

**İSTANBUL TECHNICAL UNIVERSITY ★ INSTITUTE OF SCIENCE AND TECHNOLOGY**

**FACTORS AFFECTING INTERNATIONAL EXPANSION DECISIONS FOR  
TURKISH CONSTRUCTION CONTRACTING COMPANIES**

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**Programme : Construction Management**

**JANUARY 2010**



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**Date of submission : 18 December 2009  
Date of defence examination: 27 January 2010**

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**JANUARY 2010**



**İSTANBUL TEKNİK ÜNİVERSİTESİ ★ FEN BİLİMLERİ ENSTİTÜSÜ**

**YÜKLENİCİ İNŞAAT İŞLETMELERİNİN ULUSLARARASI PAZARLARA  
AÇILMA KARARINI ETKİLEYEN FAKTÖRLER**

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**OCAK 2010**



## **FOREWORD**

During my vast and eager efforts for the research of “Factors Affecting International Expansion Decisions for Turkish Construction Contracting Companies” I would like to express my deep appreciation and thanks to my advisor, Assit. Prof. Dr. GUL POLAT TATAR. With her sincere and unconditional contributions, this academic research has been concluded successfully. It is a big honor for me to thank everybody who is involved in preparing my master thesis. In time of my hard work, I would like to thank my family. Their unique and precious supports encouraged me to work harder. Finally I would like to present my appreciation and thanks to Çisil Durgun. The spiritual and indefinite supports contributed substantially to achieve my extent research.

December 2009

Murat Alp ARSLAN

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## TABLE OF CONTENTS

	<u>Page</u>
<b>ABBREVIATIONS .....</b>	<b>x</b>
<b>LIST OF TABLES .....</b>	<b>xi</b>
<b>LIST OF FIGURES .....</b>	<b>xii</b>
<b>SUMMARY .....</b>	<b>xiii</b>
<b>ÖZET.....</b>	<b>xv</b>
<b>1. INTRODUCTION.....</b>	<b>1</b>
<b>2. STRATEGIC PLANNING FOR CONTRACTORS .....</b>	<b>3</b>
<b>3. THE POSITION OF TURKISH CONTRACTING COMPANIES IN THE INTERNATIONAL CONSTRUCTION MARKETS.....</b>	<b>7</b>
3.1 General Information and History about Turkish Contractors in International Construction Markets.....	7
3.2 International Construction Markets.....	12
3.2.1 CIS Countries .....	15
3.2.1.1 Political .....	15
3.2.1.2 Economical.....	16
3.2.1.3 Social & Cultural .....	17
3.2.2 Middle East Countries.....	18
3.2.2.1 Political .....	18
3.2.2.2 Economical.....	19
3.2.2.3 Social & Cultural .....	20
3.2.3 African Countries .....	21
3.2.3.1 Political .....	22
3.2.3.2 Economical.....	22
3.2.3.3 Social & Cultural .....	23
3.2.4 Asian Countries.....	23
3.2.4.1 Political .....	24
3.2.4.2 Economical.....	25
3.2.4.3 Social & Cultural .....	25
3.2.5 European Countries.....	26
3.2.5.1 Political .....	26
3.2.5.2 Economical.....	27
3.2.5.3 Social & Cultural .....	27
3.2.6 Other Countries .....	28
<b>4. FACTORS AFFECTING INTERNATIONAL EXPANSION DECISION... 29</b>	<b>29</b>
4.1 Factors of Contractor.....	29
4.1.1 Contractor's number of the project at present.....	29
4.1.2 Contractor's experience in similar projects .....	29
4.1.3 Contractor's necessity to expand into new markets.....	30
4.1.4 The resources (equipments, materials) owned by the contractor.....	30
4.1.5 Assets of the contractor.....	30
4.1.6 Liabilities of the contractor .....	30

4.1.7 Contractor's technology level .....	30
4.1.8 Experienced and qualified staff in the company .....	31
4.1.9 Relationships with authorities in construction markets in which the contractor has previously operated .....	31
4.1.10 Relationships with authorities in construction markets in which contractors have not yet operated .....	31
4.1.11 Relationships with important, key employers .....	31
4.1.12 Necessity of forming a balanced market portfolio .....	31
4.1.13 Contractor's management skills .....	32
4.2 Factors of the Countries.....	32
4.2.1 Religious and cultural differences.....	32
4.2.2 The economical condition of the country.....	32
4.2.3 The country's currency .....	33
4.2.4 The fiscal reserves possessed by the country .....	33
4.2.5 Tax policy of the government .....	33
4.2.6 The fluctuations of labour and material prices.....	33
4.2.7 Strict regulations of environment protection.....	34
4.2.8 Competition levels in the country's construction market .....	34
4.2.9 The intervention risks of the government to the tender .....	34
4.2.10 Design and regulation risks.....	34
4.2.11 The government's HSE policy .....	35
4.2.12 Availability of local material suppliers & subcontractors.....	35
4.2.13 The experience of the contractor in the country & region .....	35
4.2.14 The internal political condition in the country .....	35
4.2.15 Political disputes or tight relations with Turkey and other countries.....	36
4.2.16 Bilateral or common international trade agreements .....	36
4.2.17 The ruling and regime type of the country .....	36
4.2.18 The function of the legal system .....	36
4.2.19 Bureaucratic obstructions.....	36
4.2.20 Bribery to illegal organizations or tribal communities .....	37
4.2.21 The Country's level of privatization .....	37
4.2.22 The Country's banking system.....	37
4.2.23 The challenges of monetary transfers .....	37
4.2.24 More long term project opportunities in the country .....	38
4.3 The Factors of The Projects.....	38
4.3.1 Project's financial expectations.....	38
4.3.2 The project's contract type.....	38
4.3.3 Type of project .....	38
4.3.4 Contractual dispute risks .....	39
4.3.5 The geographical position of the project.....	39
4.3.6 The scope of the project .....	39
4.3.7 Mobilization and the management style at the construction site and its facilities.....	39
4.3.8 The difficulties of the implementation of projects .....	40
4.3.9 Strict quality requirements .....	40
4.3.10 Earning reputation and prestige with the project .....	40
4.3.11 Entry mode options, availability of partnership .....	40
4.3.12 The bidding risks.....	41
4.3.13 Job security within the construction site .....	41
4.3.14 The availability of required technology .....	41

4.3.15 The design risks .....	41
4.3.16 The climatic risks .....	42
4.4 The factors of the owners .....	42
4.4.1 The financial strength of the owner .....	42
4.4.2 The management ability of the owner .....	42
4.4.3 Type of owner .....	43
4.4.4 The construction experience of the owner .....	43
4.5 The Performance Criteria .....	43
4.5.1 In last 5 years, our company has gained competitive edge in international arena.....	43
4.5.2 In last 5 years, we undertook more comprehensive and prominent projects abroad .....	43
4.5.3 In last 5 years, we won most of the tenders which we have bid to projects abroad .....	44
4.5.4 In last 5 years, we have accomplished our international projects .....	44
4.5.5 In last 5 years, we earned considerable amounts of profits from international projects .....	44
4.5.6 In last 5 years our share in international construction market developed..	44
4.5.7 In last 5 years, we had participated as a key participant in various partnerships of international projects .....	44
4.5.8 We were affected from the economic fluctuations less relatively than our rivals .....	44
4.5.9 In last 5 years the assets that we own have developed .....	45
4.5.10 Our company employs more qualified technical and administrative staff than previous years .....	45
4.5.11 The satisfaction of the owner is at high level.....	45
<b>5. METHODOLOGY .....</b>	<b>47</b>
<b>6. FINDINGS AND DISCUSSIONS .....</b>	<b>51</b>
<b>7. CONCLUSION AND RECOMMENDATIONS .....</b>	<b>57</b>
7.1 Strategic Planning in Construction Industry .....	57
7.2 International Construction Markets.....	58
7.3 The Factors Affecting International Expansion Decisions.....	59
7.4 The Methodology and Analysis .....	60
<b>REFERENCES.....</b>	<b>63</b>
<b>APPENDICES .....</b>	<b>67</b>
<b>CURRICULUM VITAE.....</b>	<b>91</b>

## **ABBREVIATIONS**

<b>ATCEA</b>	: Association of Turkish Consulting Engineers and Architects
<b>CFA</b>	: Confirmatory Factor Analysis
<b>CIS</b>	: Commonwealth of Independent States
<b>EFA</b>	: Explanatory Factor Analysis
<b>ENR</b>	: Engineering News Record
<b>FA</b>	: Factor Analysis
<b>GDP</b>	: Gross Domestic Product
<b>IMF</b>	: International Monetary Fund
<b>INTES</b>	: The Union of Turkish Construction Industry and Employer
<b>NGO</b>	: Non-Governmental Organizations
<b>PCA</b>	: Principal Component Analysis
<b>PPP</b>	: Public Private Partnership
<b>RA</b>	: Reliability Analysis
<b>TCA</b>	: Turkish Contractors Association
<b>TCC</b>	: Turkish Contracting Companies
<b>USSR</b>	: Union of Soviet Socialist Republics

## LIST OF TABLES

	<u>Page</u>
<b>Table 3. 1:</b> Number of TCC in ENR list in last 5 years. ....	7
<b>Table 3. 2:</b> The GDP shares of construction sector in Turkey .....	8
<b>Table 3. 3:</b> In 2008, List of The Projects of Turkish Contracting Companies According to Region / Countries.....	13
<b>Table 6. 1:</b> The overall values and percentages of TCC' features that participated in the survey. ....	51
<b>Table 6. 2:</b> Maximum, minimum scores, means and weighted mean values of five main title of the survey.....	55

## LIST OF FIGURES

	<u>Page</u>
<b>Figure 3. 1:</b> Turkish Contracting Companies' Total Projects in International markets .....	10
<b>Figure 3. 2:</b> Turkish Contracting Companies' Project Percentages due to Regions. ....	12
<b>Figure 3. 3:</b> Commonwealth of Independent States (CIS) countries. ....	15
<b>Figure 3. 4:</b> Middle East countries (Gulf Countries).....	18
<b>Figure 3. 5:</b> African Countries. ....	21
<b>Figure 3. 6:</b> Asian Countries .....	24
<b>Figure 3. 7:</b> European Countries .....	26

## **FACTORS AFFECTING INTERNATIONAL EXPANSION DECISIONS FOR TURKISH CONSTRUCTION CONTRACTING COMPANIES**

### **SUMMARY**

In recent years, globalization in the world economy appears significantly over the international markets. Additionally vast and abundant energy resources in developing countries bring enormous opportunities for construction companies and encourages them to seek ways to do business in international construction markets in order to expand their business volume. While developing countries are attempting to challenge against major western states, they need to develop their infrastructures and build modern cities with contemporary aspects and methods. With vast and endless opportunities, international contractors are in intense competition to increase their market share. The owners always require high quality, low costs, and shorter times which may cause risks and contingencies for the contractors. Turkish contractors have been proactive in the international arena since the 1970s and in the 1990s, a significant amount of Turkish contractors sustained their market share in the Soviet Union and CIS. Recently, Turkish contractors have become a prominent brand in the construction business with high quality, quick production, and low costs. ENR annual report, which is an important indicator for international contractors' performance, demonstrates each year that Turkish contractors are significantly escalating their performances. But attraction and high profits of the construction markets increase the competition among the contractors, therefore, project decision requires considerable attention. Despite major successes, Turkish contractors have encountered and overcome crucial failures and deficits, due to wrong project selection, in which authorities need to pay attention to. In order for TCC to choose the best construction projects it is essential to incorporate a convenient strategy, thereby this academic research is prepared. After a comprehensive and serious regional and market review, the project factors are identified according to Turkish contractors' aspects as the following; "Contractor's factors", "country's factors", "project's factors", and "owner's factors". Within the framework of these factors, a wide survey is prepared in order to present the surveys to experienced authorities in Turkish contractors. The tables are examined and analyzed according to the contractors' features, factors scorings, and performance evaluations. Factor analysis and reliability analysis methods are performed via SPSS 16.0 software. Consequently, the behaviours of Turkish contractors in the international arena is analyzed due to their factor scorings and performance evaluations.





## **YÜKLENİCİ İNŞAAT İŞLETMELERİNİN ULUSLARARASI PAZARLARA AÇILMA KARARINI ETKİLEYEN FAKTÖRLER**

### **ÖZET**

Son yıllarda, dünya ekonomisindeki küreselleşme çok hızlı bir şekilde belirginleşirken, Dünya’da gelişmekte olan ülkelerdeki bol enerji kaynakları inşaat firmaları için büyük imkanlar doğurdu ve müteahhitleri uluslararası inşaat pazarlarında iş yapmak ve iş hacmini geliştirmek için yeni yöntemlere teşvik etti. Batılı gelişmiş devletlere karşı gelişmekte olan ülkeler meydan okurken, kendi altyapılarını geliştirmeliler ve modern bir bakış açısı ve yöntemle yeni şehirler kurmalıdırlar. Bu geniş ve sonsuz proje imkanıyla, uluslararası müteahhitler Pazar paylarını arttırabilmek için yoğun bir rekabet içindeler. Malsahipleri her zaman yüksek kalite, ucuz maliyetler ve kısa süreli imalatlar istiyorlar fakat bu tarz istekler bazı riskler ve belirsizliklere sebep olabilir. Türk firmaları uluslararası arenada 1970’li yıllardan itibaren adından söz sahibi olmuştur ama en ciddi sıçramasını 1990’lardan itibaren Sovyetlerde ve BDT’de yapmıştır. Bugün itibariyle, dünyanın her yerinde faal olarak proje yüklenen Türk müteahhitleri, yüksek kalite, çabuk ve daha ucuz maliyetler ile bir marka haline gelmiştir. Uluslararası inşaat firmaları arasında önemli bir gösterge olan ENR’ın yıllık raporunda, Türk müteahhitleri her yıl performanslarını arttırmaktadır. Fakat pazarın cazibesi ve karlılığı sebebiyle, artan rekabette, başarılı olup rakiplerin arasından sıyrılabilmek için, proje seçimi çok ehemmiyet arz etmektedir. Büyük başarılarla rağmen, Türk müteahhitlerinin yanlış proje seçimine bağlı olarak ciddi başarısızlıkları ve zararları da yetkililerin önem göstermesi gereken bir gerçektir. Firmanın stratejisine göre en doğru proje kararı için, bu akademik çalışma yapılmıştır. Kapsamlı ve ciddi bir bölgelere göre pazar araştırmasından sonra, Türk firmalarının bakış açısı dikkate alınarak, proje seçimi için faktörler belirlenmiştir. “Yüklenici faktörleri”, “ülke faktörleri”, “proje faktörleri”, ve “malsahibi faktörleri” olmak üzere 4 ana başlık altında faktörler gruplandırılmıştır. Bu faktörler çerçevesinde oluşturulan anket firmaların özelliklerine göre, faktörleri puanlandırmalarına göre ve performanslarına göre Türk müteahhitlerinin tecrübeli ve yetkili mühendis veya yöneticileri tarafından değerlendirilmiştir. Yüklenici özelliklerine, faktör puanlarına ve performans değerlendirilmesine göre tablolar oluşturulmuş ve analiz edilmiştir. Faktör analizleri ve güvenilirlik analizleri yöntemleri faktörler üzerinde SPSS 16.0 bilgisayar programı yardımı ile kullanılmıştır. Türk müteahhitlerinin proje seçimindeki davranışları faktör değerlendirmeleri ve performanslarına göre incelenmiştir.



## **1. INTRODUCTION**

The development of world industry as well as globalization encourage the construction industry around the world to expand into new markets. Especially developing countries, with vast financial viability, are tempting the attention of contractors. Moreover, contractors take the risks of economic loss in order to demonstrate their own skills with landmark construction projects. Therefore, intense competition appears among international contractors including numerous Turkish contractors. For the last 30 years Turkish Contractors have attended in overseas construction projects, and have become able to operate significant projects. Nowadays, Turkey has become a reliable and prominent brand in the world construction industry. The most concrete example of the success of Turkish Contractors is in the report of ENR (Engineering News Record) of McGraw Hill which publishes world construction reports annually due to international contractors' annual revenues. In 2009, 31 Turkish Construction Companies (TCC) were able to get onto the list, and Turkey came in second amongst other countries including European countries, USA, China etc. TCC' reputation depends on significant features such as high quality, quick production, and low costs. Each year, due to escalating tense competition, TCC need to develop their skills, adopt innovations, participate into key projects, and become proactive contractors among their rivals. The government's substantial contributions support TCC to maintain and develop market share considerably in overseas projects. In order to sustain the growth of TCC, extent researches of international construction markets are required and rigorously familiarized with characteristics of the region. The various types of parameters are influencing the decisions of attending to undertake construction projects in the aspect of a contractor. Within this research, the market specifications are reviewed and numerous factors are listed and clustered in order to implement a questionnaire via TCC. Evaluation of the contractor's factors, the country's factors, the project's factors, the owner's factors, and the performance criteria are required from experienced respondents. As a result, the point of view and the behaviours of

TCC are reflected into this research during project selection and the contribution of their decision to the success in the international construction industry is examined.

## **2. STRATEGIC PLANNING FOR CONTRACTORS**

As the world economy keeps growing, the entrepreneurs prefer to diversify their particular markets to undeveloped countries and developing countries that possess emerging economies. Nowadays, due to present conditions, construction companies are strengthening and improving their own skills to expand the international generated revenues. Thus, more projects are expected to be undertaken by the contractors. Chinowski and Meredith (2000) stated that construction industry is one of the leading industries in the world. Thus business development departments in the companies play a vital role to establish the optimal market entry. Warszawski (1996) mentions that long-term plans, methods, and approaches can be defined as strategies which help to achieve the goals in competitive environments. Mostly the authorities of the companies assign the route within the framework of the strategy. Ankli (1992) indicates that management has no other option than predicting the future, attempting to shape it, and determining well-balanced short-term and long-term goals.

Strategic planning is a very effective way which contributes to business development. There are three methodological questions that need to be taken into consideration: What do we do”, “whom do we do it for”, “how we do it”. Warszawski (1996) indicates that with these strategies, company attitudes and area of interests can be determined. According to Birgönül (2007), Turkish construction industry’s strategies are composed of 3 parts; content of strategy, process of strategy, and context of the strategy. The content of strategy determines how companies would work and where would the field of activity take place. For instance, according to the company’s strategy, quality of the job is priority, and such companies may work with low costs and low quality. The process of strategy can be defined as the method of the system. There are companies that are managed with democratic systems or with hierarchical formations. The context of strategy are the assets of the company. There are two types of assets for companies, tangible and intangible assets. While tangible assets include human resources and financial assets, intangible assets are considered as talent and experience for the companies.

Porter (1980) proclaims that there are three components in strategic planning;

1. Cost leadership: by assigning most appropriate cost for its products or services.
2. Differentiation: by offering owner high quality product or service.
3. Focus: by specializing on a specific part of the related market.

According to this classification, the companies may define a strategic way, and then authorities and staff can manage challenging conditions within the framework of this strategic plan.

Due to increasing profit margins in the construction industry, the competition among contractors is getting tense. In order to overcome the rivalry among other companies, strategic route has to be identified according to the expectations of owners, authorities, and shareholders. Dikmen et al. (2007a) mentions in her article that there are four steps in order to achieve the goals and on behalf of the company's interest. These four steps are respectively; "internationalization decision", "market selection decision", "project selection decision", and "mark-up selection". Internationalization decision is referred as the necessity for the company to expand internationally in case of inadequate or low profitable projects in domestic markets. Market selection decision can be considered right after the decision of international expansion. With accurate, extensive and consistent markets, researches should be reviewed and followed by SWOT analysis conducted by authorities to give the right call. After the most appropriate and convenient market is selected, the contractor needs to enter the "project selection decision" stage. Among a list of potential projects, the most convenient project is going to be chosen according to the company's targets. After the contractor has made a bidding decision, a bidding price has to be decided depending on mark-up decision and costs of the project.

Tür and Kazaz (2005) group strategy into three forms typologies for the contractors in the construction market. Miles and Snow typology, Ansoff typology, and BCG matrix are the titles of the strategy typologies which are proposed. Miles and Snow typology usually concerns environmental specs and internal robust system. The company's authority has the absolute power, and shapes the strategy by adopting environmental specs. The strategy types of Miles and Snow typology are defender strategy, prospector strategy, analyzer strategy, and reactor strategy. The Ansoff strategy typology focus on historical process and the construction market's environment. The types of the Ansoff typology are proactive system mode, proactive adhoc mode, and reactive mode. The last one is BCG matrix which is established by Boston consulting group in order to grow the market share of the contractors by

entering into the market first, providing low prices of production, and constraining costs. The types of BCG matrix are embryonic strategy, growth strategy, maturity strategy, and decline strategy.

In domestic and foreign markets, it is possible to meet and compete with the contractors from different countries under various conditions. Since the projects can be considered as attractive and highly profitable, there are numerous unprecedented conditions that impact the results of the biddings and the projects. Therefore, each contracting company should define main and alternative strategic plans, in order to sustain and expand firmly in the construction sector. According to Tür and Kazaz (2005) the contractors can stand without suffering in the international market regarding its intricacy, challenges, and uncertainties only if long term strategies are performed.





### **3. THE POSITION OF TURKISH CONTRACTING COMPANIES IN THE INTERNATIONAL CONSTRUCTION MARKETS**

#### **3.1 General Information and History about Turkish Contractors in International Construction Markets**

Turkish contractors have become more active in the international arena since the 1970s. Among experienced and high qualified international contractors, Turkish construction companies (TCC) are undertaking major projects in order to grow and sustain that growth in the international markets. Despite intensive competition, challenging markets, and prominent companies, TCC have managed to complete projects in the international arena with their own individual features: high labor productivity, experienced technical staff, track records, strict discipline, geographical position, and tight relations with neighbor and regional countries. Until now, TCC had generated approximately \$84 billion US in 65 countries within more than 3500 projects (YEM Report, 2008). Although the international construction industry has evolved over the last decades, TCC has adopted into the new challenging and emerging markets. Therefore TCC can be defined as proactive and sustainable contractors which keep struggling to increase international revenues and enhanceing their own company features.

**Table 3. 1:** Number of TCC in ENR list in last 5 years.

<b>Years</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Number Of Company</b>	14	20	22	23	31
<b>Rating</b>	4	3	3	3	2

Annually, in August, McGraw Hill publishes construction report, named ENR (McGraw Hill, 2009) which is considered as one of the most prestigious publication regarding international contractors. Contractors who operate in overseas projects, are evaluated due to their total annual revenues, but the domestic projects are not included in the report. As it is stated in table 3.1, in last 5 years TCC had succeeded to gradually increase the number of contractors in the report.

While Turkey is ranked second among other countries including USA, China and European countries, in 2009 TCC, who are in the ENR '09 list, generated \$14 billion US in international revenue.

The construction sector is one of the engines of economic growth in Turkey, and acquires a share of 5.9 % GDP of the national economy. In order to emphasize the importance of the construction industry in Turkey, the shares of national GDP for the construction sector in Turkey is illustrated in table 3.2. If the global economic crisis had not occurred recently, higher rates could have been expected due to the economy's upward trend.

**Table 3. 2:** The GDP shares of construction sector in Turkey

<b>Years</b>	<b>Share of Construction Sector in GDP in Turkey (%)</b>
<b>2003</b>	5,5
<b>2004</b>	5,8
<b>2005</b>	5,8
<b>2006</b>	6,4
<b>2007</b>	6,5
<b>2008</b>	5,9

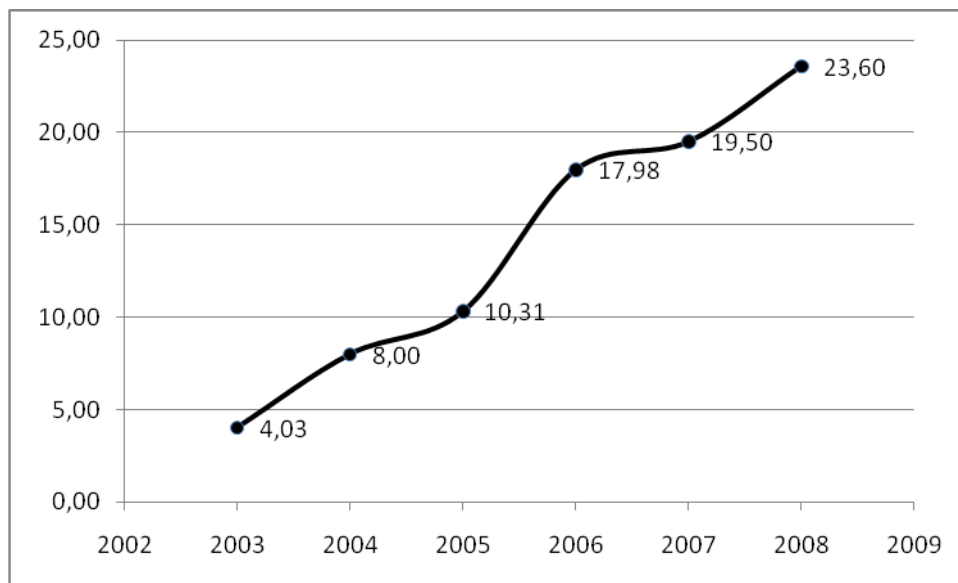
As a conclusion of these activities, such contributions are provided to national economy and industry: significant quantities of currency flows, technology development, employment, high quality implementation, and reputation. Additionally, TCC prefer to undertake large scale and unique projects with more comprehensive scope and obligations (YEM Report, 2008).

TCC aim to operate various types of projects, including petroleum production facilities, energy generation stations, infrastructures, prestigious buildings, commercial-industrial buildings, and residential buildings. Although countless types of projects exist, the construction demands are exceeding supply due to the tense competition among international contractors (YEM Report, 2008).

According to the actual global issues, it is deeply essential to have close affiliation with the authorities of the participating countries in order to flourish new business opportunities and sustain the market share in the country. The political interventions of governmental authorities that are in favor of TCC, until now have contributed to TCC.

In mid the 1970s, the impact of the economical crisis in Turkey had a drastic impact on the construction sector. With a severe regression of the economy, TCC could not manage to finance projects due to expensive resources and high costs. Therefore, TCC had to seek projects in international markets. Briefly, the decision of expanding internationally, and diversifying outside of Turkey, (made way to a/or introduced a new era for....) was a new era for the Turkish construction sector. Libya, Saudi Arabia, and Iraq were the first countries that TCC had ventured. TCC helped Libya and Saudi Arabia to enhance living conditions, and in return TCC had benefited from Saudi Arabian's wealthy economic explosion. Afterwards, other Middle Eastern and Gulf countries were included into the TCC' job activities. Previously, the interests of TCC were on infrastructure, residential buildings, and transportation structures. In the 1980s, Libya was frequently preferred by TCC, and 73% of construction projects were carried out in Libya. Nevertheless, the late progress payments reasoned reorienting market strategies and changing the attention of TCC through other countries in order to diversify into other regions. The global issues due to the Iran-Iraq war, influenced oil prices and countless TCC suffered because of unpaid progress payments. After bilateral natural gas agreements between Turkey and the Union of Soviet Socialist Republics (USSR), TCC had attended into the Russia and Commonwealth of Independent States (CIS) countries with vast opportunities of projects. In the 1990s after the USSR dispersed, Russia and CIS countries were still having vast and abundant volume of projects, which TCC had constituted advantageous provisions for the employers. Low labor and transportation costs eliminated TCC' western rivals and TCC was the most preferred in the region till Chinese and South Korean contractors stepped into the same markets. With a steep increase in wealth in Russia and CIS countries, TCC had undertaken many projects, and then the allocated funds from Russia and CIS countries enriched and strengthened TCC and eventually TCC acquired sustainable growth in the market. As a result of a big economic crisis in Russia, in 1998, several TCC could not receive progress payments and consequently countless of them faced bankruptcy. It was an urgency and necessity to expand into other markets because of unstable market conditions in Russia. Eastern Europe and Asia were preferred to balance the market portfolio in following years. Although big economic crisis and catastrophic deficits, most of TCC had kept their position in Russia in order to achieve long-term objectives. Turkic republics, which are still largely under Russian influence, were the

TCC' primary targets in regards to their vast energy sources and financial capabilities Recently, in the new millennium, TCC have been performing at utmost levels, and expanding into overseas markets, including South American countries (Valentin et.al, 2007). According to Prof. Dr. Fikret Keskinel (2006), former ENKA employee, in recent years, the reason for market diversification of TCC has been the chronic economic crisis in Turkey. Along with worldwide contractors, TCC demonstrated their capability in the international arena, and acquired reputation for the contractual features and skills. With various types of entry and management models TCC, like ENKA or GAMA, achieved projects. Build operate and transfer (BOT) model is one of the methods that TCC have been using in recent years.



**Figure 3. 1:** Turkish Contracting Companies' Total Projects in International markets

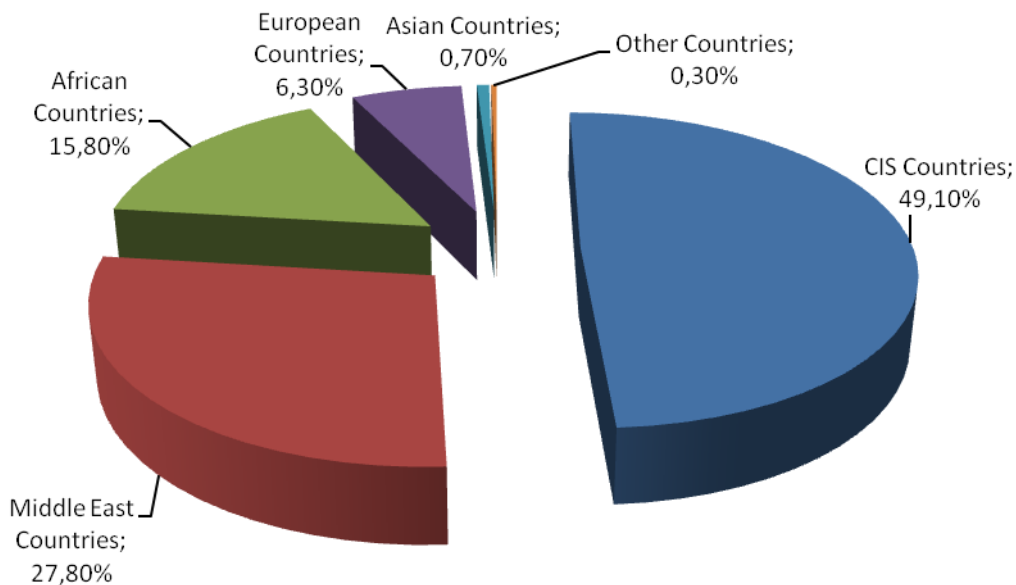
As it is seen in the figure 3.1, an upward trend has sustained into TCC achievements internationally. Within the last decade, resurgence in the national construction sector reflected the results over TCC that are on the rise regarding severe types of international major projects. Previously TCC were undertaking small-scale projects with labor intensive and conventional technologies. After they have acquired prominence among the international arena, recently more complex, integrated and larger projects are being implemented. According to the annual report of ministry of commerce of Turkey, (DTM Reports, 2009) between 2003 and 2008 approximately half of the projects had more than \$150 million US contract price. Initially, TCC constituted their competitive features through experience, technology, and dynamism (YEM Report, 2008). In order to own a sufficiently strong balance sheet, and keep a

substantial structure of the company, TCC are seeking to expand into international markets. Although TCC own adequate resources to manage and handover projects, it is somewhat dependent of governmental support. Nowadays, it is common that bilateral agreements or multilateral agreements between countries are extending trade volumes and construction market opportunities by eliminating considerable obstructions. On March 24<sup>th</sup> 2009, the president of the Republic of Turkey, Abdullah Gul, signed an agreement with Iraqi authorities to boost business ties, including contracting services for TCC. With agreements being the first agreement since the foundation of Iraq, Authorities have aimed to extend trade volume by approximately 200% (Hürriyet Newspaper, 2009). Years of civil wars and lethal contentions in Iraq, have demolished the whole country including commercial, residential buildings, and infrastructures. With the rise of crude oil prices, financial viability will trigger the economy and, thereby will boost the construction sector. Therefore, TCC are in standby, awaiting the stabilization of the state of Iraq. Such political efforts and governmental supports enhance and encourage TCC to undertake and achieve projects. In order to compete with the other international contractors, like Western companies and especially with Chinese contractors, government and political interactions are necessary for TCC.

In 2007, TCC, with vast experience and capability, had undertaken severe types of projects including: buildings (hospital, residential buildings, public buildings and etc) 44.3%, transportation projects (highway, bridge, tunnel and etc) 25.9%, commercial structures (factories, warehouses) 13.2%, marine structures 10.5%, infrastructure 6.0%, and other types 0.1%.

### 3.2 International Construction Markets

The result of global economic issues, in which the world has recently been faced has been catastrophic and severe. The factors of the construction markets vary and influence the parameters of the industry. In Turkey, within the last half century, economic crisis have occurred regularly regardless of global issues. According to the market features and economic conditions, tense of competition moves upward and downward regularly. As it was stated in previous lines, because of the insufficient financial capability of investors, and inadequacy of projects, TCC diversified through outside of the country and expanded into international markets. TCC have undertaken projects in all continents, and are still active and managing ongoing projects with strict discipline and determination. According to the ministry of commerce, the projects are grouped into clusters which are defined as regions in which TCC have implemented construction projects. In table 3.3, the regions are defined as: Middle East countries, CIS countries, African countries, Asian countries, European countries, and others countries. In table 3.3 the total revenues and shares of the market are also issued according to the clusters and countries. In figure 3.2 it is clearly indicated that CIS countries and Middle East countries form the major part of the construction markets for TCC.



**Figure 3. 2:** Turkish Contracting Companies' Project Percentages due to Regions.

Although TCC do not pay enough attention to the African countries, TCC are highly engaged with construction projects in Libya and have maintained their market share despite of contractual disputes and numerous obstructions. The wide-ranging expertise of TCC had built itself a reputation. Consequently, in 2008, TCC had generated more than \$23 billion US revenue from international projects. In last 5 years, the leading countries regarding international project revenues are Russia, Libya, Turkmenistan, Qatar, and Kazakhstan. Additionally, 98% of implemented projects are accommodating in neighboring and close regional countries (DTM Reports, 2009).

**Table 3. 3:** In 2008, List of The Projects of Turkish Contracting Companies According to Region / Countries.

IN 2008, LIST OF THE PROJECTS OF TURKISH CONTRACTING ENTERPRISES ACCORDING TO REGION / COUNTRIES			
Region /Country	Number of Project	Total Project Contract Price (\$)	Ratio
<b>CIS Countries</b>	275	11.630.261.430	49,10%
Azerbaijan	24	1.088.282.553	4,60%
Belarus	4	39.778.972	0,20%
Georgia	11	252.956.004	1,10%
Kazakhstan	27	688.564.354	2,90%
Kyrgyzstan	2	18.013.599	0,10%
Moldavia	3	62.286.000	0,30%
Uzbekistan	13	20.217.274	0,10%
Russia	78	3.387.864.932	14,30%
Tajikistan	1	16.208.741	0,10%
Turkmenistan	97	5.375.902.770	22,70%
Ukraine	15	680.186.231	2,90%
<b>Middle East Countries</b>	133	6.578.604.393	27,80%
UAE	26	3.069.010.489	13,00%
Iraq	72	1.436.001.931	6,10%
Iran	2	102.718.222	0,40%
Israel	4	2.538.060	0,00%
Qatar	6	651.799.498	2,80%
Syria	4	14.411.446	0,10%
S.Arabistan	14	893.410.100	3,80%

**Table 3.3:** (continued) In 2008, List of The Projects of Turkish Contracting Companies According to Region / Countries

IN 2008, LIST OF THE PROJECTS OF TURKISH CONTRACTING ENTERPRISES ACCORDING TO REGION / COUNTRIES			
Region /Country	Number of Project	Total Project Contract Price (\$)	Ratio
Jordan	4	403.326.647	1,70%
Yemen	1	5.388.000	0,00%
<b>African Countries</b>	60	3.748.521.968	15,80%
Algeria	14	510.082.035	2,20%
Djibouti	2	1.146.711	0,00%
Ethiopia	2	208.299.906	0,90%
Guinea	1	1.637.150	0,00%
Libya	36	2.065.280.207	8,70%
Sudan	1	850.000.000	3,60%
Tunisia	4	112.075.959	0,50%
<b>European Countries</b>	68	1.490.685.210	6,30%
Germany	1	1.270.580	0,00%
Albania	2	10.790.715	0,00%
Bulgaria	5	446.784.045	1,90%
France	8	2.682.634	0,00%
Ireland	1	242.083.311	1,00%
Macedonia	9	306.446.683	1,30%
Romania	42	480.627.242	2,00%
<b>Asian Countries</b>	21	174.640.375	0,70%
Afghanistan	19	171.509.111	0,70%
Pakistan	2	3.131.264	0,00%
<b>Other Countries</b>	5	62.518.000	0,30%
ABD	2	44.000.000	0,20%
KKTC	3	18.518.000	0,10%



### 3.2.1 CIS Countries

CIS is the abbreviation of Commonwealth of Independent States. CIS organization was founded in 1991 in order to replace the USSR. Within the CIS, 12 member countries formed up the union: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. According to 3 main titles, CIS countries are analyzed below.



**Figure 3. 3:** Commonwealth of Independent States (CIS) countries.

#### 3.2.1.1 Political

Turkic Republics participate in the CIS union due to the location of their wide lands. Because of the historical and ethnic bonds with Turkey, it is natural for Turkey to collaborate with Turkic Republics. However, Russia does not favor such relationships. In the case of establishing close relations with Turkic Republics, close interactions may disperse the lingering authority of Russia over the region since the last century. Due to the report of T.R. state planning organization (1995), Russia has drastic influence over the CIS region, therefore, it can be stated that Russia would not let Turkey seize its authority. The experienced Turkish researcher and journalist Sürek (2008a) indicates that despite of huge volume of trade between Russia and Turkey, Russia may cause agitation among Turkic Republics in order to harm the relationships between Turkey and Turkic Republics. The abundant oil and natural gas resources in the CIS region is overrating the importance of the CIS countries. The utilization of the energy sources enables the region to develop and acquire wealth. In return for natural gas sales to Turkey, Turkey had agreed with USSR to

accept the TCC's bidders for projects in USSR. The contribution of the agreement had boosted TCC and contributed to the company's value. Therefore, the political influence is explicitly very vital during the business development and pre-bidding process. According to the report of Punsmann (2009), the Russian market is very convenient for TCC as opposed to the challenging EU market. In addition, the total value of projects that TCC have implemented until now is \$30 billion US.

### **3.2.1.2 Economical**

According to the IMF (International Monetary Fund, 2009) the real GDP growth of CIS countries is 7.2%, and the approximate GDP nominal value is \$2.3 billion US. Akdiş (1999) states in his journal that the region's strategic importance is referred with its considerable and abundant energy reserves that have allowed wealth and economic indicators of the CIS countries to flourish. Additionally, concerns over progress payments were vanished within time, and consequently TCC' trust in local owners diminished. The concerns of TCC mostly focus on financial factors of the projects, the owners, and the countries. Due to the recent global economic crisis, the global oil demand has significantly decreased, and the deep demand fall of crude oil reflected sharply over the prices, therefore, production cuts and major deficits have ensued. As Frost & Sullivan Company claims, the dependence of CIS countries' economy to the energy sources and oil industry might be a solid proof that CIS countries' economies are at stake (Russia Beyond The Headlines, 2008). The Turkish ministry of Foreign Trade has conducted negotiations with CIS countries and signed bilateral agreements including the construction sector in order to strengthen economic ties and extend the volume of trade (Sürek, 2008a). Despite Russia's considerable economic power, the reliability and guarantee issues frequently worry TCC because Russia still has not acquire membership from the World Trade Organization (Sürek, 2008a). Real Agency Company ([www.rusya.org](http://www.rusya.org)) had published a report about opportunities and threats in Russia. Within this report, it is stated that inadequate banking system conduce problems in financial activities. Konya Chamber of Commerce (Konya Chamber of Commerce, 2006) had reported that Russian company records are not transparent or reliable, and unofficial, therefore, trust issues often occur between TCC and Russian owners. In addition, disputes under contracts are frequently faced by TCC, and unfortunately, the legal system in Russia is

inadequate to solve the conflicts. As a conclusion, in the aspects of economy, CIS countries have promising markets, but it is also attributed as risky and adventurous.

### **3.2.1.3 Social & Cultural**

According to the IMF (International Monetary Fund, 2009), the total population of CIS region is 279.15 million. It is known that Turkish and Muslim communities occupy CIS regions play a key role in the international politics regarding their abundant energy reserves. Various types of cultures and ethnic communities exist and most of which are not yet discovered due to isolated geographical features. Koçulu (2007) who is an experienced project manager in Russia, claimed in an interview that, Russian authorities do not appreciate conservative and inflexible companies but rather prefer innovative methods, experienced and high qualified companies. In the annual report of world construction, Frost & Sullivan Company (2008) indicate that the projects should be operated by an experienced manager who is familiar with the region or by a regional agency of the company which is established in order to manage the related projects in the area more effectively. Besides, western contractors still hesitate to step into CIS market, because of high risks and ambiguity. After the disbandment of the USSR, that was due to a lack of authority, and many illegal organizations began collaborating with corrupt governments. This occasionally forced foreign investors and contractors to suspended their expansion plans. Unfortunately, bribery is a very common method which is frequently used in order to process bureaucratic procedures accurately ([www.rusya.org](http://www.rusya.org)). Konya Chamber of Commerce (2006), states that within the business activities, personal relations are more influential as opposed to official records and contacts. For centuries, Turkey has had strong relations with the CIS region, have shared common interests and concerns in economical and political aspects. However, Turkey and the CIS countries have close cultures, and emotional bonds, conflicts among the countries are sometimes expose. Recently, ENKA, a Turkish famous contractor was faced with an extremely serious and sensitive case. A few years ago the agitated Kazakh laborers had attacked Turkish laborers and caused serious injuries and other detrimental results (Ntvmsnbc, 2006).

### 3.2.2 Middle East Countries

Bahrain, Islamic Republic of Iran, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates, and Republic of Yemen are all countries that constitute the Middle Eastern region. During the last decades, due to the devastating civil wars, vast energy reserves, and chaotic ambience, the region attracted the attention of the world. Whilst one part of the region has acquired wealth and peace, the other part is still struggling with poverty and civil war. The Middle East region is analyzed in three divisions.



**Figure 3. 4:** Middle East countries (Gulf Countries).

#### 3.2.2.1 Political

The geographical proximity and strategic importance of Turkey, permits Turkey to undertake bridge duty between western countries and Middle East. Unfortunately, in recent years, increasing terror attacks and escalating intense ambience installed fear and prejudiced opinion against Islamic nations. Turkey, for the most part, is defined as a bridge into Islamic nations for the West. With close collaboration, and top-level government meetings contribute to Turkey's political influence over the region and go one step further than western countries. Al-Qaeda or other allied groups are looking forward to threat and perform terror attacks against western interests (UK Trade & Investment department, 2009). Therefore, such threats cause contractors to

hesitate to enter the market or sustain in the market. Nonetheless, Israel's aggressive political attitudes agitate its Arabian neighbors, and consequently normalization of diplomatic relations delays in time, therefore, Arabian countries sever the ties with Israel. Most of the Arabian countries have applied sanctions such as prohibition for the foreigners who have ever been in Israeli before. Despite emotional advantages, numerous constraints and risks exist in Middle Eastern countries including: visa problems in Saudi Arabia and Qatar, bureaucratic obstructions in Oman and UAE, legal hazards and unfair government interventions in Yemen and Syria (DTM Reports, 2009; [www.turkishny.com](http://www.turkishny.com), 2009). TCC should be quite certain before the bidding process and that the mentioned political advantages, risks and obstructions ought to be considered carefully. Especially in Middle East, political support from Turkish government is essential to ease market conditions in favor of TCC.

#### **3.2.2.2 Economical**

According to the IMF (International Monetary Fund, 2009), the real GDP growth of Middle East Countries is 6.0%, and GDP nominal value is approximately \$1,84 billion US. The contracting services in the Middle East, operated by TCC, take second place with a rate of 27.8%. The countries who manufacture crude oil, have experienced a massive influx of money in recent years because of rapidly increasing crude oil prices. Turkish architectural magazine, Arkitera (2008), indicates that the new generation of Arabian leaders have shifted their visions, and since the new generation have taken over the lead, they liberally take actions and make contemporary decisions. Therefore, Arabian leaders in a professional manner invest with contributions of astronomical revenues, which even exceeded the projected the values. In addition, the total business volume of investments in Abu Dhabi, is predicted as approximately \$31 billion US in the next 5 years. According to Orsam (Today's Zaman, 2009), the Gulf region is not able to cushion the developing financial crisis. The reasons of incapability to cushion the global economic crisis in Gulf countries, is the surplus of oil production, deep fall of oil demand and the dependence of the gulf region on western countries, which the economy severely impacted initially. The irresponsible borrowing and irrational investments obliged Arabian countries under excessive liabilities and consequently three inevitable results occurred: the liquidity shortages, sharp declines in revenue, and erosion of existing

funds. Deutsche Welle (2009) also states that every construction out of two, in Dubai, is cancelled or suspended, and investors are leaving the region permanently in order to diversify and research other opportunities until the market conditions are stabilized and become lucrative once again. On the contrary of pessimistic perceptions, promising opinions also are interpreted. Middle Eastern investors declared that major investments will not be affected by economic slowdown, and they invited TCC into the region (www.turkishny.com, 2009). Chairmen of Turkish-UAE business council Korhan Kurdoğlu, exclusively claimed that despite of negative impacts, the region is adopted to elude the economic crisis and the investors are in tendency to grow up again (www.turkishny.com, 2009). The economical risks that TCC frequently face in Middle East are: progress payment problems in Iraq, Yemen, and UAE, inadequate banking system in Iraq, Syria, and Saudi Arabia, high inflation and adverse economic indicators in Qatar, and Iraq (DTM Reports, 2009; www.turkishny.com, 2009). Additionally, banking systems and finance policies are vital factors that cause obstructions for TCC, such as unapproved letter of guarantees, restrictions of money transfer, and lack of developed banks (DTM Reports, 2009).

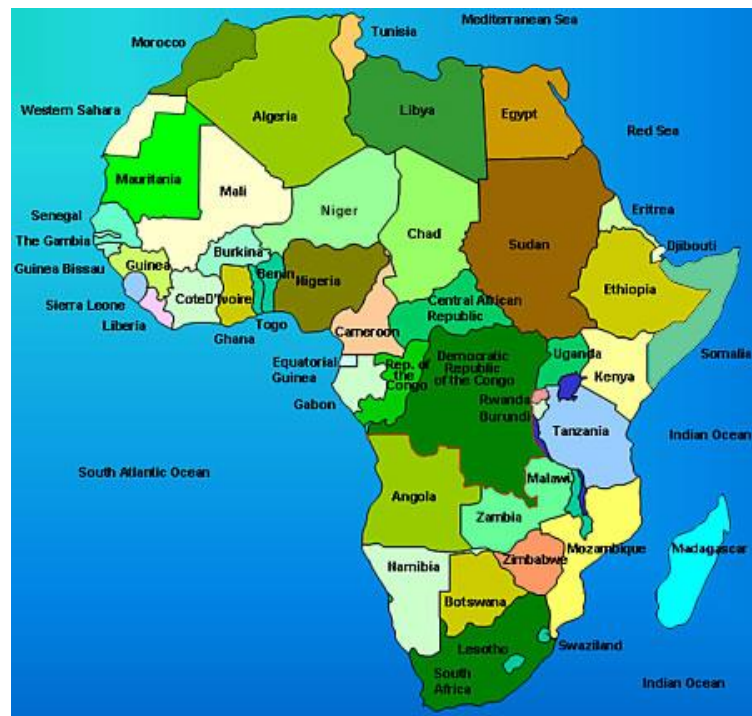
### **3.2.2.3 Social & Cultural**

According to IMF (International Monetary Fund, 2009), the total population of the Middle East region is about 191.25 million. In the Middle East, religion has a very influential authority over the governance of many countries. Most countries are governed with Islamic theocracy and monarchy. However, Jewish communities, and Christian communities in the region are considered minorities except in Israel, where Jewish people are a majority. Although TCC are very active in the Middle East, there are critical issues that should be emphasized. The risks and threats in the Middle East are defined as lack of qualified craftsman, restrictions of employing Turkish workers, security problems in Iraq, and intervention of local tribes in Yemen (DTM Reports, 2009; www.turkishny.com, 2009). The global and internal issues of the Middle East echos for centuries, and detrimental results breed more agitative and threatening issues. Although such efforts were applied to end the conflicts and chaos, the conflict of interests never ended. Due to the article of Jallad (2008), the cultural risks are not conceived before the bidding or contract process, therefore, the cultural risks cannot be mitigated contractually. Most often the impact of the risks are realized after they

are experienced. According to Jallad (2008), numerous of projects still fail to achieve economical objectives because of significant faults generated by cultural and social risks. As per detrimental impacts of social and cultural factors, TCC are familiar to the region than are western companies, and TCC' employee are easily adjusted to the work and culture.

### 3.2.3 African Countries

African continent comprise of 53 states and many of which are underdeveloped countries and have been exploited for centuries by Western states and are still struggling with poverty, fatal epidemics, ethnic massacres, and civil wars. Among these 53 states, Turkish Contractors are currently ongoing projects in Algeria, Ethiopia, Morocco, Gambia, Ghana, Guinea, Cameroon, Kenya, Libya, Mali, Egypt, Nigeria, Senegal, Sierra Leone, Sudan, Djibouti, and Tunisia. Turkish Contractors are more active in Northern Africa and most of the projects are implemented in Libya. The needs of infrastructure, residential, industrial and commercial buildings of developing Libya have been constructed by TCC for the last 30 years (YEM Report, 2008). In addition, Libya, Sudan, and Algeria also attract attention of TCC. The following three subtitles briefly analyze the regions.



**Figure 3. 5:** African Countries.

### **3.2.3.1 Political**

Africa, Eastern Africa, and Southern Africa. TCC are more engaged with Northern Africa, because of its convenient geographical position. There exists a common perception that Africa consists of 2 parts for TCC: Northern Africa, and Sub-Saharan Africa (Sürek, 2008b). Tunisia appears to be one of the most developed states in Africa as per the following promising actions of the Tunisian government. The general perception about Tunisia is that Tunisia became a bridge which conveyed international investors into African markets. Unless the Tunisian governmental supports are derived by contractors, it becomes harder to expand into Africa (DTM Reports, 2009). In order to improve commercial relations with Africa, the Turkish government has unveiled broad efforts because Africa is now considered as utterly untouched markets with massive opportunities (Sürek, 2008b). Unfortunately, Turkey is still not a member of AFDB unlikely non-regional countries, therefore, it becomes inconvenient for TCC to collaborate with African banks. Due to corrupted administrations, bureaucratic obstructions, bribery, ignorant and unqualified employees, and inadequate and inconvenient legal systems in Libya, Algeria and Senegal, TCC should be beware of pitfalls in African market (DTM Reports, 2009). According to Manneh (2009), the Libyan judicial system is not capable of coping with disputes and conflicts and manage arbitrations of construction projects unlike the United Arab Emirates. In addition, Sürek (2008b) states that taxation policies and legal systems promptly need to be overhauled.

### **3.2.3.2 Economical**

According to the IMF (International Monetary Fund, 2009), the real GDP growth of African Countries is 5.7%, and the approximate GDP nominal value is \$1.84 billion US. At the Africa Business Summit, in Turkey, Kürşat Tüzmen, who is former trade minister of Turkey, proclaimed that the trading volume escalated 140 % in last 5 years and reached \$13 billion US. Due to the economic forecasting, in 2012 trade volume will reach \$50 billion US between Turkey and Africa. The president of Foreign Economic Relations Board (DEİK), Rona Yırcalı declared in this convention that there are major opportunities for TCC in Africa and in 2007 \$5.9 billion US worth of projects were generated by TCC (CnnTurk, 2008). As previously mentioned, Tunisia is a pioneer for being a developed country and is in advance



among other African states. Recently, Tunisia unveiled its own ambitions including the project of becoming a financial hub of the continent, therefore, Tunisia is deemed to manage financial transactions of international projects in Africa. Although promising opportunities and reports, TCC have frequently faced problems. The unapproved letters of guarantee in Libya, undeveloped banking systems, limited money transactions, foreign exchange in Algeria and challenging conditions for borrowing loans in Sudan are generally faced by TCC (DTM Reports, 2009).

### **3.2.3.3 Social & Cultural**

Africa is the second largest and second most populous continent in the world and according to the IMF records (International Monetary Fund, 2009), the population of Africa in 2008, is 925.6 million. Due to fact that Africa is the the least developed and most exploited continent, it struggles with poverty and ethnic conflicts. Appart from the Northern African region, TCC have not yet exposed efforts in order to extent its market share in Africa. Despite of western influence and exploitation over the region for centuries, the continent is still deeply dependent on international contributions. The isolated communities and ethnic variations obstruct TCC in many ways including: the unknown features of the continent, numerous uncertainties, communication problems, and lack of craftsmen (DTM Reports, 2009). TCC are experienced in Libya, and due to the experienced contractors, determination, patience, and keen efforts they are required to achieve the objectives in the market (DTM Reports, 2009). The security issues in Africa are also common. Tribes and guerillas govern and gain authority in Africa in patches, thus the detrimental impacts of warfare and massacres are hindering the development of the continent.

### **3.2.4 Asian Countries**

Asia is the world's largest continent and consists of 47 countries. TCC have undertaken projects in China, Afghanistan, Indonesia, Philippines, India, Malaysia, Nepal, and Pakistan. Generally, TCC are active in Afghanistan and are mostly implementing infrastructure and military projects. It is thought that Asia is the most dynamic economic zone in the world (Davis Langdon, 2008). Under these three following main titles, Asia is analyzed.



**Figure 3. 6: Asian Countries**

#### **3.2.4.1 Political**

In Asia, political conditions vary widely in each country, moreover, nations face challenges in establishing democracies and peace. Afghanistan and Pakistan are explicit examples in which people are agitated and struggling with warfare, therefore international investors hesitate to step into the market (DTM Reports, 2009; Gasam, 2009). Bureaucratic constraints and progresses in India, China, Pakistan, and other underdeveloped states challenge TCC. The experienced contractor company AS-KA Construction's chairman of the executive board stated that legal and bureaucratic processes can be fastened by a local partner in India (Tercüman, 2008). Government assistance for TCC is very essential in order to engage into the market, thus international bilateral trade agreements have been done recently. The biggest deficiency of Turkey is the fact that TCC are not presented and encouraged enough to undertake projects in Asia (Konya Chamber of Commerce, 2006). The chairman of EU chamber of commerce in China, Joerg Wuttke, claimed that the economic nationalism and transparency level of China pose threats and pitfalls for companies by Chinese enterprises which want to monopolize by excluding foreign investors (Deutsche Welle, 2008). The foreign companies are frankly warned because Pakistan and Afghanistan are referred to as the centre of Islamic terrorism against

government, western interests by Al-Qaeda and tribal groups (UK Trade & Investment department, 2009).

#### **3.2.4.2 Economical**

According to the IMF the real GDP growth of Asian countries is 8.4%, and the approximate GDP nominal value is 11.94 billion US \$. Srek (2008c) mentioned wealthy countries in Asia, namely: Japan, South Korea, Taiwan, and China which have viability to finance construction projects. Additionally, in Asia, less developed states also exist like Afghanistan, Bangladesh, and Mongolia. India and China are emerging market countries and are two giants of the economy in the world, (Davis Langdon, 2008). The established Asian corporations like Asian Development Bank and the international corporation World Bank, are contributing by granting credit to the governments to advance the welfare level of the countries (DTM Reports, 2009). According to the chairman of Turkish Contractors Association, the letter of guarantee is the major problem due to the undeveloped and inert banking systems (Arkitera, 2005). Unstable economic indicators lead to fluctuations of prices and, consequently, to shortages of liquidities. Despite high rates of economic growth in Pakistan, inflation and interest rates are getting worse due to economic downturn in the region.

#### **3.2.4.3 Social & Cultural**

Asia has a very disparate cultural and social structure. According to IMF (International Monetary Fund, 2009), the population of Asia in 2008 was 3.472 billion people. The cultural differences of Asia obstruct the TCC's ability to adopt to the environment. It is indicated that potential pitfalls, risk management, and cultural challenges are important for the foreign companies to be familiar with (UK Trade & Investment department, 2009). Craftsmanship of the workers is inadequate, therefore it becomes harder to operate and handover the project in stipulated time and quality due to contract terms (DTM Reports, 2009). The most attractive feature of the region is the potential of the developing countries and their growing populations. In an article of Arkitera (2008), by 2020 approximately 700 million people be residents in China, and the Chinese government projects to build 2 billion m<sup>2</sup> residences in 15 years.

### 3.2.5 European Countries

Europe consists of some of the world's most developed countries including: Albania, Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Netherlands, Poland, Portugal, Romania, Serbia, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom. Turkish Contractors have too few projects in European countries. In more recent years market surveys are implemented and projects are operated in developing countries. Challenges, opportunities and characteristics of Europe are analyzed at 3 main titles.



**Figure 3. 7:** European Countries

#### 3.2.5.1 Political

The political relations of Turkey and Europe were strengthened after Turkey had been a candidate for full membership of EU. Although EU entrepreneurs tended to the Turkish market and derive considerable amounts of revenue, still few people are in favor of Turkey and its membership (Barysch and Hermann, 2007). Due to the export values of Turkey, EU countries lead in the list, but the contracting services are suffering (TUIK, 2009). In Turkish Engineering Magazine in 1995, the reason of low attraction of European projects is that the projects are undertaken by local

contractors. In addition, convenient projects for TCC are scarcely occurring in Europe because Europe consists of several developed countries. According to Keskinel (2006), TCC should pay attention to Eastern Europe which is still developing unlikely Western Europe. Turkey is deemed as primary conduit of energy reserves via Asia and Africa, and Turkey is transforming into transit country and is authorized of supplying vast energy resources (Efe, 2007). Mostly in Balkan region, TCC have opportunities of major infrastructure projects and energy projects which are Nabucco Natural Gas Pipeline, Trans-Adriatic Natural Gas Pipeline, AMBO Oil Pipeline and Pan-European Transportation Projects (DTM Reports, 2009). European countries are involved in close interactions with many countries and due to the reciprocal influence, political risks are more likely for European countries (TMH, 1995). The codes, legislations and legal liabilities such as job safety and quality management are critical for TCC. The Turkish contractor Dr. Süleyman Yüksel who is experienced in Germany, indicated that quality controls are too tight, scheduling and safety are the priority, and legislations are followed strictly, therefore TCC should adopt into Europe's strict order (Hürriyet, 2008). Recently, in Eastern Europe, governments have been practicing stringent politics, and new countries have been founded. These developing countries should be considered potential construction markets for TCC (DTM Reports, 2009).

### **3.2.5.2 Economical**

According to the IMF 2008 values, there was a growth of 1.7% in real GDP and a nominal GDP value of \$23.62 billion US. Some of the most powerful economies exist in Europe, therefore, financial risks are very low unless a global crisis and economic recession occur like in 2008. The financial risks are interpreted as credit costs for small and medium scaled contractors (TMH, 1995). The demand rates of construction industry in eastern region are more than western region regarding developing countries. The residential and infrastructure projects' demands are on the rise (Davis Langdon, 2008).

### **3.2.5.3 Social & Cultural**

According to the IMF, in 2008, the total population of the European Union was 495.6 million. Along with the negotiations with the European Union and Turkey,

Turkey gained recognition by adopting legislations into EU codes. Due to the strict codes and controls, Turkish engineers can have difficulties during adaptation phase (Hürriyet, 2008). According to Keskinel's report (2006), Eastern Europe is more preferred because of low labor costs. European construction industry is capable of adapting innovations unlike of TCC, therefore special techniques and methods may be required (TMH, 1995).

### **3.2.6 Other Countries**

TCC have already undertaken oversee projects in North and South America and the Pacific Region in recent years. During the recognition phase, uncertainties form major risks for political, economical, social and cultural issues. It is essential to demand political support and detailed market surveys from authorities. It would then be easier to demonstrate high performance and elude potential pitfalls and dangers.

#### **4. FACTORS AFFECTING INTERNATIONAL EXPANSION DECISION**

In order to build a survey about factors affecting international project decisions, the primary duty is to prepare a complete questionnaire in every respect for the Turkish Construction Companies (TCC) without causing any confusion through the application and evaluating of the questionnaire. Unless a complete questionnaire is not received by a respondent, there would be an inconsistent evaluation of the questionnaire. Therefore, serious attention was given to each factor and question of the survey to achieve the goals of the dissertation. The factors are divided into 4 categories: factors of the contractor, factors of the country, factors of the project, and factors of the employer.

##### **4.1 Factors of Contractor**

The factors are listed below, reflecting the contractors' aspects such as advantages or risks that they can be faced with.

###### **4.1.1 Contractor's number of the project at present**

The number of projects that are being carried out during the decision process phase is considered an important factor. Broadly, company authorities willingly prepare for the biddings in the case of having fewer projects.

###### **4.1.2 Contractor's experience in similar projects**

The contractor's experience in similar projects refers to specialization in various types of construction projects as well as the reputation of the company, its track records that contractors have been operating in previous years. (Günhan and Arditi, 2005, Ofori, 2002, and Lewis et al., 2003).

#### **4.1.3 Contractor's necessity to expand into new markets**

In many instances, the need to expand into new markets may sometimes be necessary. Construction companies may decide to diversify into other countries or regions due to several reasons including economical, political, or strategic (Günhan and Arditi, 2005, and Ofori, 2002).

#### **4.1.4 The resources (equipments, materials) owned by the contractor**

In the case where the contractor possesses its own resources, i.e., equipment and materials, the contractor may cut costs, which in turn creates competitive advantage against its rivals (Lewis et al., 2003, Günhan and Arditi, 2005, Hastak and Shaked, 2000).

#### **4.1.5 Assets of the contractor**

Features of the assets that the contractor possesses and their ability to manage these assets are defined in this factor. Total assets of the company refer to both current and fixed assets. (Günhan and Arditi, 2005, Dikmen and Birgönül, 2004, Hastak and Shaked, 2000).

#### **4.1.6 Liabilities of the contractor**

Company's long term and short term liabilities as well as payment schedules are very influential on the project decisions. Furthermore, liabilities can constrain the company's strategic plans and can also inhibit investing or undertaking construction projects (Günhan and Arditi, 2005, and Ofori, 2002).

#### **4.1.7 Contractor's technology level**

In order to operate, appropriate technology provides the company with better implementation of and higher quality construction projects. Technology can be defined as computer systems or other modern innovative methods in construction sites that elevate quality of the management skills and implementation techniques (Han and Diekmann, 2001, Hastak and Shaked, 2000, Günhan and Arditi, 2005, and Fang et al., 2004).



#### **4.1.8 Experienced and qualified staff in the company**

By employing experienced and qualified staff, challenging conditions and complex projects can be managed efficiently therefore, this factor provides an important privilege to the contractor among its rivals. With the presence of experienced staff, confidence will be inspired through other employers (Wang et al., 2004).

#### **4.1.9 Relationships with authorities in construction markets in which the contractor has previously operated**

Tight relationships with authorities may strengthen the market share of the company in the country in which contractor is experienced and well-known. Most of the TCC prefer to get in touch with top government officials, consequently, tenders result in favor of their companies (Ofori, 2002, and Lewis et al., 2003).

#### **4.1.10 Relationships with authorities in construction markets in which contractors have not yet operated**

Although the contractor has not expanded into a particular construction market, getting familiar with important communities or people in that country may provide advantages. It is necessary to be in touch with authorities like governments (Lewis et al., 2003, and Han and Diekmann, 2001).

#### **4.1.11 Relationships with important, key employers**

In order to sustain growth and to have continuous projects in a particular country, contractors need to cooperate with or form tight relations with key employers. With reliable and confidential owners over the long term, it will then be easier to work with and manage projects. Thus, with time, the contractor may demonstrate itself within the international construction markets (Günhan and Arditi, 2005).

#### **4.1.12 Necessity of forming a balanced market portfolio**

Contracting companies are in need of widened market portfolio so as not to be affected deeply from unexpected crises. Economical or political fluctuations in various countries may influence companies, which are mostly dependent on that

particular country. Usually, prominent construction companies prefer to allocate risks among other construction markets (Günhan and Arditi, 2005).

#### **4.1.13 Contractor's management skills**

The contractor's ability to manage depends on the level of success achieved in challenging and tough conditions. Managing projects without catastrophic faults and taking precautions for pitfalls and threats, is crucial for the company. Management ability can be referred as an overall rate for the contractors' skills in the construction industry (Han and Diekmann, 2001, Wang et al., 2004, and Günhan and Arditi, 2005).

### **4.2 Factors of the Countries**

On the contrary of export firms, construction companies are in business and commercial relation with the country for at least one year when undertaking more projects for long-term and establishing branch offices or partnerships. With these factors, the country's risks and opportunities can be stated more precisely.

#### **4.2.1 Religious and cultural differences**

Religious and cultural similarities or differences can have major influences during project operation or can cause conflicts during bidding phase. Linguistic problems can result in communication errors, diminishing team works, and may hinder the construction process. It is therefore a major necessity to employ staff that is familiar with host country's language and culture. It is deeply suggested to employ staff who are familiar with the cultural and traditional ambience. It might help contractors to act with more confidence and to elude the prejudices of host countries (Dikmen and Birgönül, 2004, Fang et al., 2004, and Wang et al., 2004).

#### **4.2.2 The economical condition of the country**

The economical condition of the country is one of the primary factors. Interest rates, inflation, liquidity of funds, and GDP values are the most significant indicators of economical situation. These economic indicators directly affect the investment

decisions and financial viability of the owners. (El-Sayegh, 2008, Hastak and Shaked, 2000, and Ofori, 2002).

#### **4.2.3 The country's currency**

The politics and fluctuations of the country's currency as well as the type of the project's progress payments are very vital for the progress of the project. Many contractors are in deficit because of unforeseen currency costs (Günhan and Arditi, 2005, Wang et al., 2004, and Chua et al., 2003).

#### **4.2.4 The fiscal reserves possessed by the country**

Governments develop their own financial strength to intermeddle the national economy in case of economic crisis. The abundance of fiscal reserves affects credit flow of the national banks, which affects investments in the country. Consequently, more reliable and certain financial resources would occur and the payments would be done in stipulated time (Hastak and Shaked, 2000).

#### **4.2.5 Tax policy of the government**

The tax policy may be referred as the approach of the government to the taxation. The taxation of the construction business is very vital which should be considered as one of the most important processes during the project stages. If the tax rates are ignored, major deficits or unexpected economical results would occur. Thus, it can be stated that tax rates impact profits of the projects directly (Günhan and Arditi, 2005, Wang et al., 2004, and Chua et al., 2003).

#### **4.2.6 The fluctuations of labour and material prices**

Often labour and material costs are determining factors for the contract prices. The fluctuations of both material and labour prices in the market can cause cost overruns and even financial failure. Most often, contractors are faced with price fluctuations in countries where economical climate is uncertain (Lewis et al., 2003, Fang et al., 2004, and Chua et al., 2003).

#### **4.2.7 Strict regulations of environment protection**

Tight legislations regarding environmental protection (such as avoiding pollution, protecting forest area etc.) constrain contractors and may cause higher costs in order to complete projects. In the case of illegal behaviour of the construction companies, crucial penalties can be implemented by government administrations (Wang et al., 2004).

#### **4.2.8 Competition levels in the country's construction market**

The total demand of the construction market, the attendance of foreign contractor companies and the intensity of rivalry among the contractors are very influential. Occasionally authorities, tribes and regional forces do nepotism during the tender phase (Dikmen and Birgönül, 2004, Ofori, 2002, and Hastak and Shaked, 2000).

#### **4.2.9 The intervention risks of the government to the tender**

Government interventions affecting the tender result in favor of the company, when there is a tight relationship with top government officials. Mostly, in less developed countries, authorities intervene with force through the tender process. Unfair acts therefore affect tense competition (Hastak and Shaked, 2000, Chua et al., 2003, and Fang et al., 2004).

#### **4.2.10 Design and regulation risks**

During project implementation, design codes and regulations are vital. If the codes and regulations are not properly followed, catastrophic and poor results can occur over structural implementation. It is important to employ staff members who are familiar with the codes, standards and regulations of the host country. In underdeveloped and developing countries, authorities change the codes and regulations frequently which causes confusion and errors during the implementation process (Ofori, 2002, Chua et al., 2003, and Wang et al., 2004).

#### **4.2.11 The government's HSE policy**

Health and security policies of construction sites are considerable topics that should be managed carefully therefore professional staff should take all necessary precautions. According to some government policies, there are limitations to accidents in construction sites, and, in the case of exceeding the limited number of accidents or death tolls, the owner or the construction manager might be fined with tough penalties or terminate the contract (Fang et al., 2004).

#### **4.2.12 Availability of local material suppliers & subcontractors**

In the case of working with local suppliers and subcontractors, fewer project costs of projects and higher quality projects performances are to be expected. Working with local suppliers would greatly eliminate the transportation and adaptation problems (Günhan and Arditi, 2005, Hastak and Shaked, 2000, and Han and Diekmann, 2001).

#### **4.2.13 The experience of the contractor in the country & region**

Experienced contractors are mainly prepared for pitfalls and dangers in the country. They also may have either branch offices or experienced agencies, which are familiar and experienced with the conditions of the country. Therefore, it is possible probable to take precautions for threats and pitfalls and to seek and not miss opportunities (Han and Diekmann, 2001, and Ofori, 2002).

#### **4.2.14 The internal political condition in the country**

Fluctuations and unstable political situations in the country impact economic values directly and can conduce to disturbance among the investors. Consequently, the investment decisions would be postponed or cancelled and the contractors would face financial problems (Dikmen and Birgönül, 2004, Wang et al., 2004, and Chua et al., 2003).

#### **4.2.15 Political disputes or tight relations with Turkey and other countries**

Government subsidies or challenging barriers are very important factors through the project decision-making process and the contractor's ability is important for the project (Wang et al., 2004, Han and Diekmann, 2001, and Hastak and Shaked, 2000).

#### **4.2.16 Bilateral or common international trade agreements**

Generally, trade agreements including contracting services, have great influence on the contractors by having advantage over other foreign companies. In summary, the attitudes of host governments to the TCC are vital because foreign companies are extremely vulnerable due to the government influence and related risks (Ofori, 2002, Dikmen and Birgönül, 2004, Chua et al., 2003, and Günhan and Arditi, 2005).

#### **4.2.17 The ruling and regime type of the country**

The ruling types of countries vary according to the countries' sociopolitical situations and historical progress. Military regimes, monarchies, theocracies, secular republics, religion based republics, extreme nationalist regimes and any other type of regime are functioning. Each of the regime types affects the development, and the opportunities of the host country either negatively or positively (Hastak and Shaked, 2000).

#### **4.2.18 The function of the legal system**

The various legal systems in developing countries or underdeveloped countries often do not function properly, therefore, acquiring consistent results with contractual disputes regarding arbitration practices and FIDIC contracts may be difficult. In addition, inconsistencies in legal systems cause major disadvantages and unexpected problems (Han and Diekmann, 2001, Hastak and Shaked, 2000, Chua et al., 2003).

#### **4.2.19 Bureaucratic obstructions**

Bureaucratic obstructions are occasionally faced in underdeveloped and developing countries where project progress is extremely adversely affected. These affects include approval of projects, pointless transactions, and a lack of collaboration

among state offices. This unavoidable fact increases the risks of projects (Hastak and Shaked, 2000, Chua et al., 2003, and Ofori, 2002).

#### **4.2.20 Bribery to illegal organizations or tribal communities**

Corruption within government departments and a lack of authority force companies to give illegal awards or bribes to power groups. In some countries, mobs or tribal groups rule the territory and it is inevitable to avoid being engaged in these activities, even though it is an illegal act (Günhan and Arditi, 2005, Fang et al., 2004, and El-Sayegh, 2008).

#### **4.2.21 The Country's level of privatization**

After undeveloped countries decide to leave expropriation policies and diversify into privatization, the private sector, which includes foreign investors, evolves into the market, and provides financial source to the contractors. (Günhan and Arditi, 2005).

#### **4.2.22 The Country's banking system**

Host country should have reliable banks, which would approve letter of guarantees, and would collaborate with Turkish banks in accordance with familiar and modernized methods. In particular regions, there are development banks that provide funds in order to finance construction projects. These development banks should be in harmony with own banks and world development bank (Ofori, 2002, and Wang et al., 2004).

#### **4.2.23 The challenges of monetary transfers**

The contractual earnings or progress payments are not allowed to be freely transferred outside of the country unless high tax rates are paid, therefore, high financial costs incur, and the project's profits do not meet the expected rates. This factor should be considered carefully during the project decision phase (Chua et al., 2003, and Hastak and Shaked, 2000).

#### **4.2.24 More long term project opportunities in the country**

Occasionally, according to the company's strategy, the short-term results are not considered a priority. Despite having tough results and deficits in the project budgets, companies can tolerate a monetary loss, and after adequate market share is acquired, sustainable profits may be earned in the long-term (Lewis et al., 2003, Günhan and Arditi, 2005, Ofori, 2002).

### **4.3 The Factors of The Projects**

Project features are very crucial through the project decision process, numerous factors exist that impacts the decision.

#### **4.3.1 Project's financial expectations**

The profitability, scheduled cash flows, cost overrun risks, and the costs of the project form the financial expectations. Companies always aim to increase profit rates relatively to their rivals. Clearly, this factor is the most vital one among the others (Lewis et al., 2003, Fang et al., 2004, and Wang et al., 2004).

#### **4.3.2 The project's contract type**

The contract type is important as it determines the route of the company strategy. The type of contract should be parallel within the strategy of the project management and the financial objectives. Terms should be defined clearly and should be approved by prominent attorneys or international law organizations such as FIDIC (Dikmen and Birgönül, 2004, and Hastak and Shaked, 2000).

#### **4.3.3 Type of project**

The type of project is chosen due to the company's strategies and capabilities. Such projects may require specialization and experience, or companies may focus on just one project type by eliminating others (Dikmen and Birgönül, 2004, and Hastak and Shaked, 2000).



#### **4.3.4 Contractual dispute risks**

The obligations should be defined very detailed and clearly, in order to minimize the problems, and if any problem occurs, it would be easier to defend the company rights. Although the contract type is very important, the applicability of the contract is also very critical. The proper conditions should be defined according to the legal system and condition of the country (El-Sayegh, 2008, and Hastak and Shaked, 2000).

#### **4.3.5 The geographical position of the project**

The distance of the project to Turkey, and position in the country are effective during entire project phases. A project can take place in a valley, in a metropolis, or in the middle of an ocean. No matter what, in each case there would be constraints or advantages like supplier's transportation costs which can even cause major cost overruns. In each region, there are characteristic and cultural features that should be considered within this factor. In addition, the geographic position affects the climate conditions that affect project management directly (Dikmen and Birgönül, 2004).

#### **4.3.6 The scope of the project**

The size and scope of the project determines the contract prize. In large size projects, major cost overruns can occur and afterwards deficit in contractor's balance sheet can cause financial depth for the company, on the contrary, high ranked companies do not even attend the projects with minor values and size, therefore, the project size should be best fit for the company strategies (Dikmen and Birgönül, 2004).

#### **4.3.7 Mobilization and the management style at the construction site and its facilities**

The management of the construction site, starting from the mobilization of the construction site and facility, and operating of the construction site can be challenging. With a philosophy of consistent management, it can be possible to foresee threats and problems just before they ensue and, therefore, it is essential to take proper precautions. Depending on the site's condition, plans for mobilization should be perfect in order not to be face with any difficulties, such as entry and exit

of transportation vehicles and equipments. Unless mobilization and construction management is not projected and planned, long time frames and delays may be expected at project management (El-Sayegh, 2008, Fang et al., 2004, and Chua et al., 2003).

#### **4.3.8 The difficulties of the implementation of projects**

Nowadays, owners require more attention and a higher quality of contractors. from the contractors. Furthermore, special structures are being erected like skyscrapers, massive transportation structures, or integrated live spaces with technical complexity, and exaggerated architectural designs. Although it is hard enough to operate these constructions, various conditions can impact the implementation like force majeure. (Dikmen and Birgönül, 2004, Hastak and Shaked, 2000, and Han and Diekmann, 2001).

#### **4.3.9 Strict quality requirements**

Occasionally, owner agents can be very strict during project operations. When the agents behave in inflexible manner, harsh decisions and penalties can be given to agents by the authorities. In the case of low quality production and contract breaching due to technical specifications, owner agents can apply terms of contracts. Afterwards, contractors can be fined with monetary penalties or even with the termination of the contract (Fang et al., 2004, Chua et al., 2003).

#### **4.3.10 Earning reputation and prestige with the project**

In order to earn reputation and prestige, on occasion construction companies might tolerate high costs and low profits. Mostly new established companies prefer projects like landmarks, or popular structures with special features rather than high profitable projects (Lewis et al., 2003).

#### **4.3.11 Entry mode options, availability of partnership**

Through market entry decisions, some entry options like; joint venture, acquisitions, lone operations or branch offices can be preferred. Local companies are familiar with

legal systems and bureaucratic administrative obstructions, therefore, it would be wiser to collaborate with local companies or branch offices with an efficient agent. It is essential to work with reliable local companies, which co-operate with international organizations (Günhan and Arditi, 2005, Hastak and Shaked, 2000, and Wang et al., 2004).

#### **4.3.12 The bidding risks**

The preparation of the bidding process is very exhausting, time-resource consuming phase. Moreover, sustainability of financial structure of the company depends on the projects that the company possesses in the present and will have in the future. The losing risk of the bidding consist of unfairness during tendering stages like nepotism or government interventions. If the construction company acquires the contract, the company's reputation profile is greatly enhanced. (Chua et al., 2003, and Hastak and Shaked, 2000).

#### **4.3.13 Job security within the construction site**

According to the site conditions, a number of on site accidents may occur. Although it would cost more, the contractors and the authorities should spare no cost for the precautions of site's safety (Fang et al., 2004, Wang et al., 2004, Hastak and Shaked, 2000).

#### **4.3.14 The availability of required technology**

In order to operate the projects in a more secured and absolute way, it is essential to utilize new methods and technologies. Software programs or innovations of project implementations are very effective tools to develop productivity, management, and implementation of the projects. In addition, it is important that the availability of technology and qualified staff are familiar with this technology (Hastak and Shaked, 2000, Fang et al., 2004, Günhan and Arditi, 2005).

#### **4.3.15 The design risks**

Frequently required change orders from the owner, unclear project designs and drawings, unfamiliar design methods, and vague owner's requests can all be

considered as design risks (Fang et al., 2004, Wang et al., 2004, Hastak and Shaked, 2000).

#### **4.3.16 The climatic risks**

The settlement of the construction facility should be considered carefully, and the work environment is very vital for the implementation of the project. Uncongenial climate exists in most countries where projects are undertaken by Turkish contractors. Extremely hot or cold weather and unfriendly climate conditions slow down project implementations. With the participation of experienced staff, the accomplishment of the projects would be facilitated (El-Sayegh, 2008, Fang et al., 2004, and Lewis et al., 2003).

#### **4.4 The factors of the owners**

The owner specifications are the last segment that the contractors should need to inspect. Four owner factors are defined, nonetheless they require severe attention.

##### **4.4.1 The financial strength of the owner**

The financial strength of the owner is very influential during the project process. Most contractors face problems with delayed progress payments. The contractors should obtain payment schedules clearly in stipulated time and implement the contractual terms in case of unpaid payments (El-Sayegh, 2008, Dikmen and Birgönül, 2004, Lewis et al., 2003).

##### **4.4.2 The management ability of the owner**

The management ability of the owner depends on the management type. The adopted model that is used by the owner for the operation of the project may be a professional construction consultant company, or less professional and fewer staff. In both cases, the manner of the owner agents is influential on the project progress. Strict rules and tight schedule directly impact the project (Chua et al., 2003, Hastak and Shaked, 2000, and Wang et al., 2004).

#### **4.4.3 Type of owner**

The type of owner is important for some contractors. Governments, private sector, NGO (Non-Governmental Organizations), PPP (Public-Private partnership) are some options for companies. Governments are more reliable when it comes to payments, but working with governments may, on the other hand, cause bureaucratic obstacles (Dikmen and Birgönül, 2004).

#### **4.4.4 The construction experience of the owner**

The owner's experiences with construction would influence the project directly. Tighter controls would be implemented but management that is more professional would provide continuous cash flows, less faults and disputes for the contract (Lewis et al., 2003).

#### **4.5 The Performance Criteria**

The performance criterias are obtained in order to measure the performance of TCC in the international arena due to several types of aspects.

##### **4.5.1 In last 5 years, our company has gained competitive edge in international arena**

The contractor's achieved objectives develop the features of the company, therefore, brand equity increases and prevails in tense competition among international contractors.

##### **4.5.2 In last 5 years, we undertook more comprehensive and prominent projects abroad**

Regarding the success in the international construction market and further objectives, the contractor achieved significant projects in last 5 years and continued to propel outstanding and prominent projects abroad.

#### **4.5.3 In last 5 years, we won most of the tenders which we have bid to projects abroad**

Due to the technical staff's well-organized and significant studies, and features of the company, the contractor has won tenders of international projects.

#### **4.5.4 In last 5 years, we have accomplished our international projects**

The contractor has achieved objectives and fulfilled the engagements of important and significant international projects with considerable efforts.

#### **4.5.5 In last 5 years, we earned considerable amounts of profits from international projects**

The contractor's projections, forecasts and performances during the operation of the project contributed to the profits of the international projects.

#### **4.5.6 In last 5 years our share in international construction market developed**

The contractor sustained the growth of the company, demonstrated significant performance and became a prominent contractor in the international market regarding the international projects that had been carried out in last 5 years.

#### **4.5.7 In last 5 years, we had participated as a key participant in various partnerships of international projects**

The contractor preferred to establish partnership in order to participate in major international construction projects and became a key participant in the consortium.

#### **4.5.8 We were affected from the economic fluctuations less relatively than our rivals**

Due to consistent and successful strategic planning and decision-making, the contractor achieved to maintain they own features and overcome through fluctuations with less harms relative to its rivals.

#### **4.5.9 In last 5 years the assets that we own have developed**

Successful management of the company and the economic features developed regarding flourishing performance of the contractor.

#### **4.5.10 Our company employs more qualified technical and administrative staff than previous years**

Due to contemporary managers, the company pays more attention to the staff features. It is deeply believed that the staff quality directly contributes to the performance of the company.

#### **4.5.11 The satisfaction of the owner is at high level**

The international projects that we accomplished satisfied the owners at high levels, and they would like to work with the contractor again.





## 5. METHODOLOGY

In order to form a comprehensive and affective questionnaire, the first duty was to search and analyze the international construction market. After long, comprehensive, and extensive review, the survey was formed in three parts. In the first part, the contractor features are obtained, therefore, more integrated hypothesizes and clusters of factors are analyzed. “The name of the construction company”, “the experience of the company”, “memberships of national construction associations”, “the intervals of total revenues in international construction projects”, “the intervals of total revenues in domestic construction projects”, “the number of the technical and administrative employer in the company”, “the number of employees in the tender department”, “the number of ongoing projects in international construction markets”, “the types of the construction projects that the contractor undertook”, “the regions in which the contractor has attended to undertake projects” and “the employer type with which the contractor has worked” are the initial questions that are requested from the participant of the questionnaire. In the second or the body part of the questionnaire consists of four subparts including: “the contractor’s factors”, “country factors”, “project’s factors”, and “owner’s factors”. In total, 57 criteria were gathered after a wide research, and reflects the TCC’ behaviors in international construction markets, opinions, and strategic decisions. In the last part of the questionnaire, the performance criteria measure the contractor’s performance in the international construction industry according to the contractor’s own aspects and evaluations. In the body part of the questionnaire, the scale system requires, from the respondents, to evaluate within the integer numbers from “0” to “10”. The value of “0” resembles inconsiderable factors, “5” resembles medium important factors, and “10” resembles the very important factors. In addition, within the performance criteria, a different scale system is used. The scale system requests its respondents to evaluate their performance with the integer numbers from “0” to “4” depending on the criteria. While the value of “0” resembles no idea, “1” I certainly do not agree, “2” I do not agree, “3” I agree, “4” I absolutely agree. After attempting a few experimental trials in order to notice the faults and shortcomings of the survey, the questionnaires were

then conducted to the contractors via email, post, fax, and oral interview. The first contact was with the Members of Turkish Contractors Association (TCA) which consists of the most reputable and prominent contractors. The questionnaire was published in the official web site of the TCA just for its members. Approximately half of the 140 members of the TCA have undertaken construction projects in the international arena. In addition, 58 of 71 participants of the questionnaire are members of TCA. In addition, the governmental department of contracting services contributed during the questionnaire stage by sending surveys via email to the contractors' executors. Whilst sending the questionnaires, it is especially specified that respondents should be an experienced member of the board or a senior civil engineer in the tender department. In order to have consistent results, each company is clearly notified the importance of the questionnaire and the requirements of the survey are defined orally and in written form. In a month, 71 questionnaires were obtained from the contractors.

Several types of methods are adopted into this research such as principal component analysis (PCA), factor analysis (FA), and reliability analysis (RA). The research is interpreted by computing the measures of the questionnaire via SPSS 16.0. PCA is a data reduction method, which reduces a correlated set of variables to a particular number of components, which contains original data's variables (Pahor, 2009). After the measures of the questionnaires are entered into the SPSS 16.0 database, the PCA is performed within several processes. A few arrangements are done, thus, the result of the PCA is fixed to one component. According to Academic Technology Service of UCLA, the procedures of PCA, consists of numerous tables and methods including: computing descriptive statistics for all variables, making the correlation matrix, computing communalities, computing total variance chart, and calculating component matrix (<http://www.ats.ucla.edu>). In the descriptive statistics for all variables, the mean values, standard deviation, and number of the cases are computed and illustrated via a chart. The next phase is making a correlation matrix which shows the correlations between the variables. After the correlation matrix, the communalities are computed. In the communalities, the rates of each variable's variance are illustrated. The most important chart is the component matrix, which shows the component loadings, and it is especially fixed to extract to just one component. Therefore, the weighted averages of the variables can be calculated.

Several types of extracting methods are available in SPSS 16.0, but the principal component method used, finds out linear correlations between factors (Pahor, 2009).

After the PCA, FA is implemented to the questionnaire results. In FA, the factors and performance criteria are grouped into new forms in which the previous variables were correlated to each other. Tryfos (1998) stated that factor analysis is a method for reducing numerous factors into fewer variables, which are parallel to the deducted factors. According to DeCoster (1998), there are two types of FA which are explanatory factor analysis (EFA), and confirmatory factor analysis (CFA). EFA is used to determine the number of common factors that affect set of original variables in the questionnaire and to measure the correlation levels between factors. By this research via SPSS 16.0, the FA was implemented to the factors and performance criteria. The FA procedures consist of several types of steps which are collecting measures of the surveys, obtaining the correlation matrix, selecting the numbers of factors for FA, extracting the new set of factors, rotating factors to a final solution, and interpreting the factors (DeCoster, 1998). In this research, the first 3 steps were completed before FA. The measures of the questionnaire were entered into the SPSS database and the factors were grouped into four types of factors, and one performance criteria. The stage of extracting new set of variables is too complex to be calculated by hand. By SPSS 16.0, the extraction is computed. The next step is the rotation of the extraction, by means of rotation, more reliable and clearer image is acquired. In SPSS 16.0 numerous types of rotation methods exist: Varimax, quartimax, equamax, oblimin and promax. Varimax is the most common and appropriate rotation method, which enables to interpret the factor loadings easier and minimizes the number of the factors. During the process of FA, RA is also computed by SPSS 16.0 to test the reliability of the factors. Due to Garson (2009), the researchers should be sure and specify that their works are reliable. There are four types of reliability analysis: internal consistency (Cronbach's alpha), split-half reliability, test-retest reliability, and inter-rater reliability. The reliability of factors are tested with SPSS 16.0, by Cronbach's alpha method. The scale of Cronbach's alpha is important in order to interpret the results accurately. When alpha is equal to zero, there is an error or no reliability. When alpha is equal to one, there is full reliability of the factors. In order to retain the factors in a reasonable scale, the Cronbach's alpha value should be least 0.7. In the case of low values in Cronbach's

alpha, it is essential to eliminate the most irrelevant factor, in order to increase the reliability of the factors. But the major reason of low values in Cronbach's alpha, is the low number of factors. By this reason, Cronbach's alpha value diminishes considerably.

In the following process, the research correlations and multiple regression analysis are used in order to determine the relationship between performance criteria and project selection factors regarding 4 different types of aspects. In order to determine the variables that are related with each other the mean values of measures of each survey participants, the dependent variable and independent variables are reasonably needed (Center for Teaching, Research & Learning, 2009). The dependent variable is the performance criteria and it is the Y variable in the formula in multiple regression analysis. The independent variables are the main 4 factors in the survey, and they take place as X variables in the formula (Center for Teaching, Research & Learning, 2009). In addition, the formula of the multiple regression is illustrated in formula 5.1, in order to demonstrate the variables. While "a" is the regression coefficient which can be defined as the slope of the formula, "b" is the constant or the intercept. Also, it should be considered that in the equation exist number of "i" variables.

$$Y = a_0 + a_1X_1 + a_2X_2 + a_3X_3 + b \quad (5.1)$$

The idea of the multiple regression analysis, is to test the hypothesis regarding to this research's topic. The measures of the surveys are computed via SPSS 16.0, and the R square tests are performed. If the R square value is close to 1.00, then a tight relation between variables can be emphasized.

In addition to the multiple regression analysis, correlation of the variables is also computed via SPSS 16.0. The Pearson correlation method is used to measure the correlation between variables.

## 6. FINDINGS AND DISCUSSIONS

In previous parts, the extent literature reviews, and the methodology that has been used in this research, are defined rigorously. In methodology, PCA, FA, RA, Multiple Regression Analysis, and correlation analysis are computed via SPSS 16.0 with the measures of the surveys. In table 6.1, the features of the contractors are broadly illustrated.

**Table 6.1:** The overall values and percentages of TCC' characteristics that participated in the survey.

Characteristics	Min	Max	S. Dv.	Average Scores
The experience of the company (year)	4	71	16.644	34.35
The number of the employee in the tender department	0	40	7.27	8.93
The number of ongoing international construction projects	0	37	7.31	5.73
Features	Percentage (%)			
The membership of the contractors				
Turkish Contractor Association (TCA)				80.6
Association of Turkish Consulting Engineers and Architects (ATCEA)				19.4
The union of Turkish Construction Industry and Employer (INTES)				45.8
Total revenue of the international projects in last 5 years (Mil \$)				
0 – 50				22.5
50 – 100				12.7
100 – 250				19.7
250 – 500				18.3
500 – 1000				12.7
1000 ≤				14.1
Total revenue of the domestic projects in last 5 years (Mil \$)				
0 – 50				31.0
50 – 100				14.1
100 – 250				18.3
250 – 500				14.1
500 – 1000				11.3

**Table 6.1:** (continued)The overall values and percentages of TCC’ features that participated in the survey.

Features	Percentage (%)
1000 ≤	11.3
<b>Number of technical and administrative employee in the company</b>	
0 – 100	42.3
100 – 500	33.8
500 – 1500	9.9
1500 ≤	14.1
<b>The project types that the company have managed to operate</b>	
Residential buildings	84.5
Infrastructure	71.8
Commercial buildings	70.4
Industrial facilities	64.8
Transportation	62.0
Shopping centers	57.7
Pipe lines	42.3
Dams	38.0
Marine structures	31.0
Others	16.9
<b>The regions in which the contractor have operated projects</b>	
Russia and CIS region	70.4
Middle East region	63.4
Africa region	56.3
Asia region	43.7
Europe region	38.0
<b>The type of owner of the projects</b>	
Private sector	87.3
Public	78.9
Organizations, NGO, and etc	26.8
PPP ( Public private partnership)	25.4

The participants of the contractors resemble each type of TCC, which undertake international projects. The contractors’ average year of experience in the construction sector is 34.35 years. The most experienced contractor has been functioning for 71

years. Thus, it can be determined that most of the questionnaire's respondents are quite experienced in the construction industry. Additionally, the number of employed staff in the tender department is 8.93 and the average number of ongoing international projects is 5.73. Although a few of TCC still did not establish tender departments, most of TCC have tender departments. Briefly, Turkish contractors think that the tender department is essential to the company and its strategies. As it is analyzed in table 5.1, 80.4% of the participants of the survey are members of TCA. The contractors, which have INTES membership is 45.8%, and ATCEA membership is 19.4%. When the total revenues of international and domestic projects are analyzed, it can be stated that approximately each revenue group has an equal number of participants. The leading rates of total revenue in 5 years with international projects and domestic projects are part of the cluster "less than 50 million US dollars", and respectively the rates are 22.5% and 31.0%. The technical and administrative staff that have been employed by the Turkish contractors are grouped in the questionnaire in forms of "0-100, 100-500, 500-1500, 1500≤". The rates of each group are respectively 42.3%, 33.8%, 9.9%, 14.1%. The project types that are named as follows; residential buildings, infrastructure, commercial buildings, industrial facilities, transportation, shopping centers, pipe lines, dams, marine structures and others, have been operated by the contractors. The rates are respectively 84.5%, 71.8%, 70.4%, 64.8%, 62.0%, 57.7%, 42.3%, 38.0%, 31.0%, and 16.9%. The Turkish construction companies mostly prefer to operate residential buildings, infrastructure and commercial buildings rather than the other types. Among the regions in which the projects have been operated, Russia and CIS region is the leader and has 70.4% rate. Middle East region is second with a 63.4% rate, African region has 56.3% rate, Asian region has 43.7% rate, and Europe region is the least preferred region with 38.0% share. The owner types in the survey include, public sector, which can be referred to as state or government, private sector, PPP and NGOs. The rates are respectively 78.9%, 87.3%, 25.4%, and 26.8%. Public and private sectors are the most preferred employers rather than other organizations and institutions.

In appendix A.1, 57 factors and 11 performance criterias are listed and are aligned due to their evaluation ratings of the questionnaire respondents. With the following four types of aspects, the body part of the questionnaire is established. The

contractor's factors, the country's factors, the project's factors, and the owner's factors have been evaluated by the TCC' experienced staff, board members or presidents. It is a solid fact that the evaluation values of this survey literally reflect the TCC strategies in the international market. The highest rated top three factors in the contractor's factors are contractor's management skills, contractor's experience in similar projects, and experienced and qualified staff in the company. The mean values of the ratings are respectively 8.58, 8.21, and 8.24. The lowest factors are contractor's level of technology, the resources (equipments, materials) that the contractor own, and liabilities of the contractor. The mean values of the ratings are respectively 7.23, 7.04, and 6.92. Due to contractor's factors, TCC mostly pay attention to their own individual features, and TCC' least attention is to numerous types of resources of the company. The country's factors top three highest evaluated factors are in competition level in the construction market of the country, the fluctuations of labour and material prices, and the intervention risks of the government to the tender. The mean ratings are respectively 8.27, 8.13, and 8.03. The lowest rated factors are; the currency type of the country, the privatization level of the country, and religious and cultural differences. The mean values of the ratings are respectively 5.73, 5.20, and 4.11. According to the country's factors, TCC are very concerned about the risks in the country. Social factors, privatization and currency type are not considered as important factors, which are also the lowest evaluated factors in the entire questionnaire. Whilst the top three evaluated factors in the project's factors are project's financial expectations, earning reputation and prestige with the project, and contractual dispute risks, the lowest rated factors are entry mode options, availability of partnership, the availability of required technology, and the climatic risks. The values of the highest and lowest rated factors are respectively, 9.55, 8.51, 8.03, 7.04, 7.04, and 6.46. It should be emphasized that TCC do not hesitate to undertake projects because of technological complexity and challenging climate conditions. In addition, TCC are very concerned about their own reputation by preferring to operate prominent and landmark projects. According to the owner's perspective, the respondents evaluated four types of factors: the financial strength of the owner, the management ability of the owner, type of owner, and the construction experience of the owner. The scores are respectively 9.61, 7.99, 7.10, and 6.85. The financial strength of the owner is the highest rate of the questionnaire. In regards to the performance criteria, it is possible to compare TCC due to their



individual features. According to the performance report, the owner satisfactions, success in international projects, and growth in project scopes have been acquired by TCC in last five years. Furthermore, several TCC suffered from low profits, did not participate in partnerships in international projects, and did not manage to win the biddings. In table 6.2, the questionnaire divisions are briefly illustrated. The scores of the owner's factors are the highest evaluated part in the survey, but the low number of criteria in the owner's factors should also be taken into consideration.

**Table 6. 2:** Maximum, minimum scores, means and weighted mean values of five main title of the survey.

<b>The Factors</b>	<b>Max</b>	<b>Min</b>	<b>Mean</b>	<b>Weighted Mean</b>
The Owner's Factors	9.61	6.85	7.89	7.69
The Contractor's Factors	8.58	6.92	7.58	7.57
The Project's Factors	9.55	6.46	7.57	7.49
The Country's Factors	8.27	4.11	7.05	7.13
Performance Criteria	3.58	2.04	2.89	

The value of the contractor's factors almost kept its score after the weighted mean is calculated, but the other factors was faced with with considerable upward and downward shifts in mean values. Although the order of the factors did not change due to the weighted means, the scores of the factors got closer with each other. The owner's factors, the contractor's factors, the project's factors and the country's factors have respectively 7.69, 7.57, 7.49 and 7.13 weighted means. Nonetheless, each factor has drastically gained attention from the TCC during the project evaluation, for which TCC scored each part of factors more than 7 over 10. Additionally, TCC have evaluated own performances as 2.89 over 4.00 that demonstrates satisfaction and self-confidence of TCC.

During the reliability analysis, a few of the factors are not participated into the factor analysis due to their low rates of alpha. In appendix A.2, the new sets of factors and their contents are demonstrated. In appendix A.2, each new set of factors are listed and the Cronbach Alpha values are computed. The declines of the Cronbach Alpha values are reasoned by the reduction at the number of the factors. Nevertheless, except two sets of factors, which are economical success and the satisfaction of

employees and employers, are in reliable scale. After FA is applied to each factors, the new set of variables are clustered. The new groups of factors after computing FA, are 11 factors and 3 performance criteria. The contractor's factors are "hard factors" and "soft factors". The country's factors are "legal factors", "political factors", "fiscal factors", "subcontractor factors", and "competition factors". The project factors are "application factors", "legal & technical liabilities", and "esteem of the project". The owner's factor is "viability and managerial skills of the owners". The performance criterias are defined as "competitive success", "economical success", and "satisfaction of employees & employers". In appendix A.3, the new groups of factors are listed and defined in further detail.

In order to expose the relationship between the dependent variable that is performance criteria and independent variables that are the contractor's factors, the country's factors, the project's factors, and the owner's factors, multiple regression analysis and pearson correlation method are performed via SPSS 16.0. The overall values of each groups of factors of each participants are used as dependent variables and their performance criteria are used as independent variable. After computing the analysis among the participants, the R square value is 0.138 and "sigma" value in Anova tests is 0.041, which can be interpreted as the variables not related with the performance criteria, therefore, the behaviour of TCC in international construction markets can not be expressed with a formula. Moreover, the pearson correlation is computed to check the relations, but the result is that performance criteria are mainly irrelevant with factors regarding to the low values of test results. Therefore, it can be stated that the behaviour of TCC to choose an international project can not be defined with a formula. It is believed that each Turkish contractor has individual features and strategies which form numerous and different types of decisions and method uses.

Due to the irrelevant results of survey of performance criteria, a visible relation between performance and factors couldn not be achieved. The characteristic of the performance criteria is to be unique and dependent on subjective opinions of TCC. Thereby it is not possible to acquire a common behaviour of TCC for international project decision.

## **7. CONCLUSION AND RECOMMENDATIONS**

The construction industry in Turkey is one of the leading sectors which influence the national economy and substantially contributes to it. Either in domestic construction market or in the international construction market, TCC are known as reliable and proactive construction companies. Despite significant performances in international arena among tense competition, authorities have to specify and determine their strategies in order to sustain growth and manage the expansion of their own project volumes. Therefore, this research reflects behaviours of TCC and their concerns with the factors that can be interpreted as opportunities and risks in the international arena for TCC.

### **7.1 Strategic Planning in Construction Industry**

The primary target for companies is to increase their own company value and maintain growth permanently. International construction markets considerably contribute to the growing world economy, and the significant amount of emerging economies in various developing countries,. Thereby, intense competition among international contractors forms major risks and contingencies for contractors. In recent years, contractors have been looking for the most convenient and profitable construction projects. However, by developing long-term and short-term contemporary strategies, it would be easier to eliminate major companies during bidding processes by acquiring more accurate and consistent plans. According to professional views, the authorities need to predict the future by organizing and shaping an appropriate framework that will help companies to overcome probable problems.

Due to the management style of the companies, TCC obtain their strategical routes. Democratical management, or hierarchical management styles are adopted into International construction industry. There are several types of obtaining strategies for the construction sector. The most important method that is adopted in Turkey is focusing over particular subjects including: cost leadership, differentiation, focusing

on specific type of market. On behalf of the company's interests, the contractors need to determine their objectives and strategies in order to achieve their goals.

## **7.2 International Construction Markets**

It is a solid fact that TCC managed to step into the international arena, and demonstrated their skills with major and complex projects. Until now, TCC operate projects in every continent while developing their own features and resources. The ENR annual report of McGraw Hill, illustrates the list of international contractors' annual revenues that have been generated in international construction projects. With an increasing and steep trend, 31 Turkish contractors are able to make it on the list. The common individual features of TCC are quick and high quality production, low labour costs, and compatible innovations.

The domestic economical recession, had forced TCC to diversify into international markets in order to expand. After governmental supports and bilateral agreements between countries, TCC flourished in several countries and gained experience in 1970s. But, the significant boom of the Turkish construction sector occurred with the energy agreement with the USSR which provided TCC the opportunity to present contracting services, and to familiarize itself with region. Nowadays, TCC have ongoing projects in every continent of the world and undertake prominent projects.

The total generated revenue of TCC in the international arena in 2008 is 23.4 billion US \$. This huge amount might illustrate the importance of the construction industry within the Turkish national economy. It can also be defined as Turkey's leading sector.

In this research, 5 different types of regions which are grouped by the ministry of foreign trade in Turkey are analyzed. TCC are proactive and are still growing their market share in these regions, which are sorted in order according to the TCC percentage of annual revenues. The regions are respectively; CIS countries, Middle Eastern countries, African countries, Asian countries, European countries, and others. Each region is analyzed with three types of aspects that are political, economical and, social and cultural aspects.

The common perceptions of TCC for the CIS countries are Russia's political influence over the region and the abundant energy resources which provides vast

financial viability. However, in the region, bribery and a lack of authority forms contingencies for foreign contractors, who are not familiar with the region. In recent years, the Middle East region, mostly the Gulf countries, are tempting the contractors for major complex and prominent projects because of increasing crude oil prices and financial viabilities of Arabic owners despite of occasional economic fluctuations in the region. Thereby, the whole region is demanding contracting services to build infrastructures, landmark projects, commercial and industrial buildings, and other types of structures. However, economical fluctuations cause trust problems for contractors. Despite flourishing wealth and living conditions in the gulf regions, terror attacks, civil wars, and internal chaos ruptures peace in the Middle East. In African countries, TCC are only undertaking projects in northern Africa except Sudan. TCC have been operating construction projects in Libya for years and are still undertaking projects. The bureaucracy, letter of guarantees, and various legal problems are usually challenging for TCC. Asia consists of emerging markets including China and India however, the internal chaos and civil wars are also occurring in Asian countries such as in the Middle East. The legal problems and unpredictable pitfalls should be taken into consideration. But the vast opportunities in the region are very convenient for the contractors who want to expand. In Europe, most of the countries have completed the developing process except for the eastern regions, where mostly local contractors are undertaking projects. The strict controls may compel TCC to operate efficiently. In addition, developing countries have promising construction markets with the help of the EU's funds.

### **7.3 The Factors Affecting International Expansion Decisions**

After an extent literature review, the factors are compiled in order to measure the behaviour of TCC during project selection decision in international projects. 4 types of aspects are reflected into the research. The contractor's factors, the country's factors, the project's factors, and the owner's factors are obtained from distinguished academic publications. While organizing such types of groups of factors, TCC' individual features and opinions were taken into consideration. Additionally, in order to measure the performance evaluation of the TCC, performance criteria are prepared.

#### **7.4 The Methodology and Analysis**

It was necessary to prepare an extent survey in order to measure the behavior of TCC. However, after long discussions and researches, the survey was formed and sent to TCC via email, fax, mail, and close contact. With the help of distinguished organizations such as TCA, 71 respondents answered the survey. It was specially indicated that the respondent must be experienced board member or senior civil engineer in the tender department. After the measures of the surveys were entered into the database of SPSS 16.0, several types of statistical methods are computed. The percentages of the participants, mean values, standard deviations, factors scores are interpreted. The %80.6 of the participants are the member of TCA, and most of them established tender department in their companies. CIS region and Middle East region are the leading regions for TCC due to their generated revenues, and percentages are respectively %70.4 and %63.4. Also, TCC usually prefer to undertake residential buildings, infrastructure, and commercial buildings projects. After analysis of contractors' features are examined, PCA, FA, RA, Multiple regression analysis, and pearson correlation analysis were performed and the results of these tests were interpreted. PCA was performed in order to obtain the weighted means which would demonstrate more reliable measures. Then FA was examined several times therefore more reliable and consistent factors are acquired. By computing FA via SPSS 16.0, the factors and performance criteria are edited into new set of variables. The new factors are for the contractor's factors are "hard factors" and "soft factors"; for the country's factors are "legal factors", "political factors", "fiscal factors", "subcontractor factors", and "competition factors"; for the project factors are "application factors", "legal & technical liabilities", and "esteem of the project"; for the owner's factors is "viability and managerial skills of the owners"; for the performance criteria are "competitive success", "economical success", and "satisfaction of employees & employers". A few of factors were excluded from the analysis, because of irrelevant meaning and low Cronbach's alpha value. During the process of FA, RA also was done, therefore the reliability of the factors were checked by keeping the Cronbach's alpha value in reliable scale. One of the objectives of this research is to establish a formula that would reflect the behaviour of TCC in international arena. But neither multiple regression analysis, nor pearson correlation analysis did not result favorable, moreover the evaluation of

the performance criteria mainly depend on the subjective opinions of TCC. Thus, it was not possible to illustrate a formula.

Due to the survey results, TCC' interests can be interpreted that while TCC concern about their own individual skills, risks in the country, reputation of the projects, and financial strength of the owner, they neglect the factors of own resources, social factors of the country, privatization in the country, difficulty of the project, and owner experiences.

Approximately for 40 years, TCC have been experiencing international markets and still they keep learning how to develop and expand their market share. The Turkish contracting services able to enter into new markets with the help of government support and perform significantly. Despite of challenging events, pitfalls, risks and threats, TCC managed to achieve the goals. With time, number of the projects which TCC undertake is diminishing, but the complexity and revenue of the projects are increasing steeply. In order to expand into international construction markets, it is essential for contractors to have adequate and qualified technical staff which is capable of researching market features, preparing feasibility plans, constituting strategic plans. If TCC manage to adopt innovations, establish long-term and short-term strategic plans, and define factors clearly, success is inevitable and permanent issue for TCC.





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## **APPENDICES**

**APPENDIX A.1 :** The Statistical Values of Factors and Criteria in The Survey.

**APPENDIX A.2 :** The Group of New Set of Variables after Factor Analysis,  
and the Cronbach's Alpha values of the factors.

**APPENDIX A.3 :** The Descriptions of The New Groups of Factors..

**APPENDIX B.1 –** The List of Factors and The sources of The Factors.

**APPENDIX C.1 –** The Survey for The Turkish Contractors .



## APPENDIX A.1 - The Statistical Values of Factors and Criteria in The Survey.

Factors	Min	St. Dev.	Mean	Factor Scores	Weight (%)	Weighted Mean
<b>The Contractor's Factors</b>		<b>2.02</b>	<b>7.58</b>			<b>7.57</b>
Contractor's management skills	5	1.51	8.58	0.75	9.26	
Contractor's experience in similar projects	4	1.65	8.21	0.51	6.29	
Experienced and qualified staff in the company	3	1.82	8.14	0.79	9.85	
Contractor's necessity to expand into new markets	1	2.07	7.77	0.39	4.88	
Necessity of forming up balanced market portfolio	0	2.06	7.65	0.68	8.46	
The relationship with important, key employers	1	1.97	7.55	0.64	7.93	
Relationship with authorities in construction markets in which contractor have not already operated before	0	2.34	7.45	0.41	5.05	
Relationship with authorities in construction markets in which contractor previously have operated	2	2.21	7.38	0.44	5.44	
Contractor's number of the project at present	3	2.12	7.34	0.49	6.12	
Assets of the contractor	3	2.04	7.23	0.71	8.85	
Contractor's technology level	0	2.31	7.23	0.83	10.24	
The resources (equipments, materials) that the contractor own	0	2.03	7.04	0.72	8.97	
Liabilities of the contractor	1	2.20	6.92	0.70	8.67	
<b>The Country's Factors</b>		<b>2.19</b>	<b>7.05</b>			<b>7.13</b>
Competition level in the construction market of the country	3	1.71	8.27	0.32	2.27	
The fluctuations of labour and material prices	0	2.00	8.13	0.54	3.83	
The intervention risks of the government to the tender	2	1.96	8.03	0.53	3.73	
The challenges at monetary transfers	1	1.86	7.96	0.75	5.27	
The internal political condition in the country	2	1.98	7.89	0.60	4.20	
The function of legal system	0	2.19	7.70	0.82	5.80	
Tax policy of the government	3	2.02	7.62	0.53	3.75	

Factors (continued)	Min	St. Dev.	Mean	Factor Scores	Weight (%)	Weighted Mean
Design and regulation risks	0	2.21	7.62	0.86	6.04	
The experience of the contractor in the country & region	0	2.37	7.51	0.31	2.19	
More project opportunities in the country at long term	2	2.01	7.46	0.56	3.95	
The economical condition of the country	0	2.37	7.32	0.56	3.95	
The banking system of the country	0	2.19	7.28	0.74	5.27	
Political disputes or tight relations with Turkey and other countries	0	2.02	7.27	0.67	4.74	
Bribery to illegal organizations or tribal communities	0	2.72	7.23	0.45	3.16	
Bilateral or common international trade agreements	3	1.88	7.10	0.59	4.15	
Design and regulation risks	0	2.31	7.03	0.80	5.62	
Availability of local material suppliers & subcontractors	0	2.14	6.83	0.48	3.42	
The ruling type, regime type of the country	0	2.38	6.76	0.69	4.86	
Strict regulations of environment protection	0	2.09	6.61	0.68	4.77	
The fiscal reserves that the country possesses	0	2.72	6.37	0.61	4.33	
The government's HSE policy	0	2.44	6.28	0.73	5.15	
The currency type of the country	0	2.41	5.73	0.66	4.67	
The privatization level of the country	0	2.25	5.20	0.63	4.42	
Religion and cultural differences	0	2.45	4.11	0.07	0.52	
<b>The Project's Factors</b>		<b>2.11</b>	<b>7.57</b>			<b>7.49</b>
Project's financial expectations	6	0.79	9.55	0.33	3.28	
Earning reputation and prestige with the project	3	1.69	8.51	0.54	5.37	
Contractual dispute risks	0	2.16	8.03	0.58	5.70	
The contract type of the project	2	2.11	7.92	0.60	5.95	
The difficulty of project's implementation	0	2.31	7.76	0.62	6.18	
Type of the project	2	1.89	7.70	0.66	6.51	
The geographical position of the project	1	2.20	7.59	0.71	7.05	



Factors (continued)	Min	St. Dev.	Mean	Factor Scores	Weight (%)	Weighted Mean
The scope of the project	2	1.96	7.49	0.72	7.16	
Strict quality requirements	0	2.37	7.32	0.73	7.25	
The design risks	0	2.20	7.30	0.73	7.27	
The job security in the construction site	1	2.44	7.21	0.77	7.61	
The mobilization and the management style of the construction site and facilities	0	2.19	7.14	0.82	8.17	
The bidding risks	0	2.63	7.07	0.46	4.55	
Entry mode options, availability of partnership	0	2.17	7.04	0.38	3.79	
The availability of required technology	0	2.37	7.04	0.71	7.00	
The climatic risks	0	2.35	6.46	0.72	7.18	
<b>The Owner's Factors</b>		<b>1.82</b>	<b>7.89</b>			<b>7.69</b>
The financial strength of the owner	5	0.93	9.61	0.44	16.06	
The management ability of the owner	2	1.85	7.99	0.82	29.83	
Type of the owner	0	2.19	7.10	0.68	24.63	
The construction experience of the owner	1	2.32	6.85	0.81	29.48	
<b>Performance Criteria</b>		<b>0.94</b>	<b>2.89</b>			
The satisfaction of the owner is at high level	0	0.60	3.58			
In last 5 years, we have accomplished our international projects	1	0.67	3.58			
In last 5 years, we undertook more comprehensive and prominent projects abroad.	0	0.75	3.39			
In last 5 years, our company has gained competitive edge international arena	1	0.98	3.14			
Our company employs more qualified technical and administrative staff rather than previous years	0	0.96	3.04			
In last 5 years our share in international construction market developed	0	0.93	2.89			
In last 5 years the assets that we own have developed	0	1.24	2.68			
We were affected from the economic fluctuations less relatively than our rivals	0	1.11	2.62			
In last 5 years, we won most of the tenders which we have bid to projects abroad	0	0.97	2.51			
In last 5 years, we had participated as a key participant in various partnerships of international projects	0	1.10	2.37			
In last 5 years we earned considerable amounts of profits from international projects	2	0.98	2.04			



## APPENDIX A.2 - The Group of New Set of Variables after Factor Analysis, and the Cronbach's Alpha values of the factors.

Factors	Cronbach's Alpha
<b>The Contractor's Factors</b>	<b>0.866</b>
<b>Hard Factors</b>	<b>0.876</b>
Contractor's number of the project at present	
Contractor's experience in similar projects	
The resources (equipments, materials) that the contractor own	
Assets of the contractor	
Liabilities of the contractor	
Contractor's technology level	
Experienced and qualified staff in the company	
Necessity of forming up balanced market portfolio	
Contractor's management skills	
<b>Soft Factors</b>	<b>0.806</b>
Contractor's necessity to expand into new markets	
Relationship with authorities in construction markets in which contractor previously have operated	
Relationship with authorities in construction markets in which contractor have not already operated before	
The relationship with important, key employers	
<b>The Country's Factors</b>	<b>0.926</b>
<b>Legal Factors</b>	<b>0.874</b>
Strict regulations of environment protection	
Design and regulation risks	
The government's HSE policy	
Bilateral or common international trade agreements	
The banking system of the country	
The challenges at monetary transfers	
More project opportunities in the country at long term	
<b>Political Factors</b>	<b>0.880</b>
The intervention risks of the government to the tender	

<b>Factors (continued)</b>	<b>Cronbach's Alpha</b>
The internal political condition in the country	
Political disputes or tight relations with Turkey and other countries	
The ruling type, regime type of the country	
The function of legal system	
Bureaucratic obstructions	
Bribery to illegal organizations or tribal communities	
The privatization level of the country	
<b>Fiscal Factors</b>	<b>0.825</b>
The economical condition of the country	
The currency type of the country	
The fiscal reserves that the country possesses	
Tax policy of the government	
The fluctuations of labour and material prices	
<b>Subcontractor Factors</b>	<b>-</b>
Availability of local material suppliers & subcontractors	
<b>Competition Factors</b>	<b>-</b>
Competition level in the construction market of the country	
<b>The Project Factors</b>	<b>0.909</b>
<b>Application Factors</b>	<b>0.867</b>
The geographical position of the project	
The mobilization and the management style of the construction site and facilities	
The availability of required technology	
The design risks	
The climatic risks	
<b>Legal &amp; Technical Liabilities</b>	<b>0.806</b>
The contract type of the project	
Type of the project	
Contractual dispute risks	
The scope of the project	

<b>Factors (continued)</b>	<b>Cronbach's Alpha</b>
The difficulty of project's implementation	
<b>Esteem of The Project</b>	<b>0.828</b>
Strict quality requirements.	
Earning reputation and prestige with the project	
The job security in the construction site	
<b>The Owner's Factors</b>	<b>0.727</b>
<b>Viability and Managerial Skills of the Owner</b>	<b>0.727</b>
The management ability of the owner	
The construction experience of the owner	
<b>Performance Criteria</b>	<b>0.772</b>
<b>Competitive Success</b>	<b>0.792</b>
In last 5 years, our company has gained competitive edge international arena	
In last 5 years, we undertook more comprehensive and prominent projects abroad	
In last 5 years, we won most of the tenders which we have bid to projects abroad	
In last 5 years our share in international construction market developed.	
In last 5 years, we had participated as a key participant in various partnerships of international projects.	
<b>Economical Success</b>	<b>0.621</b>
In last 5 years we earned considerable amounts of profits from international projects	
We were affected from the economic fluctuations less relatively than our rivals	
In last 5 years the assets that we own have developed	
<b>Satisfaction of Employees &amp; Employers</b>	<b>0.566</b>
In last 5 years, we have accomplished our international projects	
Our company employs more qualified technical and administrative staff rather than previous years	
The satisfaction of the owner is at high level	



### **APPENDIX A.3 - The Descriptions of The New Groups of Factors.**

<b>Factors</b>	<b>Description</b>
<b>The Contractor's Factors</b>	
<b>Hard Factors</b>	The tangible and intangible resources, strategies and managerial ability of the contractor.
<b>Soft Factors</b>	The business affairs and the business volume of the contractor.
<b>The Country's Factors</b>	
<b>Legal Factors</b>	Legislations and codes regarding to the application of the project.
<b>Political Factors</b>	Internal and external political issues and law system.
<b>Fiscal Factors</b>	Economical indicators, monetary system and taxation policy.
<b>Subcontractor Factors</b>	Availability of the subcontractors and suppliers.
<b>Competition Factors</b>	The competition level in the country.
<b>The Project's Factors</b>	
<b>Application Factors</b>	Issues regarding the technical application of the project.
<b>Legal &amp; Technical Liabilities</b>	Legal and technical liabilities regarding clauses and type of the contract of the project.

**Esteem of The Project**

The reputation of the project, and the professional attention and care to the project by the contractor.

**The Owner's Factors****Viability and Managerial Skills of the Owner**

The experience and management ability of the owner or the owner representatives.

**Performance Criteria****Competitive Success**

The contractor manages to sustain the growth and is able to resist against challenging issues of the competition in the construction sector.

**Economical Success**

The contractor increased the assets of the company, resisted against fluctuations in the country and acquired high profits from the projects.

**Satisfaction of Employees & Employers**

The owners were satisfied of the contractor's works, and the high-qualified technical and administrative workers preferred to work the contractor.

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## **APPENDIX B.1 – The List of Factors and The sources of The Factors.**

<b>FACTORS OF THE PROJECT DECISION SUPPORT MODEL</b>		<b>ACADEMIC SOURCES</b>
<b>1. The factors of the contractors</b>		
<b>1.01.</b>	Contractor's number of the project at present	
<b>1.02.</b>	Contractor's experience in similar projects	Günhan and Arditi, 2005, Ofori, 2002, and Lewis et al., 2003
<b>1.03.</b>	Contractor's necessity to expand into new markets	Günhan and Arditi, 2005, and Ofori, 2002
<b>1.04.</b>	The resources (equipments, materials) that the contractor own	Lewis et al., 2003, Günhan and Arditi, 2005, Hastak and Shaked, 2000
<b>1.05.</b>	Assets of the contractor	Günhan and Arditi, 2005, Dikmen and Birgönül, 2004, Hastak and Shaked, 2000
<b>1.06.</b>	Liabilities of the contractor	Günhan and Arditi, 2005, and Ofori, 2002
<b>1.07.</b>	Contractor's technology level	Han and Diekmann, 2001, Hastak and Shaked, 2000, Günhan and Arditi, 2005, and Fang et al., 2004
<b>1.08.</b>	Experienced and qualified staff in the company	Wang et al., 2004

- |              |   |  |
|--------------|---|--|
| <b>1.09.</b> | Relationship with authorities in construction markets in  | Ofori, 2002, and Lewis et al., 2003                                    |
| <b>1.10.</b> | which contractor previously have operated   |  |
| <b>1.11.</b> | Relationship with authorities in construction markets in<br>which contractor have not already operated before | Lewis et al., 2003, and Han and Diekmann, 2001                         |
| <b>1.12.</b> | The relationship with important, key employers  | Günhan and Arditi, 2005  |
| <b>1.13.</b> | Necessity of forming up balanced market portfolio   | Günhan and Arditi, 2005).  |
| <b>1.14.</b> | Contractor's management skills  | Han and Diekmann, 2001, Wang et al., 2004, and Günhan and Arditi, 2005 |

## **2. The factors of the countries**

- |              |  |   |
|--------------|--|---|
| <b>2.01.</b> | Religion and cultural differences              | Dikmen and Birgönül, 2004, Fang et al., 2004, and Wang et al., 2004 |
| <b>2.02.</b> | The economical condition of the country        | El-Sayegh, 2008, Hastak and Shaked, 2000, and Ofori, 2002           |
| <b>2.03.</b> | The currency type of the country               | Günhan and Arditi, 2005, Wang et al., 2004, and Chua et al., 2003   |
| <b>2.04.</b> | The fiscal reserves that the country possesses | Hastak and Shaked, 2000   |
| <b>2.05.</b> | Tax policy of the government                   | Günhan and Arditi, 2005, Wang et al., 2004, and Chua et al., 2003   |

<b>2.06.</b>	The fluctuations of labour and material prices	Lewis et al., 2003, Fang et al., 2004, and Chua et al., 2003
<b>2.07.</b>	Strict regulations of environment protection	Wang et al., 2004
<b>2.08.</b>	Competition level in the construction market of the country	Dikmen and Birgönül, 2004, Ofori, 2002, and Hastak and Shaked, 2000
<b>2.09.</b>	The intervention risks of the government to the tender	Hastak and Shaked, 2000, Chua et al., 2003, and Fang et al., 2004
<b>2.10.</b>	Design and regulation risks	Ofori, 2002, Chua et al., 2003, and Wang et al., 2004
<b>2.11.</b>	The government's HSE policy	Fang et al., 2004
<b>2.12.</b>	Availability of local material suppliers & subcontractors	Günhan and Arditi, 2005, Hastak and Shaked, 2000, and Han and Diekmann, 2001
<b>2.13.</b>	The experience of the contractor in the country & region	Han and Diekmann, 2001, and Ofori, 2002
<b>2.14.</b>	The internal political condition in the country	Dikmen and Birgönül, 2004, Wang et al., 2004, and Chua et al., 2003
<b>2.15.</b>	Political disputes or tight relations with Turkey and other countries	Wang et al., 2004, Han and Diekmann, 2001, and Hastak and Shaked, 2000
<b>2.16.</b>	Bilateral or common international trade agreements	Ofori, 2002, Dikmen and Birgönül, 2004, Chua et al., 2003, and Günhan and Arditi, 2005

<b>2.17.</b>	The ruling type, regime type of the country	Hastak and Shaked, 2000
<b>2.18.</b>	The function of legal system	Han and Diekmann, 2001, Hastak and Shaked, 2000, Chua et al., 2003
<b>2.19.</b>	Bureaucratic obstructions	Hastak and Shaked, 2000, Chua et al., 2003, and Ofori, 2002
<b>2.20.</b>	Bribery to illegal organizations or tribal communities	Günhan and Arditi, 2005, Fang et al., 2004, and El-Sayegh, 2008
<b>2.21.</b>	The privatization level of the country	Günhan and Arditi, 2005
<b>2.22.</b>	The banking system of the country	Ofori, 2002, and Wang et al., 2004
<b>2.23.</b>	The challenges at monetary transfers	Chua et al., 2003, and Hastak and Shaked, 2000
<b>2.24.</b>	More project opportunities in the country at long term	Lewis et al., 2003, Günhan and Arditi, 2005, Ofori, 2002
<b>3. The factors of the projects</b>		
<b>3.01.</b>	Project's financial expectations	Lewis et al., 2003, Fang et al., 2004, and Wang et al., 2004
<b>3.02.</b>	The contract type of the project	Dikmen and Birgönül, 2004, and Hastak and Shaked, 2000
<b>3.03.</b>	Type of the project	Dikmen and Birgönül, 2004, and Hastak and Shaked, 2000
<b>3.04.</b>	Contractual dispute risks	El-Sayegh, 2008, and Hastak and Shaked, 2000

<b>3.05.</b>	The geographical position of the project	Dikmen and Birgönül, 2004
<b>3.06.</b>	The scope of the project	Dikmen and Birgönül, 2004
<b>3.07.</b>	The mobilization and the management style of the construction site and facilities	El-Sayegh, 2008, Fang et al., 2004, and Chua et al., 2003
<b>3.08.</b>	The difficulty of project's implementation	Dikmen and Birgönül, 2004, Hastak and Shaked, 2000, and Han and Diekmann, 2001
<b>3.09.</b>	Strict quality requirements	Fang et al., 2004, Chua et al., 2003
<b>3.10.</b>	Earning reputation and prestige with the project	Lewis et al., 2003
<b>3.11.</b>	Entry mode options, availability of partnership	Günhan and Arditi, 2005, Hastak and Shaked, 2000, and Wang et al., 2004
<b>3.12.</b>	The bidding risks	Chua et al., 2003, and Hastak and Shaked, 2000
<b>3.13.</b>	The job security in the construction site	Fang et al., 2004, Wang et al., 2004, Hastak and Shaked, 2000
<b>3.14.</b>	The availability of required technology	Hastak and Shaked, 2000, Fang et al., 2004, Günhan and Arditi, 2005
<b>3.15.</b>	The design risks	Fang et al., 2004, Wang et al., 2004, Hastak and Shaked, 2000

**3.16.** The climatic risks

El-Sayegh, 2008, Fang et al., 2004, and Lewis et al., 2003

**4. The factors of the owners**

**4.01.** The financial strength of the owner

El-Sayegh, 2008, Dikmen and Birgönül, 2004, Lewis et al., 2003

**4.02.** The management ability of the owner

Chua et al., 2003, Hastak and Shaked, 2000, and Wang et al., 2004

**4.03.** Type of the owner

Dikmen and Birgönül, 2004

**4.04.** The construction experience of the owner

Lewis et al., 2003

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## APPENDIX C.1 – The Survey for The Turkish Contractors.

Company Name:

Respondant Name/Surname:

Job Title / Experience in the construction industry( years ):

### FIRST DIVISION – COMPANY CHARACTERISTICS

1- How many years your company has been operating in construction industry?

2- The memberships of your company.

Turkish Contractor Association (TCA)	
Association of Turkish Consulting Engineers and Architects (ATCEA)	
The union of Turkish Construction Industry and Employer (INTES)	

3- The total generated revenues from international projects in last 5 year :

0-50 Million \$	
50-100 Million \$	
100-250 Million \$	
250-500 Million \$	
500 Million \$-1 Billion \$	
>1 Billion \$	

4- The total generated revenues from domestic projects in last 5 year:

0-50 Million \$	
50-100 Million \$	
100-250 Million \$	
250-500 Million \$	
500 Million \$-1 Billion \$	
>1 Billion \$	

5- The number of technical and administrative employee in the company:

0-100	
100-500	
500-1500	
>1500	

6- Does your company have tender department? If it does, how many employee do work in the tender department?

7- The number of ongoing international construction projects:

8- The project types that the company have managed to operate:

Residential buildings	
Commercial buildings	
Shopping centers	
Pipe lines	
Industrial facilities	
Infrastructure	
Transportation	
Dams	
Marine structures	
Others (If any)	

9- The regions in which the contractor have operated projects:

Russia and CIS region	
Middle east region	
Africa region	
Asia region	
Europe region	
Others (If any)	

10- The type of the owner of the projects:

Public	
Private sector	
PPP ( Public private partnership)	
Organizations, NGO, and etc	
Others (If any)	

## SECOND DIVISION – THE EVALUATION OF THE FACTORS THAT AFFECT INTERNATIONAL PROJECT SELECTION

### A. THE CONTRACTOR’S FACTORS

0: Inconsiderable    5: Medium Important    10: Very Important	Importance Scores
Contractor’s number of the project at present	
Contractor’s experience in similar projects	
Contractor’s necessity to expand into new markets	
The resources (equipments, materials) that the contractor own	
Assets of the contractor	
Liabilities of the contractor	
Contractor’s technology level	



Experienced and qualified staff in the company	
Relationship with authorities in construction markets in which contractor previously have operated	
Relationship with authorities in construction markets in which contractor have not already operated before	
The relationship with important, key employers	
Necessity of forming up balanced market portfolio	
Contractor's management skills	
<b>Others (If Any)</b>	

## B. THE COUNTRY'S FACTORS

0: Inconsiderable    5: Medium Important    10: Very Important	Importance Scores
Religion and cultural differences	
The economical condition of the country	
The currency type of the country	
The fiscal reserves that the country possesses	
Tax policy of the government	
The fluctuations of labour and material prices	
Strict regulations of environment protection	
Competition level in the construction market of the country	
The intervention risks of the government to the tender	
Design and regulation risks	
The government's HSE policy	
Availability of local material suppliers & subcontractors	
The experience of the contractor in the country & region	
The internal political condition in the country	
Political disputes or tight relations with Turkey and other countries	
Bilateral or common international trade agreements	
The ruling type, regime type of the country	
The function of legal system	

Bureaucratic obstructions	
Bribary to illegal organizations or tribal communities	
The privatization level of the country	
The banking system of the country	
The challenges at monetary transfers	
More project opportunities in the country at long term	
<b>Others (If Any)</b>	

### C. THE PROJECT FACTORS

<b>0: Inconsiderable    5: Medium Important    10: Very Important</b>	<b>Importance Scores</b>
Project's financial expectations	
The contract type of the project	
Type of the project	
Contractual dispute risks	
The geographical position of the project	
The scope of the project	
The mobilization and the management style of the construction site and facilities	
The difficulty of project's implementation	
Strict quality requirements	
Earning reputation and prestige with the project	
Entry mode options, availability of partnership	
The bidding risks	
The job security in the construction site	
The availability of required technology	
The design risks	
The climatic risks	
<b>Others (If Any)</b>	

#### D. THE OWNER'S FACTORS

0: Inconsiderable    5: Medium Important    10: Very Important	Importance Scores
The financial strength of the owner	
The management ability of the owner	
Type of the owner	
The construction experience of the owner	
<b>Others (If Any)</b>	

#### THIRD DIVISION – PERFORMANCE CRITERIA

0: No Idea, 1: I Certainly Do Not Agree, 2: I Do Not Agree, 3: I Agree, 4: I Absolutely Agree	Scores
In last 5 years, our company has gained competitive edge international arena	
last 5 years, we undertook more comprehensive and prominent projects abroad	
last 5 years, we won most of the tenders which we have bid to projects abroad	
In last 5 years, we have accomplished our international projects	
In last 5 years we earned considerable amounts of profits from international projects	
In last 5 years our share in international construction market developed	
In last 5 years, we had participated as a key participant in various partnerships of international projects	
We were affected from the economic fluctuations less relatively than our rivals	
In last 5 years the assets that we own have developed	
Our company employs more qualified technical and administrative staff rather than previous years	
The satisfaction of the owner is at high level	



**CURRICULUM  
VITAE**



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**Publications:**

- Polat, G., Arslan M. A., 2009: The Factors that affect the decision of international project selection for Turkish Contractors. *Dünya İnşaat Dergisi*, Kasım 2009.