Antecedents of Costumer Satisfaction of Construction Business: Case of Turkish Republic Of Northern Cyprus

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ABSTRACT

The aim of this research is to study on customer satisfaction (CS) of construction companies in Turkish Republic of Northern Cyprus (TRNC). To do so a framework has been developed to evaluate of effecting of factors and their relations to the CS in the field of construction companies. During this study a home-buyer satisfaction conceptual model developed based on SERVQUAL elements and also factors of CS. Also CS is empirically examined as expectation and perceived by the customers according to data gathered by surveys, regression analysis applied to the gathered data by using SPSS software afterwards.

Final results reveal that there is a general dissatisfaction among most of the customers, but this dissatisfaction varies between factors of CS.

This dissatisfaction is much higher among foreigner property owners.

Keywords: Customer Satisfaction, construction companies, TRNC (Turkish Republic of Northern Cyprus)

ÖZ

Bu araştırma, Kuzey Kıbrıs Türk Cumhuriyeti'nde bulunan inşaat şirketlerinin müşteri memnuniyetini araştırmayı amaçlamıştır. Bu amaçla, inşaat şirketlerindeki müşteri memnuniyetini etkileyen faktörleri ve etkilerini incelemek için kavramsal bir çerçeve oluşturulmuştur. Çalışma boyunca müşteri memnuniyetini etkileyen faktörler ile SERVQUAL boyutlarına bağlı olarak "Ev Satın Alma Modeli" (Home-Buyer Model) geliştirilmiştir. Müşteri memnuniyeti, müşterilerin beklentilerine ve gerçekte ne elde ettiklerine göre incelenmiştir. Daha sonra, toplanan verilere SPSS programı kullanılarak istatistiksel testler uyglanmıştır.

Çıkan nihai sonuçlara göre müşteriler arasında genel bir memnuniyetsizlik mevcuttur, fakat ortaya çıkan memnuniyetsizlik düzeyi müşteri memnuniyetini etkileyen faktörler arasında farklılık göstermiştir. Bu memnuniyetsizlik, daha çok yabancı uyruklu mülk sahiplerinde görülmüştür.

Anahtar Kelimeler : Müşteri memnuniyeti, inşaat şirketleri, Kuzey Kıbrıs Türk Cumhuriyeti.

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LIST OF ABBREVIATIONS

CS	Customer Satisfaction
TRNC	Turkish Republic of Northern Cyprus
WOM	Word of Mouth

Chapter 1

INTRODUCTION

1.1 Basic Concepts of Customer Satisfaction in Construction Business

The construction business has been always considered as a kind of production business, a production process which is producing facilities. Construction business also considered a service sector, providing service and in general service environment. The aim of construction companies is to set the prices during measuring quality of materials during of the construction process, to do so they going through this pricing procedure according to detailed quantity and quality of materials and also research results of their design departments. All the costs (including overhead cost) and profit are added to this amount to determine the final price. Also construction companies provide some services in addition to the final product, services like regular meetings with the customers and customer satisfaction (CS) methods. The relationship between construction companies and customers is very important because customer's decision on buying a product is not only based on final project but the services provided by the construction company.

The process of constructing a project produces neither a pure product nor a pure service but may be considered a hybrid process consisting of both product and service components. This is a core concept of construction business and perhaps it can be one of the most important reasons that the customer begins his/her business

with the company. The physical project is what is provided in blue prints and other specifications provided by the company and their departments.

In construction, this would consist of a series of systems that are constructed for instance, foundation, building's skeleton, electrical parts, air conditioning instruments, roofing, and so on. In providing a good physical product, the contractor provides a service that consists of three elements: service product (quality of final project), service atmosphere, and service delivery. The service product is the service as it is designed to be delivered in this research delivering service will be review as hand-over procedure, this service is often includes specific features. It also involves service specifications and targets. Features such as schedule, quality assurance, reliability and so on. The service product includes what the customer receives in addition to the finished project. The key managerial decision in designing the service product is the identification of the relevant features or specifications to offer.

1.2 Aim of the Study and Limitations

The main aim of this study is to review on the antecedents of CS of construction companies in Turkish Republic of Northern Cyprus (TRNC). This subject is very interesting because there are only few number of studies have made in this field, and also it was very interesting for me as well because this subject can be related to my future carrier. There are some limitations related to this study which are for example variety of different nationalities living in this island and also variety of construction sites which are widely spread in the island. Also there is another limitation for this study which is middle managers and high manager levels of construction companies are highly concerned about any kind of investigation and research in this subject.

1.3 Construction Business in TRNC

After Kofi Annan's Cyprus resolution in 2004, construction sector in TRNC was the center of attention for investment in this region. Increasing expectations to the Annan resolution, the positive reflections of the Annan plan and the conjectural abundance of liquidity in the world caused the construction sector to play the leading role in the economy of TRNC. Furthermore, internal problems such as high production costs, absence of development plan, availability of unregistered contractors, weak institutional and financial structure of contractors, absence of an strong future plan for the country and also absence of legal system protecting property owners especially foreigners combined with uncontrollable external factors create negative impact on the sector's productivity and hence the competitiveness of the construction sector and the economy as a whole.

There are only few studies on CS in case of construction companies in TRNC as well as few studies on the technical quality of construction in TRNC, for instance Egemen and Mohamed (2006) studied clients' needs, wants and expectation from contractors, in this article they found clients full satisfaction depends not only on quality but more than that they expect contractors to finish their project on time. They did their research based on study on 91 clients on this market, these results based on TRNC construction market. Although this study is about customer needs and expectations but it can used for CS as well. According to Egemen and Mohamed (2006) they reached a table based on perceived level of importance for clients, customer's general needs and expectation. According to Kärnä (2004), "Analyzing CS and quality in construction the case of public and private customers" in his article he made an empirical analysis to study on CS. In his article he reaches a

relationship between CS and quality. Also another good study in the field of CS of construction companies is by Al-Momani (2000) from civil engineering department, Mu'tah University. The aim of this study is to using the service quality gap analysis to define and measure CS of the companies.

The most famous and useful method used for measuring CS would be SERVQUAL method. In this model, things like service quality and also CS is measures by the difference between customer expectation and customer's experience. In this model customer's satisfaction evaluates based on certain standards, the customer is satisfied when his/her expectation goes beyond the standards, and the customers is called dis-satisfied when his/her experience with the provided service goes blow the regular standard. In this study SERVQUAL method is the main method to capture and analyze CS.

Study CS in the field of construction is very crucial for countries like TRNC because if the demand increases without proper background research, production process will go a wrong direction and at the end of day, with a false direction of production demand will be decreasing and the results will be catastrophic.

1.4 Target Group

Focus of this study is mainly on the customers who had recently purchased a brand new apartment or villa in TRNC. This country was very attractive these years for many foreigners including abroad students and also European investors, therefore target group of this study is mainly foreigner investors. Required data is mainly will be collecting in three major cities of Famagusta, Lefkosa and Kyrenia.

1.5 Structure of the Study

The first section of this study is about a detailed review on previous studies in the field of CS and CS of construction companies. After finding out previous methods which used to measure CS, the measurement tools are modified to measure CS of construction companies for TRNC will be reviewed in methodology chapter also in this chapter the methods of preparing the questionnaire is also will be reviewed . The next chapter is data analysis and results, in this chapter interpretation of analyzed data in provided. The last chapter is discussions and conclusion.

Chapter 2

LITERATURE REVIEW

2.1 SERVQUAL Method

SERVQUAL is one the best measurement methods of service quality. This method is also called “GAP model” origins of this method goes back to Texas and North Carolina in 1985 by a group of authors “Parasuraman, Zeithaml and Berry”, this method highlights the main requirements for giving a proper service quality. This method identifies 5 gaps that deliver unsuccessful service quality. In this research gap number 5 which is the “gap between expected service and experienced service “is going to study. Although SERVQUAL method has been developed 28 years ago but still is one the most successful methods to evaluate CS. this model is the fundamental method for CS.

2.2 Implications of Customer Satisfaction in Construction

CS has strategic implication especially on future success and cash flows of the company, also construction companies using CS as a measurement tool when they are assessing the quality of products and services. CS is useful in many fields such as customer loyalty, customer’s future purchases and positive word of mouth (WOM), therefore CS has earned huge amount of interest especially in the field of marketing. The more satisfied customers the more they are using companies services and the more they are satisfied the more they are connected to the company for future purchases which leads to more cash flows to the company. WOM is a very important factor, companies with better results on WOM effect showed more

satisfied customers. Satisfied customers will be spreading good WOM to the others therefore it brings more customers and in a result of that there will be more flow of capital to the company. For example, in the United States, almost 60% of all the sales are related to effect of the WOM. In the meanwhile there is huge difference between completely satisfied customers and almost satisfied customers (Reicheld and Sasser, 1990).

The most commonly method used for measuring CS is SERVQUAL method. In this model quality of the service and therefore CS is measures by the difference between customer expectation and customer's experience. In this model customer's satisfaction evaluates based on a certain standard, the customer is satisfied when his/her expectation goes beyond the standards, and the customers is called dis-satisfied when his/her experience with the provided service goes blow the regular standard. In this study SERVQUAL method is the main method to capture and analyze CS. In the meanwhile CS under take by two methods, first from the viewpoint of totally separate service events and different encounters of the customers with the company's services; this method is called "micro level", in the meaning it is from the viewpoint of total satisfaction of the customers accumulation of all of the encounters of the customer with the company, this method is called "macro level". In the case of micro level CS depends on certain event, in this case evaluation of the customer is based on individual separate experience with the company's services. But in macro case the evaluation is based on overall encounters of all the events related to the service quality. Simply put, CS is correspondents with the expectation and experience of the customers with an event or accumulation of events, in the other hand customers can have an experience with a product or even

with a quality of a service. in the moment that customer's experiences is passing the expectation customers expected to be satisfied and when the expectations of the customer goes below of expectations the customer expected to be dissatisfied.

Comparing CS and quality: firstly, in the case of CS, customer needs to have previous experiences of service or product to evaluate the current satisfaction but in the case of quality; evaluation of the customer can be done without previously experiences. Secondly, the CS is normally evaluated according to value of the price and also perceived quality. In many cases quality cannot normally measured by goods price value. The effect of lower quality on satisfaction and future sales are much higher than the quality exceeds customer's expectations therefore quality can be measured as a percentage of CS.

2.3 Aspects of Customer Satisfaction in Construction Companies

In case of construction, CS is measured based on the physical facility (product) and construction process (service), satisfaction of the customer is evaluated if the customer's expectation meet and/or exceeded his/her expectations regarding to product and service of the construction company. Therefore recognizing, understanding and defining and managing of these expectations are very important so that the customer's needs are met. According to Project Management Institute booklet (2008), this procedure needs a combination of consistent to specifications (like the project should be exactly as it's agreed from the beginning) and also capability for use (production and provided services should satisfies real needs).

In construction, completed facility refers to the project which is physically finished and also interactions between contractor and customer involving in the project should be over. Yasamis, Adriti and Mohammadi (2002) describe contracting

service as transformation process from resources to the finished project. It is suggest that quality in construction is not a single dimensional parameter it is includes a mix of production process and service quality dimensions (Maloney, 2002). Therefore project-level quality is defined with degree of customer's satisfaction with the constructed facility, contracting facility and the contracting services.

In order to measure CS in construction the main subjects must be identified. A customer is the buyer of the project and the one needs constructed facility therefore customer can be named as the owner of the home (project). Kamara, Anumba and Evbuomwan (2000) describes the 'customer' as a body that integrates the interests of the buyer of construction services, possible users and other interest groups. It's important to know that there are different groups involving in buying decisions, this includes all people involving in making decision on the kind of service, and this consists of the following: decider, guider, buyer, gatekeeper and the end user himself. The actors of buying center affecting CS directly in terms of interests and goals, the decision making process and structure. Definitions of CS in case of both production companies and construction companies have been listed in Table (1).

Table 1. Definitions of CS in case of both production companies and construction companies

Author	**Definition of customer satisfaction**
Parasuraman, Zeithaml and Berry (1988)	Customer satisfaction (CS) is a function of perceived quality and disconfirmation – the extent to which perceived quality fails to match repurchase expectations.
Kotler (2000)	CS is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) to his/her expectations.

The nature of the construction is somehow complex and this complex nature of construction process, changes in project organization and uniqueness of each project makes it difficult to evaluate previous projects use customer feedbacks for future projects. In addition, Kotler (2000) suggested that each company in the construction is both customer and supplier in the field of supply and chain, and that their production value is a very important factor for the success of the construction company. Ireland (1992) believes that the roles of the managers are very important and they have a mutual effect on both the construction and customers.

2.4 Previous Studies

Holt, Olomolaiye and Harris (1994).describes a quantitative model included in with Identified pre-qualification criteria to be included in on selection of the contractors. Ahmad and Kangari (1995) prepared a survey with almost 100 client companies to evaluate the CS factors when clients perceive during the construction process, these factors are the most important perceived factors that effecting CS model. Hatush and Skitmore (1998) were studding to identify universal phenomenon for pre-qualification and bid evaluation. They found that the most common reason for lack of CS is related to financial issues, lack of technical capabilities, management skills and safety performance of the construction companies.

Hatush and Skitmore (1998) they reached a methodology for evaluating construction companies data for pre-qualification, in a construction companies evaluation they used cluster analysis techniques. Hatush and Skitmore (1997) review the difference between clients and their decision criteria and also consultant companies in construction companies' pre-qualifications. Participants were asked to fill a survey with 38 pre-qualification questions. Output data reveals that there are significant differences between selection and decision for pre-qualification. Then they produced a system for evaluating bids of contractors in Saudi Arabia, this system is included with all of the factors involved with bid evaluation and their effect and weights of those factors.

According to Kärnä (2004), "Analyzing CS and quality in construction the case of public and private customers" in his article he made an empirical analysis to explore CS. In his article he reaches an interrelationship between CS and quality during the

project. Their focus on this paper is on process quality but there are other factors such as quality assurance and handover which refer to technical quality and physical elements of project's outcome. In this method the main strategy is using quantitative methods. In spite of that, there are some qualitative methods to examine how and why a company should study on the entire supply chain network and their mutual performance. This kind of approach which is called mixed method approach introduced by Creswell (2013) for the first time. A versatile quantitative analysis was made based on huge RALA's database. By this method a hypothetical model produced to reach two things for this study (1) identify different types of CS factors and (2) relationships between these factors will be study. Factors that affecting CS based on this research is:

CONTQUAL: reveals the contractor's valuation on quality of the contract of the work. It means how well a construction company can perform their work. This factor assess to the final qualitative success of the project.

QAPROCED: defines implementation of the quality assurance methods the parties (owner and the contractor) agreed before. Methods of the contractor will affect the quality assurance and also the level of the quality.

HANDOVER: defines the level of capability of the contractor's handover procedure. This factor describes how the contractor handover the project to the owner without flaws, how the contractor inspects the premises and fixes the flaws, damages, and defects. The key factor is how the contractor handles examinations and fixing the flaws during the handover.

QUASSIMA: hand-over procedure needs an operation within the contract, in this operation contractor transferring the ownership of the project from their own company to the customers. This operation begins with construction process and continues until the warranty of the finished project is approved. hand-over itself taking place at the end of the project so it influences the final experience of the customers from construction company, therefore hand-over process is one of the most influential factors that affect CS.

TIMECOMP: it is about management skills and skills of the process of the project. Many variables are affecting this factor like: repair of defects during inspection process, order in the site and keeping the cleanness of the site. Consistency on agreed schedule, degree of completion at inspection during hand–over process and also overall quality of contractor's level of the service. Reaching targets which is relates to the agreed contract in addition with final cost of the finished project and also performed quality of the finished project all measures performance of the construction company (Chan and Chan, 2004).

OFFICIAL: this factor is about rules and regulations about construction process and the site itself. This includes variables such as keeping the right order of performance and cleanness of the site, work safety management and management of rules and regulations related to safe environmental activities.

CHANGEMG: this factor describes management of agreements about changes during handover process, it involves company's personnel's capability to handle co-operation with the owner and also realizing and making the inspection for re-work. They have a huge impact on the success of the final project.

COMMUNIC: this factor is about communication capabilities within the construction company. This factor plays a very important role in CS as it passes the project-related information to the customers and also other sections of the company. Communication management could ease the access of contractor's employees, personal capability for parallel operation, contractor's work supervisor's skills and overall quality of service level of the contractor's. Proper communication skills helps to improve the spirit of parallel operation and transparency and support strengthen of shared goals.

PROF: this factor describes contractor's employees' capabilities of skills and commitment to setting goals from the view point of the customer's. General skills of recruiting and also education and training of employees, the more skilled workers helps the company to be more successful especially in the field of CS (Songer and Molenaar, 1997; Pinto and Rouhiainen, 2002).

MANAGEMENT: this factor relates to the managerial skills and how management influences the final product. This factor consist of many variables such as sticking to the agreed schedule, tending to official obligations, skills of contractor's work supervisor and also order on site.

A model developed In order to identify the CS factors and review on the terms and relationships between all of the factors. In this article main concepts like skills of the workers and behavior of leadership in construction business are the basic hypothetical structure of this study. To do so the only way to get information about those factors is indirect observation, because of the nature of the factors direct observation is not possible. This study recommended many possibilities to

improving of construction business. People involved in the field of construction business need CS information up to dated, versatile and systematic. This information should be related to the quality of the final production and also hand-over procedure and construction process in order to develop and improve their operation and act in a customer oriented way.

According to this study removing bad effects of communication and WOM is significant. Construction business is works well when the company build their relations to the customers upon a long-term relations, Therefore the construction company and the owner (customer) must behave in such a way to improve their relations. But hand-over and efficiency in its procedure is the most important factor affecting CS. Therefore by removing inefficiency in this process and removing the negative effects of this factor CS improves significantly.

Other researchers such as Al-Momani (2000) from civil engineering department of Mu'tah Universityn have studied CS using gap analysis method for service quality to find and measure CS of the construction companies. In this study the definition of CS is the gap between expected and perceived service received by the customer. Expected service means what customer believes about the service and Perceived service means the actual service received by the customer. If the amount of expectation equals to the perceived it means that the customer is technically satisfied.

This study is based on SERVQUAL analysis which according to the author of this article is one the best ways on measuring of the CS , also SERVQUAL technique is much less expensive than other methods . There are two groups in this study, home

buyers and construction companies. Participants were asked to answer the questions witch they had five scales for each of them. In this study in order to analyze the data t-test performed to compare mean answers for perceived and expected service. Mean perceived service rating was somehow less than mean expected service rating, which gives a negative gap for all corresponding attributes. Based on this study such results were not unexpected because of lots of reports on the news about general dis-satisfaction about construction companies.

Based on this study realizing the needs of the customer is very important for delivering a good quality service and neglecting this expectation means substantial amount of time and money on things that most probably will not satisfy the customers.

As a result, this study shows that construction companies have the minimum attention to their customers and they have a serious lack of CS and after hand-over services. construction companies should manage their business in order to get the satisfaction of the customers because it is a very important factor for future success of the company, construction companies must not only work on their design and quality of their products but they have to work so hard on their services to get their customers satisfied because it can help to improve long term relationship with the customers.

2.5 Previous Studies Related to TRNC

There are only few studies on CS in case of construction companies in TRNC as well as few studies on the technical quality of construction in TRNC, for instance Egemen and Mohamed (2006) studied clients' needs, wants and expectation from contractors, in this article they found clients full satisfaction depends not only on quality but more than that they expect contractors to finish their project on time. They did their research based on study on 91 clients on this market, these results based on TRNC construction market, although this research is about customer needs and expectations but it can used for CS as well. According to Egemen and Mohamed (2006) they reached a table based on perceived level of importance for clients, general needs and expectation. In this table they have listed perceived level of importance for all of the customers' needs, expectation and needs. The most common and important of these needs are: price which is offered by the construction company, how long (how many years) that construction company working in this field, how much the construction company is well known in the market, how much is that construction company using well trained and skilled staff and so on. These are the main headlines of their results.

2.6 Home –Buyer Satisfaction Model Hypothesis

According to above literature a home-buyer model hypothesis has been developed for this study. In order to measure degree of CS accurately a clear and valid factors of satisfaction is needed. To do so, based on the literature a CS model is produced. According to proposed model, improved service and product quality leads to improve of CS. Of course product in this study means produced units of houses and service referees to the customer service provided by the company before, during and after the hand-over.

In this model relevant factors of CS go beyond the final project itself. Many studies have suggested that CS depends not only upon the product itself, but also the experiences which the customer has with the construction company Hempel (1977). This model is customized a little based on customer's needs of construction companies especially for this region. Factors like Methods of Payment are a one example of these modifications. Although payment methods do not affecting hand-over procedure of the company but they have a huge impact on customer's comfort and customer's comfort directly affecting customer's satisfaction. Therefore payment methods can have a direct effect on CS. Especially in case on TRNC because of the existing of political reasons and some restrictions on banking procedures, some nationalities like Iranian buyers prefer to have more flexible payment methods.

After preparing the CS model and defining measures based on SERVQUAL method, a questionnaire been prepared according to three main articles about CS of construction companies. Figure (1) reveals the home-buyer satisfaction model.

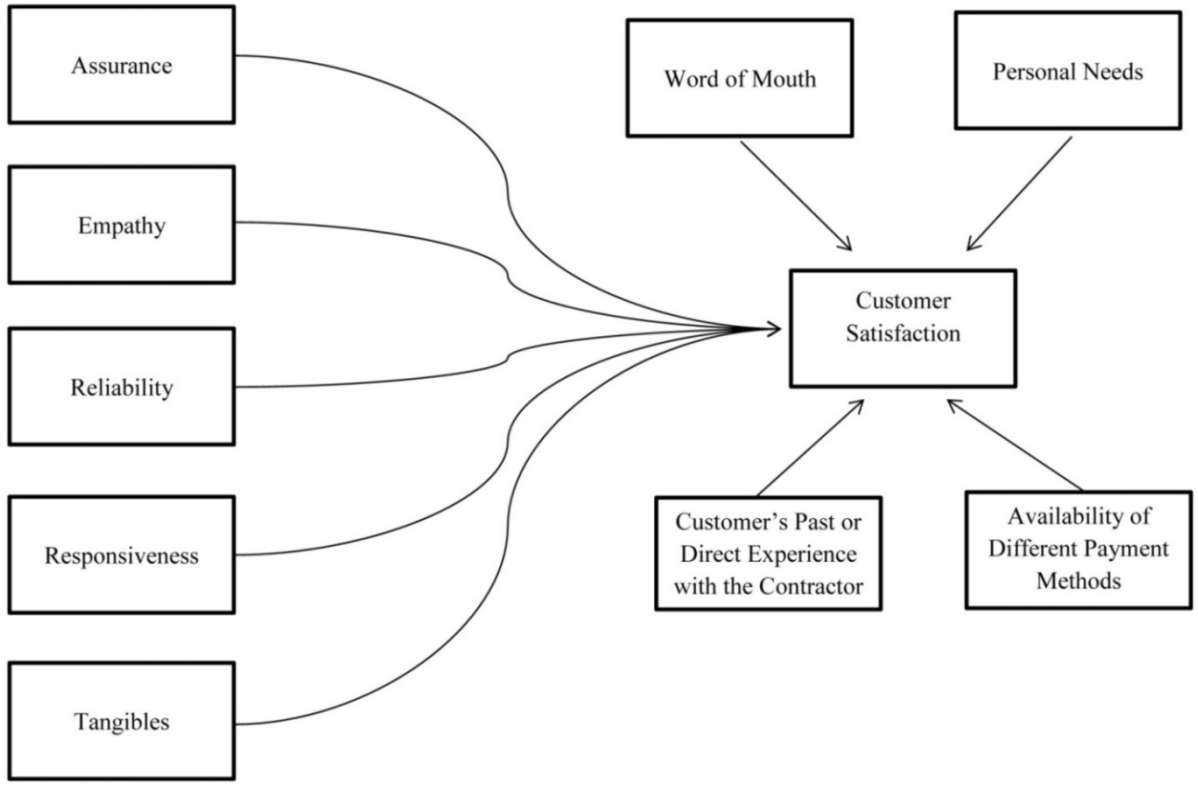

Figure 1. Home-Buyer Satisfaction Conceptual Model

Based on the conceptual model presented above the following hypotheses have been developed to be tested in the current study:

Hypothesis 1: WOM has a positive effect on CS.

Hypothesis2: Personal needs have a positive effect on CS.

Hypothesis3: Availability of different payment methods has a positive effect on CS.

Hypothesis4: Customer's past or direct experience with the contractors has a positive effect on CS.

Hypothesis5: Assurance has a positive effect on CS.

Hypothesis 6: Empathy has a positive effect on CS.

Hypothesis7: Reliability has a positive effect on CS.

Hypothesis8: Responsiveness has a positive effect on CS.

Hypothesis9: Tangibles has a positive effect on CS.

Chapter 3

METHODOLOGY

3.1 Basic Concepts of SERVQUAL Method

The main method used in this study for measuring service quality is SERVQUAL method, beside of SERVQUAL method there are some other factors affecting CS directly. The rest of factors affecting CS are: WOM, Customers' past or direct experience with contractor, Personal needs and availability of different methods. The model is described at the end of chapter 2 at the end of literature review section. SERVQUAL is the most accurate and of course less expensive way for measuring the CS. SERVQUAL model can be measured by five main elements that can help us to measure service quality. These factors are Assurance, Empathy, Reliability, Responsiveness and Tangibles. This instrument has been productively used for measuring service quality in many construction and real estate studies.in this study in order to measure service quality two main levels of service been defined, Expected Service Level and Perceived Service Level, this method is defined for the first time by CS/Dissatisfaction (CS/D) Parasuraman, Zeithaml and Berry (1988) who were attempting to better understand and synthesize different kinds of comparisons.

3.2 Alternative Methods for SERVQUAL Method

There are bunch of alternatives for SERVQUAL method, the most important one is service quality method, the need for this model arise in 1980's, which there was a huge demand for tangible product like luxuries products, on that time quality of

products were measured by marketers and producers and there was a huge lack of service quality from the view point of customers. expected Service Level or Desired Service is the level of the service that customers believe “can be “ or “ should be “ provided by their contractor, and Perceived Service Level or Adequate Service is the minimum service level actually customer can accept from the contractor.

According to the literature many researchers like Al-Momani (2000) in the field of real estate and construction companies have used this method, this study is also using this method to measure service quality.

3.3 Measures

WOM (component 1): This factor is primary factor behind 20 to 50 percent of all purchasing decisions. Its influence is even higher when a customer purchases a product for the first time or they purchase an expensive product which in both cases this factor has a huge impact in case of construction companies. In order to measure WOM 4 questions are used, these questions are replicated from Wangenheim and Bayon (2004). (See questions 39, 40,41and 42 from appendix).

Personal Needs (component 2): This factor is completely dependent on customers personal expectations, this needs might be defined by cultural or economical background of each customer. In order to measure this component 1 question is used, these questions are replicated from Johonson, Gustaffson, Andressen Lervik and Cha (2001). (See question 31 from appendix).

Availability of Different Payment Methods(component 3): This factor is one the factors that added to the Model in order to measure satisfaction of the related satisfaction of customers on flexibility on the construction companies in arranging

financial issues. In order to measure this component 3 question are used. (See questions 33, 34 and 35 from appendix).

Customer's past or direct experience with the contractor (component 4): Customers either had the previous experience with the contractor or not. Therefore there is no exact tool to measure it the answer in either yes or no. In order to measure this component 3 questions are used, these questions are replicated from Al-Momani (2000). (See questions 36, 37 and 38 from appendix).

Assurance (component 5): The employee ability of instilling confidence to the customers, the reputation of this company is trustworthy and customers always feel safe to work with them, the employee and engineering department staff have knowledge and competence that make customers feel the handover procedure is on its routine basis. In order to measure this component 3 questions are used, these questions are replicated from Johonson, Gustaffson, Andressen Lervik and Cha (2001). (See questions 19, 20 and 21 from appendix).

Empathy (component 6): Degree of the satisfaction of the customers with the responsiveness (willingness to help and provide prompt service) of the home builder personnel?, Degree of the satisfaction of the customers with the politeness of the home builder personnel?, Degree of the satisfaction of the customers with builder's attitude about customer service for example after move in, Extent to which Employees give personal attention to the customers, Extent to which Employees understand customer's needs, How satisfied were customers with Employees treatments of customers, In order to measure this component 5 questions are used,

these questions are replicated from Torbica and Stroh (2001). (See questions 22,23,24,25 and 26 from appendix).

Reliability (component 7): The completed within planned timing, the project finished according to the agreed budget, Project planning and construction was according to the agreed contract, the project had no problems and reworks during the process of the construction. Contractor was able to show good capabilities of technical performance during construction process. In order to measure this component 5 questions are used, these questions are replicated from Al-Momani (2000). (See questions 1,2,3,4 and 5 from appendix).

Responsiveness (component 8): Home builder personnel were available during evening and weekend hours, Customers were welcomed enthusiastically, Companies staff were able to present basic advantages of the project, Customers treated like a person, not a number, Home builder staff was able to explain every each step of the project to the customers with patience and detail, How much it was clear to customers whom they should contact during construction, Degree of the satisfaction of the customers with the reliability of companies' staff. In order to measure this component 7 questions are used, these questions are replicated from Torbica and Stroh (2001). (See questions 6, 7,8,9,10,11 and 12 from appendix).

Tangibles (component 9): The contractor is using a modern, up to date technology in their projects, Project site is choosing to be close to shopping and entertainment centers, How satisfied are the customers with the house floor plan?, Degree of the satisfaction of the customers with the energy-efficient equipment of the house, Degree of the satisfaction of the customers with the utility cost?, Degree of the

satisfaction of the customers with the quality of the finished project. In order to measure this component 6 questions are used, these questions are replicated from Maloney (2002). (See questions 13, 14,15,16,17 and 18 form appendix).

3.4 Questionnaire

After conducting research on the model and making the final home-buyer satisfaction model a fifty question questionnaire designed based on the factors, Forty two questions for relative factors and eight more questions based on required demographic data. The questionnaire is designed in two columns of expected service quality and perceived service quality in order to get the proper data for gap analysis. A sample of questionnaire is provided in the appendix.

The questionnaire is design for both paper distribution and also electronic distribution. Paper based questionnaire distributed mainly in construction sites inside and near Famagusta city and Kyrenia city. The paper based questionnaire distributed among verity of people living in construction sites which had been made for maximum five years before 2013. Also electronic based questionnaire is publish online and shared with social media networks such as Facebook and Google+ and also sent by email to some people.

3.5 Data Analysis

During this study a home-buyer model developed based on SERVQUAL elements and also factors of CS. Also CS is empirically examined as expectation and perceived experience of the customers. According to gathered data by surveys regression analysis applied to the data set by using SPSS software afterwards.

Chapter 4

RESULTS AND DISCUSSIONS

4.1 Pilot Test

By distributing of paper based and also online questionnaires total number of 147 questionnaires collected. A pilot test has been taken for the first twenty (20) papers based questionnaires, the results of pilot test showed a clear and understanding of the questionnaire. After taking the data set to the SPSS demographic and service quality data are as follow.

4.2 Demographic Results

According to this study more than 54% of the audience was between the ages of 20 to 30. This result makes sense because most the questionnaires distributed in Famagusta and Kyrenia, in profession section. We can see 53.1% of these audiences are students. This result reveals the tendency of students to buy properties in TRNC. Also gender section seems very interesting, 49% of male and 51% of female participants shows this tendency of buying of properties is even higher among female audience. In this study 52.4% of participants are Iranians, the reason is because of nature of the nationality of the writer of this study, many questionnaires distributed among Iranian friends who had recently bought a house in TRNC. Largest amount of participants belongs to Iranians (52.4%), the second biggest group is Cypriots (12.9%) and the third largest group belongs to Turkish (11.6%) participants. A very interesting founding about demographic data shows that 55.1% of the participants they have an income salary less than $10,000. If we look at the

gender and profession tables this percentage for income makes sense because a large majority of participants are students. We should take in considerations that many of youngsters that recently bought a house in TRNC actually supporting by their families. Most of these purchases made under a family investment.

By comparing results, people with the experience of living abroad for less than 5 years, they have almost the same experience as living in TRNC. 47.6% of people with less than 5 years living abroad and 56.5% of participants with less than 5 years of living in TRNC. This results shows for many people, especially students who had been recently to the TRNC buying properties was one the first priorities. Property purchase among people with higher experience of living abroad and higher average of age is less likely happens. It might be because of cultural among youngsters and culture of student life among students in TRNC which purchasing a house here can give them more independent. Also for many youngsters buying a property is a kind of very good investment for their future. In the next section Service Quality factors and effect of demographic results on them will be study in detail. All of the demographic results demonstrated in table (2).

Table 2. Demographic Results

Variables	%	Mean	Std.Deviation
Distribution of Income		1.59	0.768
0 to 10,000$	55.1		
10,000$ to 50,000$	30.6		
50,000$ to 100,000$	10.9		
100,000$ and more	2.0		

Table 2. Demographic Results (continued)

Variables	%	Mean	Std.Deviation
Age		1.81	1.143
20 to 30	54.4		
30 to 40	25.9		
40 to 50	8.8		
50 to 60	7.5		
60 to 70	2.0		
70 and above	1.4		
Gender		1.51	0.502
Male	49.0		
Female	51.0		
Profession		1.67	0.872
Student	78		
Professional	47		
Unemployed	12		
Other	9		
Nationality		3.08	1.367
Cypriot	12.9		
Turkish	11.6		
Iranian	52.4		
British	8.2		
Nigerian	6.8		
Arab	3.4		
Others	3.4		
Year living abroad		1.81	0.989
1 to 5	47.6		
5 to 10	32.0		
10 to 15	7.5		
15 and more	10.9		
Years living in TRNC		1.7	0.988
1 to 5	47.6		
5 to 10	32.0		
10 to 15	7.5		
15 and more	10.9		

4.3 Service Quality Data Analysis

The first section of the home-buyer model is service quality section. Related factors of Service Quality from SERVQUAL model are Assurance, Reliability, Empathy, Responsiveness and Tangibles. Questionnaire is designed in such a way to ask each participant about their perception about service quality and also their perceived service quality after they have received relative services from construction companies. Table (3) shows relative results the service quality.

Table 3. Service Quality

Variable*	Mean	Std. Deviation	Variance
Assurance	-0.4566	0.99232	0.985
Empathy	-0.4000	1.03454	1.070
Reliability	-0.4395	0.91439	0.836
Responsiveness	-0.3129	0.88343	0.780
Tangibles	-0.3306	0.73630	0.542

Note. *= Variables represents the difference between perceived service quality and expected service quality.

Relative means for each factor are: Assurance -0.4566, Empathy -0.4000, Reliability -0.4395, Responsiveness -0.3129, Tangibles -0.3306. The negative sign for shows dissatisfaction and just because there is sign negative for every each of the factors reveals huge amount of general dissatisfaction among customers. For the factors with the greater number of difference between expected and perceived service quality the greater amount of dissatisfaction there is. Assurance for instance has the biggest dissatisfaction and Responsiveness has the less amount of dissatisfaction. Standard deviation and variance in this table reveals the variety of participants in each factor, Empathy with the Standard Deviation of 1,0345 has the highest Standard Devastation and Tangibles with 0,736301 have the lowest Standard Devastation.

4.3.1 Model Summary

Table(4) gives results for Pearson R (or simply R) and also R Square which is pearson R power to two. R Square shows the amount of reliability of the model, in this case R Square is 0.671 means that Home-Buyer Satisfaction model is 67.1 % reliable. In the other words R Square is a proof for the hypothesis, so our has hypothesis is 67.1% chance of getting correct results. Also other sections of this table like F score and Significance of F score are from other tables which discussed before,This table is generally is the summer of the all of the tables which discussed earlier. Pridictors realted to R and R square are : Assurance, Empathy, Reliability, Responsiveness, Tangibles, WOM, Personal Needs, Customer's Past or Direct Experience with the Contractor, Availability of Different Payment Methods.

Table 4. Model Summary

		Change Statistics	
R Square	Adjusted R Square	F change	Sig. F change
0.671	0.650	31.098	0.000

Predictors: (Constant), Tangibles, past experience, Reliability, WOM, different payment methods Personal needs, assurance, responsiveness and empathy.

4.3.2 ANOVA

for ANOVA table , Customer Sthisfaction set to be dependent factor and the rest of factors set to be independent factors, Table (5) shows the ANOVA results. According to output results in ANOVA table mean squre is 5.920, with the degree of freedom of 9. by devideing mean squre regression over mean square residual F score is going to be 31,098 and there is 0.000 probability that we getting this by random chance. Therefore F score which is bottomline of ANOVA results shows a very good results for our home-buyer satisfaction model. The ANOVA results can be writen as : F(9,137)=31,098

Table 5. ANOVA*

Model	Sum of Squares	df	Mean Square	F	Sig.**
Regression	53.276	9	5.920	31.098	0.000
Residual	26.07	137	0.190		
Total	79.353	146			

Note. *=Dependent variable: CS

Note. **= Predictors: (Constant), Tangibles, past experience, Reliability, WOM different payment methods Personal needs, assurance, responsiveness and empathy.

4.3.3 Coefficients

In this section by setting CS as a dependent factor and setting WOM, personal needs, customer past or direct experience with the contractor, availability of different payment methods as independent factor, output data let us analyze our hypothesis and also home-buyer model which discussed earlier in methodology chapter. Table (6) reveals results and output data for confidents and model analysis. It's good to remind that in this analysis only perceived service quality used, putting aside expected service quality.

Table 6. Coefficients results by setting the CS as a dependent factor.

	Standardized Coefficients		Collinearity Statistics	
Variable	β	t	Sig	VIF
WOM	-0.10	-0.160	0.873	1.664
Personal Needs	0.054	0.677	0.499	2.630
Payment methods	0.350	4.641	0.000	2.365
Past experience	-0.047	-0.722	0.472	1.779
Assurance	-0.112	1.273	0.205	3.229
Empathy	0.438	4.097	0.000	4.761
Reliability	0.162	2.165	0.032	2.321
Responsiveness	0.108	1.084	0.280	4.142
Tangibles	-0.117	-1.414	0.160	2.840

In this table there are three rows which actually reject null hypothesis, first one is Availability of Different Payment Methods and the other one is Empathy and the third one is Reliability. In both first cases p-values are 0.000 and for Reliability p-value is 0.032 which means they are statistically significant and they reject the null hypothesis, but for the rest of factors p-value is not significant and they do not reject the null hypothesis. T score section gives information about the factors that have a bad effect on our model, factors like WOM with t score -0.160, Experience

(Customer's Past or Direct Experience with the Contractors) -0.047 and Tangibles -0.117. This means that these factors have negative effect on our model therefore by removing negative effects of these factors CS will be definitely increasing. Removing negative effects of the factors only happens when there is an increase on the provided service quality on those factors.

The other important section of the coefficient table is the last column which is Collinearity Statistics. In this column we can see two other columns, Tolerance and VIF which is basically they both say the same thing, and VIF is $1 / (1 - R^2)$ which R stands for tolerance. Most commonly, a value of 10 has been recommended as the maximum level of VIF. But to get the best results, maximum value of 5 is recommended, therefore by looking to table (6), none of the factors have a value over than 5. The only factor which is close to 5 is empathy with the value of 4.761 which is still acceptable. Therefore there is no any problem of Multicollinearity can be seen in this table.

Table 7. Summary of the results for all of the hypothesizes

Hypothesis	Accepted	Rejected
H1		✔
H2		✔
H3	✔	
H4		✔
H5		✔
H6	✔	
H7	✔	
H8		✔
H9		✔

Chapter 5

CONCLUSION

5.1 Summary of the Study

In construction business, customer oriented is getting more importance, and contractors adopting new methods and moving toward more to work closly together with their customers. in the mean while because of the huge competition of cusntruction compnaies customers become automatically more demanding and they are looking for contractors which they have more flexibility on their contract. now a days CS always concidered in measuring of the performance of each construction company, because it seems it is a very important element of a successful project along with traditional factors like cost and quality. also this attention to the CS creates a huge competitive advantage for that construction company.companis that would be able to satisfy more of it's customers needs than others is going to better and long-term realtions to their customers, and also it can help to imrove their competitive advantage level of the compnay in the market.

The aim of this study was to explore affects CS in construction business. CS can be either a very powerful tool for developing of the construction business and their quality and keep them on the top of the copmetitive market or can be seen as target for construction companies. in this study a lot of analysis have done in order to get proper factors and their related information. This thesis also study on the utilization of CS to the construction companies in TRNC. the aim of this study was to prepare a

properiate model for the construction companies, especially construction companies in TRNC. this model should satisfies factors that affecting CS and also customer taste of this region.

The nature of CS in construction is in such way that the projects with the lower level of success, has a negative feedback in all areas. Therefore negative experiences of customers seem to have a huge impact on customer's entire image of the company and the project itself. According to extracted data form questionnaires general satisfaction almost about all the compnaies in TRNC was negative, some factors with higher unsatisfaction and some with lower unsatisfaction.

Home-buyer model in this study is based on SERVQUAL elements and also factors of CS, CS in this model is a dependent factor, service quality factors and also CS factors are all independent factors.almost all of the service quality factors had negative feedback, means almost everyone were dissatisfied with the quality of provided services by construction compnaies in TRNC, In general means quality of provided service by contractors in TRNC is relatively low.Factors of service quality are as follows : Assurance, Empathy, Reliability, Responsivness and Tangibles.

Assurance factor describes the ability of the company to support the customers and keep their trust to the end of the project. In this study Assurance had the worst dissatisfaction results, means companies can't keep the trust to their customers. perhaps construction companies should respect more of their customers, and also they should increase the knowledge and skills of their staff and engineering team in order to instill more confidence to the customers. The second service quality factor whitch has negative effect is Reliability, this factor deccribes capabilities of the

contractor to perform their promises whitin time and budget. Construction companies especially in TRNC should be consistent with their promised time and budget, perhaps one of the biggest complains of customers in this country is that construction compnaies are always haveing delay in hand-over and also sometimes customers asked for extra peyments. Of course construction companies should be more punctual and consistant about work plans and technical permises so customers can rely on compnay's promises.

The third negative factor of service quality in order is Empathy, empathy describes politness of the staff memebers of the company and also willingness of the staff to help and answering questions of the customers. Staff memebers of the company represents the whole attitude of the company towars customers. Having a nagative effect on empathy affecting customers satisfaction directly and it has othet effects on other factors like WOM. Companies perhaps should train their staff members especially for the staff memebers which have more encounter with customers to be more polite and showing more paitence to customers whos having more questions. The next factor with negative effect is Tangibles. Tangible factor describes quality of physical features of the project. Using modern up to date technologies and energy efficient equipments can make a huge improvements in the quality of products. Especially using energy efficient technologies like double –glazed windows and energy efficient heating and cooling systems in TRNC is very obvious, some part of this problem is because of political and econimical reasons, usually importing such technologies is very expensive, therefore many of construction companies prefere to use less expensive technologies, usually these less expensive technologies are not energy efficient and impose huge amounts of consumption costs to the house

owners. The last negative factor is Responsiveness, Responsiveness factor describes ability of employee of the company to treat customers in such a way that they feel that they have received all the properiate information about the project and also treat customers ina friendly manner. There was a huge complain about responsiveness of the staff members of construction companies, many customers belived they left alone after making the contract. Construction compnaies should keep their friendly contact with their customers especially after making the contract, customers should be informed about every each step of the project, and they should be always ready to answer their customer's quations during hand-over process. Keeping good and friendly realtion with customers will effect compant's long-term relationship with customers and also it has a positive effect on compnaies reputation for future projects.

5.2 Limitations and Recommendations

The main limitation of this research goes back to lack of socio-economics and also political roots of increasing in construction business in the TRNC. CS in this field is very poor and at the same time there is still a huge demand for property, perhaps there is another factors effecting customer's appetite to invest in construction field of TRNC. Economical models should be developed to predict the trend of future construction business and the effect of this booming on the future customers.

Cyprus is used to be a very strategic island and still is, with very strong and effective neighbor countries in this region, there should be definitely other strong reasons for this construction booming. Other important limitation is many of participants filled the questionnaire was mostly students; these students are generally fully dependent on their families, in most of the cases properties they were living in were belong to their parents. So the real owner of the property was somebody else. Therefore about

54 percent of participants' ages between ages of 20 to 30 filled the questionnaire in behalf of their parents although they are the real owner of the property but they benefited this property by living in it. They might never been in the purchasing and hand-over procedure, this effect their perception of the final product.

The other limitation was gathered data was mainly in two regions, Famagusta and Kyrenia , the other sections of the TRNC was too much difficult to reach, these regions are mainly in interest of foreigners, students and other foreigners therefore In this study lack of information about native Cypriots is obvious. Also this study is based on only private construction companies; the reason is basically because of the nature of the regions of the study with is a mentioned earlier, public mass producer which is working with the government mostly making their sites close to capital Lefkosa. Gathered data for this study is based on door to door and also electronic (online) distribution of questionnaires, it is better if the questionnaires distributed with construction companies themselves, in order to get more accurate results and also with wider range of participants. It can be beneficial even for the construction companies to get the opinion of their customers about their company.

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APPENDIX

●Age:

20-30☐ 30-40☐ 40-50☐ 50-60☐ 60-70 ☐ 70 and above ☐

●Sex:

Male☐ Female☐

●Profession:

Student ☐ Professional☐ Unemployed☐ Other☐

●Nationality:

Cypriot☐ Turkish☐ Iranian☐ British☐ Nigerian ☐ Arab☐ Other☐

If other, please mention: ….

●Number of years spent living abroad:

1-5☐ 5-10☐ 10-15☐ 15 and above ☐

● Number of years spent living in TRNC (Turkish Republic of Northern Cyprus):

1-5☐ 5-10☐ 10-15☐ 15 and above ☐

●Income (annually)

0- $10,000☐ $10,000-$50,000☐ $50,000-$100,000☐ $100,000 and above ☐

●Name of your contractor:

DÖVEÇ Construction ☐ Northernland Construction ☐

Noyanlar Construction ☐ Uzun Construction ☐

Nokta Construction ☐ Other (Please mention): …….....

Please circle the appropriate option:

	Expected Service Level					Perceived Service Level				
	Low				High	Low				High
Q1.The project has been completed on time	1	2	3	4	5	1	2	3	4	5
Q2.The project has been carried out within budget	1	2	3	4	5	1	2	3	4	5
Q3.Project planning and construction has been carried out correctly	1	2	3	4	5	1	2	3	4	5
Q4.The project had no deficiencies and rework during construction	1	2	3	4	5	1	2	3	4	5
Q5.A good services and technical ability of the contractor were demonstrated in the project	1	2	3	4	5	1	2	3	4	5
Q6.Home builder personnel were available during evening and weekend hours	1	2	3	4	5	1	2	3	4	5
Q7.You were welcomed enthusiastically	1	2	3	4	5	1	2	3	4	5
Q8.Home builder presented the basic advantages of the home	1	2	3	4	5	1	2	3	4	5
Q9.You were treated like a person, not a number	1	2	3	4	5	1	2	3	4	5
Q10.Home builder explained every step of the home buying and building process to you	1	2	3	4	5	1	2	3	4	5
Q11.It was made clear to you whom you should contact during construction	1	2	3	4	5	1	2	3	4	5
Q12.How satisfied were you with the reliability (ability to perform the promised service dependably and accurately) of the home builderPersonnel?	1	2	3	4	5	1	2	3	4	5
Q13.How satisfied are you with your house floor plan?	1	2	3	4	5	1	2	3	4	5
Q14How satisfied are you with the energy-efficient features in your house?	1	2	3	4	5	1	2	3	4	5
Q15.How satisfied are you with the utility cost?	1	2	3	4	5	1	2	3	4	5

	Expected Service Level					Perceived Service Level				
	Low				High	Low				High
Q16.How satisfied are you with the quality of finish workmanship?	1	2	3	4	5	1	2	3	4	5
Q17.The contractor is using a modern, up to date technology in their projects	1	2	3	4	5	1	2	3	4	5
Q18.Project site is choosing to be close to shopping and entertainment centers	1	2	3	4	5	1	2	3	4	5
Q19.The employee ability of inspiring confidence to you	1	2	3	4	5	1	2	3	4	5
Q20.The reputation of this company is trustworthy and you always feel safe to work with them	1	2	3	4	5	1	2	3	4	5
Q21.The employee and engineering department staff have knowledge and competence that make you feel the handover procedure is on its routine basis	1	2	3	4	5	1	2	3	4	5
Q22.How satisfied were you with the responsiveness (willingness to help and provide prompt service) of the home builder personnel?	1	2	3	4	5	1	2	3	4	5
Q23.How satisfied were you with the politeness of the home builder personnel?	1	2	3	4	5	1	2	3	4	5
Q24.How satisfied were you with the builder's responsiveness to questions/concerns?	1	2	3	4	5	1	2	3	4	5
Q25.How would you rate your satisfaction with your builder's attitude about customer service (i.e., after move-in)?	1	2	3	4	5	1	2	3	4	5
Q26.Employees give personal attention to you?	1	2	3	4	5	1	2	3	4	5
Q27.How satisfied were you with the professionalism of the home builder personnel?	1	2	3	4	5	1	2	3	4	5
Q28.How satisfied were you with the competence (skills and knowledge) of the home builder personnel?	1	2	3	4	5	1	2	3	4	5
Q29.How satisfied are you with the purchase you made	1	2	3	4	5	1	2	3	4	5
Q30.How satisfied are you with the company overall?	1	2	3	4	5	1	2	3	4	5

	Expected Service Level					Perceived Service Level				
	Low				High	Low				High
Q31.Employees understand your needs(i.e decoration customization, special equipment, paining customization)	1	2	3	4	5	1	2	3	4	5
Q32.The contractual arrangement and legal issues was a source of problems	1	2	3	4	5	1	2	3	4	5
Q33.Contract team have a friendly atmosphere and trust	1	2	3	4	5	1	2	3	4	5
Q34.Financing arrangement was a problem	1	2	3	4	5	1	2	3	4	5
Q35.Considering all the expenses, finished project had a fair price	1	2	3	4	5	1	2	3	4	5
Q36.Contractors experience and number of completed projects is very important	1	2	3	4	5	1	2	3	4	5
Q37.Good experience from the past can lead to future new contracts, regardless of the final price of the project	1	2	3	4	5	1	2	3	4	5
Q38.The more people around me working with the same contractor, the more confident I have to make contract with the same company, regardless of the final price of the projects	1	2	3	4	5	1	2	3	4	5
Q39.I heard about this company from someone, that person has good knowledge about construction and the construction market	1	2	3	4	5	1	2	3	4	5
Q40.that person is similar to me in preferences and values	1	2	3	4	5	1	2	3	4	5
Q41.The information of that person was credible	1	2	3	4	5	1	2	3	4	5
Q42.There was no reason to have doubts about what that person has said	1	2	3	4	5	1	2	3	4	5