

R.T.
YILDIZ TECHNICAL UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCE

**UNFOLDING MODEL OF VOLUNTARILY TURNOVER IN THE LIGHT OF
A.MASLOW’S HIERARCHY OF NEEDS THEORY
AT CONSTRUCTION SECTOR**

GÜLÇİN ÖZLEM ATALAY

MASTER THESIS
CIVIL ENGINEERING DEPARTMENT
PROGRAM OF STRUCTURAL ENGINEERING

ADVISOR
ASSOC. PROF. BEGÜM SERTYEŞİLİŞİK

İSTANBUL, 2012

R.T.
YILDIZ TECHNICAL UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCE

**UNFOLDING MODEL OF VOLUNTARILY TURNOVER IN THE LIGHT OF A.MASLOW'S
HIERARCHY OF NEEDS THEORY AT CONSTRUCTION SECTOR**

Thesis study prepared by Gülçin Özlem ATALAY was accepted as a **Master Thesis** at Yıldız Technical University Graduate School of Natural and Applied Science Civil Engineering Department at the date of 04.07.2012 by the jury members given below.

Thesis Advisor

Assoc. Prof. Begüm SERTYEŞİLİŞİK
Istanbul Technical University

Jury Members

Assoc. Prof. Begüm SERTYEŞİLİŞİK
Istanbul Technical University

Prof. Dr. Haluk ÇEÇEN
Yıldız Technical University

Assoc. Prof. Alev GÜMÜŞ
Yıldız Technical University

ACKNOWLEDGEMENTS

This study is focused on the reasons of the high circulation rates in construction sector, the employee's mental process of leaving voluntarily and to be a helpful work for managers. The study is an important aspect for it is the first study about voluntarily turnover process of employees combined with motivational factors in construction sector. For motivation concept, besides other theories, specifically A.Maslow's Motivation of Human Being and Need Hierarchy Theory and for turnover concept Unfolding Model of Voluntarily Turnover Theory was used.

I am very grateful to my advisor Assoc. Prof. Begüm Sertyeşilışık and my husband İsmet Atalay for their spiritual and material supports.

June, 2012

Gülçin Özlem ATALAY

INDEX

LIST OF ABBREVIATIONS	vi
LIST OF FIGURES.....	vii
LIST OF TABLES.....	viii
ABSTRACT.....	x
ÖZET	xii
CHAPTER 1	
INTRODUCTION.....	1
1.1 Literature Review.....	1
1.1.1 Background of the study.....	1
1.1.2 Unfolding Model Of Voluntarily Turnover.....	2
1.1.2.1 Levels of the UMT.....	3
1.1.3 Motivation theories.....	7
1.1.3.1 A. Maslow's Motivation of Human Being Study and Hierarchy of Needs.....	8
1.1.3.2 Other Motivational Theories.....	9
1.1.3.2.1 Frederick Herzberg.....	9
1.1.3.2.2 Victor Vroom.....	10
1.1.3.2.3 Douglas McGregor.....	11
1.2 Aim of the Thesis.....	11
1.3 Hypotheses	11
CHAPTER 2	
RESEARCH METHODS	13
2.1 Introduction.....	13
2.2. Research design.....	13
2.3 Sample.....	14
CHAPTER 3	
RESULTS AND DISCUSSION.....	15

3.1 Unfolding Model.....	15
3.1.1 Sample.....	15
3.1.2 Results of UMVT	16
3.2 Maslow's Hierarchy of Need Theory.....	18
3.2.1 Sample.....	19
3.2.2 Results of Maslow's Need Theory	20
3.3 Hypotheses Tested.....	31
3.3.1 Hpothesis 1.....	31
3.3.2 Hpothesis 2.....	36
3.3.3 Hpothesis 3.....	38
3.3.4 Hpothesis 4.....	40
3.3.5 Hpothesis 5.....	42
3.3.6 Hpothesis 6.....	45
3.4 Other Motivational Theories	47
3.5 Summary.....	49

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS.....	50
REFERENCES.....	54
APPENDIX-A	
QUESTIONNAIRE	56
CURRICULUM VITAE.....	66

LIST OF ABBREVIATIONS

MHNT	Maslow's Hierarchy of Needs Theory
UMVT	Unfolding Model of Voluntarily Turnover

LIST OF FIGURES

	Page
Figure 1.1 UMVT	5
Figure 1.2 Paths of UMVT	7
Figure 1.3 Maslow's hierarchy of needs pyramid.....	8

LIST OF TABLES

	Page
Table 1.1 New UMVT decision paths proposed by Niederman <i>et al</i>	6
Table 3.1 Respondents' qualification.....	16
Table 3.2 UMVT classification rates comparing to Lee <i>et al</i>	16
Table 3.3 UMVT classification rates comparing to Niederman <i>et al</i>	17
Table 3.4 Classification accuracy of Niederman theorized paths.....	17
Table 3.5 Binary path codes and classification accuracy.....	18
Table 3.6 Distribution of N of total sample by seven job positions and four age groups and characteristics of sample by job.....	20
Table 3.7 Mean need fulfillment deficiencies for each need category and item at leaved work.....	21
Table 3.8 Mean need fulfillment deficiencies for the current job of each need category and item.....	22
Table 3.9 Number of changes in size of mean deficiencies from higher to lower levels of work positions within four age groups at lastly leaved job.....	24
Table 3.10 Number of changes in size of mean deficiencies from higher to lower levels of work positions within four age groups at current job.....	25
Table 3.11 Ranks of mean deficiencies at lastly leaved job for five need categories within subgroup of respondents.....	26
Table 3.12 Ranks of mean deficiencies at actual job for five need categories within subgroup of respondents.....	27
Table 3.13 Mean importance of each need category item within each subgroup of respondents.....	29
Table 3.14 Number of changes in size of mean importance from higher to lower levels of work status within four age groups.....	30
Table 3.15 Employee frequency of need hierarchy pyramid.....	32
Table 3.16 Number of the employee.....	32
Table 3.17 Age*Maslow needs cross tabulation.....	32
Table 3.18 Chi-square Test Results	33
Table 3.19 Anova Results.....	33
Table 3.20 Coefficients	33
Table 3.21 Model Summary	34
Table 3.22 Number of the employee.....	34
Table 3.23 Age*Maslow needs cross tabulation.....	34
Table 3.24 Chi-square Test Results.....	34
Table 3.25 Anova Results.....	35

Table 3.26	Coefficients.....	35
Table 3.27	Model Summary.....	35
Table 3.28	Number of the employee.....	36
Table 3.29	Hierarchy need step * Average job offers per person Cross-tabulation.....	36
Table 3.30	Chi-Square Test Results.....	36
Table 3.31	Anova	37
Table 3.32	Coefficients.....	37
Table 3.33	Model Summary.....	37
Table 3.34	Number of the employee.....	38
Table 3.35	Age*Number of the employee cross tabulations.....	38
Table 3.36	Chi-Square Test Results.....	38
Table 3.37	Anova Results.....	39
Table 3.38	Coefficients.....	39
Table 3.39	Model Summary.....	39
Table 3.40	Number of the employee	40
Table3.41	Number of employee * Number of respondents facing shock cross tabulation.....	40
Table 3.42	Chi-Square Test Results.....	41
Table 3.43	Anova Results.....	41
Table 3.44	Coefficients.....	41
Table 3.45	Model Summary.....	42
Table 3.46	Number of the employee.....	42
Table 3.47	Maslow Needs * Paths Cross tabulation.....	43
Table 3.48	Chi-Square Test Results.....	43
Table 3.49	Anova Results.....	43
Table 3.50	Coefficients.....	43
Table 3.51	Model Summary.....	44
Table 3.52	Number of the employee.....	44
Table 3.53	Maslow Needs * Paths Cross tabulation.....	44
Table 3.54	Chi-Square Test Results.....	44
Table 3.55	Anova Results.....	45
Table 3.56	Coefficients.....	45
Table 3.57	Model Summary.....	45
Table 3.58	Number of the employee.....	46
Table 3.59	Age * Number of Shocked Employee Cross tabulation.....	46
Table 3.60	Chi-Square Test Results.....	46
Table 3.61	Anova Results.....	47
Table 3.62	Coefficients.....	47
Table 3.63	Model Summary.....	47
Table 3.64	The importance of reward at work.....	47
Table 3.65	The importance of different kinds of rewards at work.....	48
Table 3.66	The importance of motivation and hygiene factors.....	48
Table 3.67	The importance of motivation and hygiene factors.....	48
Table 3.68	The validity comparisons of hypotheses.....	49

ABSTRACT

UNFOLDING MODEL OF VOLUNTARILY TURNOVER IN THE LIGHT OF A.MASLOW’S HIERARCHY OF NEEDS THEORY AT CONSTRUCTION SECTOR

Gülçin Özlem ATALAY

Department of Civil Engineering

MSc. Thesis

Advisor: Assoc. Prof. Begüm SERTYEŞİLİŞİK

Voluntarily turnover is a big challenge for employers and companies and should be controlled. The worst side of voluntarily turnover process is probably its being unexpected, untimely and most of the time chosen by skilled workers. Employees are the main assets of companies and effects of the employee turnover on the companies directly proportional to the employee’s position and qualification. Unfolding model of voluntarily turnover developed by Lee and Mitchell *et al.* and improved more at 1999, is a really important model and it is used and developed by many researchers. To understand the turnover as a process having different kind of steps following one another is the basic point for unfolding turnover model. So to intervene in the true step is highly important for employee retention. People want to work on companies’ understanding and rating them. This provides for the company being one jump ahead of its competitors.

Effective management should be able to motivate and delegate, which yields several benefits for managers and the entire organization. Enhancing employee performance through effective motivation allows managers to achieve goals. Motivational factors directly relates to the satisfaction and so job embeddedness of the employees.

One of the famous motivational theories is the A. Maslow’s theory of human motivation and his hierarchy of needs. Maslow attracted the attentions of the

researchers and employers by showing the direct relation between human motivation and job satisfaction.

The result that we wanted to get is that 'if there is a direct relation between motivation and job satisfaction, and also between unfolding model and job satisfaction; there should be a relation between motivation and unfolding turnover model.

Key words: voluntary turnover, motivation, job satisfaction, unfolding model of voluntary turnover, Maslow's need hierarchy.

İNŞAAT SEKTÖRÜNDE GÖNÜLLÜ OLARAK İŞTEN AYRILMA MODELİNİN MASLOW İHTİYAÇLAR HİYERARŞİSİ TEORİSİ İŞİĞİNDA İNCELENMESİ

Gülçin Özlem ATALAY

İnşaat Mühendisliği Anabilim Dalı

Yüksek Lisans Tezi

Tez Danışmanı: Doç. Dr. Begüm SERTYEŞİLİŞİK

Gönüllü olarak işten ayrılmak işverenler ve şirketler açısından başa çıkılması gereken bir problemdir. Bu sürecin en olumsuz yanı ise zamansız ve beklenmedik olması ve çoğu zaman kalifiye personel tarafından tercih edilmesidir. Çalışanlar şirketin öz kaynaklarıdır ve gönüllü olarak işten ayrılmaların şirkete etkisi ayrılan personelin pozisyonu ve yeteneğine göre değişiklik gösterir. Bu anlamda Lee, Mitchell vd. tarafından oluşturulan ve 1999 yılında son şekli verilen gönüllü olarak işten ayrılma modeli pekçok araştırmacı tarafından kullanılan ve geliştirilen önemli bir modeldir. Bu modelde gönüllü olarak işten ayrılmak birbirini takip eden pek çok aşamadan oluşan bir süreç olarak ele alınmıştır. Böylece sürece doğru aşamada müdahale etmek çalışanların elde tutulması açısından oldukça önemlidir. Bu durum şirketlerin rakiplerinin bir adım önüne geçebilmelerine olanak sağlar.

Etkili yönetim çalışanlarını motive edebilmesi ve sorumluluk verebilmesi, yöneticiler ve şirket açısından oldukça fayda sağlayan bir durumdur. Etkili motivasyon ile çalışanların performansını artırmak, yöneticilerin hedeflerine ulaşmasını sağlar. Motivasyonel faktörler çalışanların iş tatminini ve buna bağlı olarak şirket aidiyet duygusunu pekiştirir.

Bu çalışmada elde etmeye çalıştığımız sonuç '*şayet iş tatmini ile motivasyon arasında ve iş tatmini ile işten gönüllü ayrılma modeli arasında doğrudan bir ilişki söz konusu ise;*

motivasyon ve gönüllü işten ayrılma modeli arasında da doğrudan bir ilişki söz konusu olmalıdır' hipotezini doğrulamaktır.

Anahtar Kelimeler: gönüllü olarak işten ayrılmak, motivasyon, iş tatmini, gönüllü işten ayrılma modeli, A.Maslow'un ihtiyaçlar hiyerarşisi kuramı

INTRODUCTION

1.1 Literature Review

The literature review of the study is mentioned for both theories; UMVT and MHNT with background of the study in this chapter.

1.1.1 Background Of The Study

Voluntarily turnover is one of the basic problems of the construction sector and keeping the employees on work directly relates the management ability of the employers. It is seen that motivation is a really important requirement for the employee and its nature changes from sector to sector and also from individual to individual.

There have been lots of studies in literature about voluntarily turnover and lots of theories studied about human motivation. All turnover studies have the main purpose of reducing turnover rate. All motivation theories have the main purpose to understand and explain motivational process of individuals. As it can be guessed, motivation of the employee directly affects the success, satisfaction, adoption of him and so the employer.

In this study the first model used is Lee and Mitchell's '*Unfolding Model of Voluntarily Turnover (UMVT)*', with the last additions of other researchers, in construction sector of Turkey. Lee and Mitchell *et al.* studied the first version of UMVT in 1994 and in 1999 they declared it with the last version.

The second model used in this study was A.Maslow's '*Theory of Motivation and Hierarchy of Needs Pyramid*'. Maslow argued that there was a hierarchy between human needs and according to those, he constructed the need hierarchy pyramid having five different steps. According to their needs, people were placed to the appropriate steps of the pyramid.

1.1.2 Unfolding Model Of Voluntarily Turnover

Voluntarily employee turnover researches were driven from the studies of March and Simon about the perceived ease and desirability of leaving the job for the employee [1]. If an individual were dissatisfied with his work and had job alternatives; it would lead him to quit the employment voluntarily. Traditional theorists working on the employee turnover issue had generally emphasized the term 'satisfaction' as the key factor while constructing their theories. According to Mobley, firstly there should be a kind of dissatisfaction; then the alternatives would be evaluated and compared with the current job [2]. If the alternatives influenced strongly the employee; the inevitable result would be turnover voluntarily. The steps have intermediate linkages and all steps not necessarily be seen on every employee leaving the job voluntarily. In 1979 a new study was introduced as an extension to the 1977 study [3]. The study still evaluates job satisfaction and evaluation of alternatives as basic points; but newly introduced terms anticipated job satisfaction and the expected utilities of the present and alternative jobs for predicting turnover.

In 1981 Steers and Mowday introduced a sequence of decisions made by the employee to determine quitting or staying [4]. Employees are different persons so they have different job expectations leading to their job preferences. If there is an in-tendency to leave the job; it would be time to leave for someone but it would be also time to searching alternatives for the other. But there were still the problem for discrimination of the employees searching for alternatives from the sudden leavers.

In 1985, Hulin and his colleagues [5] also in 1986 Price and Mueller [6] argued that the turnover process at different employee groups follow different steps. Addition to job alternatives and satisfaction terms, new ones like '*luck*' '*inertia*' '*different labor markets*' etc. were introduced as affecting the employee and turnover process. But they could not explain how these factors change the cognitive process of turnover.

In 1994, Lee and Mitchell *et al.* developed a theory partly based upon the ideas of Mobley [2], Steers and Mowday [4] and Hulin and his associates [5]. They called this new theory as the Unfolding Model of Employee Turnover (UMVT). In addition to traditional models focusing on satisfaction term, UMVT also introduced a different aspect of decision making

based on Image Theory of Beach [7]. Image theory argues that people have three different images in their mind called as value, trajectory and strategic. These are respectively about individual itself, about his goals, and about his ways to reach those targets. So individual evaluate events according to those images and determines what he want to do. Image theory suggests that individuals “screen” the information and interpret the extent to which the information aligns with their personal values and goals [8]. As seen individual feelings and preferences discussed by Beach’s theory are different from the traditional turnover theories [7], [9], [10].

As theory of Lee and Mitchell feeds from the image theory, they evaluate ‘screening’ concept of image theory as ‘screen the environmental and organizational information’ through turnover process [11]. Their unfolding model includes six different mental and physical levels in determination process.

1.1.2.1 Levels of the UMT

The levels are called as ‘*shock*’, ‘*script*’, ‘*image violation*’, ‘*satisfaction*’ and ‘*searching and/or evaluation of the alternatives*’ and ‘*job offers*’.

Shock: Shock can be positive, negative, neutral, expected or unexpected, personal or organizational. (Lee and Mitchell, 1994: 10)

‘It is a very distinguishable event that jars employee toward deliberate judgements about their jobs and perhaps to voluntarily quit their jobs.’

Examples of shock include unsolicited job offers, changes in marital state, transfers, and firm mergers [12].

Script: Prior decisions, rules, learned responses, and circumstances surrounding those prior shocks that are activated after facing a shock by the employee [11]. After shock script is called by the brain, and according to the structure of it employee determines to leave or stay.

Image Violation: This occurs when an individual’s values, goals, and strategies for goal attainment do not fit with those of the employing organization or those implied by the shock [12]. After prompted by the shock the employee theorized to use value, trajectory and strategic images in order to reassess his or her basic attachment or commitment to the

current organization. After using compatibility test [7], in his mind the employee determines to either change his image or quit the firm [11].

Job Satisfaction: If employment no more feeds the intellectual, emotional and financial needs of the employee then dissatisfaction occurs. Although job satisfaction is the basic point in traditional turnover models; the unfolding model is drawn apart from traditional ones in terms of the processes prior to the dissatisfaction and evoking it.

Searching and/or evaluation of the alternatives: If turnover sequence occurs systematically step by step; searching for alternatives is activated by the lack of satisfaction; but there is also a probability of the process that starts with dissatisfaction directly, as in traditional models. [11]. The other alternative is that likely offers could also be a shock itself (positive shock) for the employee. According to 1994 study of the model shock that is said to be occur at path 3 (figure 2.1), image violation followed it then there was dissatisfaction, searching for alternatives and finally turnover. But in 1999 study of Lee et al., it is changed as the unsolicited job offer could serve as a shock at both of path 1 and path 3. Searching for the alternatives and evaluation of the alternatives were accepted as the same case in 1994 study but it is changed in 1999, because there could be searching but not necessarily evaluation of the alternatives [12].

Job offer: This offer could be a real offer and also a choice of non-work option for the employee. For a woman, for instance to have a new born might lead to think over non-work option. Again a serious illness of someone in the family who needs special care might also a cause to choose necessarily non-work situation. It was told that there were four paths according to the UMVT, seen on Figure 2.1 as path 1, 2, 3, 4a and 4b.

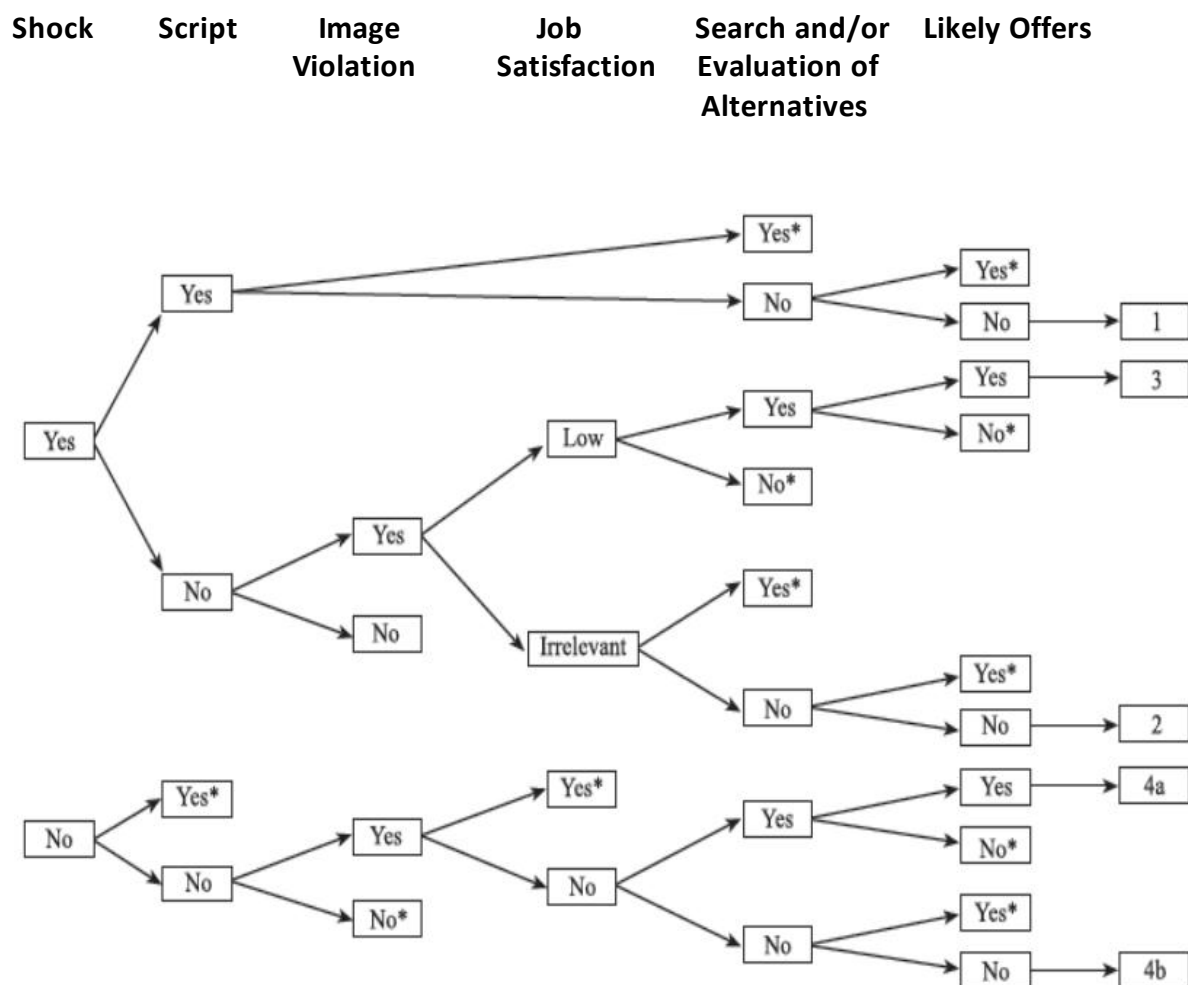


Figure 1.1 UMT (reproduced from Lee *et al.*, 1999)

Path one starts with shock. Shock works as a kind of impulse on the mind stimulating engaged script. If there were prior decisions, learned behaviors, bad events, rules, matching with the shock; it confirms that quitting would be better. Script engagement is an important case that script may occur in every step or any time but the engagement occurs just in path one. According to the 1999 study of Lee *et al.*, satisfaction was highly irrelevant in path one. Shocks on this path were seen more likely to be personal than organizational [12].

Path two starts with a shock and no engaged script occurs. Next step is image violation followed by low satisfaction. There is no search or evaluation of the alternatives, no likely offer. This path requires a kind of negative shock leading to the conflict with personal expectations [12].

In *path three* there is shock, image violation and low level of satisfaction. After these steps, there is search and evaluation of alternatives and likely offer. Shock could be positive, neutral or negative [11].

At *path four (4a-4b)*, there is no shock so no engaged script, but first there is image violation and after low level of job satisfaction. The difference between the two paths are at path 4a there is search and evaluation of alternatives and likely offer in hand, but for path 4b, there is no search, no evaluation, so no alternatives, the employee quit without an offer in hand.

According to UMVT the employee follows one of the four paths before leaving the job. After Lee *et al.*'s 1999 study, Niederman *et al.* studied with the IT Professionals and identified three paths in addition to the four paths, which were called as 1a, 1b, 4c. Niederman *et al.*'s study it was found that N=84 (68%) of the respondents followed these three newly proposed paths shown on Table 2.1 below [13].

Table 1.1 New UMVT decision paths proposed by Niederman et al. [13]

Path	Shock	Script	Image Violation	Low Job Satisfaction	Search and/or evaluation of alternatives	Likely offers	Classified respondents
1a	Yes	Yes	Yes	Yes	Yes	Yes	55
1b	Yes	Yes	No	No	Yes	Yes	10
4c	No	Yes	Yes	Yes	Yes	Yes	19

After Niederman *et al.* [13], Jones *et al.* [14] studied on construction professionals firstly in our country and added two more paths which are called Prop 6 and Prop7. Niederman *et al.*'s, 2007 study, Jones *et al.*'s 2010 study comparing with Lee *et al.*'s, 1999 UMVT are shown on Figure 2.2 below.

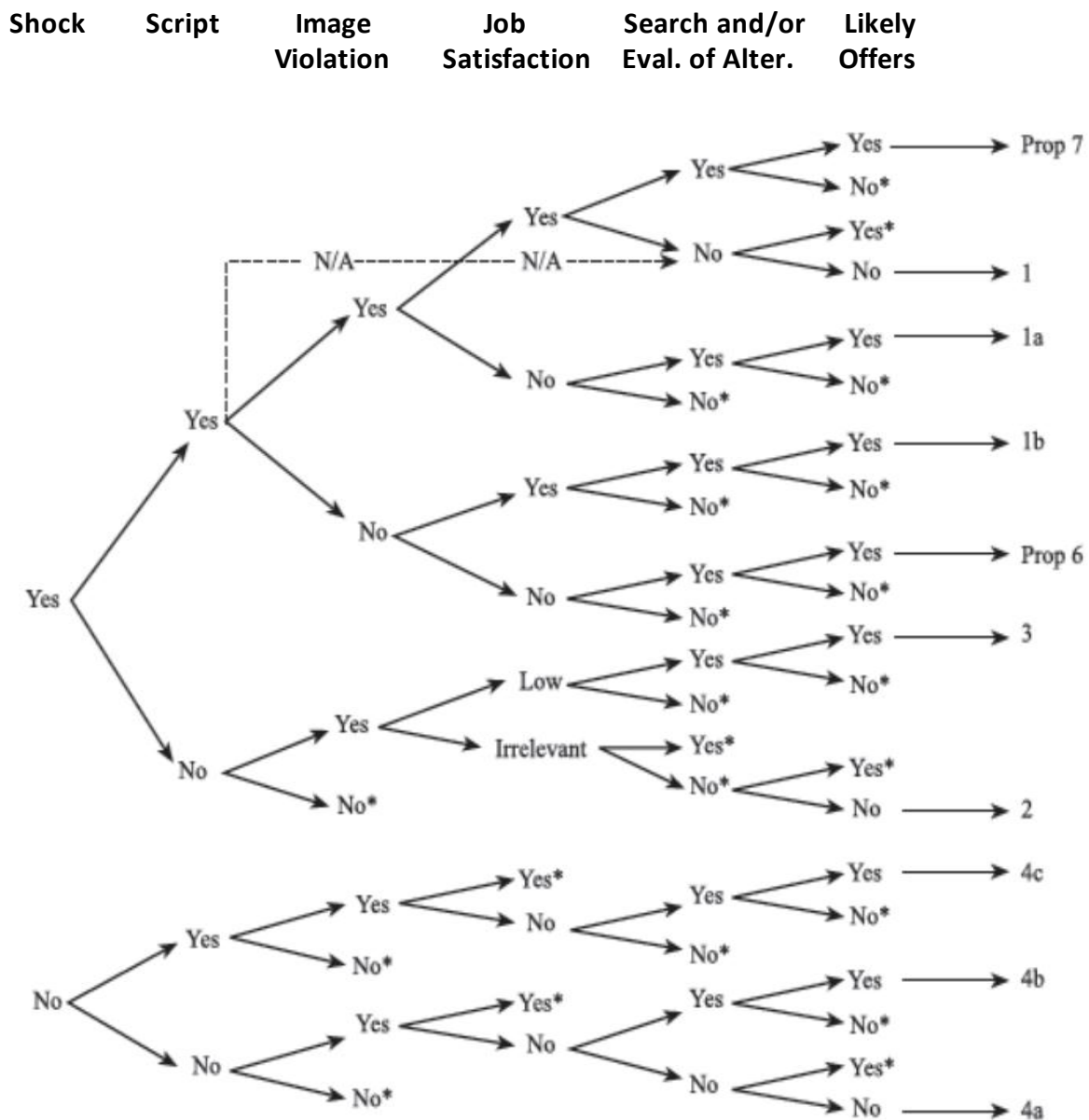


Figure 1.2 Paths of UMVT, Niederman *et al.* and Jones *et al.* [14]

1.1.3 MOTIVATION THEORIES

There have been many researches in literature about motivation. In this study specifically from Maslow's Motivation of Human Being study, hierarchy of need's theory was used. Addition to this theory, some of the important motivational theorists as Frederick Herzberg, Douglas McGregor and Victor Vroom were shortly mentioned.

1.1.3.1 A. Maslow's Motivation of Human Being Study and Hierarchy of Needs

In 1943, Abraham Maslow constructed theory of motivation based on the notion of human needs which were ordered in a fashion that the lowest need is the vital need for the existence of human and the upper one is based on the preferences and expectancies of individuals through life.

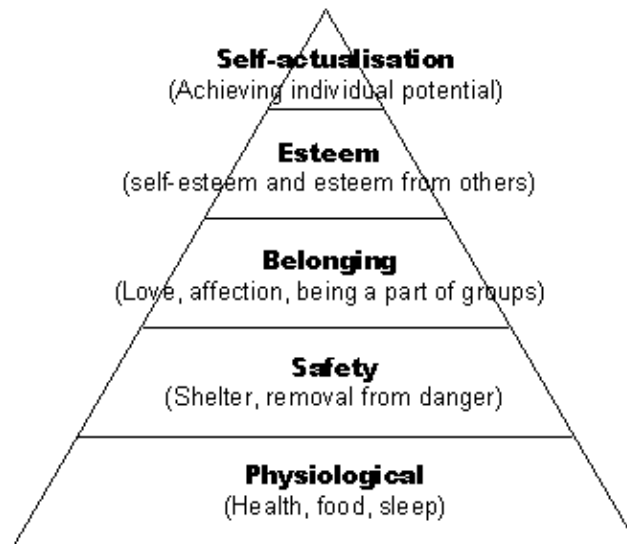


Figure 1.3 Maslow's hierarchy of needs pyramid

Maslow says:

'A good way to obscure the higher motivations, and to get a lopsided view of human capacities and human nature, is to make the organism extremely and chronically hungry or thirsty.'

The hierarchy starts with the *physiological needs*. These are requirements that are vital for human nature, like breathing, sleeping, eating etc. [15].

Second step is *safety needs*, emerging right after satisfaction of physiological needs and results from the individual's need for safe. A job with tenure and protection, the desire for saving accounts, various kinds of medical insurances (medical, dental, unemployment etc.), even having a religion were seen as safety needs according to Maslow [15].

Belonging or love needs, is the third step and if physiological and safety needs are well gratified, love needs emerges. Person needs affectionate relations with people in general, to have friends, a sweetheart, a wife or children.

Esteem needs, is the fourth step and emerges after the gratification of love needs. This need includes respects of others, prestige, recognition, attention, to be considered important and appreciation. Satisfaction of self-esteem need leads to the feeling of confidence, worth, strength, and feeling of being necessary in the world [15].

The need for *self-actualization*, is a tendency emerges after esteem need and it connotes for individual to express himself best in life, to go ahead with his dreams, trying to do everything that he is capable of. So satisfaction of this need most of the time would not be satisfied during the life period.

Maslow (1943 : 19) says that:

'A hundred percent of satisfaction is not required to go a higher level on the hierarchy, for instance if esteem need is satisfied only 5 percent, self-actualization level is not visible but when it is satisfied 40 percent, then self-actualization emerges 10 percent; when esteem need is satisfied 90 percent self-actualization emerges 40 percent and so on.'

So to complete one step totally, and go to upper one seems unrealistic. The real thing is almost totally satisfied step becomes no more a challenge for individual and he starts to searching for the satisfaction of upper step.

1.1.3.2 Other Motivational Theories

It appears that although the best known researcher is A. Maslow with his motivational theory; there are still other motivational theorists. Motivational theories have been classified into two categories. These categories are divided into content and process ones. These two categories are focused on the inside factors and outside factors of the individual and to the environment respectively. Also content theories are focused on the approaches of behavior, but process theories are focused on the results of behavior. The following theorists are some of the important ones that were also used in the questionnaire.

1.1.3.2.1 Frederick Herzberg

This theory arose from the research of Herzberg which he tried to find an answer to the question about the working conditions causing the employee feel the best and the worst. It

was seen by the study that there were two main factors, affecting those feelings, called as motivational and hygiene factors.

Motivational factors include achievement, recognition for the achievement, interesting in the task, responsibility for enlarged tasks, growth and advancement to higher level tasks [16]. These factors increase the job embeddedness of the employees.

Hygiene factors include company policies and administration, supervision, working conditions and interpersonal relations, salary, status, and security. These factors are supporters of motivation for the employee but they are not meaningful in lack of motivational factors.

According to the research results of Herzberg; the employees giving importance to the motivational factors feel themselves best and the employees giving importance to the hygiene factors feel themselves the worst.

1.1.3.2.2 Victor Vroom

Motivation depends on the terms valence, expectancy and instrumentality according to this theory.

Valence, refers to the degree of tendency to behave on a certain mode depending on the following certain results of that behavior and the importance of this certain results for the employee [17]. Measuring the desire of an employee for extrinsic (money, promotion, free time, benefits) or intrinsic (satisfaction) rewards should be done by the manager for directing and motivating the employee.

Expectancy, refers to the different expectations of the employees. The managers should be aware of these needs.

Instrumentality says, if the employee believes the probability of getting the reward is high he will be motivated.

It should be noticed there are no universal rules for motivation so the expected results could be changed according to the individual and the environment and could be positive, negative and neutral [18].

1.1.3.2.3 Douglas McGregor

McGregor has the theory called as X and Y theory. X and Y terms are used for defining two different types of people. Some people are self-directed and can understand what they are supposed to do. Theory Y identifies these responsible people. Opposing to this, some people need to be pushed or directed to take the responsibility and they could be motivated by threats. Theory X identifies these carefree people. [22]

1.2 Aims and Objectives

The purpose of the study is to understand the effects of motivation on voluntarily turnover in construction sector; in light of 'Unfolding Model of Voluntarily Turnover (UMVT)' and 'Motivational Theories'; basically 'Maslow's Need Hierarchy Theory (MNHT)'. Although unfolding model found acceptance on turnover researches; combining the theory with motivational factors is such a new concept and this is the first study in literature integrating both of them.

In the study two different questionnaires were used in combination from the literature; UMVT questionnaire, used by Lee and Mitchel *et al.*(1999) and A.Maslow's need hierarchy questionnaire used by Porter (1961, 1962, 1963a and 1963b). In addition to the questions taken from the literature, at the beginning of the questionnaire, a personal information part and at the end, questions for other motivational theories were added. The six hypotheses tested by the questionnaire were shortly given below. The rationales of the hypotheses were given in detail at chapter 3.

1.3 Hypotheses Tested

Hypothesis 1:

H₀: There is no relation between Maslow Hierarchy of Needs Pyramid steps and professional experience of the employee.

Hypothesis 2:

H₀: There is no relation between Maslow Hierarchy of Needs Pyramid steps and job offers presented to the employee (search and evaluation of alternatives and likely offer).

Hypothesis 3:

H₀: There is no relation between increasing Professional experience and increasing submitted job offers to the employee.

Hypothesis 4:

H₀: There is no relation between need hierarchy pyramid steps and to be shocked and leaving the job.

Hypothesis 5:

H₀: There is no relation between Maslow hierarchy steps and the path, employee follows for leaving the job.

Hypothesis 6:

H₀: There is no relation between experience (age) and to be shocked before leaving job.

RESEARCH METHODS

2.1 Introduction

In 1999, Lee and Mitchell *et al.*, studied to extend their 1994 version of unfolding model [12]. Although they studied on individual and emotional behaviors more compared to the other traditional researchers, by constructing their theory on the basis of Image Theory [7]; the motivation factors were not included in their theory. Maslow as a motivational theorist did not construct his hierarchy of needs theory for the employment, but he tried to explain the scope of human being through his life span [15]. Today it cannot be ignored that people have different kind of goals, desires, expectancies and these construct the main components of motivation and success.

In this study motivation is seen as an important factor for the employee in view of success, engagement, adaptation, personal relations and satisfaction. It can be said that it has a kind of binding effect between the employee and the employment. Maslow type of motivation is combined with the UMVT to understand the turnover process of employees and how motivational factors affect them on this process. The details were explained below.

2.2 Research Design

In this study two types of main questionnaires were used; one is for Maslow hierarchy and the other one is for UMVT, and one main introduction part for personal information like age, gender, profession, education etc. The questionnaires were taken from the literature. Maslow questions are taken from the study of Porter in 1961, 1962, 1963a and 1963b [19], [20], [21]. The UMVT Questionnaire was taken from the Lee et al's 1999 study [12]. Methods

of evaluation of the questionnaire are chi-square test and regression analysis using SPSS 14. Also excel program is used in the evaluation process.

It was said that questions were taken from literature, but there were some questions added to serve the purpose of the research. First addition is personnel information part. Secondly, although the research is about the work the employee leave voluntarily, same questions were also adapted to the current work they have. Thirdly, after Maslow need hierarchy questionnaire part, some other motivational theorists aspects were evaluated by newly introduced questions.

2.3 Sample

The questionnaire was distributed to 10 important construction firm located in İstanbul through their human resources by e-mail. The return to the mail for the first time was less than 5%. Due to this inadequate amount of return the e-mails were sent again with a text giving confidence for secrecy of the company and personal information. Responses were received from 101 people from different job positions and the usable ones were 85.

RESULTS AND DISCUSSION

Results are evaluated in four different steps. These steps are UMVT, MHNT, hypotheses tested and other motivational theories respectively.

3.1 Unfolding Model

3.1.1 Sample

Gender: The majority of respondents were male (N=80%) and the small part was female (N=20%). These reflects typical adhocracy situation in construction sector.

Age: This analysis showed that the majority of the respondents were between the ages of 30-40 (N=43,53). Second major group was between the ages of 25-30 (N=31.76%). This amount was followed by the age group of 40-50 years (N=20%). Least number of respondents were between the ages of 50-60 (N=5,88%).

Nature of qualification: Majority of the respondents graduated from university (N=83,53). A few of them graduated from high school or a two year degree university (N=16,47).

Table 3.1 Respondents' qualification

Management Level	Age Group				Total N for level	Median Age	College Degree
	25-30	30-40	40-50	50-60			
Gen.Manager	—	1	2	—	3	41,7	100%
Manager	—	4	1	1	6	40,0	100%
Project Manager / Tech.Manager	2	2	3	2	9	41,1	100%
Chief Engineer	1	12	4	—	17	36,9	100%
Resident Engineer	5	3	—	—	8	30,3	100%
Tech.Of.Engineer / Architect	11	5	2	—	18	31,5	100%
Technician	5	6	3	—	14	34,5	82%
Others	2	4	2	2	10	39,5	100%

3.1.2 Results of UMT

Table 3.2 shows the comparison of this study results with the study of Lee *et al.*'s study [12]. Same type of questions were used to measure the non-conformity difference and it was seen that although Lee *et al.*'s study there were a few amount of non-conformities, in our study there are higher amount of non-conformities.

Table 3.2 UMT classification rates comparing to Lee *et al.*

Number of respondents classified into each path				
Path	Lee <i>et al.</i> (1999) -Accountants		Construction Professionals	
	Nr. classified	% classified	Nr. classified	% classified
1	6	2,6%	3	3,5%
2	7	3,1%	0	0,0%
3	136	59,4%	8	9,4%
4a	8	3,5%	1	1,2%
4b	55	24,0%	15	17,6%
Sub-total	212	92,6%	27	31,8%
Non-conformities	17	7,4%	58	68,2%
Total	229	100,0%	85	100,0%

Non-conformities at Lee *et al.*'s study is 7,4% but in this study this amount is 68,2%. There is a real difference between this study and Lee *et al.*'s 1999 study. This difference necessitated to compare the results of this study with Niederman *et al.*'s study made on IT professionals [13].

Table 3.3 UMT classification rates comparing to Niederman *et al.*

Number of respondents classified into each path				
Path	Niederman <i>et al.</i> (2007) - IT		Construction Professionals	
	Nr.classified	% classified	Nr.classified	% classified
1	0	0,0%	3	3,5%
2	0	0,0%	0	0,0%
3	6	4,8%	8	9,4%
4a	0	0,0%	1	1,2%
4b	9	7,3%	15	17,6%
Sub-total	15	12,1%	27	31,8%
Non-conformities	109	87,9%	58	68,2%
Total	124	100,0%	85	100,0%

First of all, on table 3.3 Niederman's *et al.*'s study and this study is compared according to the UMT classification rates and it is seen that there is a higher amount of non-conformity at Niederman's study with the percentage of 87,9% and for this study this amount is 68,2%.

Table 3.4 Classification accuracy of Niederman *et al.* (2007) theorized paths

Number of respondents classified into each path				
Path	Niederman <i>et al.</i> (2007)-IT professionals		Construction Professionals	
	Nr.classified	% classified	Nr.classified	% classified
1a	55	44,4%	29	34,12%
1b	10	8,1%	7	8,24%
4c	19	15,3%	8	9,41%
Sub-total	84	67,7%	44	51,76%
Original Paths	15	12,1%	27	31,76%
Sub-total	99	79,8%	71	83,53%
Non-conformities	25	20,2%	14	16,47%
Total	124	100,0%	85	100,00%

At table 3.4 it is seen that non-conformities decreases. This situation explains that the UMT should be adapted to the construction sector with newly introduced 3 paths of Niederman *et al.*

At table 3.4 it is seen that non-conformities for construction professionals decreases from 68,2% to 16,47%. If the paths are explained using the binary codes the results would be seen as the table 3.5 below.

Table 3.5 Binary path codes and classification accuracy

	Path	Shock	Script	Image Violation	Job Satisfaction	Search/Evaluation	Likely offers	Classification	
								Nr.	%
Lee and Mitchell (1994) paths	1	1	1	N/A	N/A	0	0	3	3,5%
	2	1	0	1	N/A	0	0	0	0,0%
	3	1	0	1	1	1	1	8	9,4%
	4a	0	0	1	1	0	0	1	1,2%
	4b	0	0	1	1	1	1	17	20,0%
	Sub-total							29	34,1%
Niederman <i>et al.</i> (2007) paths	1a	1	1	1	1	1	1	30	35,3%
	1b	1	1	0	0	1	1	7	8,2%
	4c	0	1	1	1	1	1	9	10,6%
	Sub-total							46	54,1%
Newly proposed paths	PPX	0	0	1	0	0	1	1	1,2%
	PPY	1	0	0	1	0	1	1	1,2%
	PPZ	0	0	0	0	0	1	7	8,2%
	PPW	0	1	0	0	0	0	1	1,2%
	Sub-total							10	11,8%
	Total							85	100,0%

At table 3.5 it is seen that Lee *et al.*'s UMVT paths has the 34,1% amount for this study and Niederman *et al.*'s new paths covers the 54,1% amount. And there is a newly proposed path; path W take up the 8,2% of the respondents and shows that only for a likely offer an employee could voluntarily quit from his current work.

3.2 Maslow's Hierarchy of Needs Theory

The part of the questionnaire used for Maslow's need hierarchy was taken from literature but some modifications were made according to the requirements of research. All questions have four different parts to answer in each need category. This amount differs from Porter's study because Porter's study had three sectional questions [19]. The newly introduced section is about the employees recently left job. Respondents evaluated the questions also for the work they recently left because we are combining UMVT with the motivational theories and UMVT is about the work left voluntarily. Due to this motivational part should be related with the recently left work also.

There are five categories like the Maslowian type of need hierarchy categories but, differently one of the need categories, namely the '*physiological need*' mentioned at the Maslow theory [15] before was not used as a need category in this questionnaire. Due to physiological needs are common and indispensable for all people in the world, this need could not be a criterion for the employee motivation. The newly added need category instead of physiological one by Porter [19] is the '*autonomy need*' category. The items of this category was included in the esteem need category in Maslow's [15] research but it was taken as an independent and new category at Porter's study and it was located in between the esteem and self-actualization category in the questionnaire. There are totally 13 questions under the five need categories and the technique used to answer all of the questions is mentioned below using an example.

The respondents were asked to answer the questions by choosing a number on a five point scale from 1-5 and low numbers represents the low or minimum amounts and the high numbers represents high or maximum amounts.

Q: The feeling of self-esteem a person gets from being in his job position.

a) How much is there now the feeling of self-esteem at your job position?

(min) 1 2 3 4 5 (max)

b) How much was there the feeling of self-esteem at your last voluntarily left job?

(min) 1 2 3 4 5 (max)

c) How much should be there the feeling of self-esteem?

(min) 1 2 3 4 5 (max)

d) How important is the feeling of self-esteem to you?

(min) 1 2 3 4 5 (max)

3.2.1 Sample

The sample of respondents consists of 75 employees from 7 different job positions. These positions are general manager, manager, project manager & technical manager, chief & chief engineer, resident engineer, technical office engineer & architect, technician. '*Others*'

category shown on table 3.1 was not used here because if the employees at this category are divided into job positions, a significant group could not be obtained.

Table 3.6 Distribution of N of total sample by seven job positions and four age groups and characteristics of sample by job

Management Level	Age Group				Total N for level	Median Age	College Degree
	25-30	30-40	40-50	50-60			
Gen.Manager	—	1	2	—	3	41,7	100%
Manager	—	4	1	1	6	40,0	100%
Project Manager / Tech.Manager	2	2	3	2	9	41,1	100%
Chief Engineer	1	12	4	—	17	36,9	100%
Resident Engineer	5	3	—	—	8	30,3	100%
Tech.Of.Engineer / Architect	11	5	2	—	18	31,5	100%
Technician	5	6	3	—	14	34,5	82%

Table 3.6 presents the number of respondents at each work position within each age group. It can be seen from the table, people at higher level of working positions were older than the lower ones as expected. The table also shows that according to college degree they are approximately equal. Only at technician group there is seen a decrease on percentage amount. This is an expected result because of the sector requirements.

3.2.2 Results of Maslow's Need Theory

The degree of perceived deficiency in fulfillment for the current job of each respondent on each questionnaire item was obtained by subtracting the answer to Part a of the item ("How much is there now the feeling of self-esteem at your job position?") from Part c of the item ("How much should be there the feeling of self-esteem? "). Similarly the degree of perceived deficiency need in fulfillment for the last voluntarily quitted job of each respondent on each questionnaire item was obtained by subtracting the answer to Part b of the item (" How much was there the feeling of self-esteem at your last voluntarily left job? ") from Part c of the item ("How much should there be the feeling of self-esteem? "). It could be expected that as the difference increases the degree of deficiency increases.

Table 3.7 presents the mean need fulfillment deficiencies for last voluntarily left job for each of the 13 items in the questionnaire and for each subgroup of respondents. The values for each entry in table 3.7 were obtained by subtracting each respondent's answer to Part b of

each item from his answer to Part c of each item, and then calculating the means of these values for each subgroup of respondents.

Table 3.7 shows that generally the largest deficiencies were found in the items in the two highest- order need categories, Autonomy and Self-Actualization

Table 3.7 Mean need fulfillment deficiencies for each need category
and item at left work

Need Category	Item	Age Group	Management Level						
			General Manager	Manager	Project Manager	Chief Engineer	Resident Engineer	Technical Of.Eng.	Technician
Security	I-1	25-30	—	—	0,00	3,00	1,60	1,73	2,20
		30-40	1,00	0,75	0,50	1,83	2,00	1,00	1,50
		40-50	2,00	1,00	1,67	0,00	—	1,00	1,66
		50-60	—	1,00	0,50	—	—	—	—
Social	II-1	25-30	—	—	0,50	3,00	2,40	1,27	1,40
		30-40	1,00	1,75	2,00	1,58	2,33	1,60	0,33
		40-50	0,00	1,00	0,66	2,00	—	1,00	3,00
		50-60	—	0,00	1,50	—	—	—	—
	II-2	25-30	—	—	0,00	3,00	0,80	1,55	1,00
		30-40	-1,00	0,00	0,00	1,50	1,66	0,20	0,50
		40-50	0,50	3,00	0,33	2,25	—	1,50	1,00
		50-60	—	0,00	1,50	—	—	—	—
	III-1	25-30	—	—	0,50	0,00	2,00	2,00	1,20
		30-40	1,00	1,25	0,50	1,41	1,33	1,20	0,66
		40-50	2,00	2,00	0,33	1,50	—	0,50	0,66
		50-60	—	0,00	2,00	—	—	—	—
Esteem	III-2	25-30	—	—	0,00	2,00	0,60	1,45	1,00
		30-40	2,00	1,00	0,50	0,67	1,00	1,00	1,33
		40-50	0,50	1,00	0,33	1,50	—	0,50	1,00
		50-60	—	0,00	1,00	—	—	—	—
	III-3	25-30	—	—	0,50	-1,00	1,40	1,55	1,20
		30-40	1,00	1,00	0,50	0,33	1,33	0,60	0,16
		40-50	2,00	1,00	0,33	0,50	—	-1,50	0,75
		50-60	—	0,00	0,00	—	—	—	—

Autonomy	IV-1	25-30	—	—	1,50	-1,00	1,00	1,00	1,40
		30-40	3,00	0,75	1,50	1,67	0,00	0,80	0,33
		40-50	1,50	1,00	0,33	2,50	—	0,50	0,33
		50-60	—	0,00	1,00	—	—	—	—
	IV-2	25-30	—	—	0,50	0,00	1,00	1,18	2,00
		30-40	2,00	0,25	1,00	1,00	0,67	0,80	0,83
		40-50	1,00	2,00	1,00	2,25	—	1,18	0,33
		50-60	—	2,00	1,00	—	—	—	—
	IV-3	25-30	—	—	0,50	-2,00	1,00	0,82	1,20
		30-40	2,00	1,75	0,00	1,00	0,67	0,80	0,66
		40-50	1,00	1,00	1,00	3,00	—	1,00	1,33
		50-60	—	1,00	1,00	—	—	—	—
	IV-4	25-30	—	—	0,50	1,00	1,00	0,50	0,60
		30-40	2,00	1,75	-0,50	1,92	1,00	0,80	1,16
		40-50	1,00	0,00	0,67	1,75	—	0,50	1,00
		50-60	—	1,00	0,50	—	—	—	—
Self-Actualization	V-1	25-30	—	—	0,00	0,00	1,60	1,82	1,40
		30-40	2,00	2,50	1,00	1,33	0,33	1,00	0,50
		40-50	1,00	2,00	0,67	1,50	—	1,00	1,33
		50-60	—	1,00	0,50	—	—	—	—
	V-2	25-30	—	—	1,00	1,00	1,60	1,36	0,80
		30-40	1,00	1,25	1,00	1,83	1,33	1,40	-0,50
		40-50	1,50	2,00	0,33	1,50	—	2,00	1,00
		50-60	—	2,00	0,50	—	—	—	—
	V-3	25-30	—	—	0,50	3,00	1,60	1,73	1,20
		30-40	3,00	1,50	1,50	1,33	0,67	0,80	0,33
		40-50	1,50	1,00	0,67	1,00	—	1,00	1,00
		50-60	—	0,00	0,50	—	—	—	—

The values for each entry in Table 3.8 were also obtained by subtracting each respondent's answer to Part a of each item from his answer to Part c of each item, and then calculating the mean of these values for each subgroup of respondents.

Table 3.8 Mean need fulfillment deficiencies for the current job of each need category and item

Need Category	Item	Age Group	Management Level						
			General Manager	Manager	Project Manager	Chief Engineer	Resident Engineer	Technical Of.Eng.	Technician
Security	I-1	25-30	—	—	1,50	4,00	1,60	0,73	1,20
		30-40	-1,00	0,00	2,00	1,33	1,33	0,60	1,83
		40-50	0,00	0,00	1,67	0,00	—	1,50	1,33

Social	II-1	50-60	—	0,00	-0,50	—	—	—	—
		25-30	—	—	1,00	0,00	1,80	0,91	1,00
		30-40	1,00	0,00	1,50	1,42	1,00	1,60	1,50
		40-50	-0,50	-1,00	1,00	1,75	—	2,00	1,33
		50-60	—	0,00	0,50	—	—	—	—
	II-2	25-30	—	—	1,50	2,00	2,00	1,18	1,20
		30-40	1,00	-0,25	0,50	1,00	1,00	0,60	1,33
		40-50	1,00	0,00	0,33	2,00	—	1,00	1,33
		50-60	—	2,00	0,50	—	—	—	—
	III-1	25-30	—	—	0,00	4,00	1,80	0,82	1,40
		30-40	0,00	0,25	1,50	1,58	1,33	1,40	2,50
		40-50	0,00	0,00	0,67	2,00	—	0,50	0,66
		50-60	—	1,00	0,50	—	—	—	—
	III-2	25-30	—	—	1,50	4,00	2,00	0,82	1,40
		30-40	-1,00	0,25	0,50	1,25	1,00	1,00	2,00
		40-50	1,00	0,00	0,33	1,50	—	0,50	2,33
		50-60	—	1,00	0,00	—	—	—	—
	III-3	25-30	—	—	3,50	0,00	1,20	0,36	1,20
		30-40	-1,00	0,25	0,00	0,75	0,67	0,40	0,83
		40-50	0,50	0,00	0,33	0,75	—	-2,50	1,00
		50-60	—	0,00	0,00	—	—	—	—
Esteem	IV-1	25-30	—	—	1,50	1,00	1,40	0,09	2,00
		30-40	0,00	-0,25	1,50	2,00	1,00	1,20	1,50
		40-50	0,50	-1,00	0,33	1,75	—	0,50	1,66
		50-60	—	0,00	0,00	—	—	—	—
	IV-2	25-30	—	—	1,50	2,00	1,40	0,36	2,00
		30-40	0,00	0,50	1,00	1,25	1,00	1,40	2,00
		40-50	-1,00	0,00	0,67	1,25	—	0,36	1,00
		50-60	—	0,00	0,50	—	—	—	—
	IV-3	25-30	—	—	2,50	2,00	2,40	1,27	1,60
		30-40	-1,00	1,25	1,50	2,08	0,67	1,60	2,60
		40-50	-1,00	0,00	0,67	1,50	—	2,00	1,66
		50-60	—	1,00	0,50	—	—	—	—
	IV-4	25-30	—	—	0,00	3,00	2,00	1,00	0,80
		30-40	-1,00	0,25	0,00	1,42	0,33	1,20	3,00
		40-50	-1,00	0,00	0,33	1,50	—	1,00	3,00

		50-60	—	1,00	0,50	—	—	—	—
	V-1	25-30	—	—	0,50	3,00	1,40	0,82	2,00
		30-40	1,00	0,00	1,00	1,50	1,00	1,60	2,33
		40-50	1,50	0,00	0,33	2,25	—	2,00	2,66
		50-60	—	0,00	0,00	—	—	—	—
Self-Actualization	V-2	25-30	—	—	1,00	3,00	2,00	0,91	2,00
		30-40	-1,00	0,75	1,50	2,17	1,67	1,80	1,66
		40-50	1,50	0,00	0,33	2,00	—	1,00	1,33
		50-60	—	0,00	0,00	—	—	—	—
	V-3	25-30	—	—	1,50	4,00	2,00	1,18	1,60
		30-40	1,00	0,75	2,00	1,67	1,67	1,20	1,66
		40-50	0,50	0,00	0,67	2,25	—	0,50	1,00
		50-60	—	0,00	0,00	—	—	—	—

The table 3.8 shows that deficiency increases from higher to lower job positions. Table 3.9 presents the data on the number of changes in size of mean deficiencies from the higher to the lower work positions.

Table 3.9 Number of changes in size of mean deficiencies from higher to lower levels of work positions within four age groups at lastly left job

Need Category	Item	Age Group												Total Sample		
		25-30			30-40			40-50			50-60					
		+	0	—	+	0	—	+	0	—	+	0	—	+	0	—
Security	I-1	3	0	1	3	0	3	3	0	2	0	0	1	9	0	7
Social	II-1	2	0	2	3	0	3	3	0	2	1	0	0	9	0	7
	II-2	2	0	2	4	1	1	2	0	3	1	0	0	9	1	6
Category Total		4	0	4	7	1	4	5	0	5	2	0	0	18	1	13
Esteem	III-1	1	1	2	2	0	4	1	2	2	1	0	0	5	3	8
	III-2	2	0	2	3	1	2	2	1	2	1	0	0	8	2	6
	III-3	2	0	2	1	1	4	2	0	3	0	1	0	5	2	9
Category Total		5	1	6	6	2	10	5	3	7	2	1	0	18	7	23
Autonomy	IV-1	2	1	1	3	0	3	1	0	4	1	0	0	7	1	8
	IV-2	3	0	1	2	2	2	2	0	3	0	0	1	7	2	7
	IV-3	2	0	2	2	0	4	2	2	1	0	1	0	6	3	7
	IV-4	2	1	1	2	0	4	3	0	2	0	0	1	7	1	8
Category Total		9	2	5	9	2	13	8	2	10	1	1	2	27	7	30
Self-Actualization	V-1	2	1	1	3	0	3	3	0	2	0	0	1	8	1	7
	V-2	1	1	2	3	0	3	2	0	3	0	0	1	6	1	9
	V-3	2	0	2	1	1	4	1	2	2	1	0	0	5	3	8
Category Total		5	2	5	7	1	10	6	2	7	1	0	2	19	5	24
Total for all items		26	5	21	32	6	40	27	7	31	6	2	5	91	20	97

The entries for this table were obtained in the following manner; changes of mean deficiencies greater than 0,05 scale units from one management level to the next in table 3.7 were counted as increases (+s) or decreases (—s) in deficiencies, depending on the direction of change. Increases or decreases of 0,05 or less scale units were counted as "no changes" (0s). (The decision to use 0,05 scale unit as a dividing line between "changes" and no changes was arbitrary.

The use of the 0,05 separation allowed for trends to show in the data while at the same time reducing the opportunity for some chance fluctuations in sizes of means to affect the trends [20].

It is shown on the table 3.9 that opposing to the Porter's [20] study need deficiency amount does not decrease significantly from higher to lower levels of working status. This result contradicts with Maslow Theory [15] in construction sector, because although the work status decreases from general manager to technician, need deficiency does not decrease, moreover it increases from security need to self-actualization. It can be said that in construction sector people live in peace with their needs and are satisfied with them. This might be due to the less institutionalization of construction sector in our country and the high amount of labor force circulation. Employee work in the company during the lifespan of a project, and the end of the project means the end of the work. It leads the expectations of the employee to decrease.

Table 3.10 Number of changes in size of mean deficiencies from higher to lower levels of work positions within four age groups at current job

Need Category	Item	Age Group												Total Sample		
		25-30			30-40			40-50			50-60					
		+	0	—	+	0	—	+	0	—	+	0	—	+	0	—
Security	I-1	1	0	2	3	1	2	2	1	2	0	0	1	6	2	7
Social	II-1	2	0	1	2	0	4	3	0	2	1	0	0	8	0	7
	II-2	0	2	1	3	1	2	2	1	2	0	0	1	5	4	6
	Category Total	2	2	2	5	1	6	5	1	4	1	0	1	13	4	13
Esteem	III-1	1	0	2	4	0	2	2	2	1	0	0	1	7	2	6
	III-2	1	0	2	3	1	2	2	1	2	0	0	1	6	2	7

	III-3	2	0	1	3	0	3	3	0	2	0	1	0	8	1	6
Category Total		4	0	5	10	1	7	7	3	5	0	1	2	21	5	19
Autonomy	IV-1	2	0	1	3	1	2	3	0	2	0	1	0	8	2	5
	IV-2	1	0	2	4	0	2	3	0	2	1	0	0	9	0	6
	IV-3	2	0	1	4	0	2	3	1	1	0	0	1	9	1	5
	IV-4	1	0	2	4	0	2	3	1	1	0	0	1	8	1	6
Category Total		6	0	6	15	1	8	12	2	6	1	1	2	34	4	22
Self-Actualization	V-1	2	0	1	4	0	2	1	2	2	0	1	0	7	3	5
	V-2	1	0	2	2	1	3	1	2	2	0	1	0	4	4	7
	V-3	1	0	2	1	2	2	3	0	2	0	1	0	5	3	6
Category Total		4	0	5	7	3	7	5	4	6	0	3	0	16	10	18
Total for all items		17	2	20	40	7	30	31	11	23	2	5	6	90	25	79

Table 3.10 shows that there is no significant difference on deficiency amounts according to the work status like the table before, instead there is a small difference on the amount of decrease in deficiency from 97 to 79. So need deficiency increases from higher to lower levels of work positions at current work and actually this is not far from expected.

Table 3.11 Ranks of mean deficiencies at lastly left job for five need categories within subgroup of respondents

Management Level	Age Group	Need Category				
		Security	Social	Esteem	Autonomy	Self-Actualization
General Manager	25-30	—	—	—	—	—
	30-40	4	5	3	1	2
	40-50	5	1	3	4	2
	50-60	—	—	—	—	—
Manager	25-30	—	—	—	—	—
	30-40	5	4	3	2	1
	40-50	4,5	1	3	4,5	2
	50-60	1,3	2,5	2,5	1,3	1,3
Project Manager	25-30	5	4	3	1	2
	30-40	2,3	1,5	2,3	2,3	1,5
	40-50	1	4	5	2	3
	50-60	4,5	1	3	2	4,5
Chief Engineer	25-30	1,5	1,5	3	4	2
	30-40	1	2,3	3	2,3	2,3
	40-50	5	2	4	1	3

	50-60	—	—	—	—	—
Resident Engineer	25-30	1,3	1,3	2	3	1,3
	30-40	1,5	1,5	2	4	3
	40-50	—	—	—	—	—
	50-60	—	—	—	—	—
Technical Office Engineer	25-30	1	3	2,5	4	2,5
	30-40	2	3,5	3,5	4	1
	40-50	3	2	5	4	1
	50-60	—	—	—	—	—
Technician	25-30	1	1	4	2	3
	30-40	1	3	2,5	2,5	4
	40-50	2	1	5	4	3
	50-60	—	—	—	—	—

As it is expected at higher work status, the last steps of the hierarchy pyramid have higher need deficiency amount like esteem, autonomy and self-actualization, as we go to the lower status, first steps of the pyramid become more important and have higher deficiency needs.

Table 3.12 Ranks of mean deficiencies at actual job for five need categories within subgroup of respondents

Management Level	Age Group	Need Category				
		Security	Social	Esteem	Autonomy	Self-Actualization
General Manager	25-30	—	—	—	—	—
	30-40	5	1	4	3	2
	40-50	4	3	2	5	1
	50-60	—	—	—	—	—
Manager	25-30	—	—	—	—	—
	30-40	4	5	3	2	1
	40-50	1,3	3	1,3	2	1,3
	50-60	3	1,5	1,5	2	3
Project Manager	25-30	—	—	—	—	—
	30-40	2	4,5	4,5	3	1
	40-50	2	1	3	4,5	4,5
	50-60	5	1	3	2	4
Chief Engineer	25-30	1	5	3	4	2
	30-40	3	4,5	4,5	2	1
	40-50	5	2	3	4	1
	50-60	—	—	—	—	—

Resident Engineer	25-30	1,5	3	1,5	2,5	2,5
	30-40	2	3,3	3,3	3,3	1
	40-50	—	—	—	—	—
	50-60	—	—	—	—	—
Technical Office Engineer	25-30	2,5	1,5	3	2,5	1,5
	30-40	3	1,3	1	2	1,3
	40-50	1,5	1,5	3	2,5	2,5
	50-60	—	—	—	—	—
Technician	25-30	4	5	3	2	1
	30-40	2,3	3	2,3	1	2,3
	40-50	2,5	3,5	3,5	1	2,5
	50-60	—	—	—	—	—

For actual work position the situation is quite different. From top status to the bottom its seen that last steps of the pyramid have more deficiency amounts than lower ones. This could be explained by the way that, people are more idealistic now, after leaving their work, they want a work that completely satisfy them, a work that not only satisfies them socially or financially, or not only a work makes them feel safe but a work that matches up to their ideals.

There is also another study Porter made about perceived importance of needs as a function of job level [21].

The data were collected by the same questionnaire mentioned before, but the evaluation of data was different. Only the answers to part d on the importance of each need are analyzed.

Table 3.13 presents the mean response to each item. Classification was made by using age and work status. The larger the given value the greater the importance given to the item is. It could be said that at higher level of positions self-esteem and autonomy needs have higher perceived importance as expected, and at lower level of positions there is not such a significant difference on perceived importance.

Table 3.13 Mean importance of each need category item within each
Sub group of respondents

Need Category	Item	Age Group	Management Level						
			General Manager	Manager	Project Manager	Chief Engineer	Resident Engineer	Tec. Of. Engineer	Technician
Security	I-1	25-30	—	—	—	5,00	5,00	3,72	4,73
		30-40	5,00	4,75	5,00	4,83	4,67	4,33	4,71
		40-50	5,00	4,00	3,50	4,75	—	5,00	5,00
		50-60	—	4,00	4,00	—	—	—	—
Social	II-1	25-30	—	—	—	4,00	4,40	4,00	4,40
		30-40	4,00	3,50	5,00	4,36	4,67	4,67	4,42
		40-50	5,00	5,00	3,00	4,75	—	5,00	4,50
		50-60	—	5,00	5,00	—	—	—	—
	II-2	25-30	—	—	—	5,00	4,80	4,27	4,35
		30-40	4,00	3,25	3,00	4,08	4,30	4,00	4,57
		40-50	4,00	5,00	2,50	4,50	—	4,50	3,75
		50-60	—	5,00	5,00	—	—	—	—
	III-1	25-30	—	—	—	5,00	5,00	4,45	4,70
		30-40	4,00	4,50	5,00	4,83	4,67	4,83	4,71
		40-50	4,50	5,00	4,00	5,00	—	4,50	5,00
		50-60	—	5,00	5,00	—	—	—	—
Esteem	III-2	25-30	—	—	—	5,00	4,40	4,27	4,60
		30-40	5,00	4,50	4,00	4,58	4,67	4,67	4,71
		40-50	4,50	4,00	3,50	5,00	—	4,50	3,50
		50-60	—	5,00	4,50	—	—	—	—
	III-3	25-30	—	—	—	3,00	4,40	4,40	4,41
		30-40	5,00	4,50	4,00	3,92	4,67	4,50	4,71
		40-50	4,50	4,00	3,50	5,00	—	4,50	3,75
		50-60	—	5,00	4,50	—	—	—	—
	IV-1	25-30	—	—	—	3,00	4,60	3,90	4,73
		30-40	5,00	4,50	5,00	4,92	4,67	4,67	4,71
		40-50	4,00	5,00	4,50	5,00	—	5,00	4,75
		50-60	—	5,00	4,50	—	—	—	—
	IV-2	25-30	—	—	—	5,00	4,40	4,00	4,55
		30-40	4,00	4,50	5,00	4,83	4,67	4,17	4,71
		40-50	4,50	5,00	4,50	5,00	—	4,50	4,25
		50-60	—	4,00	4,00	—	—	—	—
Autonomy	IV-3	25-30	—	—	—	3,00	3,80	3,90	4,40
		30-40	4,00	4,50	3,00	4,17	4,67	4,30	4,42
		40-50	4,00	3,00	3,50	5,00	—	4,00	5,00
		50-60	—	4,00	4,00	—	—	—	—

Self-Actualization	IV-4	25-30	—	—	—	5,00	4,20	3,50	4,27
		30-40	4,00	4,50	4,00	4,33	4,30	4,17	4,57
		40-50	4,00	3,00	4,00	5,00	—	5,00	4,00
		50-60	—	4,00	4,50	—	—	—	—
	V-1	25-30	—	—	—	5,00	5,00	4,70	4,73
		30-40	5,00	4,75	4,00	4,50	4,67	4,67	4,71
		40-50	5,00	5,00	4,50	5,00	—	5,00	5,00
		50-60	—	4,00	4,50	—	—	—	—
	V-2	25-30	—	—	—	5,00	5,00	4,80	4,75
		30-40	4,00	4,75	5,00	4,75	4,67	4,50	4,71
		40-50	5,00	5,00	4,50	5,00	—	5,00	5,00
		50-60	—	5,00	4,50	—	—	—	—
	V-3	25-30	—	—	—	5,00	5,00	4,30	4,77
		30-40	5,00	5,00	5,00	4,75	5,00	4,50	4,71
		40-50	4,50	5,00	4,50	5,00	—	4,50	3,75
		50-60	—	5,00	4,50	—	—	—	—

Table 3.14 Number of changes in size of mean importance from higher to lower levels of work status within four age groups

		Age Group														
Need Category	Item	25-30			30-40			40-50			50-60			Total Sample		
		+	0	—	+	0	—	+	0	—	+	0	—	+	0	—
Security	I-1	1	1	1	2	0	4	2	1	2	0	1	0	5	3	7
Social	II-1	2	0	1	2	1	3	2	1	2	0	1	0	6	3	6
	II-2	1	0	2	2	0	3	2	1	2	0	1	0	5	2	7
Category Total		3	0	3	4	1	6	4	2	4	0	2	0	11	5	13
Esteem	III-1	1	0	2	3	0	3	3	0	2	0	1	0	7	1	7
	III-2	1	0	2	3	1	2	1	0	4	0	0	1	5	1	9
Category Total	III-3	1	2	0	2	0	4	1	0	4	0	0	1	4	2	9
		3	2	4	8	1	9	5	0	10	0	1	2	16	4	25
Autonomy	IV-1	2	0	1	2	1	3	2	1	2	0	0	1	6	2	7
	IV-2	1	0	2	3	0	3	2	0	3	0	1	0	6	1	8
Category Total	IV-3	3	0	0	4	0	2	3	0	2	0	1	0	10	1	4
	IV-4	1	0	2	3	1	2	2	1	2	1	0	0	7	2	6
		7	0	5	12	2	10	9	2	9	1	2	1	29	6	25
Self-Actualization	V-1	0	2	1	2	2	2	1	3	1	1	0	0	4	7	4
	V-2	0	2	1	3	0	3	1	3	1	1	0	0	5	5	5
Category Total	V-3	1	1	1	2	2	2	2	0	3	0	0	1	5	3	7
		1	5	3	7	4	7	4	6	5	2	0	1	14	15	16
Total for all items		15	8	16	33	8	36	24	11	30	3	6	4	75	33	86

Table 3.14 is prepared in a similar way used for preparing tables 3.9 and 3.10. The entries for this table were obtained in the following manner: Changes of mean deficiencies greater than 0,05 scale units from one management level to the next in table 3.13 were counted as increases (+s) or decreases (—s) in deficiencies, depending on the direction of change. Increases or decreases of 0,05 or less scale units were counted as "no changes" (0s). (The decision to use 0,05 scale unit as a dividing line between "changes" and no changes was arbitrary).

As can be seen from table 3.14 there is not such a significant difference going from higher to lower levels of work status on perceived importance.

3.3 Hypotheses tested

3.3.1 Hypothesis 1

Rationale: Respondents to the questionnaire have different work experiences and these experiences might lead to change in expectancies. Their need differences would lead to be on different steps on Maslow Hierarchy Pyramid.

H₀: *There is no relation between Maslow Hierarchy of Needs Pyramid steps and professional experience.*

To test the hypothesis, analyses were made for actual job and for left job separately. The analyses were chi-square test and regression analysis using SPSS 14.

The average: (for actual job)

The average of need deficiency was calculated according to the answers of 4 age groups using SPSS 14 and excel program. Choosing the four age groups instead of professional experience is due to the observed direct relation between job experience and age of the respondent. First of all the frequency of each age group is calculated using the frequency test in spss 14.

Table 3.15 Employee frequency of need hierarchy pyramid

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-30	24	32,0	32,0	32,0
	30-40	33	44,0	44,0	76,0
	40-50	15	20,0	20,0	96,0
	50-60	3	4,0	4,0	100,0
	Total	75	100,0	100,0	

Average deficiency amounts of the four age groups were determined according to their deficiency and frequency amounts. The deficiency amounts used here are for their actual work. The hierarchy level of the four age group is assumed the level at which the maximum deficiency amount was calculated. The chi-square test is applied to the four age groups and their hierarchy level and the results are below.

Table 3.16 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
AGE * MASLOW_NEEDS	75	100,0%	0	,0%	75	100,0%

Table 3.17 Age*Maslow needs cross-tabulation

			MASLOW_NEEDS		Total
			Social	Self Actualization	
AGE	25-30	Count	0	24	24
		Expected Count	1,0	23,0	24,0
		% within AGE	,0%	100,0%	100,0%
		% within MASLOW_NEEDS	,0%	33,3%	32,0%
	30-40	Count	0	33	33
		Expected Count	1,3	31,7	33,0
		% within AGE	,0%	100,0%	100,0%
		% within MASLOW_NEEDS	,0%	45,8%	44,0%
	40-50	Count	0	15	15
		Expected Count	,6	14,4	15,0
		% within AGE	,0%	100,0%	100,0%
		% within MASLOW_NEEDS	,0%	20,8%	20,0%
	50-60	Count	3	0	3
		Expected Count	,1	2,9	3,0
		% within AGE	100,0%	,0%	100,0%
		% within MASLOW_NEEDS	100,0%	,0%	4,0%
	Total	Count	3	72	75
		Expected Count	3,0	72,0	75,0
		% within AGE	4,0%	96,0%	100,0%
		% within MASLOW_NEEDS	100,0%	100,0%	100,0%

Table 3.18 Chi-square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	75,000 ^a	3	,000
Likelihood Ratio	25,192	3	,000
Linear-by-Linear Association	18,915	1	,000
N of Valid Cases	75		

According to the results of the chi-square test and the first row of the asymp.sig. $p=0,00$. This amount $p=0,00 < 0,05$ so there is relation between the age of the employee and the step of hierarchy pyramid that he has been.

To see the validity of the hypothesis the regression analysis was made and results are given below.

Table 3.19 Anova Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6,625	1	6,625	25,066	,000(a)
	Residual	19,295	73	,264		
	Total	25,920	74			

a Predictors: (Constant), AGE

b Dependent Variable: MASLOW_NEEDS

As seen at sig. column the value is smaller than 0.05. So the result rejects the H_0 hypothesis. We can continue to use the model.

Table 3.20 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,587	,153		36,462	,000		
	AGE	-,361	,072	-,506	-5,007	,000	1,000	1,000

a Dependent Variable: MASLOW_NEEDS

It is seen at beta column that the relation between age (experience) and Maslow need steps is negative. If the employee has more experience (older) the expected result is his being at upper levels of the pyramid.

Table 3.21 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,506(a)	,256	,245	,514

a Predictors: (Constant), AGE

b Dependent Variable: MASLOW_NEEDS

At model summary it is seen that the reliability of the model is 24,5%. (Adjusted R Square)

The average: (for left job)

The same procedure was applied for last voluntarily left job as applied for the actual one.

The results are below.

Table 3.22 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
AGE * MASLOW_NEEDS	75	100,0%	0	,0%	75	100,0%

Table 3.23 Age*Maslow needs cross-tabulation

		MASLOW_NEEDS		Total
		Security	Social	
AGE	25-30	24	0	24
	30-40	33	0	33
	40-50	0	15	15
	50-60	0	3	3
Total		57	18	75

Table 3.24 Chi-square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	75,000 ^a	3	,000
Likelihood Ratio	82,662	3	,000
Linear-by-Linear Association	50,155	1	,000
N of Valid Cases	75		

According to the results of the chi-square test and the first row of the Asymp.sig. $p=0,00$. This amount $p=0,00 < 0,05$ so there is relation between the age of the employee and the level of hierarchy need that he has been.

The regression analysis for left work is given below.

Table 3.25 Anova Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,272	1	9,272	153,551	,000(a)
	Residual	4,408	73	,060		
	Total	13,680	74			

a Predictors: (Constant), AGE

b Dependent Variable: MASLOW_NEEDS

As seen at sig. column the value is smaller than 0.05. So the result rejects the H_0 hypothesis.

We can continue to use the model.

Table 3.26 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,403	,073		5,506	,000		
	AGE	,427	,034	,823	12,392	,000	1,000	1,000

a Dependent Variable: MASLOW_NEEDS

It is seen at beta column that the relation between age (experience) and Maslow Need steps is very strong and direct. If the employee has more experience (older) he would be at lower levels of the pyramid for left work.

Table 3.27 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,823(a)	,678	,673	,246

a Predictors: (Constant), AGE

b Dependent Variable: MASLOW_NEEDS

At model summary it is seen that the strength of the model is 67,8% (Adjusted R Square).

In conclusion, for hypothesis 1 the tables of actual job the relation between experience and hierarchy level is inversely proportional and if the experience increases the employee will be at the upper level of the need pyramid. He prefers the work for self-actualization more than security or social need. But the situation is not same for left work. At left work it is seen that more experienced workers were not satisfied for their security needs. This is probably the reason of their leaving the job.

3.3.2 Hypothesis 2

Rationale: If an employee was not satisfied with his work due to his different needs, he would prefer to leave work. Before leaving he would or not make a search of the alternatives.

H₀: There is no relation between Maslow Hierarchy of Needs Pyramid steps and job offers presented to the employee (search and evaluation of alternatives and likely offer).

This hypothesis is about the last left job, due to the fact that it analyses the job offer the employee has taken during the leaving process. To analyze this hypothesis first of all the average job offers per person are calculated according to the hierarchy steps. It was seen that for 57 person being on security need the average job offer was 1,58 , and for 18 person being on the social need steps the average job offer per person was 1,50.

Table 3.28 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
hierarchy need step * average job offers per person	75	100,0%	0	,0%	75	100,0%

Table 3.29 Hierarchy need step * Average job offers
per person Cross-tabulation

		average job offers per person		Total
		1,50	1,58	
hierarchy need step	Security	0	57	57
	Social	18	0	18
Total		18	57	75

Table 3.30 Chi-square Test Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	75,000 ^b	1	,000		
Continuity Correction ^a	69,618	1	,000		
Likelihood Ratio	82,662	1	,000		
Fisher's Exact Test				,000	,000
Linear-by-Linear Association	74,000	1	,000		
N of Valid Cases	75				

According to the results of the chi-square test and the first row of the asymp.sig. $p=0,00$. This amount $p=0,00 < 0,05$ so it could be said that there is a relation between the Maslow need step the employee is being and the number of job offers that he has in hand during his leaving process.

At linear regression analysis of this hypothesis the results were shown on tables below.

Table 3.31 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,172	1	2,172	9,615	,043(a)
	Residual	,678	3	,226		
	Total	2,849	4			

a Predictors: (Constant), MASLOW_NEEDS

b Dependent Variable: AVE_JOB_OFFERS

As seen on table 3.31 sig.= 0,043 and it is smaller than 0,05. So we can continue to use the model.

Table 3.32 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,014	,498		4,041	,027		
	MASLOW_NEEDS	-,466	,150	-,873	-3,101	,043	1,000	1,000

At table 3.32 it is seen that there is an inverse correlation between job offers to the employee and the Maslow pyramid steps the employee being. At lower steps the employee gets higher job offers than higher ones. It could be due to fact that employees at lower steps

viewing for a new job is less restricted than higher step's employees. New job is seen as 'saving the situation'. At table 3.33 the reliability of the model is seen as 68,3%.

Table 3.33 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,873(a)	,762	,683	,47524

3.3.3 Hypothesis 3:

Rationale: The work experience is an important criterion in professional life. Specifically on construction sector the training period of the employee requires time and effort for the employer. People having more work experience get ahead of the others. They would be more preferential for the companies.

H₀: There is no relation between increasing professional experience and increasing submitted job offers to the employee.

To test this hypothesis firstly number of job offers the employees got according to their age (so job experience) was calculated from the questionnaire. Total number of job offers was 117. Total number of respondents was 75. This amount of job offer was divided between four age groups, according to their answers to the questionnaire. The results are below.

Table 3.34 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
AGE * NUMBER_OF_EMPLOYEE	117	100,0%	0	,0%	117	100,0%

Table 3.35 Age*Number of the employee cross-tabulations

		NUMBER_OF_EMPLOYEE				Total
		3	15	24	33	
AGE	25-30	0	0	44	0	44
	30-40	0	0	0	46	46
	40-50	0	23	0	0	23
	50-60	4	0	0	0	4
Total		4	23	44	46	117

Table 3.36 Chi-Square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	351,000 ^a	9	,000
Likelihood Ratio	273,782	9	,000
Linear-by-Linear Association	25,708	1	,000
N of Valid Cases	117		

According to the results of the chi-square test and the first row of the Asymp.sig. $p=0,00$. This amount $p=0,00 < 0,05$ so it could be said that there is a relation between the professional experience (age) and the number of job offers the employee gets during his leaving process.

At regression analysis of the hypothesis the results are shown below.

Table 3.37 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33,358	1	33,358	138,979	,000(a)
	Residual	17,522	73	,240		
	Total	50,880	74			

a Predictors: (Constant), JOB_OFFERS

b Dependent Variable: AGE

According to the results of table 3.37, $\text{sig.}=0,000$ and it is smaller than 0,05. It can be said that the model is meaningful and H_0 is rejected by regression analysis.

Table 3.38 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,248	,202		21,013	,000		
	JOB_OFFERS	-,059	,005	-,810	-11,789	,000	1,000	1,000

At coefficient results on table 3.38 the beta value is -0,810 so job offers and the age are inversely proportional. As the age of the employee increases the job offers taken by the employee decrease. The results shows younger people have more alternatives. This is probably due to younger people's higher aims to leave voluntarily and searching for alternatives. Young people have more expectations from life and less responsibility.

Table 3.39 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,810(a)	,656	,651	,490

The reliability of the hypothesis is 65,1% as seen at adjusted square value.

3.3.4 Hypothesis 4:

Rationale: Shocking before leaving the job leads to follow different leaving paths on the UMVT. To be on different steps of the Maslow pyramid would change the sensitivity and determine the margins of individual. Shock before leaving requires an event going beyond the limits of the employee.

H₀: There is no relation between need hierarchy pyramid steps and to be shocked and leaving the job.

Firstly the number of respondents facing shock before leaving the job was calculated from questionnaire. Then its rate in the total employee number of Maslow pyramid was calculated. The numbers of respondents at Maslow pyramid steps were calculated at hypothesis 1 before. The data used here is valid for the last left job as expected.

Table 3.40 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Number of employee * number of respondents being shocked	38	100,0%	0	,0%	38	100,0%

Table 3.41 Number of employee * Number of respondents
being shocked cross-tabulation

		number of respondents being shocked		Total
		Social	Security	
Number	18,00	10	0	10
of	57,00	0	28	28
employee				
Total		10	28	38

Table 3.42 Chi-Square Test Results

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	38,000 ^b	1	,000		
Continuity Correction ^a	33,018	1	,000		
Likelihood Ratio	43,801	1	,000		
Fisher's Exact Test				,000	,000
Linear-by-Linear Association	37,000	1	,000		
N of Valid Cases	38				

According to the results of the chi-square test and the first row of the asymp. sig. $p = 0,00$. This amount $p = 0,00 < 0,05$ so it could be said that there is a relation between need hierarchy pyramid steps and to be shocked and leaving the job.

The result of regression analysis is seen below.

Table 3.43 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,068	1	,068	18689938453587 5400,000	,000 (a)
	Residual	,000	83	,000		
	Total	,068	84			

a Predictors: (Constant), MASLOW_NEEDS

b Dependent Variable: SHOCKING_NUMBER

As seen at table 3.43 sig.=0,00 and smaller than 0,05 so H_0 is rejected.

Table 3.44 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,430	,000		2197289353,137	,000		
	MASLOW_NEEDS	,060	,000	1,000	432318614,607	,000	1,000	1,000

As seen at coefficient beta value on Table 3.44 is 1,000. So there is a direct relation between Maslow need's pyramid steps and shocking number of the employee before leaving. As

going from lower to upper steps of the pyramid, the threshold of the employee for shock decreases and sensitivity of the employee increases.

Table 3.45 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1,000(a)	1,000	1,000	,00000

The model summary shows that the reliability of the hypothesis is 100%.

3.3.5 Hypothesis 5

Rationale: Unfolding model claims that there are different steps for the employee while leaving voluntarily. Maslow's theory claims that people are at different steps of the hierarchy pyramid according to their needs. The relation between the two was tested in the study.

H₀: There is no relation between Maslow hierarchy steps and the path, employee follows, for leaving the job.

This hypothesis was analyzed using two different aspects. First of all the answers of the respondents to the questionnaire were analyzed and seen that some respondents were on the different steps of Maslowian pyramid simultaneously. For example there is an employee at the 1st. step of the pyramid and at the 3rd. step at the same time. After this analysis the employees at different steps simultaneously were evaluated.

So the path he followed cannot be determined comparing to his pyramid steps. This problem was solved at hypothesis 1 by using the average deficiency amounts but here it is impossible due to the structure of the hypothesis. Every employee should be evaluated independently. Due to this fact, the employees on different steps at the same time were eliminated and only 50 respondents were used. The result of the chi-square test was below.

Table 3.46 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MASLOW_ NEEDS * PATHS	50	100,0%	0	,0%	50	100,0%

Table 3.47 Maslow Needs * Paths Cross-tabulation

		PATHS							Total
		1	3	4a	4b	1a	1b	4c	
MASLOW_NEEDS	Security	0	1	1	3	5	0	0	10
	Social	3	1	0	0	2	0	1	7
	Esteem	0	1	0	0	1	1	0	3
	Autonomy	0	1	0	2	5	2	2	12
	Self Actualization	0	1	2	5	8	0	2	18
Total		3	5	3	10	21	3	5	50

Table 3.48 Chi-Square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	36,689 ^a	24	,047
Likelihood Ratio	33,113	24	,102
Linear-by-Linear Association	2,667	1	,102
N of Valid Cases	50		

According to the results of the chi-square test and the first row of the asymp.sig. $p=0,047$. This amount $p=0,047 < 0,05$ so it could be said that there is a relation between need hierarchy pyramid steps and the way the employee follows while leaving.

The regression analysis result for this part of the hypothesis is shown on the tables below.

Table 3.49 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5,896	1	5,896	2,434	,025(a)
	Residual	116,284	48	2,423		
	Total	122,180	49			

a Predictors: (Constant), PATHS

b Dependent Variable: MASLOW_NEEDS

The sig= 0,025 so the model could be used.

Table 3.50 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2,445	,663		3,688	,000		
	PATHS	,222	,142	,520	1,560	,025	1,000	1,000

The coefficient value beta is 0,520. There is a direct relation between the two; the Maslow pyramid steps, and the path employee follows before leaving. Pyramid steps affect the path followed by the employee by 0,520. The reliability of the model is 42,8%.

Table 3.51 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,669(a)	,448	,428	0,556

After this analysis a different analysis was also made for using the eliminated amount of the employees. The employees being at different steps of the pyramid simultaneously were evaluated at all of the steps they are being and due to this fact although the numbers of the employees were 75; the total amount was increased to 83.

Table 3.52 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MASLOW_NEEDS * PATHS	83	100,0%	0	,0%	83	100,0%

Table 3.53 Maslow Needs * Paths Cross-tabulation

		PATHS							Total
		1	3	4a	4b	1a	1b	4c	
MASLOW_NEEDS	Security	0	1	1	5	6	1	1	15
	Social	3	1	0	0	5	1	1	11
	Esteem	0	1	0	1	3	3	0	8
	Autonomy	0	3	0	6	5	3	3	20
	Self Actualization	0	2	2	8	12	1	4	29
Total		3	8	3	20	31	9	9	83

Table 3.54 Chi-Square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37,544 ^a	24	,039
Likelihood Ratio	33,218	24	,100
Linear-by-Linear Association	1,003	1	,317
N of Valid Cases	83		

According to the results of the chi-square test and the first row of the asymp.sig. $p=0,039$. This amount $p=0,039 < 0,05$ so it could be said that there is a relation between the Maslow hierarchy steps and the way the employee follows before leaving the job.

Regression analysis for the second step is given below.

Table 3.55 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,700	1	1,700	,729	,036(a)
	Residual	188,806	81	2,331		
	Total	190,506	82			

a Predictors: (Constant), PATHS

b Dependent Variable: MASLOW_NEEDS

At table 3.55 sig. column value is seen as 0,036 so smaller than 0,05. The model can be used.

Table 3.56 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,004	,544		5,519	,000		
	PATHS	,097	,113	,394	,854	,396	1,000	1,000

a Dependent Variable: MASLOW_NEEDS

Table 3.57 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,582 (a)	,339	,301	,527

At coefficients table beta value is seen as 0,394. So the way employee follows while leaving is directly related to the Maslow Pyramid steps he is being with the coefficient value of approximately 4. The reliability of hypothesis is 30,1 %. (Adjusted R square)

3.3.6 Hypothesis 6:

Rationale: One event affecting and leading shock for one of the employee may not affect the other. This is due to many differences between individuals. At this hypothesis their experience (age) difference is used.

H₀: There is no relation between experience (age) and to be shocked before leaving job.

The number of the employee shocked before leaving the job was calculated from the questionnaire. The results are given below.

Table 3.58 Number of the employee

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Number of Shocked Employee	40	100,0%	0	,0%	40	100,0%

Table 3.59 Age * Number of Shocked Employee Cross tabulation

		Number of Shocked Employee				Total
		#	#	#	#	
Age	25-30	0	0	12	0	12
	30-40	0	0	0	18	18
	40-50	0	8	0	0	8
	50-60	2	0	0	0	2
Total		2	8	12	18	40

Table 3.60 Chi-Square Test Results

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	120,000 ^a	9	,000
Likelihood Ratio	95,376	9	,000
Linear-by-Linear Association	8,044	1	,005
N of Valid Cases	40		

According to the results table of chi-square test, the first row of the asymp.sig. $p=0,00$. This amount $p=0,00 < 0,05$ so it could be said that there is a relation between the age and facing shock before leaving the job.

Regression analysis of the hypothesis is given below.

Table 3.61 Anova

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	185,143	1	185,143	9,875	,003(a)
	Residual	712,457	38	18,749		
	Total	897,600	39			

a Predictors: (Constant), AGE

b Dependent Variable: SHOCKED_EMPLOYEE_NUMBER

At table 3.61 sig. column value is seen as 0,003 so smaller than 0,05. The model can be used.

Table 3.62 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	18,543	1,774		10,452	,000		
	AGE	-2,571	,818	-,454	-3,142	,003	1,000	1,000

a Dependent Variable: SHOCKED_EMPLOYEE_NUMBER

At coefficients table beta value is seen as -0,454. So to be shocked before leaving is inversely proportional to the experience (age) of the employee. The reliability of hypothesis is 18,5 %. (Adjusted R square)

Table 3.63 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,454(a)	,206	,185	4,33000

3.4 Other Motivational Theories

Other motivational theories were tested basically by adding questions to the questionnaire. According to the answers of the respondents, some tables were constructed below. The table 3.64 and 3.65 were prepared according to the Vroom's motivational theory.

Table 3.64 The importance of reward at work

Given point to importance of reward	5	4	3
Number of respondents	52	12	2

As seen from the table according to the employees getting reward is an important element. At table 3.65 answers of the respondents to the importance of some kind of rewards were ordered. The numbers were representing the number of respondents giving '5' point to the rewards on a 1 to 5 point scale.

Table 3.65 The importance of different kinds of rewards at work

	Money	Promotion	Free Time	Benefit	Satisfaction
# of respondents giving 5 points	33	38	13	22	54

As seen from table 3.65 satisfaction as a reward is more important than others.

The question asked for the work principle of the respondents for McGregor X-Y theory was answered as seen at table 3.66 below.

Table 3.66 The work principle of the respondents

	# of respondents
I see the expectations from me and I have tried to do it before it is obliged to me.	62
I act after the task is obliged to me.	9

At table 3.66 the number of Y kind of people is 62, and X is 9. So Y is well ahead from X as shown.

The question asked for measuring the importance of Herzberg's motivation and hygiene factors answers were at table 3.67 below.

Table 3.67 The importance of motivation and hygiene factors

	# of respondents giving 5 points
Company policies and administration	40
Supervision	26
Working conditions	40
Interpersonal relations	28
Salary	31
Status	32
Security	44
Achievement recognition	49
Recognition for the achievement	41

Interest in the task	38
Responsibility for enlarged tasks	39
Growth and advancement to higher level tasks	46

According to the Hertzberg's motivation and hygiene factors, recognition of the achievement is the most important factor for the employee.

3.5 Summary

At the end of the research and tested hypotheses it is seen that Maslow's hierarchy of needs pyramid affects the employee's followed paths while quitting the work voluntarily. The validity of the hypotheses tested with regression analyses is given on a table below.

Table 3.68 The validity comparisons of hypotheses

Hypotheses	Regression result (%)
Hypothesis 1	67,3
Hypothesis 2	68,3
Hypothesis 3	65,1
Hypothesis 4	100
Hypothesis 5	42,8 ¹ - 30.1 ²
Hypothesis 6	18,5

The highest relation is seen at hypothesis 4 between need hierarchy steps and to be shocked before leaving. After 4, hypotheses 1, 2 and 3 have almost same admissibility. The weakest one is hypothesis 6 with validity of 18,5%. Also some other motivational theories were tested and seen that to be appreciated is seen the most important factor for the employee.

CONCLUSIONS AND RECOMMENDATIONS

Six hypotheses were tested during the research. SPSS program with chi-square test and regression analysis was made to test all of the 6 hypotheses in the study.

At first hypothesis the relation between age of the employee and the hierarchy step he has been was tested. The method used depends on the calculated average need deficiency amounts ranked by the respondents from 1 to 5 in the questionnaire. It was seen that there is a relation between the age of the employee and the step of hierarchy pyramid that he has been. This chi-square test was made both for the actual work and the left one separately to see the difference between the two. It was seen from the results that according to average deficiency amounts at left work, the employees were at the bottom steps of the hierarchy pyramid. This probably leads the employees to leave their jobs because the work was too distressing and lead to felt anxious at work. They were anxious about their security and the work did not correspond with social expectations. So social and security needs were crucial at that point they might lead to the employee to quit his job voluntarily. This situation as seen in the research does not change according to age or working status that much. Qualified employees can choose quitting voluntarily also which is undesirable for employers. Managers should provide the employees more secure and socially satisfying working conditions. On the other hand, at actual work results on tables, it was seen that from total of 75 employees 72 employees were at self-actualization level and 3 were at social need level. The result also shows that the employees at social need level are the older ones of the group, so they probably realize their ambitions and have no expectations from life but good social relations. They need friends, they need to be loved or love, they need to be a part of a group etc. This result shows to managers that providing an atmosphere to the employees

where they would achieve to realize themselves is very important. This requires to keep abreast of the employees and their development, and to allow them a free hand to go ahead with their plans.

At hypothesis two, the relation between Maslow hierarchy steps and the number of job offers the employee had in hand before leaving were compared. According to results of chi-square test it is seen there is a relation between the two. The analyses were made according to average job offers made to the employees due to the fact that at different steps the number of the employee changes so the number of job offers. At regression analysis it was seen that the validity of hypothesis is a high amount with 68,3%. The coefficient value beta value is -0,873 so Maslow hierarchy steps and job offers to the employee is inversely proportional. At lower steps of the pyramid the job offers are more than higher steps. Employers should be aware of the fact that at younger employees are generally at lower steps as seen at first hypothesis. To control the turnover process they have to focus on younger employees more.

At hypothesis three, the amount of job offers was compared with the ages of the employees to understand if there was any relation between the job experience and job offers.. The age was taken as a criterion for job experience due to the fact that job experience was directly related to the age level according to the questionnaire results. It was seen from tables and chi-square test results that there was a relation between job experience and the job offers to the employee. At regression analysis it was also seen that the validity of the hypothesis is 65,1%. The coefficient value beta is -0,810 so the amount of job offers taken by the employee is also inversely proportional with his age. So older employees got less job offers than younger ones. This result is coherent with the hypothesis two.

At hypothesis four, the relation between Maslow hierarchy steps and to be shocked before leaving was tested. The number of the employee at Maslow pyramid steps was taken from the hypothesis 1, so the average deficiency results were used. According to the chi-square test there was a relation between need hierarchy pyramid steps and to be shocked and leaving the job. The regression analysis showed that the strongest relation is seen at this hypothesis with the amount of 100%. The coefficient value beta is also 1; so according to Maslow hierarchy pyramid step the employee's threshold to be shocked changes.

At hypothesis five the relation between need hierarchy pyramid steps and the way the employee follows while leaving was tested. The test was made in two different aspects. Before speaking about these aspects, it should be said that, the respondents were evaluated individually according to their answers to the questionnaire. The average results were not used here. First of all the respondents Maslow pyramid steps were determined according to their deficiency amounts. After that it was seen that some respondents were at different steps of the hierarchy pyramid at the same time. So at the first analyses the respondents being at different steps at the same time were eliminated and only the respondents being at one specific step of hierarchy pyramid were used. So the numbers of the respondents were decreased to 50. After making chi-square test to those respondents, it was found that there was a relation between hierarchy pyramid steps and the path the employee follows while leaving the job. The regression analysis for this part of the hypothesis has the validity of 42,8%. The beta value is 0,520. So the UMT path the employee follows while leaving is in relation with the Maslow pyramid steps he has been. According to table 3.37 path 1a is followed highly at self-actualization level of the pyramid, which is followed by path 4b at same level. So according to these paths it can be said that at self-actualization level if the employee is dissatisfied with his job, no matter he has a shock or engaged script, he starts searching for alternatives, and at right time he leaves. So the managers should be aware of this idealist type of the employees and should attend to them more.

Adding to this, the analyses were made for all of the 75 respondents. Due to some respondents deficiency amounts fitted to the more than one step, all of the steps the respondent being was evaluated as if a different respondent's steps and by this way the number of respondents increased to 83. After making chi-square test it was seen again there was a relation between hierarchy pyramid steps and the path the employee follows while leaving the job. The regression analysis for this part of the hypothesis shows that the validity of the hypothesis is 30,1% which is lower than the first part. The beta value is 0,394 for this hypothesis. The interesting result is that according to the table 3.53 the paths 1a and 4b have the highest amount of employees at self-actualization level. This result is compatible with the first part of the hypothesis.

At hypothesis six the relation between experience (age) and to be shocked before leaving job was tested. According to the chi-square test there is a relation between the two. It was

seen from the chi-square test that younger people were shocked more than older ones. Their higher expectations may lead to this result. According to the regression analysis the validity of this hypothesis is lower than the others with 18,5%. There is an inverse proportionality, as expected, with the beta value of -0,454. Although the relation is seen weak, there is still a relation between ages and to be shocked before leaving.

Addition to the hypotheses, questions asked for other motivational theorists were evaluated by tables. It was seen at Vroom that reward is very important for employees. The answers given by using 5 point scale shows that minimum point given to the importance of reward was '3' point and given by only 2 respondents. Also the way of reward was asked and listed at table 3.65 and seen that not concrete kind of things but an abstract situation, satisfaction was seen the most important thing for the employees. Another question was asked for understanding the motivation and hygiene factor of McGregor and seen that there were no such a sharp difference between these two factors. Between these factors, achievement recognition and growth and advancement to higher level tasks were seen the most important factors for the employees. So it can be said that being recognized and appreciated by the managers is the most important motivation factors for the employees.

All in all, by this study it was seen that motivation is an important factor for the employee and it really affects the employees' performance, job embeddedness, satisfaction, even leaving voluntarily. Managers should be aware of this fact and should find ways to motivate employees to ensure retention. Abstract kinds of rewards; specifically to pay tribute, appreciation, recognition, development etc. are more valuable and important than other material kind of rewards for the employees. To identify the expectations of the employees and to update company policies in compatible with these expectations is the key point for the employers.

REFERENCES

- [1] March, J., and Simon, H., (1958). *Organizations*, New York, Willey.
- [2] Mobley, W. H., (1977). 'Intermediate Linkages in the Relationship Between Job Satisfaction and Employee Turnover', *Journal of Applied Psychology*, 62: 237-240.
- [3] Mobley, W. H., Griffeth, R. W., Hand, H. H., and Meglino, B. M., (1979). 'Review and Conceptional Analysis of the Employee Turnover Process', *Psychological Bulletin*, 86: 493-522.
- [4] Steers, R. M., and Mowday, R. T., (1981). 'Employee Turnover and Post-Decision Justification', In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior*, 3: 235-282, Greenwich, CT:JAI Press.
- [5] Hulin, C. L., Romowski, M., and Hachiya, D. (1985). 'Alternative Opportunities and Withdrawal Decisions: Empirical and Theoretical Discrepancies and An Integration', *Psychological Bulletin*, 97: 233-250.
- [6] Price, J. L., and Mueller C. W., (1986). 'Absenteeism and Turnover of Hospital Employees', Greenwich, CT: JAI Press
- [7] Beach, L. R., (1990). 'Image Theory: Decision Making in Personal and Organizational Contexts', Chichester, England: Willey
- [8] Holt, D. T., Rehg, M. T., Lin, J. H. S. and Miller, J. (2007). 'An Application of The Unfolding Model To Explain Turnover In A Sample of Military Officers', *Human Resource Management*, 46(1): 35-49.
- [9] Beach, L. R. and Mitchell, T. R., (1987). *Image Theory: Principles, Golas and Plans in Decision Making*, *Acta Psychologica*, 66:201-220
- [10] Beach, L. R., (1993a). 'Four revolutions in behavioral decision theory', *Leadership theory and Research, Perspective Directions*, 271-292
- [11] Lee, T.W. and Mitchell, T.R. (1994). 'An Alternative Approach: The Unfolding Model of Employee Turnover', *Academy of Management Review*, 19: 51-89.
- [12] Lee, T.W., Mitchell, T.R., Holtom, B.C., McDaniel, L.S. and Hill, J.W. (1999). 'The Unfolding Model of Voluntary Turnover; A Replication and Extension', *Academy of Management Journal*, 42: 450-62.

- [13] Niederman, F., Sumner, M. and Maertz Jr, C.P. (2007). 'Testing and Extending the Unfolding Model of Voluntary Turnover to IT Professionals', *Human Resource Management*, 46(3): 331–47.
- [14] Jones, S. M., Ross, A. and Sertyesilisik, B., (2010). 'Testing The Unfolding Model of Voluntary Turnover On Construction Professionals', *Construction Management and Economics*, 28(3): 271 — 285
- [15] Maslow, A., (1943). 'A Theory of Human Motivation', *Psicological Review*, Photo Courtesy of the Bettmann Archive.
- [16] Grigaliunas, Benedict S., Herzberg, F., (1971). 'Relevancy In The Test of Motivator-Hygiene Theory', *Journal of Applied Psychology*, 55(1): 73-79.
- [17] Robbins, S. P., (1998). 'Basic Motivation Concepts', 'Motivation: From Concepts to Applications', *Organizational Behavior*, 8. Edition, New Jersey Prentice Hall
- [18] Jurkiewicz C. L., Massey T. K., Brown Jr. and G. R., (1998). 'Motivation in Public and Private Organizations A Comparative Study', *Public Productivity&Management Review*, 21(3) : 230-250
- [19] Porter, L. W., (1961). 'A Study of Perceived Need Satisfactions In Bottom and Middle Management Jobs', *Journal of applied Psychology*, 45: 1-10.
- [20] Porter, L. W., (1962). 'Job Attitudes In Management: I. Perceived Deficiencies In Need Fulfillment As A Function of Job Level', *Journal of applied Psychology*, 46: 375-384.
- [21] Porter, L. W., (1963). 'Job Attitudes In Management: III. Perceived Deficiencies In Need Fulfillment of Line Versus Staff Type of Job', *Journal of applied Psychology*, 47: 267-275.
- [22] Wren, D. A., & Greenwood, R. G. (1998). 'Management innovators: The people and ideas that have shaped business', New York: Oxford University Press.
- [23] Herzberg, F., (1968). 'One More Time: How Do You Motivate Employees?', *Harvard Business Review*, January-February, 68108.

QUESTIONNAIRE

THE CONDITIONALITY

1. *Did you work in another company before this company and you leave it voluntarily?*

Only if your answer is yes you can continue to answer the questions.

☐ Yes

☐ No

2. *How many years ago did you leave?*

☐ Less than 5 years ago

☐ 5-10 years ago

☐ 10-15 years ago

☐ 15-20 years ago

☐ Others

EMPLOYEE INFORMATION:

1. *Gender:*

☐ Male

☐ Female

2. *Age:*

☐ Under 20

- ☐ 20-25
- ☐ 25-30
- ☐ 30-40
- ☐ 40-50
- ☐ 50-60
- ☐ Others

3. What is your education?

- ☐ High school
- ☐ Undergraduate
- ☐ MSc
- ☐ MBA
- ☐ PHD
- ☐ Others

4. What is your profession?

- ☐ Technician
- ☐ Architect
- ☐ Civil engineer
- ☐ Mechanical engineer
- ☐ Electrical engineer
- ☐ Business administrator
- ☐ Others (explain)

5. What is your working position?

- ☐ Technician
- ☐ Technical drawer
- ☐ Site Engineer

- ☐ Site Supervisor
- ☐ Project Manager
- ☐ Manager
- ☐ General Manager
- ☐ CEO
- ☐ Others

6. How many years have you been in this company?

- ☐ Less than 2 years
- ☐ 2-5 years
- ☐ 5-10 years
- ☐ 10-15 years
- ☐ 15-20 years
- ☐ Others

7. How many years have you been working?

- ☐ Less than 2 years
- ☐ 2-5 years
- ☐ 5-10 years
- ☐ 10-15 years
- ☐ 15-20 years
- ☐ Others

8. What was the reason for you to leave your company?

- ☐ Company Related
- ☐ Personal
- ☐ What was the reason?
- ☐ Position

- ☐ Promotion
- ☐ Low salary
- ☐ Low appreciation
- ☐ Inconvenient physical conditions
- ☐ Inconvenient company policy
- ☐ Lack of interpersonal relations
- ☐ Inconvenient location
- ☐ Others

9. *Why did you prefer to work with this company?*

- ☐ Company image
- ☐ Reference/support for my career
- ☐ Salary
- ☐ Insurance
- ☐ Physical conditions
- ☐ Others

MASLOW'S NEED HIERARCHY QUESTIONNAIRE

On the following pages will be listed several characteristics or qualities connected with your position. For each such characteristic, you will be asked to give three ratings:

- a. How much of the characteristic is there now connected with your position?
- b. How much of the characteristic do you think should be connected with your position ?
- c. How important is this position characteristic to you?

For each of the 13 items, the respondents were instructed to answer the above three questions by circling a number on a rating scale extending from 1 to 5, where "low numbers represent low or minimum amounts, and high numbers represent high or maximum amounts." A typical item appeared as follows on the questionnaire:

The opportunity for independent thought and action in my position:

(a) How much is there now?

(min) 1 2 3 4 5 (max)

(b) How much should there be?

(min) 1 2 3 4 5 (max)

(c) How important is this to me?

(min) 1 2 3 4 5 (max)

QUESTIONNAIRE:

I. Security needs

1. The feeling of security in my position

II. Social needs

1. The opportunity, in my position, to give help to other people

2. The opportunity to develop close friendships in my position

III. Esteem needs

1. The feeling of self-esteem a person gets from being in my position

2. The prestige of my position inside the company (that is, the regard received from others in the company)

3. The prestige of my position outside the company (that is, the regard received from others not being in the company)

IV. Autonomy needs

1. The authority connected with my position

2. The opportunity for independent thought and action in my position

3. The opportunity, in my position, for participation in the setting of goals

4. The opportunity, in my position, for participation in the determination of methods and procedures

V. Self-actualization needs

1. The opportunity for personal growth and development in my position
2. The feeling of self-fulfillment a person gets from being in my position (that is, the feeling of being able to use one's own unique capabilities, realizing one's potentialities)
3. The feeling of worthwhile accomplishment in my position

UNFOLDING MODEL QUESTIONNAIRE

I. Shock:

An appropriate answer to at least one of the following indicates shock.

1. Was there a single particular event that caused you to think about leaving?
2. Please describe the event
3. If you accepted a job offer you had in hand, was it originally an unsolicited job offer or inquiry? (Please answer only if you had a job offer in hand)
4. Was there a particular event or series of particular events related to the litigation that influenced your decision to leave? If yes, please describe briefly.

II. Script:

An appropriate answer to at least one of the following indicated an engaged script. Responses were yes/no for item 1 and on a five point Likert Scale for items 2 and 3 (1 strongly disagree; 5 strongly agree)

1. If you accepted a job offer you had in hand, was it originally an unsolicited job offer or inquiry? (Please answer only if you had a job offer in hand)
2. I have left a job before for essentially the same reasons. (i.e. very similar circumstances)
3. At the time I left my job, I had already determined that I would leave the firm IF a certain event were to occur(e.g. being accepted to graduate school)

III. Image Violation:

An answer of 1 or 2 to at least one of the followings indicated violation. Responses for items 1-4 ranged from 1, not compatible, to 5, compatible, and those for items 5-8 were from 1, strongly disagree to 5 strongly agree. For hypothesis 3, these items were reverse coded.

1. How compatible were your personal values/ethics with those of your former firm?
2. How compatible were your professional values/ethics with those of your former firm?
3. How compatible were your personal goals with those of your former firm?
4. How compatible were your professional goals with those of your former firm?
5. If I had stayed, I would have been able to achieve most of my career goals .
6. If I had stayed, I would have been able to achieve most of my personal goals .
7. At my former firm my career was progressing as I expected.
8. At my former firm my personal goals was progressing as I expected.

IV. Job Satisfaction

A 1 or 2 answer to at least one of the following indicates dissatisfaction. Responses for all items ranged from 1, very dissatisfied to 5 , very satisfied

At you former firm, how satisfied were you with

1. The supervision you received,
2. Firm as an employer,
3. Career opportunities,
4. Financial rewards,
5. Your coworkers,
6. Nature of the work,
7. Recreational activities,
8. Fringe benefits (e.g., vacation, holiday time, insurance coverage, retirement plans, sick leave, family leave)?

At your former firm how satisfied were you with the work environment related to:

9. Generating new client business,
10. Competitive pressures,
11. Autonomy of the work,
12. Pressures at work,
13. Time flexibility?

V. Search for Alternatives

An appropriate answer to at least one of the following indicates a search for alternatives was conducted. Items 1 and 6 had yes/no responses and item 3 was answered on a Likert scale (1, no search, to 5, very comprehensive search)

1. Did you already have at least one job offer in hand when you decided to leave?
2. If you didn't have a job offer in hand when you actually left, did you believe that getting an offer was very likely?
3. Before you left the firm, how comprehensive was your job search for another job (e.g., did you gather lots of information on other job opportunities or search on a daily basis?

VI. Evaluation of Alternatives

An appropriate answer to at least one of the following indicates an evaluation of alternatives.

1. After your first thoughts about leaving, did you evaluate any specific job alternatives before deciding to leave?
2. After your first thoughts about leaving, did general job availability affect your decision to leave (e.g., you were pretty sure you could get another job, though you didn't have a specific job in mind)?
3. In making your final decision to leave, did you seriously consider non-work options (e.g., staying at home, returning to school, taking a sabbatical)? If you responded yes, please indicate the type of non-work option you actually pursued.

VII. Job offers

An appropriate answer to at least one of the followings indicated offers. Items 1-5 were answered yes / no, and items 6 and 7 were filled in.

1. Was an unsolicited job offer or inquiry the event that first led you to think seriously about leaving?
2. Did you have at least one job offer in hand when you decided to leave?
3. Did you ultimately accept a job offer that you had in hand? (Please answer only if you had a job offer in hand)
4. If you accepted a job offer you had in hand, was it originally an unsolicited offer or inquiry? (Please answer only if you had a job offer in hand.)
5. If you didn't have a job offer in hand when you actually left, did you believe that getting an offer was very likely?
6. How many acceptable alternative jobs did you search produce before you left your former firm? How many total job offers did you have before you left your former firm?

OTHERS

1. What is the importance of reward for you at work? Could you scale it from 1 to 5 according to importance?
2. Could you scale importance of money, promotion, free time, benefits, satisfaction as a reward from 1 to 5.
 - Money:
 - Promotion:
 - Free Time:
 - Benefits:
 - Satisfaction
3. How do you principally work?
 - ☐ I see the expectations from me and I have tried to do it before it is obliged to me.
 - ☐ I act after the task is obliged to me.

4. Could you scale the importance of factors below?

- Company policies and administration
- Supervision
- working conditions
- interpersonal relations
- Salary
- Status
- Security
- Achievement
- Recognition for the achievement
- Interest in the task
- Responsibility for enlarged tasks
- Growth and advancement to higher level tasks

CURRICULUM VITAE

PERSONAL INFORMATION

Name Surname : Gülçin Özlem ATALAY
Date / Place of Birth : 18.10.1983, Akçadağ
Foreign Language : English
E-mail : gulcinozlem.atalay@turktelekom.com.tr

ÖĞRENİM DURUMU

Degree	Field of Study	School/University	Graduation
Under Graduate	Civil Engineer	BOĞAZİÇİ UNIVERSITY	2007
High School	Science School	MALATYA SCIENCE SCHOOL	2001

WORKING EXPERIENCE

Year	Firm/Company	Position
2009-...	TÜRK TELEKOM A.Ş.	İNŞAAT MÜH.