MOTIVATION AND JOB SATISFACTION OF ARCHITECTS IN TURKEY

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ABSTRACT

MOTIVATION AND JOB SATISFACTION OF ARCHITECTS IN TURKEY

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The aim of this study is to investigate the motivation and the job satisfaction of architects working at an architectural design office in Turkey. The theoretical framework of this research focuses on a hypothesis which claims that the motivation of an employee affects their job satisfaction, and therefore it has an impact on the employee performance. Since performance of design teams affects the project success, and project success is crucial to achieve an organizational success, it is crucial to investigate the motivation factors and its impact on job satisfaction. A questionnaire was conducted regarding the framework of this research. The data was collected, and regression models were constructed to analyze the findings.

Keywords: Motivation, Architect, Job Satisfaction, Design Office, Turkey

ÖZ

TÜRKİYE'DEKİ MİMARLARIN MOTİVASYONU VE İŞ TATMİNİ

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Bu çalışmanın amacı Türkiye'deki mimari proje ofislerinde çalışan mimarların iş tatmini ve motivasyonunu araştırmaktır. Araştırmanın çerçevesi, motivasyon ve iş tatmini arasında pozitif bir ilişki olduğu ve bu iki olgunun da çalışan performansını etkilediği varsayımı esas alınarak oluşturulmuştur. Çalışan performansı ise proje başarısı üzerinde etkilidir. Proje başarısı inşaat sektörünün en önemli hedeflerinden biridir. Bu sebeple, mimarların motivasyonunu etkileyen faktörlerin araştırılması ve tespit edilmesi ve iş tatmini ile ilişkisinin araştırılması önemlidir ve bu çalışmanın amaçları arasındadır. Metodoloji olarak bir anket oluşturulmuş ve Ankara Mimarlar Odası aracılığı ile mimarlara e-mail yoluyla ulaştırılmıştır. Anket sonlandıktan sonra, datayı incelemek üzere regresyon modelleri kurulmuştur.

Anahtar Kelimeler: Motivasyon, Mimarlık, İş Tatmini, Mimarlık Ofisleri, Türkiye

To my family

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ABBREVIATIONS

ACE	The Architects' Council of Europe
ANOVA	Analysis of Variance
CSF	Critical Success Factor
ERG	Existence, Relatedness and Growth
KMO	Kaiser-Meyer-Olkin
MSQ	Minnesota Satisfaction Questionnaire
SPSS	Statistical Package for the Social Sciences
VSM	Values Survey Module

CHAPTER 1

INTRODUCTION

1.1. Argument

The industry of construction has evolved due to its dynamic nature; therefore, projects have become more complex and complicated throughout the years along with technological advances. This industry has been one of the most determining industries in the world and has an extensive influence on the world economy. It is imperative to maintain a project success and organizational success in order to ensure an economical growth and development in the industry. Therefore, organizations should take into consideration the factors affecting the success of a project. Project success is widely acknowledged as time, scope and budget which is also known as *The Iron Triangle* (de Wit, 1988). According to Ashley et al (1987), when a project is completed with better results concerning quality, budget, time, and safety; the project success is achieved. Another definition of project success is accomplishing the objectives of a specific project stakeholder such as the client (Sanvido et al, 1992). Although, there seems to be no agreement about the outlines of what makes a project successful between the researchers, it can easily be claimed that it is utmost important to maintain a project success in the industry. Furthermore, to achieve that one should take into consideration the CSFs (critical success factors) which have been investigated in the project management literature by various researchers. The term of CSFs was first used by Rockart (1982), however the concept of success factors was first mentioned in the study of Rubin and Seeling (1967). Researchers proposed the factors either in general or in specific such as Sanvido et al. (1992) determined four CSFs which are timely information flow between parties in the design and planning stages of a project, well-organized team, contracts allowing different specialists works as a cohesive team without conflicts, and finally experience in different facets of comparable

competencies. Chua et al (1999) also identifies four CSFs including characteristics of a project, stakeholders of a project, contractual adjustments, and interactive processes. Mainly, researchers first identify a list of success factors and then test cluster analysis on them and group the factors under main factors such as project-related factors or project-participant related factors. Motivation is considered to be a success factor which is also a key driver of high productivity and performance. In light with this, Chua et al. (1999) claims that motivational schemes improve the performance.

Motivation is defined by various researchers in terms of action, drive and energize. Freud (1925) and Hull (1943) explained motivation in respect of drives, in the first one the drive was aggression and sex while in the latter one the drive was hunger and sex, thirst and hunger. Work motivation has also been identified in various ways. Fuller et al. (2008) claims that motivation leads a person to take action and it is interested in the individual's choices as a part of their goal-oriented attitude. Work motivation is considered to be "a set of energetic forces" that emerge within a person which leads to work behavior in regards to determining the intensity, direction and the form of this behavior (Pinder, 1998). All of the work motivation definitions are based on the theories of motivation which are content theories and process theories.

Work motivation is one of the well-researched topics in the research field of organizational behavior. Although, the motivation of construction workers has been studied thoroughly (Wang et al, 2009), an inconsiderable studies have evaluated the motivation of professionals such as engineers and architects (Damci et al, 2018). It can be also acknowledged that majority of the motivation-related studies which focuses on the professionals have also mostly investigated the motivation of engineers rather than architects (Oyedele, 2010). This is the reason that one of the objectives of this research to evaluate the motivation of the architects who are working at architectural design offices in Turkey.

Locke (1976) argues that job satisfaction is a positive emotional state which results from the assessment of one's job or experience and it can only be self-reported. In addition to this, it is also claimed that it is a set of beliefs and feelings of a human being towards his/her job. However, another definition of job satisfaction is that it is a mixture of both positive and negative feelings towards one's job (Davis & Nestrom, 1985). The expectations of an individual towards its job and how much of that expectations are matched with the rewards is also an extent of job satisfaction. Therefore, it is closely linked with the behavior of that individual in the workplace (Davis & Nestrom, 1985). Armstrong (2006) claims that positive behaviors related to job indicate a job satisfaction and negative behaviors related to job indicate job dissatisfaction. Although, job satisfaction is one of the most broadly analyzed topic in organizational behavior, there is still no agreement on the definition of it among researchers. There have been different definitions in the literature which will be analyzed thoroughly in the further chapters.

Motivation and job satisfaction are two broad concepts which are widely investigated together and have accumulated various empirical studies in the literature of organizational behavior. Despite the fact that numerous researches demonstrate that there is a positive relationship between them, the conclusion does not mean that they can be used unanimously. According to Standish (2019), these two concepts contribute to different point of view of employee psychology. However, they may be mistakenly confused with other due to the fact that most of the motivation theories are elevated based on the idea of job satisfaction. Relation between the motivation and the job satisfaction is going to be drawn along with their differences and similarities in the further chapters.

This study aims to focus on the investigation of the factors effecting the motivation of architects and analysis of the influence of motivation on job satisfaction. The framework of this study is further based on the idea that both intrinsic and extrinsic motivation have a positive impact on the job satisfaction which means that when an

employee is motivated it is claimed that they will be satisfied with their job also. Furthermore, it is claimed that high job satisfaction leads to high job performance and at the end results with project success which is vital for the development in the construction industry. However, the relation between job satisfaction and job performance is not a subject of this study.

1.2. Aim and Objectives

This study aims to investigate the criteria of motivation of architects in architectural design firms in Turkey. The theoretical framework of this study focuses on the hypothesis that the motivation of an employee affects their job satisfaction, and therefore it has an impact on the employee performance. Since performance of design teams affects the project success, and project success is crucial to achieve an organizational success, it is important to investigate the motivation factors and its impact on job satisfaction. Therefore, it is the utmost aim of this study to analyze the criteria affecting the motivation of architects and assess the critical factors which are crucial to maintain a motivated employee along with the impact of motivation on job satisfaction. The objectives of this study as is follows:

- To assess the motivation criteria
- To assess the level of motivation among architects
- To assess the level of job satisfaction among architects
- To assess the relation between motivation and job satisfaction among architects

1.3. Procedure

A literature survey was conducted not only in organizational behavior and psychology and also in project management fields. Motivation and job satisfaction have been investigated by various researchers from both fields. In order to understand the concept of motivation and job satisfaction, many studies were investigated in the field of organizational behavior. In addition to this, by analyzing the project management literature provided a view on the stand of both concepts in construction industry and

architecture. After thorough investigation, a framework is formed based on the literature. A survey is constructed along with the framework in order to investigate the criteria affecting the motivation and to assess the impact of the motivation on job satisfaction. A structured survey was sent to architectural offices in Turkey via e-mail. Architectural offices are randomly chosen from a list which was provided by Chamber of Architects in Ankara. There are too many offices in Turkey (according to ACE, there are 6497 practicing offices in Turkey) to reach out in a limited time, therefore Ankara is chosen as a sampling for this study.

A structured survey is designed as 3 chapters as is follows; socio-demographic part, motivation criteria chapter and finally job satisfaction chapter. In the first chapter, respondents are asked to give information about their background such as gender, age, the university they graduated from, how many years do they have experience, the capacity of their current office, their responsibility in the office. In the next chapter, there is a list of factors affecting the motivation of architects which are grouped under three categories. Project-related factors, organization-related factors and finally project participant-related factors are listed in this chapter to ask respondents to rank them according to their "importance" and also their "presence". By "presence" we mean if that particular factor does exist and applied in their current office. 5 Likert scale is used in ranking, in "importance" (1) refers to "not important" and (5) refers to "extremely important".

After the data collected from the questionnaire, the results have evaluated and analyzed through SPSS. First the reliability of the data is tested and then motivation level and satisfaction level of the participants are determined by using regression modelling. And finally, ANOVA tests are conducted in order to produce correlation matrix between the motivators and job satisfaction. The methodology used in the analysis of the results is going to be explained in depth in further chapters.

1.4. Disposition

This study is constituted as five chapters; introduction, literature review, material and method, results and discussion, and finally conclusion of which the introduction is the first chapter.

Literature review on organizational behavior and psychology and project management is covered in the second chapter. It concludes the definition and theories of motivation along with the job satisfaction in detail and also the relationship between two concepts are defined broadly. At the end of the chapter, a discussion of literature is assessed.

Material and method are defined in the following chapter about the literature review. In material part, the sampling for the questionnaire is identified and in the last chapter methodology of the study is introduced.

The results are broadly represented in the fourth chapter together with the discussion. Statistical tests which are conducted on the data gathered from the survey are explained and the outcome is represented in graphics and tables such as correlation matrix.

Last chapter is dedicated to the conclusion of this research which draws the outline of the study. Recommendations for further studies and limitations are drawn in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1. Motivation

In this chapter, first the concept of motivation is going to be explained and then theories of motivation are going to be described in two parts which are content theories and process theories. Finally, the references drawn from the literature are going to be outlined in the last chapter.

2.1.1. Concept of Motivation

In order to understand the concept of motivation, it is imperative to first describe the meaning of the word itself. Latin word “movere” is the root for the term motivation which means “to move”. Since this description of motivation is not enough to understand the concept of it, the researchers have come up with various definitions of motivation which will be discussed here broadly.

Although the origin of the concept of the motivation has not yet determined, it is claimed that it can be traced back to the Greeks, Romans and Egyptians (Hodgetts & Kuratko, 1991). According to Franken (1994), a very first attempt to explain and examine motivation is that Epicurus who is a Greek philosopher studied the reasons behind the human actions and the drives behind the reactions.

In the 19th century, the term motivation emerged in the philosophy field before that “will” was used in the deliberations regarding human motivation (Forgas, Williams and Laham, 2005). After the birth of modern organization, the motivation of employees became a crucial focus of the researchers. Over the 20th century, there has been various definitions and theories of motivation have been developed and they have been also diversified in the 21st century as well as the measurement of motivation

(Ryan & Deci, 2000). The studies have come to a point where several types of measurements have been determined and the factors behind what motivates human and an employee are studied broadly in different fields of science such as organizational behavior, education, health and project management (Leonard, Beauvais, & Scholl, 1999).

During the industrial revolution, motivation theories emerged widely and managers acknowledged that rewards system is the only way to increase the motivation of the employees in order to increase the productivity (Taylor, 1947). Elton Mayo (Harvard University professor) and his colleagues held an experiment to investigate the factors affecting motivation during 1920s. Mayo (1949) further explained that motivation cannot be solely clarified by the extrinsic factors such as money, but it has many facets to consider.

According to Mitchell (1982), motivation is a psychological process which causes the inner stimulation, perseverance and direction of the act that is directly aimed at a goal. Since every individual has different needs, goals and desires, what arouses them towards a goal may also vary regarding these differences. In addition to this, Mitchell (1982) also commented that motivation is intentional. Furthermore, what stimulates a person to take action in a certain way due to the reason that they desire a specific outcome, should be investigated. Pinder (1998) also states that motivation is a set of energetic forces which influence the ambition of employees regarding their work. Luthans (1998) is another researcher who defines motivation as a process which can direct, energize, sustain, and arouse specific performance and/or act simultaneously. Moreover, motivation is a process which is intentional and it encourages an individual to behave in order to accomplish a particular task (Luthans, 1998). Thereafter, Mullins (1999) proposed a model (Figure 2.1) to represent the process of motivation. This model is generated based on the idea that individuals behave or act in a particular way because they think this certain action will lead them to obtain desired goal. Additionally, it also assumes that every individual have expectations, desires and needs.

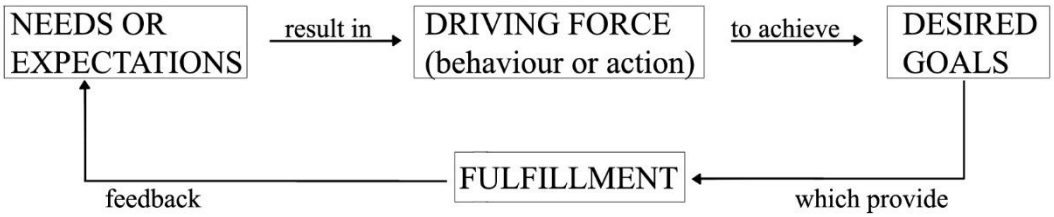

Figure 2.1. Motivational Process. Derived from *Management and Organizational Behavior* (p.407), by L.J. Mullins, 1999, London: Pitman Publishing

It is widely recognized that the motivation is a set of forces which stimulates individuals to behave or act in a certain way and to make choices as a part of their goal-oriented behavior (Fuller, Valacich, & George, 2008).

It is considered that there are two types of motivation which are intrinsic motivation and extrinsic motivation. Aronson et al. (2002) argues that extrinsic motivation is associated with external rewards such as benefits and salary, work conditions, work environment and job security. On the other hand, intrinsic motivation is associated with intrinsic needs which satisfy an individual (Mak & Sockel, 2001). The distinction between the extrinsic and intrinsic motivators have been studied by many researchers. Furthermore, these analyses had shed vital enhancement on motivation and how they influence the job performance of employees.

Intrinsic motivation is related with enjoyment, satisfaction of curiosity, personal challenge in the work, interest and self-expression (Amabile, 1993). Therefore, if an individual is satisfied with these internal factors, that person is intrinsically motivated according to Amabile (1993). In addition to this, if a person engages in the work to accomplish a particular goal besides the work itself, that person is extrinsically motivated (Amabile, 1993). According to Deci (1972) external factors can be listed as money and verbal reinforcement and they are settled apart from that person's will. On the other hand, intrinsic motivation is internally associated with that person (Deci, 1972). They also claim that a person can be intrinsically motivated if they are satisfied with the work itself and the feelings from performing that work even if there is no certain reward for that activity. Whereas, extrinsically motivated individuals are

involved in tasks due to the fact that they believe there is a certain reward or desirable outcome for the work (Pintrich & Schunk, 2002). Gagne and Deci (2005) indicate that intrinsic motivation is related with complicated tasks, however extrinsic motivation is often associated with simple tasks. In support of this assertion, Story et al. (2008) also think that employees who are intrinsically motivated give preference to challenging and complex cognitive tasks. Considering that they are also capable of regulating their behaviors, accordingly, proposing rewards or setting goals for them are not very effective in case they are also extrinsically motivated (Story et al, 2008). Organizations should be aware of the factors affecting their employees' motivation either intrinsically or extrinsically. To that end, for employees which are more motivated by internal factors, self-setting of their deadlines and goals should be encouraged by the organization as well as it is crucial to put emphasis on the task itself whether it is appealing or not (Story et al., 2008). Furnham et al. (1998) proposed that while extraverts are motivated with internal factors, the introverts are motivated by the external factors. In addition to this, researchers should keep in mind that not all people are motivated equally by; some of them are more extrinsically and others are more intrinsically motivated (Furnham et al., 1998).

Consequently, both types are very crucial to maintain motivated employees and it seems so that these two types also have impact on each other. According to Deci (1972), extrinsic motivators may cause a decrease on intrinsic motivation in some cases. Notwithstanding, this situation is not valid if the money is non-contingently administered. Yet it may occur if the money is contingently distributed (Deci, 1972). Cameron and Pierce (2002) supported this point of view by indicating that the intrinsic motivation can be affected negatively by the extrinsic rewards such as money. On the other hand, Amabile (1993) argues that despite the fact that extrinsic motivation can operate in contrast to intrinsic motivation, it can also have a reinforcing stimulus on intrinsic motivation. To sum up, both types of motivation have an impact on each other, and both should be taken into consideration notably by organizations.

2.1.2. Theories of Motivation

According to Kreitner and Kinicki (2008) motivation theories are grouped as content theories and process theories.

Several models of motivation which are mostly proposed in the 1950s are considered to be content theories due to the fact that the aim of these theories are mainly to determine the factors related to motivation (Steers & Mowday, The future of work motivation theory, 2004). Content theories can be listed as Maslow's hierarchy of needs theory, Herzberg's two factor theory, Alderfer's ERG theory and McClelland's theory of needs which will be explained thoroughly further. These theories are highly interested in to identify the needs of an employee since they claim that needs should be fulfilled to increase the performance of an employee.

Process theories investigate the process of motivation itself. They built on the idea of there is a psychological process that motivates an individual to behave / act in a certain way. Furthermore, these theories explain how an individual's needs affect their behavior and how to motivate them. Process theories can be listed as the expectancy theory (Vroom V. , 1964), the equity theory (Adams, Towards an understanding of unequity, 1963), the goal-setting theory (Locke E. , 1968), and the reinforcement theory (Skinner, 1953).

2.1.2.1. Content Theories

One of the most known content theories is Maslow's hierarchy of needs theory which was proposed by American psychologist Abraham Maslow in 1943. This motivation theory is one of the most widely used and recognized as an improvement on the motivation theories. Maslow (1943) indicated that every individual has desires and wants which have an impact on their acts and behaviors. According to him, there are hierarchical needs that should be met in order to motivate a person. In addition to this, if one level of needs is fulfilled, then comes the next level of needs to achieve as individual develops. This theory is well-known for its representation as a pyramid of needs in order; physiological, safety, love, self-esteem and self-actualization (Figure

2.2). According to Robbins (2005), in order to motivate a person, one should know at what level of the pyramid that person suits and then take measures accordingly.

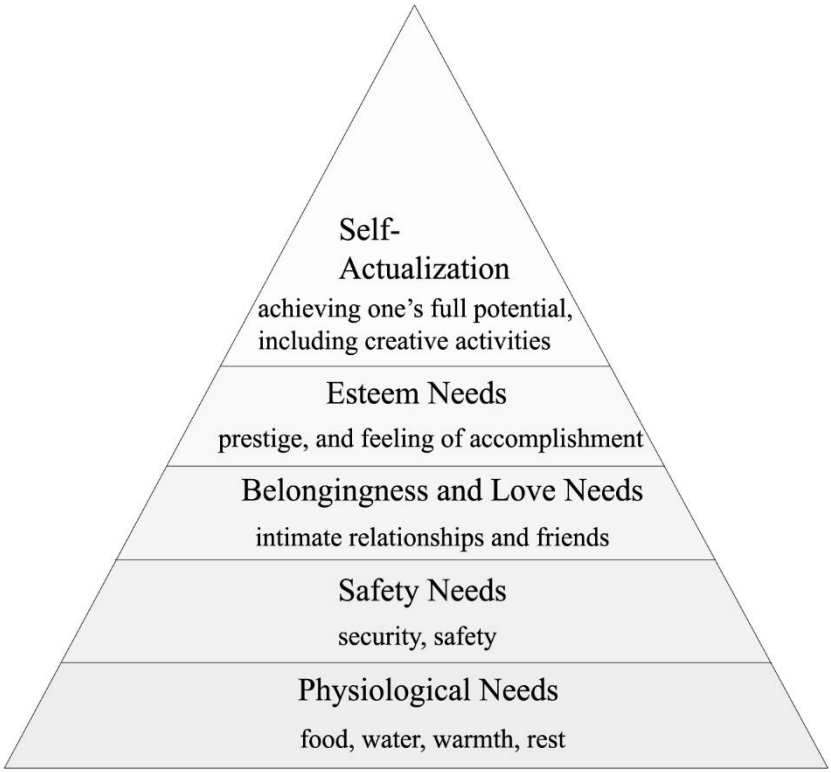

Figure 2.2. Hierarchy of Needs (Maslow's)

At the bottom of the pyramid the most basic needs are represented also called as physiological needs such as food, water, warmth, rest, shelter, medicine, sex and clothes etc. These needs are the fundamental needs for a human to survive. The theory indicates that if these needs are not met it is very unlikely for that person to function as a healthy human being (Maslow, 1987). After physiological needs are met, safety as a higher need is going to be the focus of that individual. Maslow (2000) states that this category of needs also includes fear of losing job, stability, secure working environment, and property which are fundamental and have the most influence on person's behavior. Moreover, if an employee is offered a permanent job with security

and tenure, this will likely to affect the job satisfaction of that employee in a positive manner.

In the third step, love and belonging needs are presented which are also called as social needs such as social relationships with friends and family. Organizations must take into consideration to host and organize social events for their employees to boost their work motivation in order to satisfy their employees' social needs. After these three levels are satisfied, the need for self-esteem becomes crucial which focuses on the recognition from others and self-confidence.

The satisfaction of self-esteem leads to the next and final step which is about self-actualization that provides to reach a person's full potential (Atkinson et al., 2000). Maslow (2000) states that only e a few percentage of the world population reaches all these steps and satisfied with all the needs represented in the hierarchy pyramid of needs. Organizations should be aware of these steps and know at which level their employees suit and decide to take action accordingly. Furthermore, for every step there is a suggestion proposed by Morgan (1997) (Figure 2.3).

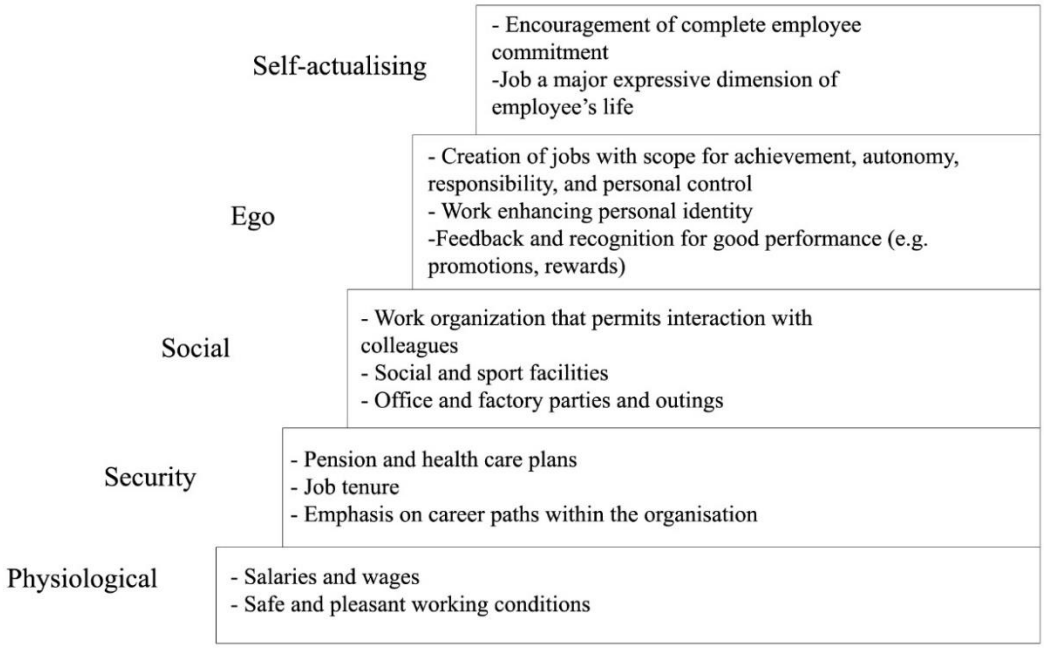

Figure 2.3. Morgan's Suggestion to Every Step of Maslow's Hierarchy of Needs

Another content theory is Frederick Irving Herzberg's two factor theory which is also another well-known and widely recognized motivation model and broadly adopted by many researchers in their studies. Herzberg (1959) suggests that in order to present the factors that have an impact on the motivation of an employee, researchers should first analyze and understand the behavior of employees (Tietjen & Myers, 1998). He pursued his research and implemented on a case involved engineers and accountants (Grobler & Warnich, 2006). In his study, he focused on three objectives which are how to ascertain an employee's disposition towards her/his job, the reason/s behind this attitude, and finally the consequences of this attitude (Tietjen & Myers, 1998).

Herzberg (1959) proposed two factors affecting the motivation which are called "hygiene factors" that are related to the context of the job and "motivator factors" that are associated with the work environment. That is the reason this theory is also acknowledged as motivation-hygiene theory. According to him (1959) employees are motivated if the motivators are sustained and they are de-motivated if the hygiene factors are not provided by the organization. However, these two factors cannot be acknowledged as the opposite of each other. In Figure 2.4 a list of motivators and hygiene factors are presented which shows that motivators are assumed to be associated to intrinsic conditions while the hygiene factors are more related to the extrinsic conditions.

Motivators (leading to satisfaction)	Hygienes (leading to dissatisfaction)
Achievement	Company policy
Recognition	Supervision
Work itself	Relationship with boss
Responsibility	Work conditions
Advancement	Salary
Growth	Relationship with peers
	Security

Figure 2.4. Herzberg's Two-Factor Theory

Despite the fact that, Herzberg (1959) defines the company policy, salary, work conditions as hygiene factors therefore as extrinsic factors, most recent studies show that these factors are considered to be as both extrinsic and intrinsic factors (Maidani, 1991). Another controversial point of this theory is that Herzberg postulated that the job dissatisfaction is not the opposite of job satisfaction, the opposite of job satisfaction is no job satisfaction. In addition to this, he assumed that job dissatisfaction and job satisfaction is not a continuum but are two continua (Latham, 2007). Furthermore, Herzberg claimed that in order to job enrichment, organizations should take into consideration recognition, job content, achievement, responsibility and opportunities for advancement essentially. Other hygiene factors such as company policy, working conditions, salaries and supervision are a way of decreasing the job dissatisfaction (Herzberg et al., 1959).

In the literature, these two theories, Maslow's hierarchy of needs theory and Herzberg's dual theory are associated with each other and thought as the foundation of other theories of motivation. Herzberg (1959) reevaluated the hierarchy of needs into two categories which are hygiene factors and motivator factors as shown in Figure 2.5.

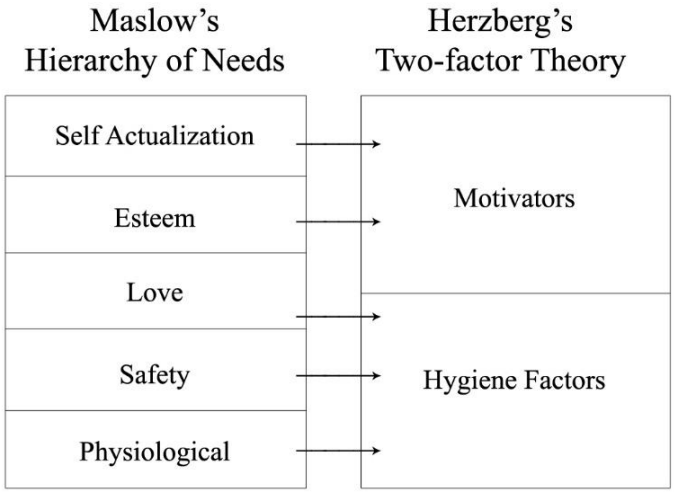

Figure 2.5. Linking Herzberg's Theory and Maslow's Theory

Maslow's theory is not acknowledged by some researchers as scientific due to lack of empirical support (Corning, 2000). Alderfer's ERG theory is postulated on the basis of hierarchy of needs theory along with providing empirical research (Arnold & Boshoff, 2002). Although it is based on Maslow's theory, this model of motivation is particularly developed for work motivation (Steers, 1991).

Clayton Alderfer (1972) states the hierarchy between the needs is subjective and it depends on the every individual's own point of view. Moreover, he also defines three groups of needs instead of five which are also formed the theory's name, ERG, can be listed as existence, relatedness and growth (Arnold and Boshoff, 2002). Existence is related to physiological needs that are essential for survival such as physical safety, eating and drinking and other material needs in the working environment (Schneider & Alderfer, 1973). This category encompasses the two categories from Maslow's theory which are physiological and safety needs. Relatedness is the need to build meaningful relations with colleagues and superiors in the workplace. On the other hand, growth is the need for personal development and self-actualization. The interrelations between the needs from ERG theory with Maslow's theory is represented in Figure 2.6.

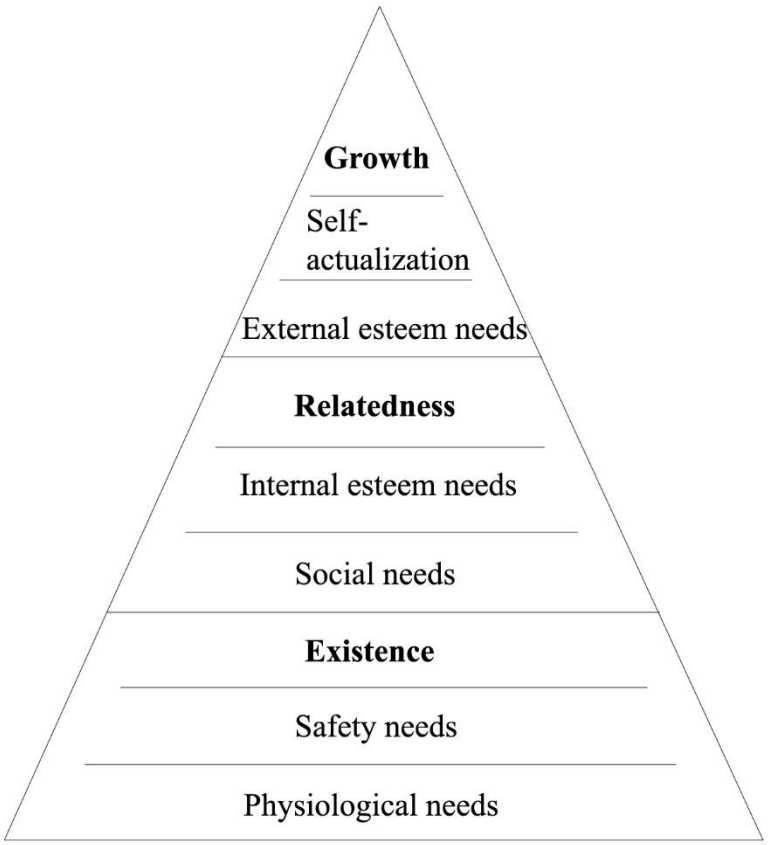

Figure 2.6. Linking Alderfer's Theory and Maslow's Theory of Motivation

In contrary to Maslow's theory, Alderfer claims that if one person is struggling with fulfilling one of the needs that person can focus on satisfying other needs (Kreitner and Kinicki, 2008). To give an illustration of this context, if an employee is not satisfied with the relationships with her/his subordinates (relatedness) or superiors, she/he will demand more benefits or a raise (existence). According to Kreitner and Kinicki (2008), organizations should take into consideration this context in order to motivate their employees especially when the working environment is not sufficient. Since Alderfer suggests that every individual has its own hierarchy of needs, it is also imperative for organizations to set up their incentive programmes according to employees' varying needs (Kreitner and Kinicki, 2008).

McClelland's theory is another and last content theory developed by American social and behavioral psychologist David McClelland in 1961. This theory is based on clearly defined needs which are achievement, power, and affiliation. McClelland (1961) ignores the idea of hierarchy between the needs on the contrary to Maslow's theory. Furthermore, this theory particularly focuses on work motivation in opposition to Maslow's theory however in similar to Alderfer's ERG theory.

According to Fisher (2009), although every person can be motivated by all these four needs, there is always a particular need for every individual that affect their motivation most. Therefore, some people may be motivated more by power and others may be motivated more by affiliation. McClelland (1961) suggests that organizations should hire people who are motivated more by achievement more than the others due to several reasons such as;

- They see money for only an indicator for their performance, therefore it is not an essential motivator for them
- They are constructive
- They prefer challenging tasks
- They acknowledge their performance for the work
- They request for a clear and sufficient feedback on their performance

On the other hand, Grobler et al (2006) argue that the ones who are motivated by achievement are also not suitable for group work. According to Fisher (2009), individuals that are motivated by power perform better when they are responsible for others and they are also more straightforward. Whether the person has a positive or negative orientation towards power should be taken into consideration by organizations due to the fact that it affects the organization directly. Furthermore, if the employee is positively oriented to power, the organization can benefit from it (Groebler et al., 2006). Individuals that are motivated with affiliation are in need for acceptance from others. If a manager is an affiliated-motivated person, she/he may make a decision in accordance with what others may think of her/him. Therefore,

McClelland (1961) advices to organizations to hire managers that are less motivated with affiliation but more motivated with power.

To sum up, all content theories are focused on the needs of individuals rather than the process of motivation. Maslow's theory is formed a basis for all content theories; however it is not considered to be a scientific model of motivation by many researchers due to lack of empirical support (Corning, 2000). Alderfer (1972) reevaluated the Maslow's theory and expanded the theory with empirical support. Herzberg (1959) formed his theory particularly on work motivation which was acknowledged as a fundamental development in the literature. Lastly, McClelland (1961) is the last content theory which furthers the studies about motivation and represents a different perspective to researchers particularly on work motivation.

2.1.2.2. Process Theories

Process theories are focused on how the motivation process is affected by internal factors on the contrary to content theories. According to Oyedele (2010) process theories are concerned with "the actual process of motivation". Process theories are including the expectancy theory (Vroom V. , 1964), the equity theory (Adams, Towards an understanding of unequity, 1963), the goal-setting theory (Locke E. , 1968), and the reinforcement theory (Skinner, 1953) which will be thoroughly explained in this chapter.

Expectancy theory was enhanced by Victor Vroom in 1960s which was first postulated by Edward C. Tolman in the 1930s. Feather (1992) explains that Tolman's early contributions gave rise to the development of the expectancy theory which was thoroughly articulated with theoretical inputs from cognitive decision theory as well as founded the conceptual basis of this motivational model.

According to this theory, an individual behaves in a certain way with the expectation of a reward results from that particular action (Vroom V. , 1964). Vroom's theory was modeled on the idea of personal behavior and individual perception. Moreover, Vroom claimed that three components generate the motivation that are expectancy (believing

in a particular effort will result with a positive performance), instrumentality (believing in that being rewarded based on the performance) and valence (the value that an individual puts on the desired reward) (Oyedele, 2010).

Moreover, Vroom (1964) stated that this theory is based on the idea of employees believe that their performance is affected by their efforts and rewards are the outcome of their performance. It is also the reason that employees are more motivated when their performance is acknowledged by their superiors at work. This motivation model is simply explained in Figure 2.7 which demonstrates how people are motivated according to their personal wants and desire.

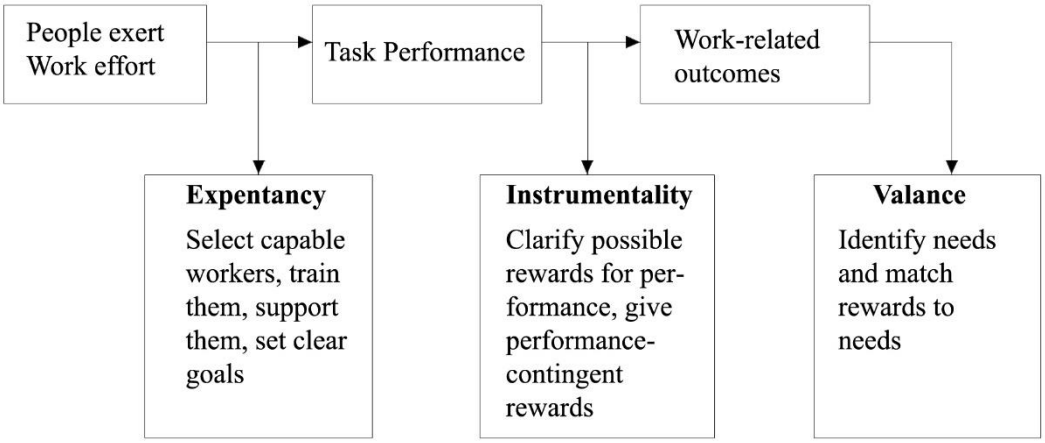

Figure 2.7. Vroom's Expectancy Theory. Derived from Organizational Behavior (p.128), by J.R. Schermerhorn, J.G. Hunt & R.N. Osborn, 2005, New York: John Wiley & Sons, Inc.

According to Vroom (1964), the level of motivation can be calculated with this equation which is formed by him as well:

M= (E) x (I) x (V)

E stands for expectancy, I is the shortening for instrumentality and V is the abbreviation of valance. M stands for motivation which is calculated by the multiplication of these three variables (Vroom V. , 1995).

Expectancy is defined as the perceived relation between performance and effort which is based on the belief that adequate effort leads to performance and the belief of a person whether she/he can attain a certain job performance (Bergmann & Scarpello, 2001). The value for expectancy can be between 0 and 1 in this equation. According to Bergmann and Scarpello (2001), a person usually gives attention to only one expectancy value. Furthermore, feedback mechanism is the best approach to build expectancy (Muchinsky, 1993).

Instrumentality is the perceived relation between the outcome and the performance degree and it is also a belief of the probability of one outcome links to another outcome (Vroom V. , 1964). For instance, if an individual believes that an increased salary is not related to analogous with the performance, then the instrumentality is below expected. On the other hand, if a person believes that increased salary is associated with the performance, then the instrumentality would be formidable. Muchinsky (1993) claims that there is a direct relation between the outcomes and varieties of instrumentality. Security, pay and trust are examples of the outcomes considered to be as positive, however there are also negative outcomes such as frustration, boredom and fatigue (Robbins, 1988). Value of instrumentality can be between 0 and 1 as same with the expectancy.

As a summary, this motivation model proposes that there is a link between the performance and between the performance and the desired outcome (Daft, 2008). In the Table 2.1, a summarization of the implications for managers and organizations are shown.

Table 2.1. *Implications for Organizations and Managers Regarding Expectancy Theory. Derived from Kreitner & Kinicki (2008: p.226)*

Implications for Managers	Implications for Organizations
Determine the outcomes employees value	Reward people for desired performance and do not keep pay decisions secret
Identify good performance so appropriate behaviours can be rewarded	Design challenging jobs
Make sure employees can achieve targeted performance levels	Tie some rewards to group accomplishments to build teamwork and encourage cooperation
Link desired outcomes to targeted levels of performance	Reward managers for creating, monitoring, and maintaining expentancies, intrumentalities, and outcomes that lead to high effort and goal attainment
Make sure changes in outcomes are large enough to motivate high effort	Monitor employee motivation through interviews or anonymous surveys
Monitor the reward system for inequities	Accommodate individual differences by building flexibility into the motivation program

Equity theory is proposed by John Stacy Adams, a behavioral and workplace psychologist, in 1963 which is also acknowledged as Adams' Equity Theory. Adams (1963) claimed that employees expect to be treated equally and the perceived relation between input and outcome leads to satisfaction. In other words, an individual expects to a balance between the "inputs" (experience, skill, educational level, ability, effort, age, responsibility) and the "outcomes" (salary, work insurance, good working conditions, performance, status, recognition, promotion and opportunity) (Adams, 1963). Motivation of an employee is associated to their perception of equal treatment compared to other employees at the same level (Shore, 2004). According to Hitt, Miller and Colella (2015) there are three keys should be taken into consideration in the workplace:

- An employee changes their behavior when they perceive of inequity in order to point out the situation.
- Employees are driven to get a fair recognition from their employees in exchange for their efforts and contributions.
- Employees are inclined to make a comparison between themselves and the other employees at their level based on the balance of their inputs and their outcomes.

The degree of equity is defined when an employee makes comparison between their own rewards and contributions. If an individual believes that they have a balanced input-outcome, they are high likely to be satisfied. Vice versa, when they feel there is inequity of the recognition of their efforts, they are high likely to be dissatisfied. When there is inequality in a workplace and if not eliminated, it is highly possible for the employees to decrease their performance and contribution. On the other hand, over reward may also leads to guilt and therefore leads to dissatisfaction (Al-Zawahreh & Al-Madi, 2012).

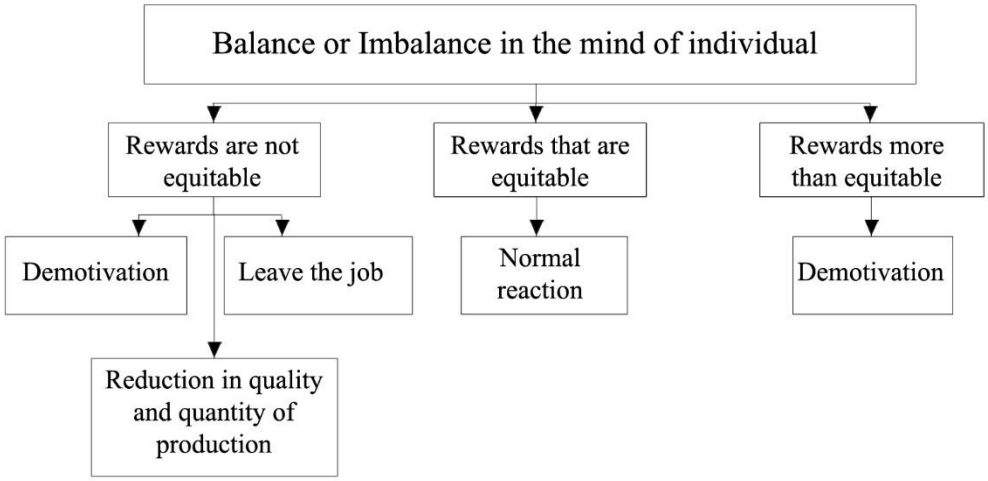

Figure 2.8. Adam's Equity Theory – Balance or Imbalance of the inputs and outcomes in the mind of a person. Derived from F.T. Abiodun and O.A. Oluwatosin (2007). Effects of the external consequences of organizational activities on employee motivation. Unpublished master's thesis, Blekinge Institute of Technology (BTH), Sweden.

$$\frac{\text{Individual's outcomes}}{\text{Individual's own inputs}} = \frac{\text{Relational partner's outcome}}{\text{Relational partner's inputs}}$$

Figure 2.9. Equity Measurement

According to Dubrin (2004) these are the actions when an employee perceives an inequity in the way they are managed:

- Asking for a better bonus, salary or promotion in other words changing the outcome
- Decrease their contribution and effort; changing the input
- Alter their perception of equity
- Trying to find other employee at their level and similar to their ratio of input to outcome
- Quitting the job

Adam's equity theory is one the most influential motivation theories in the field of organizational behavior. On the contrary to other expectancy theories, equity theory considers motivation as a complicated process and outcomes (rewards) are evaluated by employees in accordance with social comparisons (Adams, 1963).

Goal setting theory is one of the process theories which is formed by Locke and Latham. This motivation model proposes that employees aim to achieve their goals in order to obtain satisfaction (Luthans, 1995). Understanding goal setting is crucial in order to obtain job satisfaction in workplace due to the fact that the actions of employees are goal-directed. Furthermore, variables such as values, needs, premises and knowledge are the determinants for human goals. In addition to this, reinforcement, consequences and feedback will be the results of the behaviours of employees (Luthans, 1995).

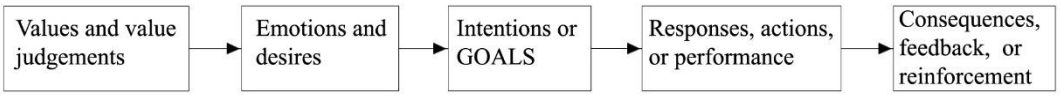

Figure 2.10. Goal Setting Theory (Luthans, 1995)

According to this theory, highest performance is caused by difficult and specific goals. Setting or defining goals is the best way to increase the productivity of an employee. Furthermore, the motivation of an employee can be increased after the objectives are established. Locke and Latham (1990) proposed the objectives below in order to sustain employee motivation:

- The objectives must be well defined and specific
- The objectives must be measured easily
- The objectives must be realistic
- The objectives must have a certain deadline

Another process theory is reinforcement theory which is proposed by Burrhus Frederic Skinner and Edgar Pierce who are both psychologists. The roots of this theory lie in the earlier studies of Skinner which was a research with devices called as "Skinner boxes". The theory was recognized as a motivational theory in 1970 and became one of the most well-known theories concerning the motivation of employees. According to this theory, human actions will be repeated if they are believed to lead to positive outcomes (Skinner, 1953). Moreover, people will behave accordingly regarding the consequences and also avoid some behaviors as well (Grobler & Warnich, 2006).

Skinner (1953) described a reinforcer as a consequence which enhances the behavior (Malone, 1975). Additionally, he also defined three reinforcers as positive reinforcer, negative reinforcer and punishment. The positive reinforcer high likely to lead a reoccurrence of the behavior. On the other hand, negative reinforcer contains steps which lead to certain behavior in order to avoid unwanted outcomes. Punishment is defined as an action that decreases the possibility of the behavior over time if it is proceeded by a consequence (Skinner, 1953). Although the latter reinforcer is most

commonly used one, it should only be taken into consideration in case of the positive and the negative reinforcer did not work out as expected. Pay increases, restructuring of benefits and recognition are examples for positive reinforcers (Grobler & Warnich, 2006).

Scharff (1999) criticized this theory by addressing to the point that the theory does not concern about the effect on the behavior when reinforcement did not appear every time the certain behavior takes place.

2.2. Job Satisfaction

2.2.1. Concept of Job Satisfaction

Although there are many definitions of job satisfaction in the literature, there is no common agreement among researchers. The reason for this universal controversy is the subjectivity of job satisfaction and individuals may infer different meanings out of it. In this chapter, various definitions will be examined thoroughly in the literature of organizational behavior and project management and psychology. Job satisfaction is highly confused with motivation, mistakenly used for one another. Although, they are highly connected to each other and there is a direct correlation, they unconditionally differ one from another.

According to Locke (1976), job satisfaction is a positive or satisfactory emotional state that results from good work experience or job itself which is also one of the most commonly used definition of job satisfaction. In light with this point of view, Spector (1997) explains it as the feeling of an individual towards her/his job and job characteristics. Locke's definition is considered to be affection-based and proposes positive feelings toward a job lead to high job satisfaction. However, some researchers criticized this definition by claiming that job satisfaction cannot be effectively measured based on this interpretation and proposed that it is a more rational and logical evaluation (Zhu, 2012). Therefore, it should be kept in mind that job satisfaction includes not only emotional appraisal but also behavioral and cognitive constituent.

Porter et al. (2003) investigated job satisfaction in the perspective of job attitude and examined its relationship as an antecedent of certain behaviors as shown in the Figure 2.11.

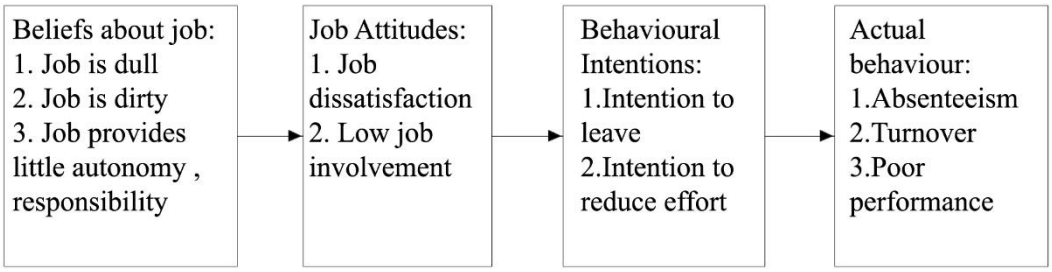

Figure 2.11. Relationships as an Antecedent of Certain Behaviors (Porter et al., 2003)

As shown in the diagram, job dissatisfaction and low job involvement are considered to be the job attitudes. Managers are not concerned with all the job attitudes but job dissatisfaction due to the fact that it is acknowledged as the most fundamental one (Zhu, 2012). Absenteeism, poor performance and turnover are shown as actual behavior which will be investigated in further chapters in this study.

Kreitner and Kiricki (2008) define job satisfaction as what degree an individual favors her /his job. In other words, they described it as an emotional response to the conditions that are work related. Sypniewska (2013) also defined it as a positive attitude of an employee towards co-workers, the job itself and the work. Job satisfaction has a considerable impact on different aspects of life due to the fact that feelings and emotions of employees have an effect on job satisfaction (Sempane, Rieger, & Roodt, 2002). In light with this, it can be also described as an individual's state of mind towards the job and the work (Chughati & Perveen, 2013). Furthermore, employees feel satisfied when they have positive feelings towards their job and this feeling increases from recognition and achievement after job performed well (Megginson, Mosley, & Pietri, 1982).

Job satisfaction has a fundamental impact on general life satisfaction due to the fact that emotions and feelings of an individual affects the job satisfaction as mentioned

earlier (Judge & Watanabe, Individual differences in the nature of relationship between job and life satisfaction, 1994). Judge and Watanabe (1994) claims that there are three types of relationship between the job satisfaction and general life satisfaction of which the first type is applying other aspects of life to job satisfaction or the other way around. The second type is to make a separation between them, and this is the case when they do not have an impact on each other. The last type is that if other aspects of life do not satisfy an individual adequately, that person can compensate this situation with job satisfaction.

Organizations mostly are aware of the importance of an employee's job satisfaction since it has an influence on the performance and project success. In addition to this, satisfied and motivated employees is the key to survive and succeed in the global market (Saleem, Mahmood, & Mahmood, 2010). Therefore, the level of job satisfaction has been studied by many researchers in the literature to enhance the performance and organizational success. Both extrinsic and intrinsic motivators affect the level of job satisfaction which will thoroughly analyzed in the further chapter in this study as the determinants of job satisfaction.

Typically, most companies do annual surveys in order to assess the level of job satisfaction of their employees. Interviews provide in-depth analysis of an individual's level of job satisfaction; however they are time consuming and not eligible for every situation. Therefore, survey is a tool which is more commonly preferred tool in companies (Kaplan & Norton, 1996). According to Kaplan and Norton (1996) an employee job satisfaction survey should include adequate encouragement to take initiative, enough participation in decision making, recognition of superiors, access to all information about the job, overall satisfaction with company and support from the administration.

To conclude, as mentioned earlier job satisfaction has defined by various researchers with similar of different approaches. Generally, it is assumed to be an employee's state of mind towards the job itself (Chughati & Perveen, 2013). Determinants which have

an influence on the level of job satisfaction can be categorized as environmental and personal determinants. The next chapter will describe both of them in depth.

2.2.2. Determinants of Job Satisfaction

Studies on the determinants of job satisfaction are inevitable to overlook due to its influence on overall life satisfaction, employee performance and organizational success (Sempane, Rieger, & Roodt, 2002). Many studies have investigated the determinants with different perspectives which will be briefly explained in this chapter but thoroughly described in two further chapters called environmental determinants and personal determinants.

Kinicki and Kreitner (2003) identified five principal models that causes job satisfaction which are value attainment, need fulfillment, discrepancy, genetic components and equity. According to value attainment category, employees are satisfied if their needs are fulfilled by the job itself. On the other hand, dissatisfaction will possibly occur if these needs are not satisfied. Need fulfillment model focuses on the idea of the intersection of job characteristics with employees' needs. It claims that if the needs of an individual coincide with the job characteristics, then that individual will more likely to be satisfied by their job. Another model is called discrepancy which claims that employees are satisfied when their expectations about the job are met more than they expected at the beginning. Genetic components are related with the personal traits and genetic factors which varies to every person. The last model is known as equity which defines job satisfaction as the perception of an employee of their input/output ratio to other employees at their level (Kinicki & Kreitner, 2003). Additionally, these determinants are also examined by various motivation theories.

According to Locke (1976) there are various determinants of job satisfaction which are promotion, payment, working conditions, job itself, fellow workers, work benefits, employee relationship and personal values. In light with this, Vroom (1964) also proposed seven determinants which are co-workers, compensation, working environment, supervision, promotion, job content and organization itself.

The determinants drawn from the literature can be listed as the nature of work, training, meeting, equity, delegation of power, safety, career development, salary, the overall working environment, benefits, organizational support of career, organizational integration, communication between colleagues and other groups, organizational commitment, pressure, job nature, department environment, education and training, teamwork and cooperation, job security, role ambiguity, management style, communication with management, appreciation, style of management, task variety, workload, rewards, promotional opportunities, working hours, pay, personal development, physical conditions, content of work, intergroup conflict, perceived organizational support, role conflict, variety of task, feelings of accomplishment, timings, work exhaustion, company culture, responsibility, performance evaluation systems, safety at work, turnover, compensation, recognition of superiors, company's image and corporate culture, advancement opportunities, job characteristics, technology, job clarity, performance, work content, workload, atmosphere at work, advancement opportunities, good relationships with coworkers, and absenteeism (Sypniewska, 2013) (Van Saane, 2003).

In this study, the determinants will be explained in two categories which are environmental factors and personal factors (1997). Environmental determinants include reward, pay and salary, co-worker, working conditions, self-improvement, job security, communication and supervision. Personal determinants can be listed as educational level, gender and marital status, seniority and personality.

Rewards should be individualized in accordance with the differences of employees in order to be perceived by employees as clear, fair and flexible (De Cenzo & Robbins, 1994). Rewards are mostly thought as financial, however intrinsic rewards are also vital for job satisfaction which include having a sense of achievement and pride of one's work. In addition to this, rewards not only motivate employees but also represent what an employee desires after achieving a particular task (Kalleberg, 1977). Pay and salary is considered to one of the fundamental elements to enhance job satisfaction. The reason is that it is not only recognized as a purchasing power but also represents

a measure of how successful an employee is (Gruneberg, 1979). In addition to this, salary also perceived as an indicator of the position in the company and the recognition. It is claimed that pay also provides job security according to Nikolaou et al. (2002). Another environmental determinant of job satisfaction is related to the co-workers which suggests that some employees give importance to the relationship with their colleagues and they also fulfill their need to socialize in the workplace (Yang, Brown, & Moon, 2011). Satisfaction of employees can be increased if the work conditions which are both social and physical conditions are adequate to perform a task well. Noise, crowd, temperature, lighting, cleanliness, comfort and safety should be taken into consideration in order to provide good working conditions to employees.

The other environmental determinants are self-improvement, communication and supervision. Employees prefer jobs which provide opportunities for personal development due to the fact that they want to improve their knowledge, abilities and skills. Therefore, organizations carry out employee develop programs in order to help employees to take control of their career developments and increase their positive emotions towards the job itself (Jin & Lee, 2012). Good communication should be provided in the company, since it provides essential information about the tasks to employees. Lastly, recognition and support from the supervisors have an impact on the job satisfaction positively (Yang, Brown, & Moon, 2011).

Personal factors are consisted of educational level, gender and marital status and seniority as mentioned before. Educational level of employees may have both negative and positive influence on their level of satisfaction. Quinn and Baldi de Mandilovitch (1980) determined a positive relation between the overall job satisfaction and the educational level of employees. However, Carrell and Elbert (1974)documented a negative relationship and they further claimed that younger employees with a higher degree of education are more likely to be dissatisfied with their job when they are responsible for the routine tasks. Studies which examined the relationship between the gender and the job satisfaction discovered three circumstances. Hoppock (1935) proposed that job satisfaction of females is higher than their male colleagues. On the

contrary, Hulin and Smith (1964) reported that males have higher level of satisfaction towards their job than females. Lastly, there is no apparent relation or influence of gender on overall job satisfaction. In line with this, Thompson and McNamara (1997) neither gender nor age have no role on the prediction of overall job satisfaction.

2.2.3. Consequences of Job Satisfaction

2.2.3.1. Job Performance

Organization success is dependent on the job performance of its employees. It is crucial for companies to understand the factors affecting performance and to improve the performance. According to Herzberg (2003) there is a link between increased motivation and job satisfaction as there is also a link between increased motivation and high organizational performance as well. Petty, McGee, and Cavander (1984) determined a solid correlation between job performance and job satisfaction after performing meta-analysis on 17 studies. In addition to this study, another research by various researchers have also shown a strong relation between these two subjects (Judge, Thoresen, Bono, & Patton, 2001). Another study in health care industry resulted with the same conclusion with the previous studies (Crow, Hartman, & Henson, 2006).

Job performance is related to whether actions of employees contribute to the goals of the organization (Daniels & Harris, 2002). Arvery and Murphy (1998) defined employee performance as the ability of employee to perform the required tasks in an organizational frame. In line with this, Hunter and Hunter (1984) also suggests that an ability of employee is fundamental to increase the employee performance. In addition to this, employee also must perform tasks with satisfactory results and have a high level of productivity.

However, one should keep in mind that performance does not depend on the ability of an employee alone. According to Vroom (1964) performance of an employee depends on personal factors such as experience, ability, knowledge, skills and personality.

Churchill et al (1987) suggested that organizational, personal, environmental, skill level, motivation, role perceptions and attitudes are antecedents of performance.

Barrick and Mount (1991) suggest that personality has the most fundamental effect on the job performance. On the other hand, some researchers state these factors do not define the job performance exactly but they are the variables of how to measure it (Furnham, Forde, & Ferrari, 1998).

In conclusion, it is inevitable to acknowledge that there is a strong correlation between motivation and job performance and job satisfaction and job performance. Furthermore, Spector (1997) proposes that employees who performs better satisfied with their job more than other employees with lower performance. The reason is that the employees which are better performers receive rewards related with their good performance.

2.2.3.2. Turnover

Turnover which is also known as intention to leave is one of the vital consequences of job satisfaction. Organizations give highly importance to this matter especially when the discontented employees are the productive ones in the company. Although the relation between the job satisfaction and turnover is not strong, some researchers claim that dissatisfied employees tend to leave the job. Chen et al analyzed the relation between these two variables and concluded their study with a result that the length of time in the job and career anticipation affect this relationship. Furthermore, employees are dissatisfied if their expectation of a promotion does not occur and the level of dissatisfaction increases over time. In this situation, intention to leave may be considered by that employee. As mentioned before, the correlation between these variables are moderate due to the fact that studies, which analyzed this link, assessed the level of satisfaction only for a certain time period (Liu, Mitchell, Holtom and Hinkin, 2012). Therefore, Liu et al. decided to investigate the influence of job satisfaction on intention to leave, over time. Their results showed that there is a negative correlation between turnover and job satisfaction, thus high job satisfaction

leads to low turnover. In line with this, Mobely also claims that there is a moderate negative correlation between these two variables, therefore employees who are highly satisfied are less tend to intent to leave their job.

2.2.3.3. Project Success

Project success traditionally defined as time, cost and quality/performance (de wit 88) which is also known as The Iron Triangle. Although, these three variables are considered to be must for project success, they are not enough to execute a project successfully. Ashley et al (1987) claims that to achieve project success, the project must be delivered better than expected in terms of quality, schedule, cost, safety and participant satisfaction. According to Sanvido et al (1992) project success is achieved if objectives of one of the projects participants are met; it may be the planner, owner, client, operator, engineer or contractor. Chua et al (1999) proposed a framework for project success with a hierarchy of measures of which time, cost and quality are at the top. They also determined four main project aspects which measures the three key determinants of project success which are project characteristics, contractual arrangements, project stakeholders and interactive processes. Rather the fact that project success has been investigated by various researches in the field of project management, there is no consensus on a framework for the assessment of it between the researchers.

Project management success and project success are two separate concepts. Therefore, one should keep in mind that the objectives of project management may differ from the objectives of a project itself. De wit argues that a project can still be considered as a successful project although it has not been completed on time. In other words, the overall objectives of a project are the measures of project success, however the time, cost and quality are the measures of project management success. Meredith and Mantel (2009) also argues that what appears to be a success in one project can be a failure for another one due to the fact that every project has different objectives. Cooke-Davies (2002) suggests another distinction between project performance and

project success. While project performance can be measured during the project, project success can only be measured after the project is delivered. Shenhar et al (2002) also identified project-related factors which have an influence on both project success and project management success.

According to Bechtold et al. (1980) job satisfaction is one the most influential and important factors affecting project success. Moreover, some researchers determine a correlation between organizational success and job satisfaction of employees (Futrell & Parasuraman, 1984).

2.2.3.4. Absenteeism

Managers are in search for solutions to decrease the absenteeism since it can be costly for companies. Yolles et al determined that nearly four hundred million work days are wasted due to the fact that 5.1 days are wasted per employee as a consequence of voluntary absenteeism in USA. In addition to this, there is also a cost of searching for new employee as a replacement and a cost of revising the work schedules and plans (Chadwick, 1981).

Kreitner and Kiricki (2008) suggested to increase the satisfaction of employees in order to eliminate the absenteeism in the workplace. This shows that there is a negative correlation between these two variables such as high job satisfaction reduces the rate of absenteeism (Falkenberg & Schyns, 2007). On the other hand, Falkenberg and Schyns (2007) argued that according to some studies job satisfaction has none to moderate influence on the absenteeism level. Although, they also concluded their study that there is a positive relationship between absenteeism and job satisfaction. Employees with higher satisfaction with their job has also higher level of absenteeism. The reason is that committed employees believe that their absenteeism is admissible for the management since their contributions and efforts to the work and the organization are significant.

2.3. Relation between Motivation and Job Satisfaction

Although motivation and job satisfaction are mistakenly confused with each other, they refer to significantly different phenomena. On the other hand, the confusion gets its root from the relation between motivation and job satisfaction of which the latter one is found to be in direct correlation with the first one in empirical research studies. The definitions of both terms are given in the related chapters in this study. Briefly, motivation is described as a combination of processes which maintain, direct and arouse an individual's actions towards her/his desired goals (Greenberg & Baron, 2000). Job satisfaction is perceived as emotional state of an individual towards work related conditions and situations (Kinicki & Kreitner, 2003).

According to Furnham (2005) whether the presence of circumstances and factors affecting the motivation of a person directly imposes her/his job satisfaction. On the other hand, Sorge and Warner (1997) claims that job satisfaction is a by-product of motivation. In other words, when an employee in need of something, a tension will occur, which lead that person to achieve the goals that may satisfy these needs, finally it results in job satisfaction. Kreitner et al (2002) argues that there is a positive relation between these two phenomena that increase in job satisfaction will result in increase in motivation as well. In addition to this, researchers also investigate the relation between job satisfaction and job performance. Christen et al. claims that if an employee is satisfied from good performance, their motivation to avoid a duty decreases (Christen, Iyer & Soberman, 2006).

This study also examines the relation between job satisfaction and motivation, and the findings are thoroughly discussed in further chapters.

2.4. Relation between Motivation and Job Satisfaction

Motivation and job satisfaction have been studied by many researchers and they proposed varied definitions for these two complex human phenomena. However, it is

drawn from the literature that the relation between them has not been investigated as much. There is a contradiction between researchers whether there is a positive relation or even a presence of a relation. In addition to this, in the project management literature, the construction workers have been investigated in light of motivation and job satisfaction by many researchers (Wang, Goodrum, Haas, & Glover, 2009). However, not many studies are focused on the motivation of architects (Oyedele and Tham, 2007). Damci et al (2018) argue that the performance of a company can be enhanced by not only by motivating the workers but also motivating the architects. Therefore, the aim of this research is to shed light on the relation between motivation and job satisfaction of architects working at architectural design offices in Turkey.

In the literature, various theories of motivation are proposed by researchers which are thoroughly explained in this chapter. Motivation is mostly acknowledged as internal and external motivation by most of these motivation theories. That is why most studies determine the factors affecting the motivation regarding internal and external motivation. However, it is important to determine these factors in relation to the job itself which in this case is architecture. Therefore, the factors are drawn from the study of Oyedele (2010) due to the reason that he determined motivation factors related to architectural design offices specifically. In his study, Oyedele (2010) investigates the importance of these factors according to architects and conducts a survey among a sampling group. In this study, these factors are modified regarding the circumstances in Turkey and they are not only investigated about their importance to architects but also their presence at the moment the survey is conducted for the participants. Therefore, an overall motivational level is obtained for each participant.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Framework Development

The theoretical framework (Figure 3.1.) of this study is based on the hypothesis that the motivation of an employee affects their job satisfaction, and therefore it has an impact on the employee performance. Since performance of design teams has a crucial impact on the project success, it is essential to examine the motivation factors and job satisfaction scales in order to maintain project success and therefore organizational success. It is considered that there are two types of motivation which are intrinsic motivation and extrinsic motivation which is also shown in the Figure 3.1. According to Aronson et al. (2002), extrinsic motivation is associated with external rewards such as benefits and salary, work conditions, work environment and job security. On the other hand, intrinsic motivation is associated with intrinsic needs which satisfy an individual (Mak & Sockel, 2001). The framework of this research includes both types of motivational factors as they influence the job performance of employees.

The framework is based on the motivation attributes developed specifically by Oyedele (2010) for the discipline of architecture. In this study, the motivation factors are clustered as project-related, organization-related and team-related factors due to the fact that one of the objectives of this research is also to analyze the motivational level of architects regarding these clusters.

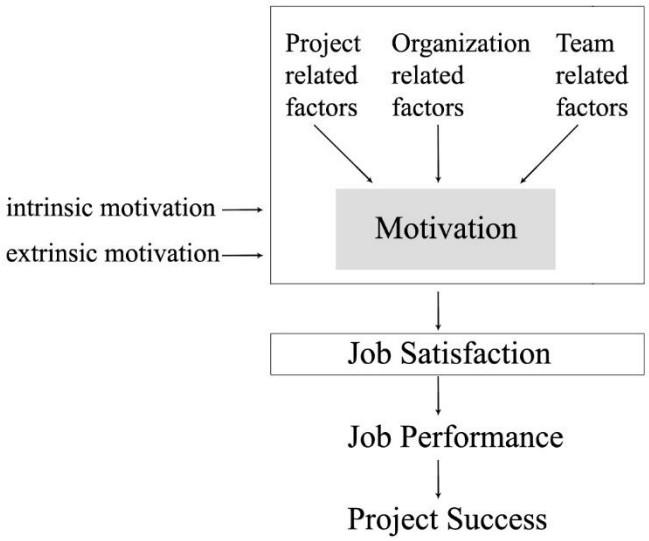

Figure 3.1. Theoretical Framework of the Study

The factors affecting the job motivation of architects are listed in Table 3.1 (Oyedele, 2010) along with the motivation theory that they are related to and also the motivation category they are clustered into which are project-related, organization-related and team-related.

Table 3.1 *Motivation Criteria and Related Motivation Theory and Category*

MC	Motivation Criteria	*Motivational theory*	*Category*
MC1	Realistic project time and goals	Locke, Equity	Project
MC2	Clear project definition and planning	Herzberg,Locke	Project
MC3	Appropriate changes/variations of design if necessary	Herzberg,Equity	Project
MC4	Matching project duties and tasks with individual interests and skills	All Content Theories	Project
MC5	Compatibility of design decisions with project objectives	Herzberg	Project
MC6	Satisfactory support from organization on employees' career development	All Content Theories	Organisation
MC7	Managing all employees equally	Equity	Organisation

MC8	Adequate salary and appropriate rewards and incentives	Expectancy	Organisation
MC9	Good workplace (adequate lighting, heating etc.)	All Content Theories	Organisation
MC10	Effective organization of project tasks	Herzberg	Organisation
MC11	Recognition of individual efforts and contributions by organization	Equity	Organisation
MC12	Adequate feedback mechanism on project / project work by supervisor	Equity	Organisation
MC13	Adequate involvement in decision making process of a project	Equity	Organisation
MC14	Adequate tolerance and freedom in completion of a project work	All Content Theories	Organisation
MC15	Realistic expectations from organization and client	Locke's	Organisation
MC16	Low pressure and appropriate workload	Equity	Organisation
MC17	Adequate resources for completing of a project (computers and software etc.)	All Content Theories	Organisation
MC18	Job security	All Content	Team
MC19	Good coordination within project team	Herzberg	Team
MC20	Good communication and harmonious working relationship within project team	Herzberg	Team
MC21	Adequate competencies within project team	Herzberg	Team
MC22	Good commitment to a project within project team	Herzberg	Team
MC23	Open interaction and good communication between superiors and subordinates	Herzberg	Team
MC24	Adequate encouragement and support from supervisor	All Content	Team

3.2. Sampling

Architects who are working in architectural design offices in Ankara are targeted population in this study. According to ACE (The Architects' Council of Europe) there are relatively 937 offices in Ankara (Kayaçetin & Tanyer, 2010). In addition to this, according to the Chamber of Architects in Ankara that 9525 architects are registered members. In order to reach out to the architects, an e-mail was sent to the Chamber of Architects in Ankara which was including a purpose of the study and an online link of the questionnaire. The Chamber agreed to share the link with their registered members via e-mail; therefore, the questionnaire was sent to the architects. In conclusion, there are 127 architects have participated in the questionnaire, which is %1.35 of the sampling size. However, there is no data about the exact population of the architects in Ankara at the moment. In light with this, it is assumed that the number of architects which are living in Ankara and also working at the moment would be lower than the number of registered architects.

3.3. Preparation and Execution of the Questionnaire

First of all, a pilot study is conducted in order to maximize the validity and the reliability of the questionnaire. A list of motivation factors is sent to the architects which are also belong to the sampling group and their opinion on the criteria was asked. According to the feedback from the architects, the list is revised accordingly and finalized for the structured questionnaire.

The structured questionnaire is constructed as 3 parts which are socio-demographic information, motivation criteria, and finally job satisfaction measurement. The first part includes the questions about the demography of the architects which are gender, age, tenure, which university they are graduated from, how many offices that they have worked at so far, how various offices (architectural, engineering firm etc) that they have worked at so far, their responsibilities at the office they are working at the moment, and finally the number of employees at their office. In the second part, participants are asked to rank the motivation criteria according to their importance in

a Likert scale which is (1) not important, (2) less important, (3) important, (4) very important, (5) absolutely important. Additionally, participants are also asked to rank the presence of the related motivation criteria whether the criteria is existing in the office that they are working at the moment in a Likert scale which is (1) not present, (2) less likely to present, (3) present, (4) more likely to present, (5) absolutely present. In order to measure the job satisfaction of architects, Minnesota Satisfaction Questionnaire (MSQ) is adopted in the third part of the questionnaire. In this part, there are 20 facets of job satisfaction which is translated from the MSQ original version from English to Turkish. The participants were also asked to rank these 20 facets of job satisfaction in order to reveal how much they feel satisfied about the related situation at their workplace in a Likert scale which is (1) very dissatisfied, (2) dissatisfied, (3) neither satisfied nor dissatisfied, (4) satisfied, (5) very satisfied.

After the questionnaire was constructed, an online version was published via Google Forms in order to access the target population. Chamber of Architects in Ankara agreed to deliver the questionnaire to their registered members in Ankara by e-mail explaining the study with an active link to the online structured questionnaire. At the end, total of 127 architects have participated in the questionnaire.

3.4. Minnesota Satisfaction Questionnaire

Two different approaches are used to measure job satisfaction which are facet approach and global approach. The selection of the measurement tool depends on the aim of the study and also the targeted population in the study. Although, there is an agreement on the phenomena of job satisfaction, there is an ongoing controversy about the measurement of it in the field of organizational behavior.

In this study Minnesota Satisfaction Questionnaire (MSQ) is conducted to measure the job satisfaction due to the fact that it is acknowledged to be one of the most reliable measurement tools to measure the overall job satisfaction as well as to investigate the various facets of it (Cook, 1981). MSQ is a highly used measurement method in the literature and it is also validated by Weiss et al (1967).

This questionnaire is developed by Weiss et al (1967). There is a long form of this test which contains 100 facets, and short version consists of 20 facets of job satisfaction which is shown in the Table 3.2. The short version of this questionnaire is going to be used in this study in order to save time and also the main focus of this study is not only the job satisfaction but also motivation, and their relations. That is the reason the short version of the MSQ is sufficient for this study. Another reason to choose this measurement method is that it also allows to assess the internal and external satisfaction level of participants. In addition to this, Hirschfeld (2000) comes to a conclusion that the subscales of the MSQ short form are coherent with the theoretical distinction between extrinsic and intrinsic job satisfaction. The intrinsic and extrinsic distinction of the job satisfaction facets are illustrated in the Table 3.2 along with the scale they refer to.

Table 3.2. *Job Satisfaction Facets*

JS	Job Satisfaction Facets	*Type*	*Scale*
JS1	Being able to active all the time	Intrinsic	Activity
JS2	Being able to work alone on the job itself	Intrinsic	Independence
JS3	Being able to work on different things from time to time	Intrinsic	Variety
JS4	The chance to have a belongingness to the community	Intrinsic	Social status
JS5	Supervisor's management style	Extrinsic	Supervision
JS6	Supervisor's competency	Extrinsic	Supervision
JS7	Being able to work in respect to one's conscience	Intrinsic	Moral values
JS8	Job security	Intrinsic	Security
JS9	Being able to do things for other people	Intrinsic	Social Service
JS10	Being able to tell other people what to do	Intrinsic	Authority
JS11	The chance to have responsibilities regarding the one's abilities	Intrinsic	Ability Utilization
JS12	The company's way of applying the company policies into the practice	Extrinsic	Company Policies
JS13	The salary and the work load	Extrinsic	Compensation
JS14	Being able to do self-improvement	Extrinsic	Advancement
JS15	Being able to use my own judgement	Intrinsic	Responsibility
JS16	Being able to try my own methods of doing the job	Intrinsic	Creativity
JS17	The working conditions	General	Conditions
JS18	The relationships between the co-workers	General	Co-workers
JS19	Acknowledgement for doing a good job	Extrinsic	Recognition
JS20	Being able to feel accomplished from the job	Intrinsic	Achievement

CHAPTER 4

RESULTS AND DISCUSSION

4.1. Demographic Findings

In this section, general information and the demographic findings of the participants are represented thoroughly. Demographic findings as pie charts are given in the appendices. Results show that the majority of the participants are women (%68) more than twice of men (%32). In addition to this, more than half of the participants are between the ages of 25 to 29 and the majority of the second half is between the ages of 30 and 34 according to the results. Therefore, it can be claimed that the participants are mostly young architects.

Another finding indicates that the participants were graduated from all different universities (in total 34 different universities) and there is not a majority graduate from one university. However, it can be seen that the highest rank is the Middle East Technical University which is %17 and the second ranked is İstanbul Technical University which is %9. This result is understandable under the circumstances that the targeted population, the architects reside in Ankara where the METU (Middle East Technical University) campus is located.

According to the results, the tenure of the participants mostly belongs to the rank between 1 year to 4 years and the second ranked tenure group is between 5 years and 9 years. The mean value of tenure is obtained since it was not asked categorically. Participants are also asked how many times have they changed their workplace in their career, and the results show that the majority has changed their workplace three times (%24) and the second ranked group has indicated that they never changed their workplace at all (%19). Another result which is also important is that half of the participants responded that they work at an office of which no more than 10 employees

are working at. In the light of the findings, it can be said that most of the architectural firms in Ankara are small enterprises. In addition to this, the majority (%62) has indicated that there is no engineer working at their workplace at the moment.

The participants were also asked to choose the responsibilities they have in their workplace from a list. This is asked from the participants in order to reveal the correlation between their responsibilities and their motivational level as well as their satisfaction level. The list of responsibilities as follows:

- 3D modelling
- Visualizing
- Concept design
- Preparation and brief
- Initial design
- Developed design
- Technical design
- Cost analysis and bill of quantities
- Detail design
- Construction stage (controlling)
- Project coordination
- Office coordination

4.2. Reliability and Validity

Validity means how accurate a measurement tool measures what is needed to be assessed regarding the aim and the objectives of the research (Carmines & Zeller 1979). In order to ensure the validity of the survey, a thorough literature review is conducted. In this study, motivation factors are derived from Oyedele's study due to the fact that these factors are directly related to the field of architecture and to increase the degree of the validity of the study. Since the questionnaire covers every aspect of the research, the content validity of it is high. Because not only the importance of the

factors but also the presence of the factors are asked to be ranked from the participants in order to assess the motivational level of architects accurately.

Exploratory factor analysis is conducted to the motivation factors in order to measure the construct validity. Kaiser-Meyer-Olkin (KMO) measure shows whether the sampling is adequate. If this value is under 0.5, the data sampling is not adequate, however if it is between 0.8 and 1 this means the sampling is adequate. The result of KMO tests (as shown in Table 4.1) indicate that the sampling is adequate due to the fact that it results in with a degree of 0.993. Another test is Bartlett's test of sphericity which is used to identify the homogeneity of the variances. The results (Table 4.1) show that p-value (Sig.) is $p<0.001$ (should be less than 0.05) which refers to that the correlation matrix is significantly different from an identity matrix.

Table 4.1. *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,933
Bartlett's Test of Sphericity	Approx. Chi-Square	2140,003
	df	276
	Sig.	,000

In order to determine the job satisfaction among the sampling, MSQ is conducted which is a highly used and validated measurement tool by many researchers in the literature. This questionnaire covers 20 subscales of job satisfaction measuring the overall job satisfaction as well as external and internal job satisfaction which covers all the aspects of the research about job satisfaction. Therefore, the content validity of the study is high.

Exploratory factor analysis is conducted in order to assess the construct validity. KMO tests (Table 4.2) results show that the value is 0.910 which means the sampling is adequate. The Bartlett tests (Table 4.2) indicate that the p-value is under 0.001 which means that the correlation matrix is not an identity matrix. Table 4.2 shows the total variance explained results, for interpretation it should be keep in mind that only the rotated and the extracted values are meaningful. The initial Eigenvalues is identical

with the extraction sums of squared loadings for the top three factors. The factors which have values less than 0.1 are not shown on the table.

Table 4.2. *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,910
Bartlett's Test of Sphericity	Approx. Chi-Square	1431,282
	df	190
	Sig.	,000

4.3. Mean Values of Motivation Factors and Motivational Level of Participants

The mean values of motivation factors according to their importance are given in the Table 4.3. According to the results five most highly ranked motivation factors are as follows:

- Adequate salary and appropriate rewards and incentives (4.61)
- Good communication and harmonious working relationship within project team (4.54)
- Managing all employees equally (4.50)
- Adequate encouragement and support from supervisor (4.50)
- Satisfactory support from organization on employees' career development (4.49)

Table 4.3. *Mean Values of Motivation Criteria*

MC	Motivation Criteria	*M*	*SD*	*N*
MC1	Realistic project time and goals	4.39	0.86	127
MC2	Clear project definition and planning	2.82	0.80	127
MC3	Appropriate changes/variations of design if necessary	4.00	1.01	127
MC4	Matching project duties and tasks with individual interests and skills	4.44	0.85	127
MC5	Compatibility of design decisions with project objectives	4.32	0.86	127

	Satisfactory support from organization on			
MC6	employees' career development	4.49	0.84	127
	Managing all employees equally			
MC7	Adequate salary and appropriate rewards and	4.50	0.86	127
MC8	incentives	4.61	0.82	127
	Good workplace (adequate lighting, heating			
MC9	etc.)	4.48	0.76	127
	Effective organization of project tasks			
MC10	Recognition of individual efforts and	4.35	0.94	127
MC11	contributions by organization	4.49	0.87	127
	Adequate feedback mechanism on project /			
MC12	project work by supervisor	4.31	0.87	127
	Adequate involvement in decision making			
MC13	process of a project	4.33	0.88	127
	Adequate tolerance and freedom in			
MC14	completion of a project work	4.27	0.88	127
	Realistic expectations from organization and			
MC15	client	4.29	0.89	127
	Low pressure and appropriate workload			
MC16	Adequate resources for completing of a	4.48	0.86	127
MC17	project (computers and software etc.)	4.37	0.85	127
	Job security			
MC18	Good coordination within project team	4.25	0.94	127
MC19	Good communication and harmonious	4.49	0.78	127
MC20	working relationship within project team	4.54	0.81	127
	Adequate competencies within project team			
MC21	Good commitment to a project within project	4.48	0.76	127
MC22	team	4.46	0.85	127
	Open interaction and good communication			
MC23	between superiors and subordinates	4.48	0.83	127
	Adequate encouragement and support from			
MC24	supervisor	4.50	0.82	127

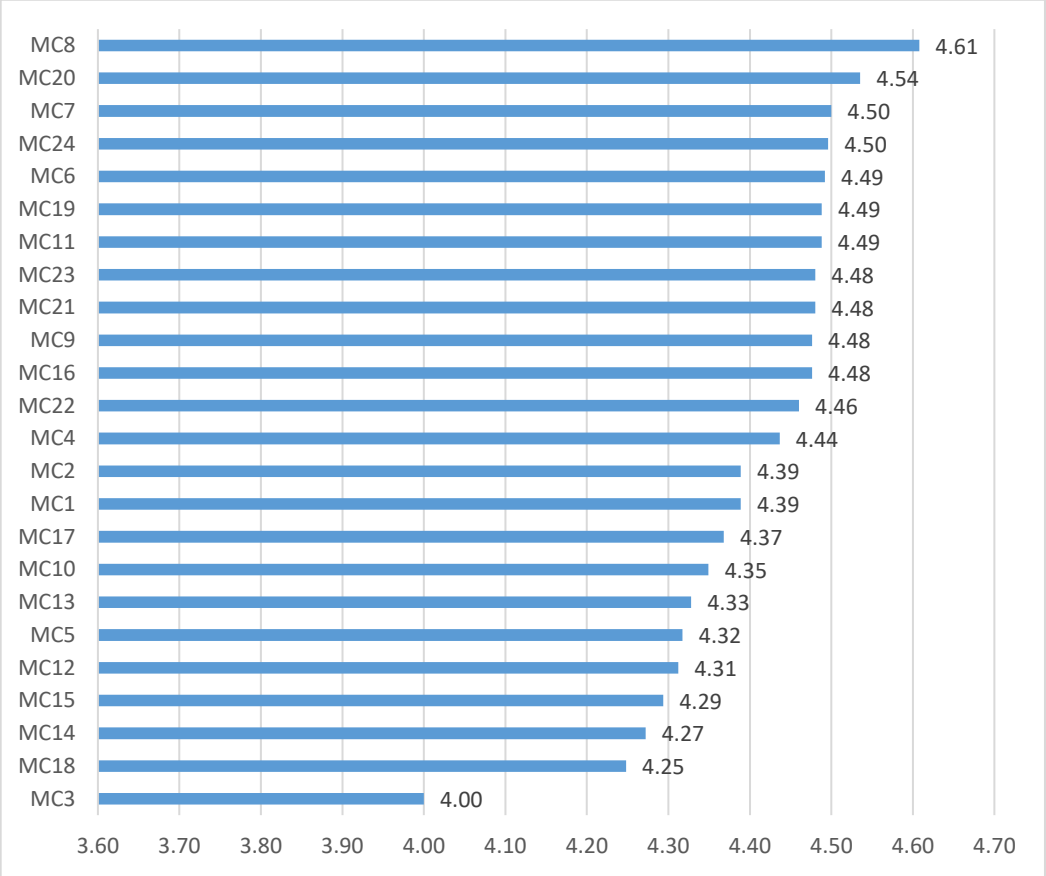

Figure 4.1. Mean Values of Motivation Criteria

Motivation factors which are indicated before are clustered under three categories which are organizational-related, team-related and project related factors (Table 4.3). According to the results, team-related factors are given the highest importance score by the participants which is 4.49 and then organizational-related factor and the least important ranked is the project-related factors (Figure 4.2). However, 3 out of 5 highly ranked motivation factors are belong to organizational-related factors, therefore this should be taken into consideration as well. In the category of team-related factors, the most high-ranked motivational factor is "Good communication and harmonious working relationship within project team" which is 4.61 (Table 4.2). In the category of organizational-related factors, the most high-ranked motivational factor is "Adequate salary and appropriate rewards and incentives" which was expected due to

the fact that in most studies in organizational behavior “salary” is given the highest importance by employees. In addition to this, “Matching project duties and tasks with individual interests and skills” is the most highly ranked motivation factor among project-related factors which is 4.44.

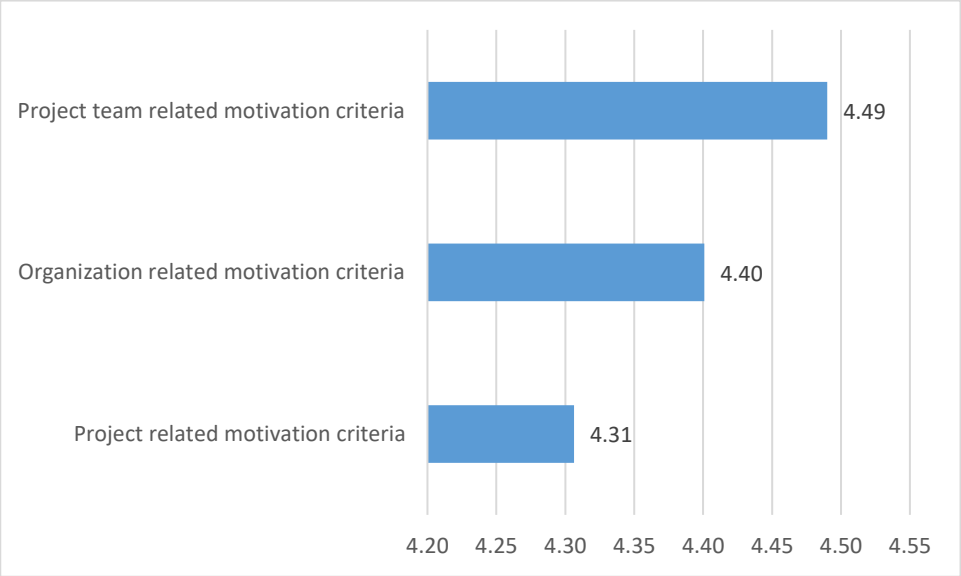

Figure 4.2. Mean Values of the Categories of Motivation Criteria

The motivational level of the participants is calculated as general motivational level as well as in each category of motivation factors separately. General motivation refers to the overall motivation of an employee. The calculation of motivation is defined as the sum of each factors’ score of multiplication of the presence score and the importance score and the results are converted to scores out of 100. The calculation is as follows:

M01(the presence x the importance) + M02(the presence x the importance) +…+Mn (the presence x the importance) = Y

Motivational Level = Y/Total Score x 100

As the results are shown in the Table 4.4, the general motivational level of participants is 55.85, while the motivational level in project-related factors is 53.60, organizational-related 54.23 and team-related factors which is 60.48. This shows that architects are mostly motivated in the category of team-related factors. However, the general motivational level of architects is not very high, considering it is 55 out of 100 score. This result should be taken into consideration since the architects play a crucial role in the construction industry of which the project success is highly important.

Table 4.4. *Descriptive Statistics of Motivation Criteria*

		projectrelated motivationfinal	organizationrelatedmotivationfinal	teamrelatedmotivationfinal	generalmotivationfinal
N	Valid	122	118	120	111
	Missing	5	9	7	16
Mean		53,6000	54,2399	60,4889	55,8529
Std. Deviation		20,24041	18,76084	21,88822	18,53814
Variance		409,674	351,969	479,094	343,662
Skewness		-,200	-,083	-,227	-,198
Std. Error of Skewness		,219	,223	,221	,229
Kurtosis		-,383	-,462	-,637	-,440
Std. Error of Kurtosis		,435	,442	,438	,455

4.4. Mean Values of Job Satisfaction Subscales and Job Satisfaction Level of Participants

According to the results of MSQ, the mean values of job satisfaction facets are illustrated in Table 4.5. which shows that the participants are mostly satisfied with "Being able to work alone on the job itself" with a score of 3,82. This result also shows that even the highly ranked satisfaction facet does not have a score higher than 4.00 which refers to "satisfied". Furthermore, this result also may be interpret as participants are merely satisfied with this subscale, although the highest score given.

In addition to this, architects are most satisfied with these subscales:

- Being able to work alone on the job itself (3,82)
- Being able to try my own methods of doing the job (3,72)

- Being able to work in respect to one's conscience (3,70)
- The chance to have responsibilities regarding the one's abilities (3,69)
- The relationships between the co-workers (3,65)

Table 4.5. *Mean Values of Job Satisfaction Facets*

JS	Job Satisfaction Facets	*M*	*SD*	*N*
JS1	Being able to active all the time	3.56	0.90	127
JS2	Being able to work alone on the job itself	3.82	1.00	127
JS3	Being able to work on different things from time to time	3.60	1.24	127
JS4	The chance to have a belongingness to the community	3.29	1.16	127
JS5	Supervisor's management style	3.38	1.22	127
JS6	Supervisor's competency	3.42	1.22	127
JS7	Being able to work in respect to one's conscience	3.70	1.14	127
JS8	Job security	3.51	1.37	127
JS9	Being able to do things for other people	3.35	1.21	127
JS10	Being able to tell other people what to do	3.05	1.12	127
JS11	The chance to have responsibilities regarding the one's abilities	3.69	1.19	127
JS12	The company's way of applying the company policies into the practice	3.08	1.15	127
JS13	The salary and the workload	2.49	1.36	127
JS14	Being able to do self-improvement	3.10	1.27	127
JS15	Being able to use my own judgement	3.44	1.17	127
JS16	Being able to try my own methods of doing the job	3.72	1.09	127
JS17	The working conditions	3.41	1.20	127
JS18	The relationships between the co-workers	3.65	1.20	127
JS19	Acknowledgement for doing a good job	3.33	1.39	127
JS20	Being able to feel accomplished from the job	3.53	1.31	127

The job satisfaction level of participants is measured according to the MSQ Manual which is to sum the scores of all job satisfaction facets. Furthermore, since the facets are distinguished by intrinsic and extrinsic, the internal and external job satisfaction of participants are measured as well. The results show that the general job satisfaction level of participants is 68,36, the internal job satisfaction level is 70,32 and external job satisfaction level is 46,91. General job satisfaction refers to overall satisfaction of an employee towards her / his job. Considering the general and internal level, it can be said that the external level is considerably lower than the first two types of job satisfaction among participants.

Table 4.6. *Descriptive Statistics of Job Satisfaction Levels*

		General Satisfaction	Internal Satisfaction	External Satisfaction
N	Valid	118	122	124
	Missing	9	5	3
Mean		68,3644	70,3279	46,9153
Std. Deviation		16,09250	15,80941	15,07134
Variance		258,969	249,938	227,145
Skewness		-,522	-,792	-,104
Std. Error of Skewness		,223	,219	,217
Kurtosis		-,056	,349	-,799
Std. Error of Kurtosis		,442	,435	,431

4.5. Regression Analysis and Correlation Tests

Before conducting correlation tests, hypothesis was set as the following:

$H1_0$: Motivation and job satisfaction are either directly or inversely related.

$H1_1$: Motivation and job satisfaction are directly related.

$H2_0$: Internal satisfaction and project-related motivation are either directly or inversely related.

$H2_1$: Internal satisfaction and project-related motivation are directly related.

$H3_0$: Project-related motivation and organization-related motivation have either the highest or weakest correlation among motivation variables.

$H3_1$: Project-related motivation and organization-related motivation have the highest correlation among motivation variables.

Multiple regression analyses were conducted in order to determine the relations between internal satisfaction, external satisfaction, project-related motivation, team-related motivation, organization-related motivation and demographic variables. Demographic variables included age, gender, office capacity, number of engineers working in the office, number of other professionals working in the office, and finally number of responsibilities that the participant currently have. Multiple regression model was constructed for each dependent variable which were internal and external satisfaction, project-related motivation, team-related and organization-related motivation variables are taken as dependent variables in the model. The model was conducted with stepwise method in order to determine the possible predictors for dependent variables. Meanwhile, the demographic variables are considered as the independent variables of the model. If the model is conducted with a dependent variable related to motivation, then the variables related to satisfaction were taken as independent variables as well and vice versa. The regression models run through by SPSS Statistics Data Editor.

Correlation matrix was built in order to detect any multi-collinearity among variables. Between the variables of “internal satisfaction” and “external satisfaction”, strong positive correlation was identified ($r = .76$). There is a highly strong and positive correlation between the variables of “generable satisfaction” and “internal

satisfaction" (r = .94) and between the variables of "general satisfaction" and "external satisfaction" (r = .92).

In addition to this, strong correlations were also detected between the motivation related variables. "Project-related motivation" has a strong positive relation with "organization-related motivation" (r = .81) and also have a relatively strong positive relation with the variable of "team-related motivation" (r = .71). Moreover, also the variables of "organization-related motivation" and "team-related motivation" are determined to be in a strong positive relation (r = .77).

On the other hand, results show no strong relation between the variables related to job satisfaction and the variables related to motivation. Between these variables, the strongest correlation is between the variable "internal satisfaction" and "project-related motivation (r = .40) which is considered to be a slightly moderate correlation. Variance inflation factors were run thorough due to the strong correlations. No multi-collinearity is detected among variables, since the highest VIF was under ten (VIF = 2.78).

According to regression model results, the most significant predictor for general motivation was the variable "general satisfaction" ($F(1,100) = 15.51$, $p < 0.001$, R^2). Results also showed that the regression model predicts the dependent variable "general motivation" significantly well since the p value is under 0.05. The equation of the model is as follows:

General motivation = 25.942 + 0.44 (general satisfaction)

The curve demonstrating the relationship between "general motivation" and "general satisfaction" showed that these variables have a linear relationship. This means, increase in general satisfaction lead to increase in general motivation. Therefore, the hypothesis H1 is correct.

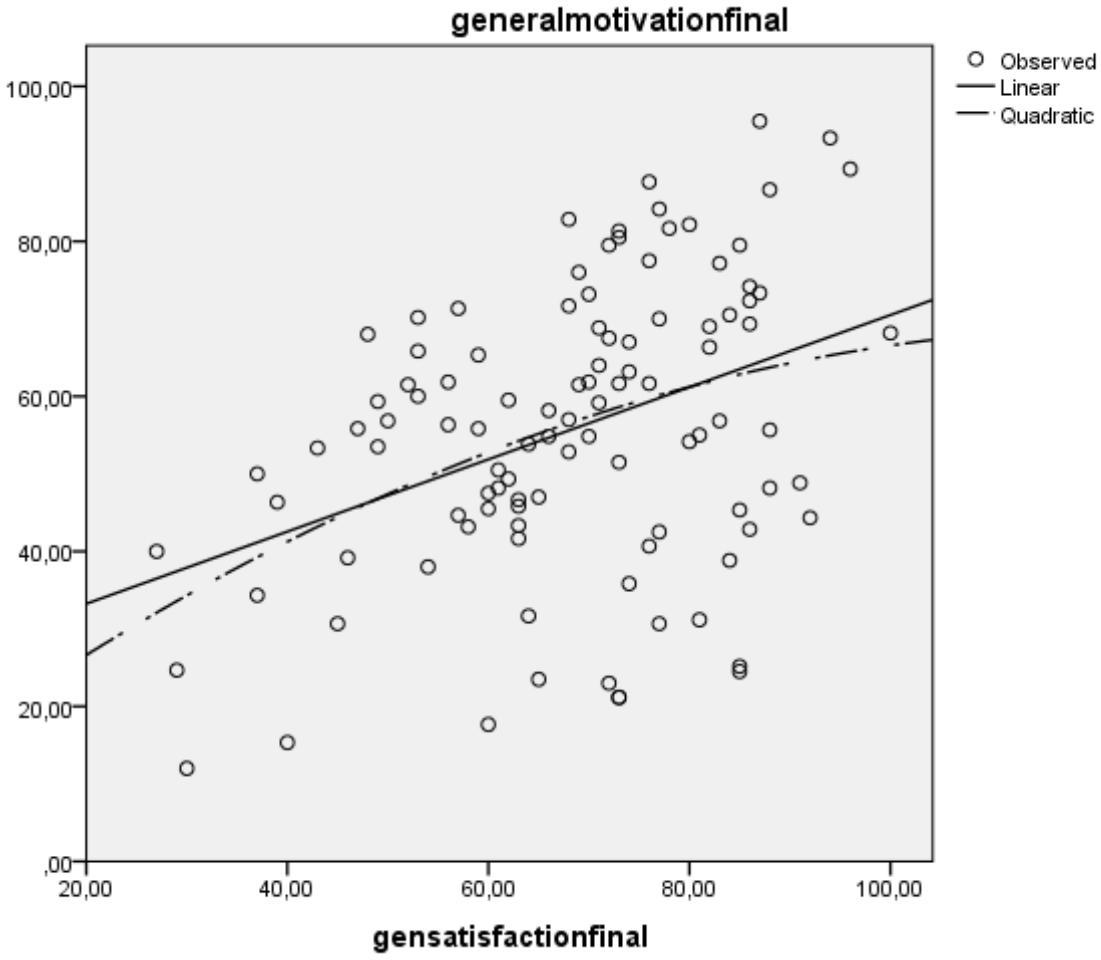

Figure 4.3 Curve Fitting Between General Motivation and General Satisfaction

The most significant predictor for the variable "internal satisfaction" was the variable "project-related motivation" ($F(1,117) = 21.73$, $p<0.001$, $R^2 = 0.157$). The equation of the model is as follows:

Internal satisfaction = 54.10 + 0.30 (project-related motivation)

According to the estimated curve between "internal satisfaction" and "project-related motivation", these two variables have a directly relation.

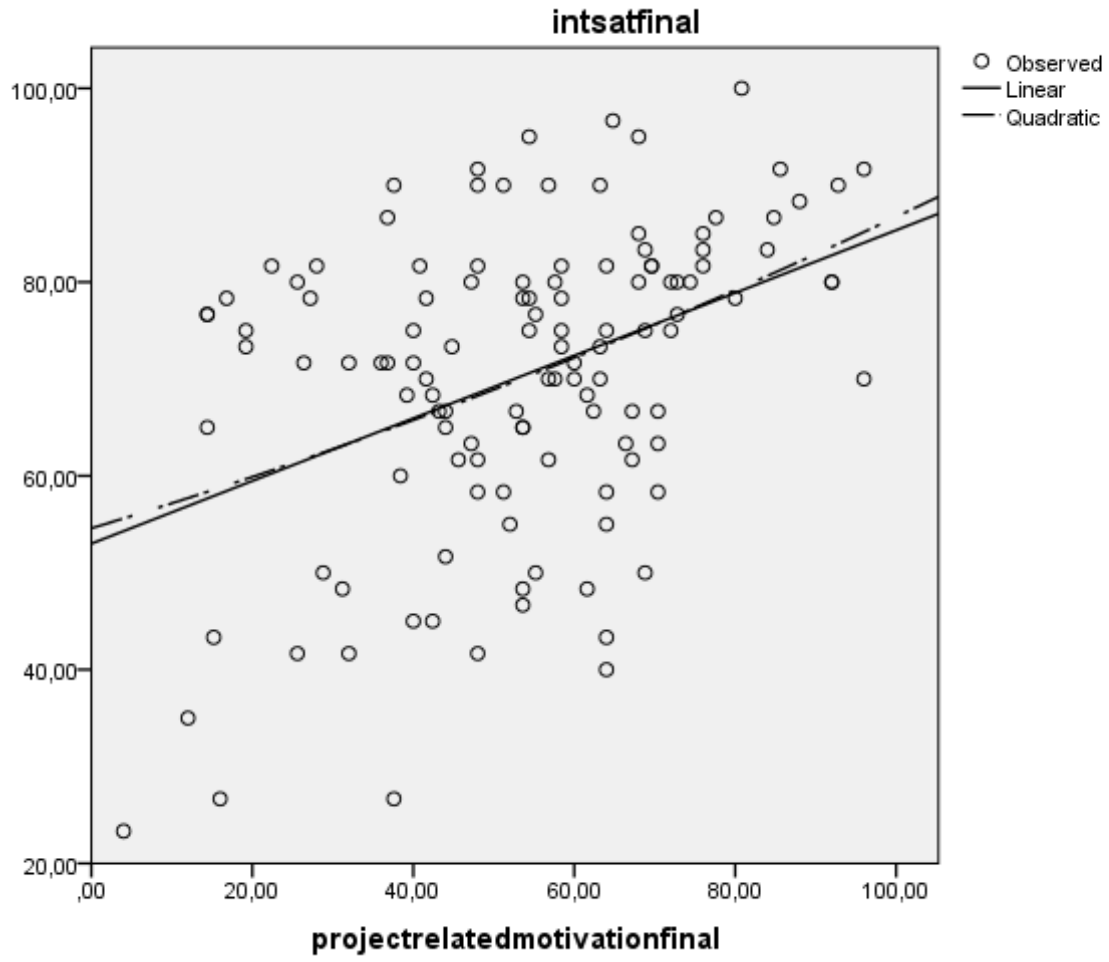

Figure 4.4 Curve Fitting Between Internal Satisfaction and Project-related Motivation

The model also demonstrated that for the variable "external satisfaction", the most essential predictor is the variable "project-related motivation" ($F(1,119) = 16.99$, $p < 0.001$, $R^2 = 0.125$). This was also a predictor for the variable "internal satisfaction" as indicated before. The equation for the prediction of "external satisfaction" is shown below:

External satisfaction = 33 + 0.26 (project-related motivation)

Furthermore, the curve as shown in Figure 4.5 was fitted to determine the relationship between "external satisfaction" and "project-related motivation". The estimated curve demonstrated the relation was linear ($p < 0.001$).

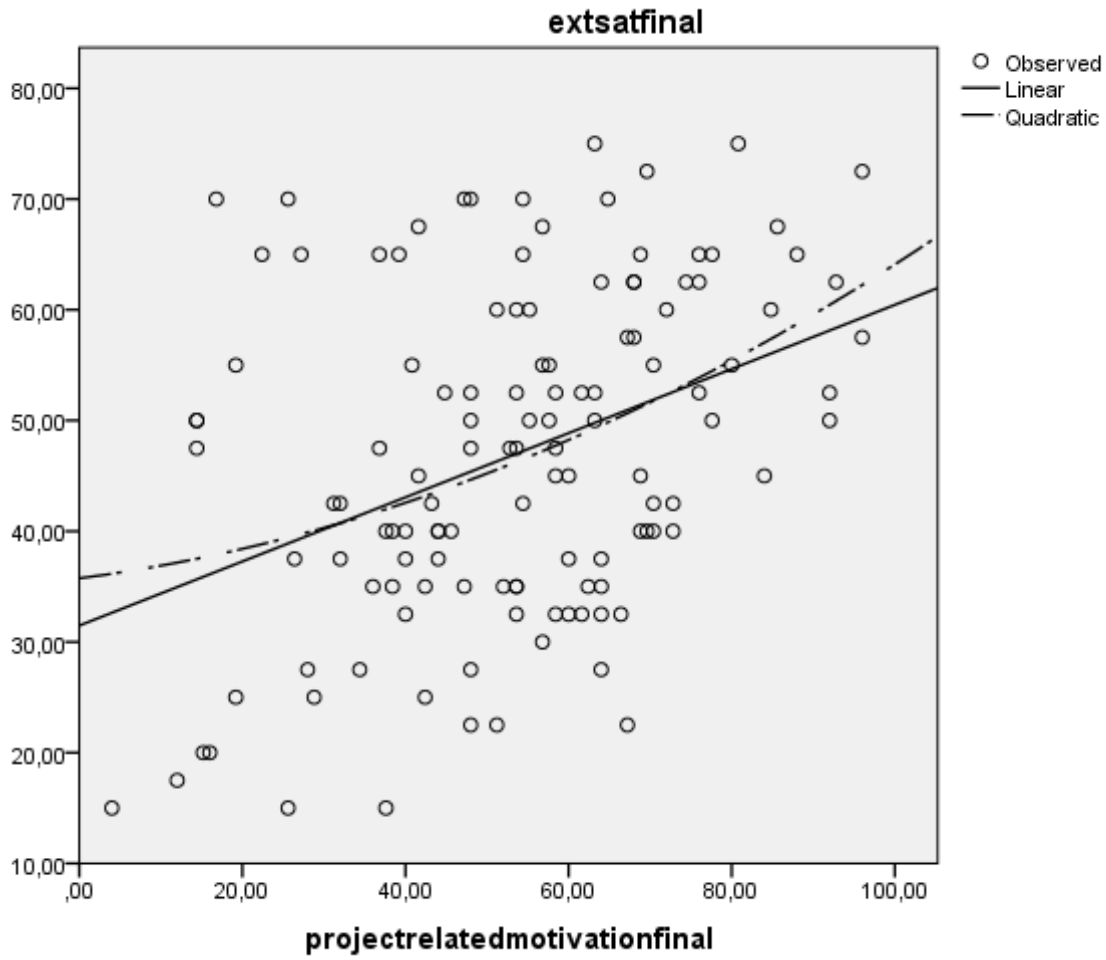

Figure 4.5 Curve Fitting Between External Satisfaction and Project-related Motivation

According to the regression models, the most important predictor for the variable "team-related motivation" was the variable "external satisfaction" ($F(1,115) = 10.65$, $p < 0.001$, $R^2 = .085$). The results demonstrated the equation as follows:

Team-related motivation = 40,78 + 0.41 (external satisfaction)

The estimated curve demonstrated that the relationship between these two variables was linear.

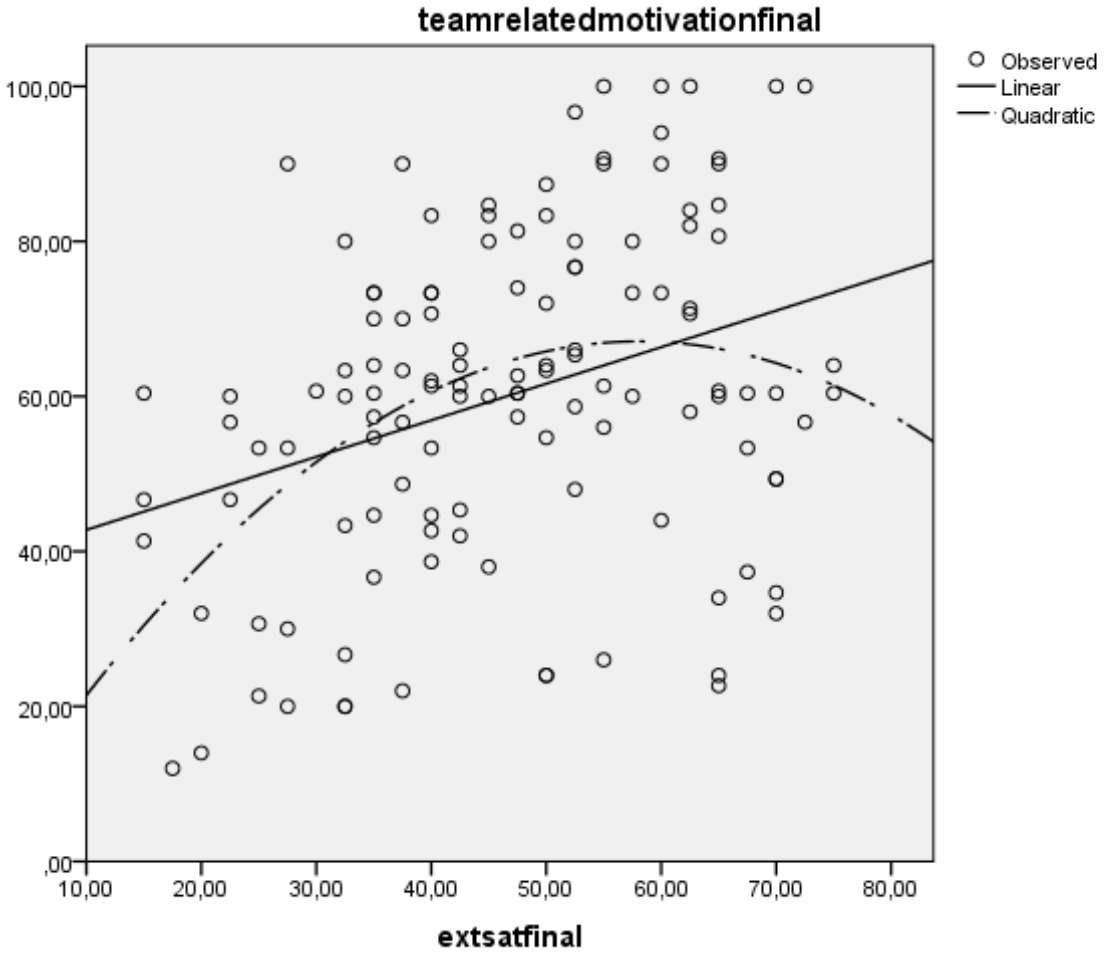

Figure 4.6 Curve Fitting between Team-related Motivation and External Satisfaction

Finally, the model also determined that for the variable "organization-related motivation", the most significant predictor was the variable "internal satisfaction" ($F(1,115) = 11.43$, $p < 0.001$, $R^2 = 0.90$). The equation for the prediction of organization-related motivation is as follows:

Organization-related motivation = 30,31 + 0.34 (internal satisfaction)

According to the curve which was constructed to show the relation, organization-related motivation has a direct relation with internal satisfaction.

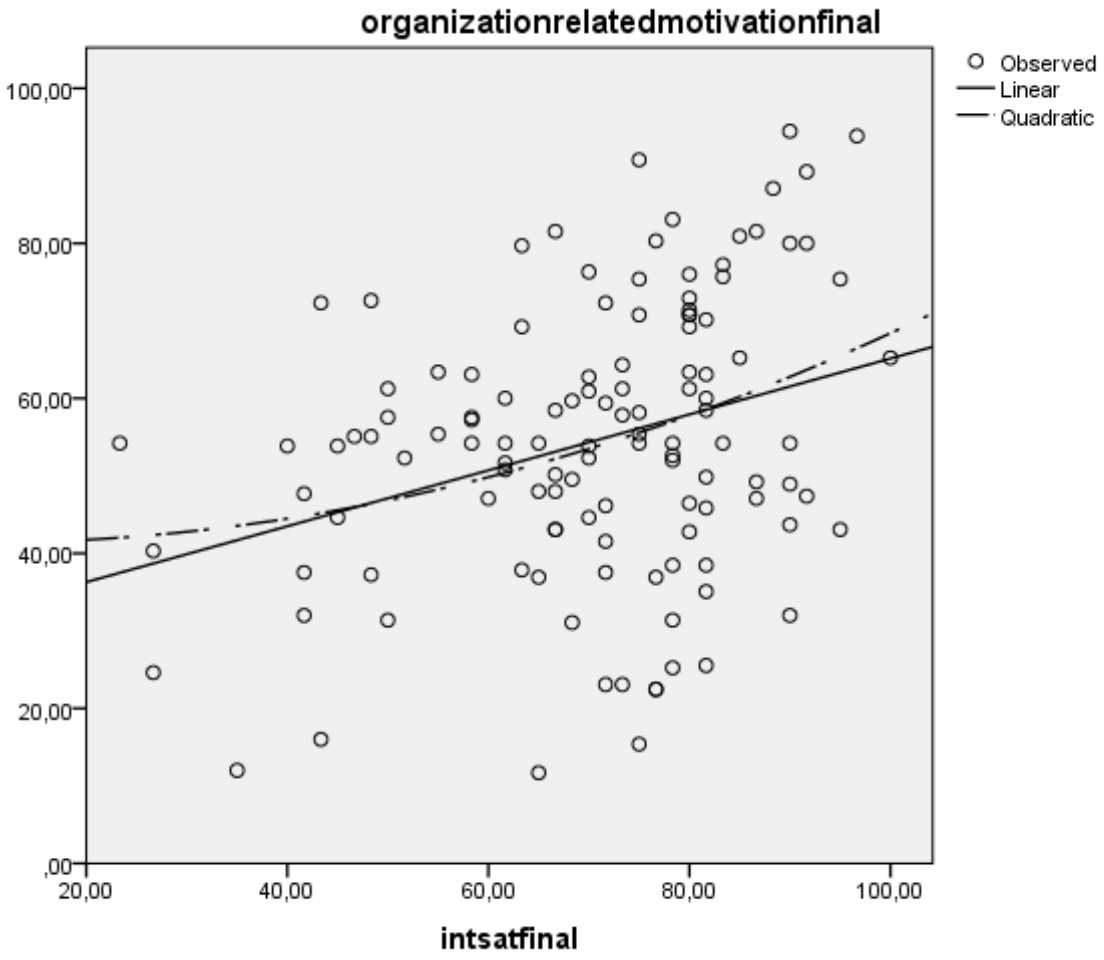

Figure 4.7 Curve Fitting between Organization-related Motivation and Internal Satisfaction

CHAPTER 5

CONCLUSION

5.1. Summary of the Research

Traditionally, project success is defined as scope, budget and time (the Iron Triangle) (de Wit, 1988). On the other hand, de Wit (1988) also claims that although the absence of the triple constraint definitely leads to a failure, they are not enough to successfully execute a project. In recent years, it is acknowledged that the human factor has an effect on project success due to the fact that all projects are run by people (Cooke-Davies, 2002). Therefore, it is crucial to investigate the motivation and job satisfaction in order to maintain project success and organizational success which are the utmost aim of the construction companies as well as the architectural design offices. In light of this, this research was focused on to assess the motivational level and the job satisfaction level of the architects who work in architectural design offices in Turkey as well as to determine the relationship between these two phenomena.

In accordance with the objectives of this research, a framework was developed. The framework of this study relies on the idea that motivation has a positive relation on job satisfaction. In order to assess the relations of the motivation of architects, it is essential to determine the factors affecting it in accordance with the profession. Therefore, factors were driven from a study which the attributes were determined specific to the field of architecture (Oyedele, 2010). The factors were clustered as project-related motivation, organization-related motivation and finally team-related motivation. Job satisfaction was investigated as general, internal and external job satisfaction.

A questionnaire was conducted including three parts. In the first part, the participants were asked about their background such as age, gender, tenure, university, number of

workplaces that they have worked at, their responsibilities, office capacity and number of engineers and other professionals working at their office. In the subsequent part, the participants were asked to rank the importance and the presence of the motivation factors. Finally, the last chapter consisted of 20 job satisfaction subscales. The job satisfaction was measured by Minnesota Satisfaction Questionnaire.

After the data collection, the analyses were conducted. First, the descriptive analyses were conducted in order to assess the mean values of the motivation factors and job satisfaction subscales. Then, the general motivational level and general satisfaction level of architects were measured. Furthermore, project-related motivation, organization-related motivation and finally team-related motivation of the participants were also measured in order to determine the correlations. In addition to this, internal and external satisfaction levels are also measured according to the MSQ manual.

Correlation matrix was constructed to determine the relations between the variables related to job satisfaction and the variables related to motivation. After the correlations were determined, multiple regression model was conducted. In order to assess the most significant predictors, the step-wise method was chosen for the model.

5.2. Main Results

According to the results, there have been a significant findings about the motivation and the job satisfaction of the architects. In this chapter, the main results of this research are summarized in this following order; the motivational level and job satisfaction level of the participants, and the relations between these two phenomena.

5.2.1. Motivation of Architects

The motivation factors were clustered under project-related, organization-related and team-related factors. The motivational level of architects are calculated (out of 100) separately regarding the clusters including the general motivational level. The results of motivational level of architects according as follows:

- Project-related motivational level: 53.60

- Organization-related motivational level: 54.23
- Team-related motivational level: 60.48
- General motivational level: 55.85

It can be easily said that the motivational level of the participants is between “neither motivated nor de-motivated” and “motivated”. This is an important information to take into consideration due to the fact that the architects who are working at architectural design offices are neither motivated nor de-motivated. In other words, they seems to be neutral towards their job in terms of motivation. In addition to this, it can easily be drawn from the conclusion that their needs for motivation are mostly not covered and supported by companies. Although architects seems to be neutral towards their jobs, if the critical motivation factors take into consideration by architectural design companies their motivation can be enhanced and that would definitely lead to an increase in productivity and therefore project success.

Although the architects have mostly motivated with team related factors, they are not highly but moderately motivated, since the score is 60 out of 100. Therefore, it is crucial to take into consideration the critical motivation factors to enhance the motivation of the architects. Critical motivation factors were identified in the previous chapter according to the mean values of the factors which are as following:

- Adequate salary and appropriate rewards and incentives (4.61)
- Good communication and harmonious working relationship within project team (4.54)
- Managing all employees equally (4.50)
- Adequate encouragement and support from supervisor (4.50)

5.2.2. Satisfaction of Architects

General satisfaction level as well as internal and external satisfaction level of the participants were measured according to the MSQ manual. Results showed that architects are moderately satisfied with their job (general satisfaction level is 68,36).

Additionally, internal and external job satisfaction level of architects were measured. Internal satisfaction level was measured as 70,32, while the external job satisfaction level was measured as 46,91. The fact that there is a huge difference on the scores of internal and external job satisfactions should be taken into consideration to enhance the general satisfaction of architects. Although, the internal satisfaction factors are satisfying for the architects, they seems to not be satisfied with the external factors. The reason of these results are correlated with the motivational levels also. According to the results of motivational levels the project related and organization related motivational levels are lower (53.60, 54.23) than team-related motivational level (60.48). It seems so that the motivation factors and satisfaction factors that related to the companies are not provided and supported by the architectural design companies. That is why there is a huge difference of satisfaction levels between internal and external satisfaction factors.

According to the regression model results, the highest predictor for the general satisfaction is general motivation. Therefore, it is imperative to claim that in order to enhance the job satisfaction, motivation should be enhanced also. An increase in motivation leads to increase in job satisfaction and vice versa. In addition to this, for internal and external satisfaction, the variable of "project-related motivation" is the highest predictor. Therefore, in order to enhance the job satisfaction of architects, one should pay attention to the project-related motivation factors.

The results from the regression model also showed that the internal satisfaction is the highest predictor for the variable of project-related motivation and also for the variable of organization-related motivation. However, for the variable of team-related motivation, external satisfaction is the highest predictor.

Between two phenomena of motivation and satisfaction, architects are more satisfied with their job than motivated with their job. This should be taken into consideration due to the fact that motivation and job satisfaction are directly correlated according to the findings of this study which was explained in the previous chapter. Moreover,

results show that they have a positive relation which means an increase in motivation leads an increase in job satisfaction as well. In addition to this, demographic variables have no impact on the job satisfaction level and motivational level according to the findings. Results also demonstrated that the project-related factors have the most impact on the job satisfaction. Since the project-related motivational level of architects are not relatively high (53,60), organizations should enhance the presence of these factors in order to increase the internal and external satisfaction.

5.3. Limitations of the Study

The sampling was not randomly selected and the sampling is only %1 of the architects who are registered to Chamber of Architects Ankara and they are chosen from the same geographic area. The size of the participants (N=127) put some limitations on the study. In order to get an adequate result from a regression model, every variable should have at least 10-15 of sample for every possible answer. Since some of the demographic variables have more than 10 answers such as the variable of "university" and "the responsibilities of architects", they are excluded from the multiple regression model due to the inadequate sampling.

5.4. Recommendations for Future Studies

This study has identified the relations between the motivation and job satisfaction and compiled a thorough literature survey about previous studies. Sampling size would be wider in order to assess more correlations between demographic data and factors affecting both motivation and job satisfaction. In addition to the sampling size, to include the architects who work at public institutions may lead to important findings. Furthermore, including both (architects work at private sector and public institutions) may give us an idea of what motivates them and what are the differences between them and what to interpret in order to enhance the motivation and job satisfaction. Another data that can be essential for further studies is to assess the turnover rate in architectural design offices.

In order to assess any additional underlying factors that have an impact on the motivation and the job satisfaction of architects in Turkey, cultural characteristics of architectural field in Turkey would be essential to do research on. Hofstede's VSM measurement instrument may be a useful tool to measure the cultural dimensions of the sector. Since the projects are run by people, researches on cultural dimensions of architecture in Turkey might be important to correlate with motivation and job satisfaction.

REFERENCES

Adams, J. (1963). Towards an understanding of inequity. *Journal of Abnormal and Social Psychology, 67*, 422-436.

Adams, J. (1963). Towards an understanding of unequity. *Journal of Abnormal and Social Psychology*, 422-436.

Alderfer, C. (1972). *Existence, Relatedness and Growth.* New York: Macmillan.

Al-Zawahreh, A., & Al-Madi, F. (2012). The utility of equity theory in enhancing organizational effectiveness. *European Journal of Economics, Finance, and Administrative Sciences*, 1-31.

Amabile, T. (1993). Motivational synergy: Toward new conceptualizations of intrinsic and extrinsic motivation in the workplace. *Human Resource Management Review, 3*(3), 185-201.

Armstrong, M. (2006). *A Handbook of Human Resource Management Practice.* London: Kogan Page Publishing.

Arnold, C., & Boshoff, C. (2002). Compensation, esteem valence and job performance: An empirical assessment of Alderfer's ERG theory. *The International Journal of Human Resource Management*, 697-719.

Aronson, E., Wilson, T., & Akert, R. (2002). *Social Psychology.* New Jersey: Prentice Hall.

Arvery, R., & Murphy, K. (1998). *Organizational Behavior.* McGraw Hill Company.

Ashley, D. B., Lurie, C. S., & Jaselskis, E. J. (1987). Determinants of construction project success. *Project Management Journal, 18*(2), 69-79.

Atkinson, R., Atkinson, R., Smith, E., Bem, D., & Nolen-Hoeksema, S. (2000). *Hilgard's Introduction to Psychology.* New York: Harcourt College Publishers.

Barrick, M., & Mount, R. (1991). The big five personality dimensions and job performance: A meta-analysis . *Personnel Psychology*, 44.

Bergmann, T., & Scarpello, V. (2001). *Compensation Decision Making.* Fort Worth: Harcourt College Publishers.

Cameron, J., & Pierce, W. (2002). *Rewards and Intrinsic Motivation: Resolving the Controversy.* Westport: Bergin and Garvey.

Carrell, M., & Elbert, N. (1974). Some personal and organizational determinants of job satisfaction of postal clerks. *Academy of Management Journal, 17*(2), 368-373.

Chua, D., Kog, Y., & Loh, P. (1999). Critical success factors for different project objectives. *Journal of Construction Engineering and Management, 125*(3), 142-50.

Chughati, F., & Perveen, U. (2013). A study of teachers workload and job satisfaction in public and private schools at secondary level in Lahore City pakistan. *Asian Journal of Social Sciences and Humanities, 2*(1), 202-214.

Churchill, G., Ford, N., & Walker, O. (1987). *Sales Force Management- Planning, Implementation and Control.* Boston: Irwin Inc.

Corning, P. (2000). Biological adaptation in human societies: A "basic needs" approach. *Journal of Bioeconomics*, 41-86.

Crow, S., Hartman, S., & Henson, S. (2006). Satisfaction for health care employees: A quest for the holy grail? *Health Care Manager, 25*(2), 142-154.

Daft, R. (2008). *Leadership.* China: Cengage Learning.

Damci, A., Arditi, D., & Polat, G. (2018). Motivating architects : The effect of personal characteristics. *The Engineering Project Organization Journal*.

Daniels, K., & Harris, C. (2002). Work, Psychological Well-Being and Performance. *Sheffield University Management School*(50), 304-309.

Davis, K., & Nestrom, J. (1985). *Human Behavior at Work: Organizational Behavior.* NewYork: McGraw Hill.

De Cenzo, D., & Robbins, S. (1994). *Human Resource Management: Concepts & Practices.* John Wiley & Sons Inc.

Deci, E. (1972). Intrinsic motivation, extrinsic reinforcement, and inequity. *Journal of Personality and Social Psychology*, 113.

Dubrin, A. (2004). *Leadership: Research Findings, Practice, and Skills.* New York: Houghton Mifflin Company.

Feather, N. (1992). Expectancy-value theory and unemployment effects. *Journal of Occupational and Organizational Psychology, 65*(4), 315-330.

Fisher, E. (2009). Motivation and leadership in social work management: A review of theories and related studies. *Administration in Social Work*, 347-367.

Forgas, J., Williams, K., & Laham, S. (2005). *Social Motivation. Conscious and Unconscious Processes.* Cambridge: Cambridge University Press.

Franken, R. (1994). *Human Motivation.* Pacific Grove: Brooks/Cole Publishing Co.

Fuller, M., Valacich, J., & George, J. (2008). *Information Systems Project Management; A Process and Team Approach* . Upper Saddle River: New Jersey: Pearson Prentice Hall.

Furnham, A., Forde, L., & Ferrari, K. (1998). Personality and work motivation. *Personality and individual differences*(26), 1035-1043.

Furnham, A., Forde, L., & Ferrari, K. (1998). Personality and work motivation. *Personality and Individual Differences,* 1035-1043.

Gagne, M., & Deci, E. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior* , 331-362.

Greenberg, J., & Baron, R. (2000). *Behaviour in Organisations.* London: Prentice-Hall Inc.

Grobler, P., & Warnich, S. (2006). *Human Resource Management in South Africa.* London: Cencage Learning EMEA.

Gruneberg, M. (1979). *Understanding Job Satisfaction.* Great Britain: Lowe and Brydone Printers Ltd.

Herzberg, F. (2003). One more time: How to motivate employees? *Harvard Business Review,* 86-96.

Herzberg, F., Mausner, B., & Synderman, B. (1959). *The Motivation to Work.* New York: John Wiley & Sons.

Hitt, M., Miller, C., & Colella, A. (2015). *Organizational Behavior.* Hoboken: John Wiley.

Hodgetts, R., & Kuratko, D. (1991). *Management.* Florida: Harcourt.

Hoppock, R. (1935). *Job Satisfaction.* New York: Harper & Brothers Publication.

Hulin, C., & Smith, P. (1964). Sex differences in job satisfaction. *Journal of Applied Psychology, 48*(2), 88-92.

Hunter, J., & Hunter, R. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin*(96), 72-98.

Jin, M., & Lee, M. (2012). The Effects of Autonomy, Experience, and Person-Organization Fit on Job Satisfaction: The Case of Public Sector. *The International Journal of Social Sciences, 6*(1), 18-44.

Judge, T., & Watanabe, S. (1994). Individual differences in the nature of relationship between job and life satisfaction. *Journal of Occupational and Organizational Psychology, 67*(2), 101-107.

Judge, T., Thoresen, C., Bono, J., & Patton, G. (2001). The job satisfaction - job satisfaction relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*(3), 376-407.

Kalleberg, A. (1977). Work Values and Job Rewards: A Theory of Job Satisfaction. *American Sociological Review, 42*(1), 124-143.

Kaplan, R., & Norton, D. (1996). *The Balanced Scoreboard: Translating Strategy to Action.* Boston: Harvard Business Press.

Kinicki, A., & Kreitner, R. (2003). *Organizational behavior: Key concepts, skills and best practices.* New York: McGraw-Hill.

Kreitner, R., & Kinicki, A. (2008). *Organizational Behavior*. New York: Irwin McGraw-Hill.

Latham, G. (2007). *Work Motivation: History, Theory, Research and Practice.* Thousand Oaks: Sage.

Leonard, N., Beauvais, L., & Scholl, R. (1999). Work motivation: The incorporation of self-concept-based processes. *Human Relations, 52*, 969-998.

Locke, E. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance*, 157-189.

Locke, E. (1976). *Handbook of industrial and organisational psychology: The nature and causes of job satisfaction.* Chicago: Rand McNally.

Locke, E., & Latham, G. (1990). *A Theory of Goal Setting and Task Performance.* Englewood Cliffs: Prentice Hall.

Luthans, F. (1995). *Organizational Behavior.* New York: McGraw-Hill.

Luthans, F. (1998). *Organizational Behavior.* Boston: McGraw Hill / Irwin.

Maidani, E. (1991). Comparative study of Herzberg's two-factor theory of job satisfaction among public and private sectors. *Public Personnel Management*, 441-448.

Mak, B., & Sockel, H. (2001). A confirmatory factor analysis of IS employee motivation and retention. *Information & Management*, 265-276.

Malone, J. (1975). William James and B.F. Skinner: Behaviorism, Reinforcement, and Interest. *Behaviorism, 3*(2), 140-151.

Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 370-96.

Maslow, A. (1987). *Motivation and Personality.* New York: Harper Collins.

Maslow, A. (2000). *The Maslow Business Reader.* New York: John Wiley & Sons.

Mayo, E. (1949). *Hawthorne and the Western Electric Company: The Social Problems of an Industrial Civilization.* New York: Routledge.

McClelland, D. (1961). *The Achieving Society.* Princeton: Van Nostrand.

Megginson, L., Mosley, D., & Pietri, P. (1982). *Management concepts and applciations* . New York: Harper Collins.

Mitchell, T. (1982). Motivation: New directions for theory, research and practice. *The Academy of Management Review, 7*(1), 80-88.

Morgan, G. (1997). *Images of Organization.* Thousand Oaks: Sage Publications.

Muchinsky, P. (1993). *Psychology Applied to Work.* Pacific Grove: Brooks/Cole.

Mullins, L. (1999). *Management and Organisational Behavior.* New York: The Dryden Pres.

Nikolaou, A., Theodossiou, I., & Vasileiou, E. (2002). Does Job Security Increase Job Satisfaction? A Study of the European Experience. 1-31.

Oyedele, L. (2010). Sustaining architects' and engineers' motivation in design firms. *Engineering, Construction and Architectural Management*, 180-196.

Petty, M., McGee, G., & Cavender, J. (1984). A meta-analysis of the relationships between individual job satisfaction and individual performance. *Academy of Management Review, 9*(4), 712-721.

Pinder, C. (1998). *Work Motivation in Organisational Behaviour.* Upper Saddle River: NJ: Prentice Hall.

Pintrich, P., & Schunk, D. (2002). *Motivation in education: Theory, research and applications.* Englewood Cliffs: Prentice Hall.

Porter, L., Bigley, G., & Steers, R. (2003). *Motivation and Work Behavior*. New York: McGraw-Hill Inc.

Quinn, R., & Baldi de Mandilovitch, M. (1980). Education and job satisfaction, 1962-1977. *The Vocational Guidance Quarterly, 29*(2), 100-111.

Robbins, S. (1988). *Management: Concepts and Applications* . New Jersey: Prentice Hall.

Robbins, S. (2005). *Organizational Behavior.* New Jersey: Pearson Education Inc.

Rubin, I. M., & Seeling, W. (1967). Experience as a factor in the selection and performance of project managers. *IEEE Transactions on Engineering Management*, 131-135.

Ryan, R., & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67.

Saleem, R., Mahmood, A., & Mahmood, A. (2010). Effect of work motivation on job satisfaction in mobile telecommunication service organizationf of Pakistan. *International Journal of Business and Management, 5*(11), 213-222.

Sanvido, V., Parfitt, K., Guveris, M., & Coyle, M. (1992). Critical success factors for construction projects. *Journal of Construction Engineering and Management, 118*(1), 94-111.

Scharff, J. (1999). Skinner's reinforcement theory: A Heideggerian assessment of its empirical success and philosophical failure. *Behavior and Philosophy, 27*(10), 1-17.

Schneider, B., & Alderfer, C. (1973). Three studies of measures of need satisfaction in organizations. *Administrative Science Quarterly*, 489-504.

Sempane, M., Rieger, H., & Roodt, G. (2002). Job satisfaction in relation to organisational culture. *South African Journal of Industrial Psychology, 28*(2), 23-30.

Shore, T. (2004). Equity sensitivity theory: Do we all want more than we deserve? *Journal of Managerial Psychology, 19*(7), 722-728.

Skinner, B. (1953). *Science and Human Behavior.* Simon and Schuster.

Spector, P. (1997). *Job Satisfaction: Application, Assessment, Causes and Consequences.* Thousand Oaks: Sage Publication.

Standish, R. (2019). Job satisfaction and motivation. *American Journal of Health-System Pharmacy*, 1460-1472.

Steers, R. (1991). *Introduction to Organizational Behavior.* New York: Harper Collins Publishers Inc.

Steers, R., & Mowday, R. (2004). The future of work motivation theory. *Academy of Management Review*, 379-387.

Story, P., Hart, J., Stasson, M., & Mahoney, J. (2008). Using a two-factor theory of achievement motivation to examine performance-based outcomes and self-regulatory processes. *Personality and Individual Differences*, 391-395.

Sypniewska, B. (2013). Evaluation of factors influencing job satisfaction. *Vizja Press & IT*, 57-71.

Taylor, F. (1947). *Scientific Management.* New York: Harper.

Thompson, D., & McNamara, J. (1997). Job satisfaction in educational organizations: A synthesis of research findings. *Educational Administration Quarterly, 33*(1), 1-31.

Tietjen, M., & Myers, R. (1998). Motivation and Job Satisfaction. *Management Decision*, 226-231.

Van Saane, N. (2003). Reliability and Validity of Instruments Measuring Job Satisfaction - A Systematic Review. *Occupational Medicine, 53*(3), 179-197.

Vroom, V. (1964). *Work and Motivation.* New York: Wiley.

Vroom, V. (1995). *Work and Motivation.* San Francisco: Jossey-Bass.

Wang, Y., Goodrum, P., Haas, C., & Glover, R. (2009). Analysis of observed skill affinity patterns and motivation for multiskilling among craft workers in the U.S. industrial construction sector. *Journal of Construction Engineering and Management, 135*(10), 999-1008.

Wit, A. d. (1988). Measurement of Project Success. *International Journal of Project Management*, 164-170.

Yang, S., Brown, G., & Moon, B. (2011). Factors Leading to Corrections Officers' Job Satisfaction. *Public Personnel Management*, 359-369.

Zhu, Y. (2012). A review of job satisfaction. *Asian Social Science, 9*(1), 293-299.

APPENDICES

A. Motivation and Job Satisfaction Questionnaire

(In Turkish)

Türkiye'deki Mimarlık Ofislerinde Çalışan Mimarların Motivasyon Faktörlerinin Tespiti ve İş Tatmini ile İlişkilerinin Araştırılması

Değerli Mimarlar,

Bu anketi Türkiye'deki mimarlık proje ofislerinde çalışan mimarların doldurması beklenmektedir. Ankete bir ofisten farklı kişiler de katılabilmektedir.

“Türkiye’deki mimari tasarım ofislerinde mimarların motivasyonu ve iş tatmini ile ilişkisi” konulu tez çalışması kapsamında, Türkiye’deki mimarlık ofislerinde çalışan mimarların iş motivasyonu üzerinde etkisi bulunan faktörler ve iş tatmini faktörleri aşağıdaki anketle değerlendirmenize sunulmaktadır.

Anket yapılırken gizlilik ilkesi esas alınacaktır ve kimliğinizi açığa çıkaracak hiç bir bilgi talep edilmeyecektir. Verdiğiniz bilgiler tez çalışması dışında başka hiç bir alanda kullanılmayacak olup kimseyle paylaşılmayacaktır.

Anket 3 bölümden oluşmaktadır ve yaklaşık 10 dk sürmektedir. Lütfen tüm soruları eksiksiz ve size en uygun gelen şekilde cevaplayınız. Katılımınız ve vakit ayırdığınız için teşekkür ederim.

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Orta Doğu Teknik Üniversitesi

Yapı Bilimleri Yüksek Lisans Programı Öğrencisi

1.Bölüm: Sosyo-Demografik Bilgi Formu

1.Cinsiyetiniz:

2.Yaşınız:

3.Lütfen mezun olduğunuz üniversiteyi belirtiniz:

4.Lütfen kaç senedir çalıştığınızı belirtiniz.

5.Lütfen şimdiye kadar kaç defa iş yeri değiştirdiğinizi sayıyla belirtiniz.

6.Lütfen şimdiye kadar kaç farklı iş yerinde çalıştığınızı belirtiniz. (Birden fazla seçeneği işaretleyebilirsiniz.)

- Mimarlık proje ofisi
- İnşaat firması
- Şantiye ofisi
- Yapı malzemesi ofisi
- Kamu kurumu
- Diğer:

7.Lütfen ofisinizde sorumluluğunuz/sorumluluklarınız nedir işaretleyiniz. (Birden fazla seçeneği işaretleyebilirsiniz.)

- 3D modelleme
- Görselleştirme
- Konsept tasarım
- Hazırlık ve etüt çalışmaları
- Ön proje / avan proje süreci
- Uygulama projesi süreci
- Kesin proje çalışmaları
- Keşif- maliyet analizi ve metraj
- Sistem / montaj detay çözümlemeleri

- İnşaat süreci control-denetim
- Proje koordinasyonu
- Ofis koordinasyonu

8.Lütfen şu anda çalıştığınız ofisin çalışan sayısını belirtiniz.

- Mimar:
- Mühendis:
- Diğer:

2.Bölüm: İş Motivasyonu

Motivasyon (güdülenme) insanın belirli bir amaç doğrultusunda kendi istek ve arzularıyla harekete geçmesidir. Çalışanların iş motivasyonu ise kişinin kendi kişisel amaçları ve kişinin davranışlarını belirleyen dışsal faktörlerin / kriterlerin birleşimiyle ortaya çıkar. İş motivasyonu çalışanın iş yerindeki sorumluluklarına, çalıştığı projeye ve mesleğine karşı motivasyonunu kapsar.

Mimarların motivasyonunu etkileyen kriterler aşağıda 3 grup halinde sıralanmıştır. 1.grupta proje ile bağlantılı kriterler, 2.grupta örgütsel yapıyla bağlantılı kriterler ve 3.grupta proje ekibiyle bağlantılı kriterler bulunmaktadır.

Lütfen bu kriterleri öncelikle sizin işinize olan motivasyonunuzu sağlamada ne derece önemli olduğunu düşünerek 1'den 5'ekadar değerlendiriniz:

(1)Çok önemsiz, (2) Önemsiz, (3) Ne önemli ne önemsiz, (4) Önemli, (5) Çok önemli

Buna ek olarak bu kriterleri şu anda çalışmakta olduğunuz ofiste ne derecede mevcut olduklarını düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Hiçbir zaman, (2)Nadiren, (3)Ara sıra, (4)Çoğunlukla, (5)Her zaman

Lütfen her ifadeye mutlaka tek yanıt veriniz ve sonuna kadar tamamlamaya çalışınız. Teşekkür ederim!

1.Grup: Proje ile Bağlantılı Motivasyon Kriterleri

Aşağıda projeyi ilgilendiren ve proje ile ilgili kriterler sıralanmıştır.

Lütfen bu kriterleri öncelikle sizin işinize olan motivasyonunuzu sağlamada ne derece önemli olduğunu düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Çok önemsiz,

(2) Önemsiz,

(3) Ne önemli ne önemsiz,

(4) Önemli,

(5) Çok önemli

Buna ek olarak bu kriterleri şu anda çalışmakta olduğunuz ofiste ne derecede mevcut olduklarını düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Hiçbir zaman,

(2)Nadiren,

(3)Ara sıra,

(4)Çoğunlukla,

(5)Her zaman

Lütfen her ifadeye mutlaka tek yanıt veriniz ve sonuna kadar tamamlamaya çalışınız.

1.Proje süresi ve hedeflerinin gerçekçi olması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

2.Proje tanımı ve planlanmasının açık ve net olması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

3.Tasarımda gerekli olduğu sürece değişiklik yapılması ve gerçekçi sayıda farklı tasarım önerileri istenmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

4.Verilen işlerin çalışanların yeteneği ve ilgisiyle uyuşması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

5.Tasarım kararlarının proje hedefleriyle uyumluluğu

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

2.Grup: Örgütsel Yapı ile Bağlantılı Motivasyon Kriterleri

Aşağıda örgütsel yapı (ofis ve idari biçim) ile ilgili kriterler sıralanmıştır.

Lütfen bu kriterleri öncelikle sizin işinize olan motivasyonunuzu sağlamada ne derece önemli olduğunu düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Çok önemsiz,

(2) Önemsiz,

(3) Ne Önemli Ne Önemsiz,

(4) Önemli,

(5) Çok önemli

Buna ek olarak bu kriterleri şu anda çalışmakta olduğunuz ofiste ne derecede mevcut olduklarını düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Hiçbir zaman,

(2)Nadiren,

(3)Ara sıra,

(4)Çoğunlukla,

(5)Her zaman

Lütfen her ifadeye mutlaka tek yanıt veriniz ve sonuna kadar tamamlamaya çalışınız.

1.Çalışanların kariyer gelişimine yeterli desteğin verilmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

2.Bütün çalışanların eşit biçimde yönetilmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

3.Maaşın yeterli olması ve uygun prim ve teşviklerin sağlanması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

4.Fiziksel çalışma ortamının iyi olması (yeterli aydınlatma, ısıtma vb)

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

5.İş dağılımının etkili bir biçimde düzenlenmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

6.Çalışanların kişisel katkı ve emeklerinin tanınması ve fark edilmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

7.Proje lideri tarafından projeye dair yeterli geri dönüş ve değerlendirme yapılabilmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

8.Proje tasarım ve uygulama sürecinde yeterli bir şekilde katılım sağlayabilme

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

9.Projenin tamamlanması sürecinde çalışanlara yeterli özgürlük ve hata payı alanı tanınması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

10.Ofisin ve müşterinin gerçekçi beklentilerinin olması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

11.İş baskısının az olması ve iş yükünün yeterli seviyede olması

- Motivasyon açısından önem derecesi: 1 2 3 4 5
- Ofisinizdeki mevcut durum: 1 2 3 4 5

12.Proje için yeterli kaynakların sağlanması (yazılım ve donanım gibi)

- Motivasyon açısından önem derecesi: 1 2 3 4 5
- Ofisinizdeki mevcut durum: 1 2 3 4 5

13.İş güvenliği

- Motivasyon açısından önem derecesi: 1 2 3 4 5
- Ofisinizdeki mevcut durum: 1 2 3 4 5

3.Grup: Proje Ekibi ile Bağlantılı Motivasyon Kriterleri

Aşağıda proje ekibini ilgilendiren ve proje ekibi ile ilgili kriterler sıralanmıştır.

Lütfen bu kriterleri öncelikle sizin işinize olan motivasyonunuzu sağlamada ne derece önemli olduğunu düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Çok önemsiz,

(2) Önemsiz,

(3) Ne Önemli Ne Önemsiz,

(4) Önemli,

(5) Çok önemli

Buna ek olarak bu kriterleri şu anda çalışmakta olduğunuz ofiste ne derecede mevcut olduklarını düşünerek 1'den 5'e kadar değerlendiriniz:

(1)Hiçbir zaman,

(2)Nadiren,

(3)Ara sıra,

(4)Çoğunlukla,

(5)Her zaman

Lütfen her ifadeye mutlaka tek yanıt veriniz ve sonuna kadar tamamlamaya çalışınız.

1.Proje liderinin proje ekibi içerisinde iyi koordinasyon sağlaması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

2.Proje ekibi içerisinde iyi bir iletişim olması ve ekibin uyum içerisinde çalışması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

3.Proje ekibindeki kişilerin yeterli uzmanlık ve kabiliyete sahip olması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

4.Proje ekibinin projeyi sahiplenmesi ve sorumluluğunu üstlenmesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

5.Ast-üst ilişkisinde açık bir etkileşim ve iyi bir iletişimin olması

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

6.Proje liderinin / ofis liderinin yeterli derecede teşvik etmesi ve destek vermesi

- Motivasyon açısından önem derecesi: □ 1 □ 2 □ 3 □ 4 □ 5
- Ofisinizdeki mevcut durum: □ 1 □ 2 □ 3 □ 4 □ 5

3.Bölüm: İş Tatmini

Lütfen aşağıdaki ifadeler için kendi kendinize "İşimin bu yönüyle ne kadar tatmin oluyorum?" sorusunuz sorunuz ve verilen 5 basamaklı ölçeği kullanarak, her maddenin uygun gördüğünüz rakamı işaretleyiniz. "İşimin bu yönü" ile kastedilen işinizle alakalı olarak size iş tatmini sağlaması düşünülen etkenlerdir, örnek olarak aşağıdaki kriterlerden biri olan "Amirlerin çalışanlara karşı davranış biçimi" gösterilebilir.

Lütfen soruları aşağıdaki ölçeğe göre değerlendiriniz ve boş bırakmamaya özen gösteriniz.

(1)Hiç Tatmin Etmiyor,

(2)Genelde Tatmin Etmiyor,

(3)Ne Ediyor Ne Etmiyor,

(4)Genelde Tatmin Ediyor,

(5)Çok Tatmin Ediyor

1.İşimle sürekli meşgul olabilme fırsatı.

□ 1 □ 2 □ 3 □ 4 □ 5

2.İşimde kendi kendime çalışma fırsatı.

□ 1 □ 2 □ 3 □ 4 □ 5

3.Zaman zaman farklı şeylerle meşgul olma fırsatı.

□ 1 □ 2 □ 3 □ 4 □ 5

4.Toplumda işim sayesinde bir yer edinme olanağı bulma.

□ 1 □ 2 □ 3 □ 4 □ 5

5.Amirlerin çalışanlara karşı davranış biçimi.

□ 1 □ 2 □ 3 □ 4 □ 5

6.Amirimin karar vermede yeterli olması

□ 1 □ 2 □ 3 □ 4 □ 5

7.Vicdanıma ters düşmeyen şeyleri yapabilme olanağı elde etmem.

□ 1 □ 2 □ 3 □ 4 □ 5

8.Sürekli olan bir işe sahip olma şansı (güvencesi olan bir iş)

□ 1 □ 2 □ 3 □ 4 □ 5

9.Başkaları için bir şeyler yapabilme şansı

□ 1 □ 2 □ 3 □ 4 □ 5

10.Diğer insanlara ne yapacaklarını söyleme fırsatı.

□ 1 □ 2 □ 3 □ 4 □ 5

11.Yeteneklerimi kullanabilme imkanı bulma.

□ 1 □ 2 □ 3 □ 4 □ 5

12.İş kurallarının uygulamaya konulma tarzı.

□ 1 □ 2 □ 3 □ 4 □ 5

13.Yapılan işe karşılık aldığım ücret.

□ 1 □ 2 □ 3 □ 4 □ 5

14.İşte ilerleme şansı elde etme.

□ 1 □ 2 □ 3 □ 4 □ 5

15.İşimde kendi kararlarımı verme özgürlüğü.

□ 1 □ 2 □ 3 □ 4 □ 5

16.İşimi yaparken kendi yöntemlerimi deneme imkanı bulabilmek.

□ 1 □ 2 □ 3 □ 4 □ 5

17.Çalışma koşulları.

□ 1 □ 2 □ 3 □ 4 □ 5

18.Çalışma arkadaşlarımın birbirleriyle olan ilişki düzeyi.

□ 1 □ 2 □ 3 □ 4 □ 5

19.Yaptığım iyi işten dolayı aldığım övgü.

□ 1 □ 2 □ 3 □ 4 □ 5

20.İşimden edindiğim başarı duygusu.

□ 1 □ 2 □ 3 □ 4 □ 5

Anketi tamamladığınız için teşekkürler!

B. Descriptive Statistics

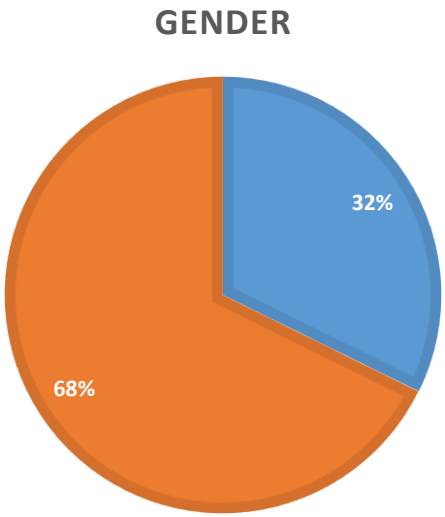

Figure B.1 Gender statistics, female participants are %68 and male participants are %32

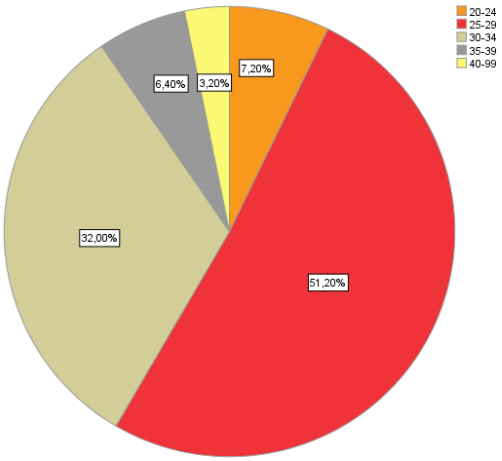

Figure B.2 Age statistics, %51.2 (25-29), %32.0 (30-34), %7.2 (20-24), %6.4 (35-39), %3.2 (40-99)

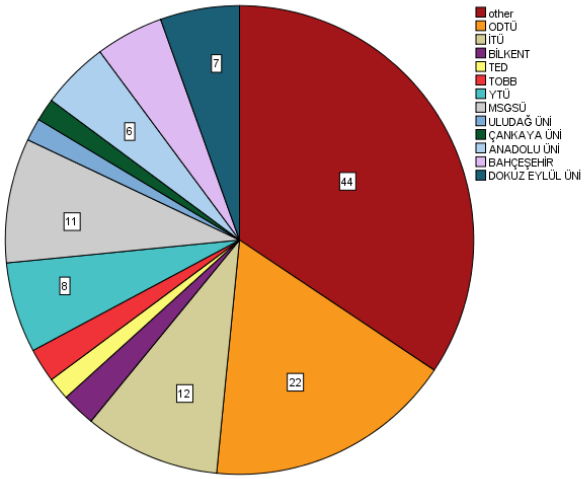

Figure B.3 University that architects were graduated from, %44 (other), %22 (Metu), %12 (Msgsü), %11 (İtü), %8 (Ytü), %7 (Dokuz Eylül University), %6 (Anadolu University)

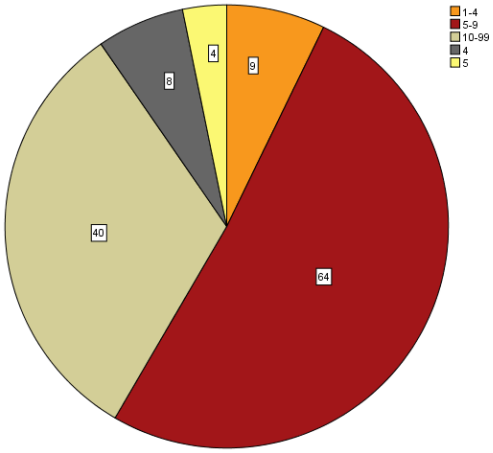

Figure B.4 Tenure statistics, %64 (5-9 years), %40 (10-14 years), %9 (1-4 years), %8 (15-19 years), %4 (20-59 years)

C. Correlation Statistics

Table C.1 *Correlation Matrix*

Correlations

		intsatisfaction	extsatisfaction	projectrelatedmotivationfinal	organizationrelatedmotivationfinal	teamrelatedmotivationfinal
intsatisfaction	Pearson Correlation	1	,767**	,409**	,315**	,272**
	Sig. (2-tailed)		,000	,000	,000	,002
	N	122	120	122	122	122
extsatisfaction	Pearson Correlation	,767**	1	,384**	,343**	,332**
	Sig. (2-tailed)	,000		,000	,000	,000
	N	120	124	124	124	124
projectrelatedmotivationfinal	Pearson Correlation	,409**	,384**	1	,810**	,718**
	Sig. (2-tailed)	,000	,000		,000	,000
	N	122	124	128	128	128
organizationrelatedmotivationfinal	Pearson Correlation	,315**	,343**	,810**	1	,772**
	Sig. (2-tailed)	,000	,000	,000		,000
	N	122	124	128	128	128
teamrelatedmotivationfinal	Pearson Correlation	,272**	,332**	,718**	,772**	1
	Sig. (2-tailed)	,002	,000	,000	,000	
	N	122	124	128	128	128

**. Correlation is significant at the 0.01 level (2-tailed).

D. Regression Models

Regression Model 1:

Dependent variable as external satisfaction is structured.

Table D.1 *Descriptive Statistics*

	Mean	Std. Deviation	N
extsatfinal	47,4174	14,87774	121
Age	29,12	4,105	121
man	,3388	,47528	121
woman	,6612	,47528	121
OfficeCapacity	12,91	30,100	121
NumberOfEngineers	8,17	65,021	121
NumberOfOther	18,07	102,651	121
numberofresp	6,6364	2,73861	121
projectrelatedmotivationfinal	53,8711	19,66589	121
organizationrelatedmotivationfinal	54,6600	17,91130	121
teamrelatedmotivationfinal	60,6237	21,20426	121

Table D.2 *Variable Extraction*

Model	Variables Entered	Variables Removed	Method
1	projectrelatedmotivationfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: extsatfinal

Table D.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,354[a]	,125	,118	13,97530

a. Predictors: (Constant), projectrelatedmotivationfinal

b. Dependent Variable: extsatfinal

Table D.4 *ANOVA Statistics*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3319,898	1	3319,898	16,998	,000[b]
	Residual	23241,775	119	195,309		
	Total	26561,674	120			

a. Dependent Variable: extsatfinal

b. Predictors: (Constant), projectrelatedmotivationfinal

Table D.5 *Coefficients Summary*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	33,009	3,718		8,877	,000	25,646	40,372		
	projectrelatedmotivationfinal	,267	,065	,354	4,123	,000	,139	,396	1,000	1,000

a. Dependent Variable: extsatfinal

Table D.6 *List of Excluded Variables*

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	,027[b]	,310	,757	,029	,996	1,005	,996
	man	,115[b]	1,342	,182	,123	,986	1,014	,986
	woman	-,115[b]	-1,342	,182	-,123	,986	1,014	,986
	OfficeCapacity	,073[b]	,845	,400	,078	,994	1,007	,994
	NumberOfEngineers	,043[b]	,500	,618	,046	,998	1,002	,998
	NumberOfOther	,034[b]	,398	,691	,037	1,000	1,000	1,000
	numberofresp	,104[b]	1,217	,226	,111	1,000	1,000	1,000
	organizationrelatedmotivationfinal	,078[b]	,542	,589	,050	,359	2,784	,359
	teamrelatedmotivationfinal	,118[b]	,976	,331	,090	,502	1,992	,502

a. Dependent Variable: extsatfinal

b. Predictors in the Model: (Constant), projectrelatedmotivationfinal

Table D.7 *Coefficient Correlations*

Model			projectrelated motivationfinal
1	Correlations	projectrelatedmotivationfinal	1,000
	Covariances	projectrelatedmotivationfinal	,004

a. Dependent Variable: extsatfinal

Table D.8 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	projectrelated motivationfinal
1	1	1,940	1,000	,03	,03
	2	,060	5,678	,97	,97

a. Dependent Variable: extsatfinal

Table D.9 *Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	34,0789	58,6851	47,2603	5,33849	124
Std. Predicted Value	-2,536	2,142	-,030	1,015	124
Standard Error of Predicted Value	1,271	3,476	1,735	,520	124
Adjusted Predicted Value	35,3368	58,7429	47,2462	5,33614	124
Residual	-28,48230	32,49766	-,34498	13,92520	124
Std. Residual	-2,038	2,325	-,025	,996	124
Stud. Residual	-2,050	2,371	-,024	1,005	124
Deleted Residual	-28,83094	33,77700	-,33092	14,17448	124
Stud. Deleted Residual	-2,079	2,419	-,023	1,011	124
Mahal. Distance	,000	6,431	1,021	1,331	124
Cook's Distance	,000	,111	,009	,015	124
Centered Leverage Value	,000	,054	,009	,011	124

a. Dependent Variable: extsatfinal

Regression Model 2:

Dependent variable as internal satisfaction is structured.

Table D.10 *Descriptive Statistics*

	Mean	Std. Deviation	N
intsatfinal	70,8403	15,34885	119
Age	29,08	4,130	119
man	,3361	,47438	119
woman	,6639	,47438	119
OfficeCapacity	13,10	30,397	119
NumberOfEngineers	8,29	65,562	119
NumberOfOther	18,34	103,496	119
numberofresp	6,7479	2,79290	119
projectrelatedmotivationfinal	54,1513	19,66078	119
organizationrelatedmotivationfinal	55,0128	17,75451	119
teamrelatedmotivationfinal	60,7574	21,04912	119

Table D.11 *Excluded Variables*

Model	Variables Entered	Variables Removed	Method
1	projectrelatedmotivationfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: intsatfinal

Table D.11 *Excluded Variables*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,396[a]	,157	,149	14,15574

a. Predictors: (Constant), projectrelatedmotivationfinal

b. Dependent Variable: intsatfinal

Table D.12 *ANOVA results*

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4354,271	1	4354,271	21,730	,000[b]
	Residual	23445,029	117	200,385		
	Total	27799,300	118			

a. Dependent Variable: intsatfinal

b. Predictors: (Constant), projectrelatedmotivationfinal

Table D.13 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	54,109	3,817		14,177	,000	46,551	61,668		
	projectrelatedmotivationfinal	,309	,066	,396	4,661	,000	,178	,440	1,000	1,000

a. Dependent Variable: intsatfinal

Table D.14 *Excluded Variables*

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	-,091[b]	-1,066	,289	-,099	,995	1,005	,995
	man	-,004[b]	-,051	,960	-,005	,986	1,014	,986
	woman	,004[b]	,051	,960	,005	,986	1,014	,986
	OfficeCapacity	,054[b]	,629	,530	,058	,993	1,007	,993
	NumberOfEngineers	-,045[b]	-,523	,602	-,048	,998	1,002	,998
	NumberOfOther	-,029[b]	-,334	,739	-,031	1,000	1,000	1,000
	numberofresp	,123[b]	1,455	,148	,134	1,000	1,000	1,000
	organizationrelatedmotivationfinal	-,033[b]	-,234	,815	-,022	,364	2,748	,364
	teamrelatedmotivationfinal	-,020[b]	-,165	,869	-,015	,503	1,990	,503

a. Dependent Variable: intsatfinal

b. Predictors in the Model: (Constant), projectrelatedmotivationfinal

Table D.15 *Coefficient Correlations*

Model			projectrelatedmotivationfinal
1	Correlations	projectrelatedmotivationfinal	1,000
	Covariances	projectrelatedmotivationfinal	,004

a. Dependent Variable: intsatfinal

Table D.16 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	projectrelatedmotivationfinal
1	1	1,940	1,000	,03	,03
	2	,060	5,707	,97	,97

a. Dependent Variable: intsatfinal

Table D.17 *Residual Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	55,3451	83,7703	70,6538	6,16952	122
Std. Predicted Value	-2,551	2,129	-,031	1,016	122
Standard Error of Predicted Value	1,298	3,568	1,771	,536	122
Adjusted Predicted Value	57,5173	84,4464	70,6484	6,15332	122
Residual	-39,05983	24,27350	-,32594	14,43240	122
Std. Residual	-2,759	1,715	-,023	1,020	122
Stud. Residual	-2,779	1,727	-,023	1,028	122
Deleted Residual	-39,63088	24,62838	-,32052	14,69122	122
Stud. Deleted Residual	-2,864	1,742	-,025	1,035	122
Mahal. Distance	,000	6,507	1,022	1,346	122
Cook's Distance	,000	,185	,011	,022	122
Centered Leverage Value	,000	,055	,009	,011	122

a. Dependent Variable: intsatfinal

Regression Model 3:

Dependent variable as project-related motivation is structured.

Table D.18 *Descriptive Statistics*

	Mean	Std. Deviation	N
projectrelatedmotivationfinal	53,9145	19,73758	117
Age	29,12	4,157	117
man	,3419	,47638	117
woman	,6581	,47638	117
OfficeCapacity	13,05	30,600	117
NumberOfEngineers	8,44	66,116	117
NumberOfOther	18,61	104,363	117
numberofresp	6,6838	2,77193	117
intsatfinal	70,7265	15,45198	117
extsatfinal	47,6282	14,85507	117

Table D.19 *Variables Entered*

Model	Variables Entered	Variables Removed	Method
1	intsatfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: projectrelatedmotivationfinal

Table D.20 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,392[a]	,154	,147	18,23260

a. Predictors: (Constant), intsatfinal

b. Dependent Variable: projectrelatedmotivationfinal

Table D.21 *ANOVA Results*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6961,169	1	6961,169	20,940	,000[b]
	Residual	38229,176	115	332,428		
	Total	45190,345	116			

a. Dependent Variable: projectrelatedmotivationfinal

b. Predictors: (Constant), intsatfinal

Table D.22 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	18,457	7,930		2,328	,022	2,750	34,164		
	intsatfinal	,501	,110	,392	4,576	,000	,284	,718	1,000	1,000

a. Dependent Variable: projectrelatedmotivationfinal

Table D.23 *Excluded Variables*

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	,099[b]	1,155	,251	,108	,996	1,004	,996
	man	-,092[b]	-1,073	,286	-,100	,998	1,002	,998
	woman	,092[b]	1,073	,286	,100	,998	1,002	,998
	OfficeCapacity	,047[b]	,550	,584	,051	,993	1,007	,993
	NumberOfEngineers	,060[b]	,695	,489	,065	,999	1,001	,999
	NumberOfOther	,029[b]	,340	,735	,032	1,000	1,000	1,000
	numberofresp	-,064[b]	-,744	,459	-,069	,987	1,013	,987
	extsatfinal	,086[b]	,641	,523	,060	,407	2,458	,407

a. Dependent Variable: projectrelatedmotivationfinal

b. Predictors in the Model: (Constant), intsatfinal

Table D.24 *Coefficient Correlations*

Model			intsatfinal
1	Correlations	intsatfinal	1,000
	Covariances	intsatfinal	,012

a. Dependent Variable: projectrelatedmotivationfinal

Table D.25 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	intsatfinal
1	1	1,977	1,000	,01	,01
	2	,023	9,301	,99	,99

a. Dependent Variable: projectrelatedmotivationfinal

Table D.26 *Residual Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	30,1547	68,5904	53,7147	7,92581	122
Std. Predicted Value	-3,067	1,894	-,026	1,023	122
Standard Error of Predicted Value	1,687	5,459	2,294	,747	122
Adjusted Predicted Value	31,3330	68,0884	53,7189	7,87656	122
Residual	-42,49255	42,44969	-,16714	18,22662	122
Std. Residual	-2,331	2,328	-,009	1,000	122
Stud. Residual	-2,342	2,338	-,009	1,007	122
Deleted Residual	-42,91401	42,81646	-,17133	18,52884	122
Stud. Deleted Residual	-2,390	2,385	-,010	1,015	122
Mahal. Distance	,002	9,407	1,034	1,583	122
Cook's Distance	,000	,111	,009	,014	122
Centered Leverage Value	,000	,081	,009	,014	122

a. Dependent Variable: projectrelatedmotivationfinal

Regression Model 4:

Dependent variable as organizational-related motivation is structured.

Table D.27 Descriptive Statistics

	Mean	Std. Deviation	N
organizationrelatedmotivationfinal	54,8851	17,84644	117
Age	29,12	4,157	117
man	,3419	,47638	117
woman	,6581	,47638	117
OfficeCapacity	13,05	30,600	117
NumberOfEngineers	8,44	66,116	117
NumberOfOther	18,61	104,363	117
numberofresp	6,6838	2,77193	117
extsatfinal	47,6282	14,85507	117
intsatfinal	70,7265	15,45198	117

Table D.28 *Variables Entered*

Model	Variables Entered	Variables Removed	Method
1	intsatfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: organizationrelatedmotivationfinal

Table D.29 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,301[a]	,090	,083	17,09413

a. Predictors: (Constant), intsatfinal

b. Dependent Variable: organizationrelatedmotivationfinal

Table D.30 *ANOVA Results*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3341,401	1	3341,401	11,435	,001[b]
	Residual	33604,055	115	292,209		
	Total	36945,455	116			

a. Dependent Variable: organizationrelatedmotivationfinal

b. Predictors: (Constant), intsatfinal

Table D.31 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	30,319	7,435		4,078	,000	15,593	45,046		
	intsatfinal	,347	,103	,301	3,382	,001	,144	,551	1,000	1,000

a. Dependent Variable: organizationrelatedmotivationfinal

Table D.32 *Excluded Variables*

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	,070[b]	,780	,437	,073	,996	1,004	,996
	man	-,118[b]	-1,327	,187	-,123	,998	1,002	,998
	woman	,118[b]	1,327	,187	,123	,998	1,002	,998
	OfficeCapacity	,117[b]	1,313	,192	,122	,993	1,007	,993
	NumberOfEngineers	,142[b]	1,609	,110	,149	,999	1,001	,999
	NumberOfOther	,107[b]	1,200	,232	,112	1,000	1,000	1,000
	numberofresp	,031[b]	,342	,733	,032	,987	1,013	,987
	extsatfinal	,129[b]	,922	,359	,086	,407	2,458	,407

a. Dependent Variable: organizationrelatedmotivationfinal

b. Predictors in the Model: (Constant), intsatfinal

Table D.33 *Coefficient Correlations*

Model			intsatfinal
1	Correlations	intsatfinal	1,000
	Covariances	intsatfinal	,011

a. Dependent Variable: organizationrelatedmotivationfinal

Table D.34 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	intsatfinal
1	1	1,977	1,000	,01	,01
	2	,023	9,301	,99	,99

a. Dependent Variable: organizationrelatedmotivationfinal

Table D.35 *Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	38,4237	65,0528	54,7466	5,49120	122
Std. Predicted Value	-3,067	1,894	-,026	1,023	122
Standard Error of Predicted Value	1,582	5,118	2,151	,701	122
Adjusted Predicted Value	36,8702	65,0455	54,7305	5,50559	122
Residual	-41,20374	34,39981	-,30727	17,18274	122
Std. Residual	-2,410	2,012	-,018	1,005	122
Stud. Residual	-2,422	2,022	-,017	1,013	122
Deleted Residual	-41,60864	34,71945	-,29111	17,46985	122
Stud. Deleted Residual	-2,476	2,050	-,018	1,019	122
Mahal. Distance	,002	9,407	1,034	1,583	122
Cook's Distance	,000	,097	,009	,014	122
Centered Leverage Value	,000	,081	,009	,014	122

a. Dependent Variable: organizationrelatedmotivationfinal

Regression Model 5:

Dependent variable as team-related motivation is structured.

Table D.36 *Descriptive Statistics*

	Mean	Std. Deviation	N
teamrelatedmotivationfinal	60,5880	21,18270	117
Age	29,12	4,157	117
man	,3419	,47638	117
woman	,6581	,47638	117
OfficeCapacity	13,05	30,600	117
NumberOfEngineers	8,44	66,116	117
NumberOfOther	18,61	104,363	117
numberofresp	6,6838	2,77193	117
extsatfinal	47,6282	14,85507	117
intsatfinal	70,7265	15,45198	117

Table D.37 *Variables Entered*

Model	Variables Entered	Variables Removed	Method
1	extsatfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: teamrelatedmotivationfinal

Table D.38 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,292[a]	,085	,077	20,35021

a. Predictors: (Constant), extsatfinal

b. Dependent Variable: teamrelatedmotivationfinal

Table D.39 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	40,786	6,343		6,430	,000	28,221	53,351		
	extsatfinal	,416	,127	,292	3,269	,001	,164	,668	1,000	1,000

a. Dependent Variable: teamrelatedmotivationfinal

Table D.39 *Excluded Variables*

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	,052[b]	,577	,565	,054	,996	1,004	,996
	man	-,080[b]	-,890	,375	-,083	,994	1,006	,994
	woman	,080[b]	,890	,375	,083	,994	1,006	,994
	OfficeCapacity	-,068[b]	-,756	,451	-,071	,990	1,010	,990
	NumberOfEngineers	-,027[b]	-,298	,766	-,028	,996	1,004	,996
	NumberOfOther	-,018[b]	-,198	,844	-,019	,998	1,002	,998
	numberofresp	,055[b]	,610	,543	,057	,992	1,008	,992
	intsatfinal	,105[b]	,749	,456	,070	,407	2,458	,407

a. Dependent Variable: teamrelatedmotivationfinal

b. Predictors in the Model: (Constant), extsatfinal

Table D.40 *Coefficient Correlations*

Model			extsatfinal
1	Correlations	extsatfinal	1,000
	Covariances	extsatfinal	,016

a. Dependent Variable: teamrelatedmotivationfinal

Table D.41 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	extsatfinal
1	1	1,955	1,000	,02	,02
	2	,045	6,592	,98	,98

a. Dependent Variable: teamrelatedmotivationfinal

Table D.42 *ANOVA Results*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4424,949	1	4424,949	10,685	,001[b]
	Residual	47625,048	115	414,131		
	Total	52049,997	116			

a. Dependent Variable: teamrelatedmotivationfinal

b. Predictors: (Constant), extsatfinal

Table D.43 *Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	47,0223	71,9683	60,2916	6,26617	124
Std. Predicted Value	-2,196	1,843	-,048	1,015	124
Standard Error of Predicted Value	1,881	4,557	2,595	,679	124
Adjusted Predicted Value	46,3162	72,4230	60,3339	6,28394	124
Residual	-45,14399	37,78062	-,11315	20,22871	124
Std. Residual	-2,218	1,857	-,006	,994	124
Stud. Residual	-2,241	1,880	-,006	1,002	124
Deleted Residual	-46,08110	38,72449	-,15537	20,58632	124
Stud. Deleted Residual	-2,282	1,901	-,008	1,008	124
Mahal. Distance	,000	4,824	1,021	1,126	124
Cook's Distance	,000	,076	,009	,014	124
Centered Leverage Value	,000	,042	,009	,010	124

a. Dependent Variable: teamrelatedmotivationfinal

Regression Model 6:

Dependent variable as general motivation is structured.

Table D.44 *Descriptive Statistics*

	Mean	Std. Deviation	N
generalmotivationfinal	56,3480	18,21454	102
Age	29,01	4,116	102
man	,3431	,47710	102
woman	,6569	,47710	102
OfficeCapacity	14,00	32,608	102
NumberOfEngineers	9,57	70,780	102
NumberOfOther	21,25	111,596	102
numberofresp	6,6078	2,79376	102
extsatfinal	47,6961	14,46952	102
intsatfinal	71,1438	14,78110	102
gensatisfactionfinal	68,8922	15,12319	102

Table D.45 *Variables Entered*

Model	Variables Entered	Variables Removed	Method
1	gensatisfactionfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: generalmotivationfinal

Table D.46 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,366[a]	,134	,126	17,03201

a. Predictors: (Constant), gensatisfactionfinal

b. Dependent Variable: generalmotivationfinal

Table D.47 *ANOVA Statistics*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4499,808	1	4499,808	15,512	,000[b]
	Residual	29008,920	100	290,089		
	Total	33508,728	101			

a. Dependent Variable: generalmotivationfinal

b. Predictors: (Constant), gensatisfactionfinal

Table D.48 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	25,942	7,902		3,283	,001	10,264	41,620		
	gensatisfactionfinal	,441	,112	,366	3,939	,000	,219	,664	1,000	1,000

a. Dependent Variable: generalmotivationfinal

Table D.49 *Excluded Variables*

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	,029[b]	,307	,760	,031	1,000	1,000	1,000
	man	-,129[b]	-1,397	,166	-,139	1,000	1,000	1,000
	woman	,129[b]	1,397	,166	,139	1,000	1,000	1,000
	OfficeCapacity	,035[b]	,372	,710	,037	,984	1,016	,984
	NumberOfEngineers	,082[b]	,879	,382	,088	1,000	1,000	1,000
	NumberOfOther	,057[b]	,612	,542	,061	1,000	1,000	1,000
	numberofresp	,018[b]	,191	,849	,019	,979	1,021	,979
	extsatfinal	-,064[b]	-,277	,782	-,028	,164	6,080	,164
	intsatfinal	,040[b]	,145	,885	,015	,114	8,747	,114

a. Dependent Variable: generalmotivationfinal

b. Predictors in the Model: (Constant), gensatisfactionfinal

Table D.50 *Coefficients Correlations*

Model			gensatisfactionfinal
1	Correlations	gensatisfactionfinal	1,000
	Covariances	gensatisfactionfinal	,013

a. Dependent Variable: generalmotivationfinal

Table D.51 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	gensatisfactionfinal
1	1	1,977	1,000	,01	,01
	2	,023	9,264	,99	,99

a. Dependent Variable: generalmotivationfinal

Table D.52 *Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	37,8585	70,0778	56,0594	6,85954	105
Std. Predicted Value	-2,770	2,057	-,043	1,028	105
Standard Error of Predicted Value	1,686	4,988	2,312	,716	105
Adjusted Predicted Value	37,6576	70,1820	56,0738	6,82203	105
Residual	-38,95739	31,15989	-,35301	17,13644	105
Std. Residual	-2,287	1,829	-,021	1,006	105
Stud. Residual	-2,312	1,852	-,021	1,015	105
Deleted Residual	-39,79452	31,92607	-,36741	17,46523	105
Stud. Deleted Residual	-2,364	1,875	-,023	1,023	105
Mahal. Distance	,000	7,673	1,043	1,454	105
Cook's Distance	,000	,112	,010	,016	105
Centered Leverage Value	,000	,076	,010	,014	105

a. Dependent Variable: generalmotivationfinal

Regression Model 7:

Dependent variable as general (overall) job satisfaction is structured.

Table D.53 *Descriptive Statistics*

	Mean	Std. Deviation	N
gensatisfactionfinal	68,8922	15,12319	102
Age	29,01	4,116	102
man	,3431	,47710	102
woman	,6569	,47710	102
OfficeCapacity	14,00	32,608	102
NumberOfEngineers	9,57	70,780	102
NumberOfOther	21,25	111,596	102
numberofresp	6,6078	2,79376	102
generalmotivationfinal	56,3480	18,21454	102

Table D.54 *Variables Entered*

Model	Variables Entered	Variables Removed	Method
1	generalmotivationfinal	.	Stepwise (Criteria: Probability-of-F-to-enter <= ,050, Probability-of-F-to-remove >= ,100).

a. Dependent Variable: gensatisfactionfinal

Table D.55 *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,366[a]	,134	,126	14,14136

a. Predictors: (Constant), generalmotivationfinal

b. Dependent Variable: gensatisfactionfinal

Table D.56 *ANOVA Statistics*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3102,019	1	3102,019	15,512	,000[b]
	Residual	19997,794	100	199,978		
	Total	23099,814	101			

a. Dependent Variable: gensatisfactionfinal

b. Predictors: (Constant), generalmotivationfinal

Table D.57 *Coefficients*

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	51,748	4,573		11,317	,000	42,676	60,820		
	generalmotivationfinal	,304	,077	,366	3,939	,000	,151	,458	1,000	1,000

a. Dependent Variable: gensatisfactionfinal

Table D.58 *Excluded Variables*

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Age	-,004[b]	-,044	,965	-,004	,999	1,001	,999
	man	,036[b]	,381	,704	,038	,982	1,018	,982
	woman	-,036[b]	-,381	,704	-,038	,982	1,018	,982
	OfficeCapacity	,098[b]	1,052	,295	,105	,993	1,007	,993
	NumberOfEngineers	-,022[b]	-,237	,814	-,024	,993	1,007	,993
	NumberOfOther	-,018[b]	-,192	,848	-,019	,997	1,003	,997
	numberofresp	,120[b]	1,287	,201	,128	,995	1,005	,995

a. Dependent Variable: gensatisfactionfinal

b. Predictors in the Model: (Constant), generalmotivationfinal

Table D.59 *Coefficient Correlations*

Model			generalmotivationfinal
1	Correlations	generalmotivationfinal	1,000
	Covariances	generalmotivationfinal	,006

a. Dependent Variable: gensatisfactionfinal

Table D.60 *Collinearity Diagnostics*

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	generalmotivationfinal
1	1	1,952	1,000	,02	,02
	2	,048	6,375	,98	,98

a. Dependent Variable: gensatisfactionfinal

Table D.61 *Residuals Statistics*

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	55,3989	80,8045	68,6969	5,65878	105
Std. Predicted Value	-2,435	2,149	-,035	1,021	105
Standard Error of Predicted Value	1,400	3,701	1,921	,566	105
Adjusted Predicted Value	57,1230	80,4401	68,6705	5,64344	105
Residual	-36,91812	27,51192	-,45882	14,32180	105
Std. Residual	-2,611	1,945	-,032	1,013	105
Stud. Residual	-2,634	1,959	-,031	1,022	105
Deleted Residual	-37,58640	27,90178	-,43237	14,61339	105
Stud. Deleted Residual	-2,717	1,988	-,032	1,030	105
Mahal. Distance	,000	5,928	1,031	1,299	105
Cook's Distance	,000	,127	,012	,020	105
Centered Leverage Value	,000	,059	,010	,013	105

a. Dependent Variable: gensatisfactionfinal