**	**100.0**	**100.0**	

Table 6.1 indicates that males represent exactly two thirds of the sample size whereas females represent the remaining one third. These figures clearly show that males are hired more frequently than females in the IT sector.

Age:

Table 6.2 shows the distribution of the sample size by age groups.

Table 6-2: Distribution of Sample Size by Groups

Table 6-2 : Distribution of Sample Size by Groups				
Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 30 years	83	58.9	58.9	58.9
30-40 years	44	31.2	31.2	90.1
41-50 years	14	9.9	9.9	100.0
Total	**141**	**100.0**	**100.0**	

Table 6.2 indicates that nearly 59% of the sample size are less than 30 years old, 31% are between 30-40 years old, and nearly 10% are between 41-50 years old. In addition, the sample size does not include any individual who is more than 50 years old. These statistics clearly indicate that the IT sector is dominated by employees who belong to the youth group.

6.3   Educational Level:

Table 6.3 shows the distribution of the sample size by educational level.

Table 6-3: Distribution of Sample Size by Educational Level

Table 6-3 : Distribution of Sample Size by Educational Level				
Educational Level	Frequency	Percent	Valid Percent	Cumulative Percent
Diploma	6	4.3	4.3	4.3
BA	114	80.9	80.9	85.1
High Diploma	2	1.4	1.4	86.5
Master	19	13.5	13.5	0.0
Total	**141**	**100.0**	**100.0**	

Table 6.3 indicates that nearly 4% of the sample size hold Diploma degree, 81% hold BA degree, 1% hold High Diploma degree, and 14% hold Master degree. However, the sample does not include holders of Tawjihi and PhD degrees. These statistics clearly show that most of the IT workers are BA holders.

6.4   Specialization:

Table 6.4 shows the distribution of the sample size by specialization.

Figure 6.1 shows it graphically.

Table 6-4 : Distribution of Sample Size by Specialization				
Specialization	Frequency	Percent	Valid Percent	Cumulative Percent
Business Administration	20	14.2	14.2	14.2
Accounting	13	9.2	9.2	23.4

Information Technology	45	31.9	31.9	55.3
Computer Science	16	11.3	11.3	66.7
Computer Engineering	47	33.3	33.3	100.0
Total	**141**	**100.0**	**100.0**	

Table 6.4 indicates that nearly 14% of the sample size are specialized in Business Administration, 9% in Accounting, 32% in Information Technology, 11% in Computer Science, 33% in Computer Engineering.

Figure 6-1 : Distribution of Sample Size by Specialization
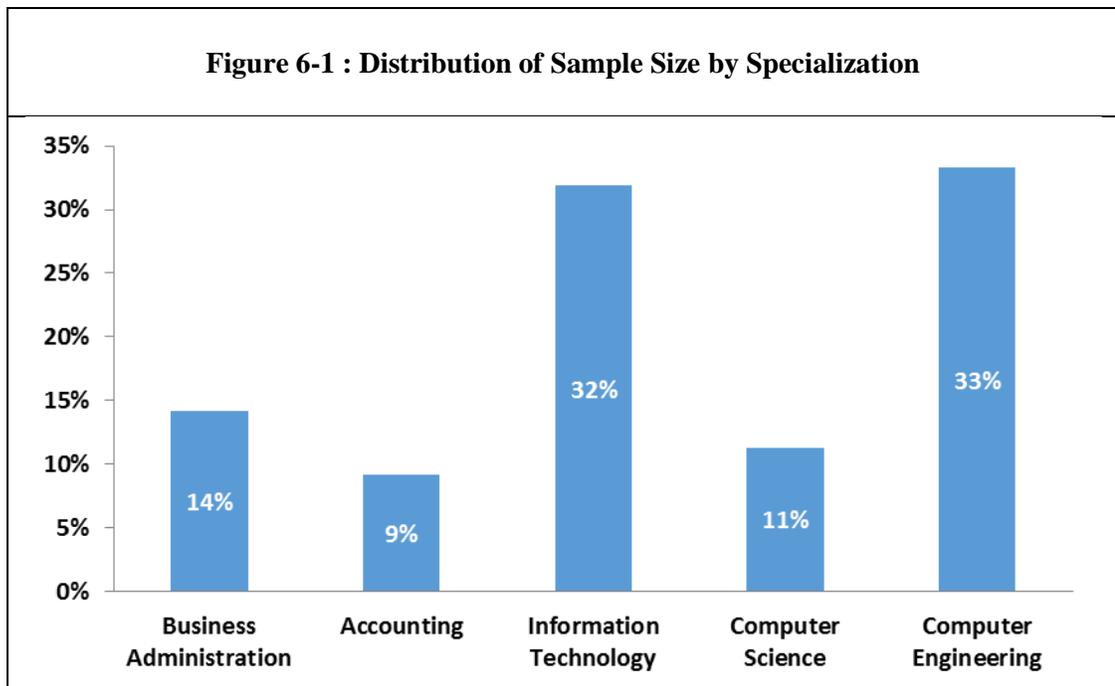
Years of Experience:

Table 6.5 shows the distribution of the sample size by years of experience.

Table 6-5 : Distribution of Sample Size by Years of Experience				
Years of Experience	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 5 years	80	56.7	56.7	56.7
6-10 years	40	28.4	28.4	85.1
11-15 years	7	5.0	5.0	90.1
More than 15 years	14	9.9	9.9	100.0
Total	**141**	**100.0**	**100.0**	

Table 6.5 indicates that nearly 57% of the sample size have years of experience less than 5 years, 28% have 6-10 years of experience, 5% have 11-15 years of experience, and 10% have more than 15 years of experience. These statistics indicate that the majority of individuals working in IT companies have less than 10 years of experience.

<u>Job Title</u>:

Table 6.6 shows the distribution of the sample size by job title.

Table 6-6 : Distribution of Sample Size by Job Title				
Job Title	**Frequency**	**Percent**	**Valid Percent**	**Cumulative Percent**
Employee	101	71.6	71.6	71.6
Head of Department/Group	25	17.7	17.7	89.4
Director of Department	15	10.6	10.6	100.0
Total	**141**	**100.0**	**100.0**	

Table 6.6 indicates that nearly 72% of the sample size are Employees, 18% are Head of Department, and 11% are Director of Department. Also, the figures indicate that the sample does not include General Managers.

6.5 Transformational Leadership

The transformational leadership is measured using a five-point Likert scale that consists of 20 items ranging from 1 (strongly disagree) to 5 (strongly agree). These 20 items belong to five dimensions of transformational leadership. These dimensions are: (1) individualized consideration, (2) idealized influence or charisma, (3) intellectual stimulation, (4) inspirational motivation, and (5) attributes.

As the response increases from 1 to five on the scale, the transformational leadership ability increases.

The reliability score for the transformational leadership scale is shown in Table 6.7.

Table 6-7 : Reliability Statistics for Transformational Leadership Scale	
Cronbach's Alpha	**N of Items**
0.923	20

As indicated in Table 6.7, the Cronbach's alpha coefficient for the transformational leadership scale is 0.923. The closer the reliability coefficient gets to 1.0, the better. In general, reliabilities less than 0.60 are considered to be poor, those in the 0.70 range, acceptable, and those over 0.80 good. Thus, the internal consistency reliability for the transformational leadership scale is considered to be very good.

Table 6.8 indicates that inspirational motivation has the highest score through the five dimensions of TL with mean value of 3.83 out of five. By contrast, the dimension of attributes has the lowest score among the five dimensions with mean value of 3.43 out of five. The total score of transformational leadership is 3.62 out of 5 points.

The descriptive statistics for the TL scale are presented in Table 6.8.

Table 6-8 : Descriptive Statistics for Transformational Leadership Scale					
Item	**Observations**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Individualized Consideration					
1	141	1	5	3.35	1.035
2	141	1	5	3.62	0.990
3	141	1	5	3.38	1.073
4	141	1	5	3.59	1.049
				3.49	
Idealized Influence (Charisma)					
5	141	1	5	3.56	1.058

6	141	1	5	3.74	0.859
7	141	2	5	4.09	0.869
8	141	2	5	3.86	0.867
				3.81	
Intellectual Stimulation					
9	141	1	5	3.30	0.860
10	141	1	5	3.66	0.869
11	141	1	5	3.54	0.967
12	141	1	5	3.61	1.013
				3.53	
Inspirational Motivation					
13	141	2	5	3.70	0.941
14	141	1	5	3.87	1.043
15	141	1	5	3.88	0.898
16	141	2	5	3.87	0.745
				3.83	
Attributes					
17	141	1	5	3.54	1.025
18	141	1	5	3.31	1.160
19	141	1	5	3.33	0.842
20	141	1	5	3.52	0.983
				3.43	
				<u>3.62</u>	

6.6 Innovation

The innovation is measured using a five-point Likert scale that consists of 9 items ranging from 1 (strongly disagree) to 5 (strongly agree). These 9 items belong to three dimensions of organizational innovation. These dimensions are: (1) process innovation, (2) product innovation, and (3) administrative innovation.

As the response increases from 1 to five, innovation increases. The reliability score for the innovation scale is shown in Table 6.9.

Table 6-9: Reliability Statistics for Innovation Scale	
Cronbach's Alpha	**N of Items**
0.915	9

Table 6.9 shows that the Cronbach's alpha coefficient for the innovation scale is 0.915. Therefore, the internal consistency reliability for the innovation scale is considered to be very good.

Table 6.10 shows the descriptive statistics for the innovation scale.

Table 6-10 :"Descriptive Statistics" for Innovation Scale					
Item	**Observations**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Process Innovation					
1	141	1	5	3.72	1.037
2	141	1	5	3.64	0.881
3	141	1	5	3.59	1.001
				3.65	
Product Innovation					
4	141	1	5	3.86	0.946

5	141	1	5	3.60	0.992
6	141	1	5	3.58	1.083
				3.68	
		Administrative Innovation			
7	141	1	5	3.41	0.903
8	141	1	5	3.39	0.939
9	141	1	5	3.52	1.018
				3.44	
				3.59	

Table 6.10 indicates that product innovation has the highest score among the three dimensions of organizational innovation with mean value of 3.68 out of five. By contrast, administrative innovation has the lowest score among the three dimensions with mean value of 3.44 out of five. The overall score of organizational innovation is 3.59 out of 5 points.

Correlation Matrix

Table 6.11 shows the correlation matrix obtained between the five dimensions of transformational leadership and the three dimensions of innovation.

Table 6-11 : Correlation Matrix among Dependent and Independent Variables			
	Process Innovation	Product Innovation	Administrative Innovation
Individualized Consideration	0.42*	0.49*	0.35*
Idealized Influence	0.29*	0.35*	0.16
Intellectual Stimulation	0.45*	0.50*	0.37*
Inspirational Motivation	0.49*	0.55*	0.32*

Attributes	0.52*	0.53*	0.63*
* Correlation is significant at the 0.01 level (2-tailed)			

From the results in Table 6.11, it is observed that the correlation coefficient between each dimension of transformational leadership and each dimension of organizational innovation is significant at the 0.01 level except between idealized influence and administrative innovation. Moreover, it is observed that the correlation coefficients have positive signs. This means that the dimensions of transformational leadership and the dimensions of organizational innovation are positively associated.

The above result is consistent with the results of Shin and Zhou (2003) showed that Korean employees have more innovative in a real work situation effected by transformational leadership. Similarly, this result is also supported by the work of Gumusluoglu and Ilsev (2009) who found a positive relationship between transformational leadership and innovation at both administrative and individual levels.

6.7 Hypotheses Testing

Three hypotheses are developed for this study as mentioned previously. These hypotheses call for the use of multiple linear regression. The results of these tests and their clarification are debated below.

H1:

There is significant impact of transformational leadership on process innovation.

The multiple linear regression technique is used to test the above hypothesis since we are interested in investigating the impact of the five dimensions of transformational leadership (individualized consideration, idealized influence, intellectual stimulation, inspirational motivation, and attributes) on the dependent variable (process innovation). Table 6.12 shows the outcome of regressing the five dimensions of transformational leadership on process innovation.

Table 6-12 : Regression Model Using Process Innovation as Dependent Variable					
Constant & Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	1.310	0.395		3.321	0.001
Individualized Consideration	0.038	0.126	0.032	0.304	0.761
Idealized Influence	-0.209	0.129	-0.154	-1.620	0.107
Intellectual Stimulation	0.142	0.117	0.128	1.220	0.225
Inspirational Motivation	0.339	0.122	0.293	2.776	0.006
Attributes	0.350	0.114	0.322	3.060	0.003

R-Square:	0.337	F-Value:	13.726	Sig.	0.0001

Table 6.12 shows that the overall regression model is significant at the 0.001 level with F-value of 13.726. This means that the five dimensions of TL jointly explain the variation in process innovation. The R-square value of 0.337 means that the five dimensions of transformational leadership explain nearly 34% of the variation in process innovation, which is good compared to R-square 37%, 33% from the result of Hussain et al. (2014) and (Gholam et al., 2015).

Inspirational motivation and attributes are statistically significant at the 0.05 level. This means that these two dimensions explain the variation in process innovation. The positive coefficient signs for inspirational motivation and attributes mean that these dimensions have a positive impact on process innovation. In other words, as the level of inspirational motivation and attributes increase, process innovation is improved.

However, the other three dimensions of transformational leadership (individualized consideration, idealized influence, and intellectual stimulation) are not statistically significant at the 0.05 level. This means that these dimensions have no impact, whatsoever, on process innovation.

The above result is consistent with the result of Hussain et al. (2014), who said that there is a strong and significant impact of transformational leadership on process innovation in Iraqi public universities. Finally, (Gholam et al., 2015) have approved in their study that there is significant effect by TL on innovation among high school teachers in Saveh city in Iran. Therefore, the above results are consistent with the result of this study.

H2:

There is significant impact of transformational leadership on product innovation.

The multiple linear regression technique is used to test the above hypothesis since we are interested in investigating the impact of the five dimensions of TL on the dependent variable (product innovation).

Table 6.13 shows the outcome of regressing the five dimensions of TL on product innovation.

Table 6-13 : Regression Model Using Product Innovation as Dependent Variable					
Constant & Variables	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
Constant	0.970	0.375		2.587	0.011
Individualized Consideration	0.164	0.120	0.137	1.369	0.173
Idealized Influence	-0.149	0.122	-0.111	-1.219	0.225
Intellectual Stimulation	0.129	0.111	0.118	1.165	0.246
Inspirational Motivation	0.371	0.116	0.326	3.202	0.002
Attributes	0.243	0.109	0.226	2.230	0.027
R-Square	0.385	**F-Value**	16.867	**Sig.**	0.0001

Table 6.13 shows that the overall regression model is significant at the 0.001 level with F-value of 16.867. This means that the five dimensions of TL jointly explain the variation in product innovation.

The value of R-square of 0.385 indicates that the five dimensions of TL explain nearly 39% of the variation in product innovation, which is good compared to the results of Hussain et al. (2014), their R-square was 23%.

The above result is consistent with the result of Hussain et al. (2014), who said that there is a strong and significant impact of transformational leadership on product innovation in Iraqi public universities, also the above results agreeing the result of Ashkan (2016), who said that transformational leadership has positive and significant effects on innovation of employees in Iranian organizations.

Inspirational motivation and attributes are statistically significant at the 0.05 level. This means that these two dimensions explain the variation in product innovation. The positive signs of coefficients for inspirational motivation and attributes mean that these coefficients have a positive impact on product innovation.

However, the other three dimensions of TL (individualized consideration, idealized influence, and intellectual stimulation) are not statistically significant at the 0.05 level. This means that these dimensions have no impact, whatsoever, on product innovation.

H3:

There is significant impact of transformational leadership on administrative innovation.

The multiple linear regression technique is used to test the above hypothesis since we are interested in investigating the impact of the five dimensions of TL on the dependent variable (administrative innovation).

Table 6.14 shows the outcome of regressing the five dimensions of transformational leadership on administrative innovation.

Constant & Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
Constant	1.893	0.429		4.415	0.000
Individualized Consideration	0.174	0.137	0.146	1.268	0.207
Idealized Influence	-0.245	0.140	-0.184	-1.749	0.083
Intellectual Stimulation	0.213	0.127	0.195	1.681	0.095
Inspirational Motivation	0.156	0.133	0.138	1.178	0.241
Attributes	0.153	0.124	0.144	1.231	0.220
R-Square	0.186	**F-Value**	6.185	**Sig.**	0.0001

Table 6-14 : Regression Model Using Administrative Innovation as Dependent Variable

Table 6.14 shows that the overall regression model is significant at the 0.0001 level with F-value of 6.185. This means that the five dimensions of TL jointly explain the variation in administrative innovation. The value of R-square of 0.186 indicates that the five dimensions of TL explain nearly 19% of the variation in administrative innovation.

However, none of the five dimensions of TL (individualized consideration, idealized influence, and intellectual stimulation) is statistically significant at the 0.05 level. This means that each of these dimensions has no impact, whatsoever, on administrative innovation.

The above result does not agree with the result of Kasasbeh et al. (2014) who suggested that there is a statistical significant influence of TL on administrative innovation in industrial companies in Jordan.

There are other different variables –other than Transformational Leadership- can be attributed to effect on Innovation (process, product, and administrative innovation) such as social position, age, cultural background, educational level and other variables may effect on Innovation, which may increase R-square value if we considered it in future researches.

There are several reasons attributed to the lack of administrative innovation. Based on the results of SWOT analysis in chapter 4, one of the weaknesses based on the results for the lack of effect of transformational leadership on administrative innovation is the absence of leadership skills and coordination in private sector, it showed that there is a low level of leadership among the IT managers in companies which will negatively effect on the administrative innovation, other weakness attributed to that is immigration of experts and engineers in the IT field abroad –Brain Drain- as a result of incentives and high salaries compared to the weak internal work environment, low salaries, and job insecurity as a result of political and economic threats by Israeli Occupation.

 Therefore, there are other numerous explanations attributed to the weakness of administrative innovation, some of which is linked to managing side, Palestine as s a developing country, the high level of bureaucracy exists which related to various reasons, such as cultural and geographical reasons, which lead to restrictions on the administrative innovation and limit the development of IT companies.

H4:

The level of transformational leadership is the same regardless of gender.

Statistically expressed, H_0 is: $\mu_1 = \mu_2$

Where μ_1 and μ_2 signify the means on the level of transformational leadership for the two different gender groups.

Since there are two groups (male and female) and the level of transformational leadership is measured by an interval scale, the independent samples t-test is appropriate to test the above hypothesis.

Table 6.15 shows the level of TL by gender.

Table 6-15: Level of Transformational Leadership by Gender

Table 6-15 : Level of Transformational Leadership by Gender				
Gender	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
Male	94	3.6191	0.63733	0.06574
Female	47	3.6085	0.56572	0.08252

As Table 6.15 indicates, 94 of the sample size are males whereas 47 are females. In addition, the level of transformational leadership for males has a mean value of 3.62 compared to 3.61 for females. This indicates that males and females have approximately the same level of transformational leadership.

Table 6.16 shows the independent samples t-test for the level transformational leadership by gender.

Table 6-16: Independent Samples T-Test for the Level of TL

Table 6-16 : Independent Samples T-Test for the Level of TL					
	Levene's Test for Equality of Variances		T-Test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	0.287	0.593	0.097	139	0.923
Equal variances not assumed			0.101	102.492	0.920

The results in Table 6.16 indicate that the difference in the means of 3.62 and 3.61 for males and females on the level of TL is not statistically significant (t = 0.097, p = 0.923). In other words, males and females have the same level of transformational leadership. Thus, hypothesis 4 is accepted.

The above result is completely consistent with the result of Kent et al. (2010) who observed the differences between German men and women as transformational leaders. They concluded that there are no differences in the behaviors of male and female as transformational leaders. In addition, this result is confirmed by the result of Mohammed et al. (2012) who used Levene's test for equality of variances to test whether the variance of scores for male and female is similar regarding transformational leadership behavior. The result revealed that there is no significance variance between the two groups.

H5:

The level of transformational leadership is the same regardless of years of experience.

Statistically expressed, H_0 is: $\mu_1 = \mu_2 = \mu_3 = \mu_4$

Where μ_1, μ_2, μ_3, and μ_4 signify the means on the level of transformational leadership for the four different groups of experience.

Since there are more than two groups (four different groups of experience) and the level of transformational leadership is measured on an interval scale, ANOVA is suitable to check the above hypothesis.

The results of ANOVA, testing the above hypothesis, are shown in Table 6.17.

Table 6-17: ANOVA for the Level of Transformational Leadership					
Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
Between Groups	0.486	3	0.162	0.427	0.734
Within Groups	52.015	137	0.380		
Total	**52.501**	**140**			

The degree of freedom is in the third column, and each source of difference has related degrees of freedom. For the between-groups variance, degree of freedom = (K − 1), where K is the total number of groups. Because there are four different groups, we have (4 −1 = 3) degree of freedom. The degree of freedom for the within-groups sum of squares equals (N − K), where N is the total number of respondents. Because there are no missing responses, (N − K) is 137.

91

F = 0.427 (0.162/0.380). This F value is not significant at the 0.05 level. This implies that hypothesis 5 is accepted. That is, there are no significant differences in the means of transformational leadership levels among the four different groups of years of experience.

6.8   Conclusion

The results of the study inform that Inspirational motivation has the highest score amongst the five dimensions of transformational leadership with mean value of 3.83 out of five. By contrast, the dimension of attributes has the lowest score among the five dimensions with mean value of 3.43 out of five. The overall score of transformational leadership is 3.62 out of 5 points. Product innovation has the highest score among the three dimensions of organizational innovation with mean value of 3.68 out of five. By contrast, administrative innovation has the lowest score among the three dimensions with mean value of 3.44 out of five. The overall score of organizational innovation is 3.59 out of 5 points. Inspirational motivation and attributes have a positive effect on process innovation whereas the other three dimensions of TL have no effect, whatsoever, on process innovation. While inspirational motivation and attributes have a positive effect on product innovation whereas the other three dimensions of transformational leadership have no impact, whatsoever, on product innovation. But none of the five dimensions of TL has an effect, whatsoever, on administrative innovation.

The mean value of transformational leadership is the same for males as well as females. There are no significant differences in the means of TL levels among the four different groups of years of experience.

The significant and positive relations stated in this study between transformational

leadership and innovation are consistent with the results of studies by Ashkan (2016),

Choi et al. (2016), Mohamed (2016), Nusair et al. (2012), Qu et al. (2015), Slåtten and

Mehmetoglu (2015), and Wang et al. (2014). In a study of 150 managers working in 5

stars hotels in Egypt, Mohamed (2016) found that TL positively effects workers'

innovative behavior. Choi et al. (2016) in a study of 356 personnel employed in industrial

companies in South Korea revealed that TL positively impacts the innovation of workers.

They said that leaders with transformational activities inspire and support workers'

innovation by encouraging them mentally to produce resolutions to problems which

strengthen their abilities of innovation.

Chapter 7
Conclusion and Recommendations

Chapter 7: Conclusion and Recommendations

As stated previously, the main objective of this research is to assess the effect of transformational leadership on innovation in IT companies in Ramallah and Al-Bireh city. MLQ-Form 5X and the Innovation Performance Index are used to gather the necessary data for this research. Primary data are collected from 141 participants. Correlational analysis is used to analyze the collected data.

7.1 Conclusion

Based on data analysis and discussion, the key conclusion can be summarized as follows:

1. Inspirational motivation has the highest score amongst the five dimensions of transformational leadership with mean value of 3.83 out of five. By contrast, the dimension of attributes has the lowest score among the five dimensions with mean value of 3.43 out of five. The overall score of transformational leadership is 3.62 out of 5 points.

2. Product innovation has the highest score among the three dimensions of organizational innovation with mean value of 3.68 out of five. By contrast, administrative innovation has the lowest score among the three dimensions with mean value of 3.44 out of five. The overall score of organizational innovation is 3.59 out of 5 points.

3. Inspirational motivation and attributes have a positive effect on process innovation whereas the other three dimensions of TL have no effect, whatsoever, on process innovation.

4. Inspirational motivation and attributes have a positive impact on product innovation whereas the other three dimensions of transformational leadership have no impact, whatsoever, on product innovation.

5. None of the five dimensions of TL has an effect, whatsoever, on administrative innovation.

6. The mean value of transformational leadership is the same for males as well as females.

7. There are no significant differences in the means of TL levels among the four different groups of years of experience.

7.2 Recommendations

In the light of the conclusions of this study, the following recommendations are made:

1. It is recommended that the IT managers take actions to promote transformational leadership within IT companies.

2. IT managers need to pay more attention to their followers' requirements and to create opportunities for their prosperity and promotion to higher level of personality development.

3. It is recommended that IT managers should provide the context of enhancing transformational leadership qualities in their companies.

4. IT managers can encourage innovation behavior at their companies by the establishment of appropriate compensation systems.

5. It is recommended to recruit IT managers having more attractiveness and more influence on staffs' behaviors.

6. Attracting engineers and IT professionals through the provision of appropriate and stimulating working conditions and provide the necessary facilities to develop their administrative skills.

7. IT managers should not criticize employees' faults when trying new methods; since this represses their productivity and innovation.

8. IT managers must use suitable methods and systems and support innovation and productivity through giving information, cooperation, and making sure about not interfering personal issues.

9. Holding training courses or workshops for IT managers and employees in order to promote transformational leadership.

10. IT managers must be selected among the ones having more interactions and communications with staffs.

11. IT managers must position their IT businesses strategically as those which create environments that are supportive for different types of innovations.

12. IT managers should help companies maintain their skilled staff from leaving their organizations to make use of their ideas.

7.3   Direction for Future Research

It is recommended to study the influence of other types of leadership on innovative behavior. Future research may consider different measures to examine leadership behavior and innovation. A recommendation for future research is to study the effect of TL on innovation in other sectors than the IT sector. Also it is recommended to study the effect of TL on marketing innovation. Finally, future research may take into account other controlling variables like cultural background, social position, education, gender, age, years of experience, and type of work setting.

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Appendix A

BIBLIOGRAPHY[4]

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