POTENTIAL IMPACT OF THE WTO ON SAUDI CONSTRUCTION FIRMS

BY

IRSHAD AHMAD

A Thesis Presented to the

DEANSHIP OF GRADUATE STUDIES

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DHAHRAN, SAUDI ARABIA

In Partial Fulfillment of the
Requirements for the Degree of

MASTER OF SCIENCE

In

CONSTRUCTION ENGINEERING AND MANAGEMENT

DECEMBER 2004

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

DHAHRAN 31261, SAUDI ARABIA

DEANSHIP OF GRADUATE STUDIES

This thesis, written by **IRSHAD AHMAD** under the direction of his thesis advisor and approved by his thesis committee, has been presented to and accepted by the Dean of Graduate Studies, in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN CONSTRUCTION ENGINEERING AND MANAGEMENT.

Thesis Committee

Dr. Soliman A. Almohawis (Chairman)

23/4/05

Dr. Sadi A. Assaf (Member)

26/4

Dr. Abdulaziz A. Bubshait (Member)

24/4/05

Dr. Mohammed Al-Khalil (Member)

Dr. Fahad Al-Dosary (Member)

26/4

Dr. Abdulaziz A. Bubshait
Department Chairman

Dr. M. Al-Ohali
Dean of Graduate Studies

٥/٤/٢٠٠٥

Date

3-5-2005

DEDICATION

This thesis is sincerely dedicated

To

My loving Parents (Mr. Izhar and Mrs. Izhar)

For

Endowing me with the right tips to the successful life in this world and the hereafter

And

To

My siblings (Sohail, Mazhar, Jawaid, Shakeel, Nuzhat, Farhat, and Ishrat) for their kind help, moral supports, and encouragement that was indispensable to the accomplishment of this work

ACKNOWLEDGEMENTS

I am extremely grateful to **Almighty, Allah** who bestowed me the understanding and perseverance to make this accomplishment possible.

This research is a part of **KFUPM Research project, Grant # FT-2002/08,** the idea of which was initiated and carried out by Dr. Soliman Almohawis as a Principal investigator, Prof. Sadi A. Assaf and Dr. Mohammed Al-Khalil as co-investigators, and myself as a Research Assistant.

I would like to express my heartfelt gratitude and admiration to the Chairman of my thesis committee, **Dr. Soliman Almohawis** for his steady help, guidance, and concentration. In addition, he has been endowing me with his constructive observations at every stage of this research.

I am highly indebted to all the members of this thesis committee, viz., **Dr. Sadi A. Assaf, Dr. Abdulaziz A. Bubshait, Dr. Mohammed Al-Khalil, and Dr. Fahad Al-Dosary.** They have been engrossed in this research at all stages and suggested a number of constructive observations to make this research meaningful.

Irshad Ahmad

Dec 2004

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THESIS ABSTRACT

NAME:	**IRSHAD AHMAD**
TITLE:	Potential Impact of the WTO on Saudi Construction Firms
MAJOR FIELD:	Construction Engineering and Management
DATE OF DEGREE:	December 2004

Saudi Arabia is soon to join the 148-Members organization, the World Trade Organization (WTO). *The WTO agreements encompass the rules of trade in goods, services, and intellectual properties in chorus under one blanket agreement. Furthermore, in the WTO era, the Saudi construction firms will have to operate within the* ***GATS Framework of Liberalization (GFOL).***

This thesis identifies and describes the twenty-two relevant features of the GFOL to assess the potential environmental changes for the Saudi construction firms*. Besides, this study looks at the current status of the large Saudi construction firms in terms of the twenty-six strategic perspectives in order to assess the contemporary areas of strengths and weaknesses that need to be addressed. This is achieved through analysis of data obtained from questionnaire surveys of imminent construction professionals in the Saudi construction industry. This study shows that innovation in services, global operations, R&D activities, strategic planning, training/retraining activities, joint ventures, IT utilization, and information systems and knowledge acquisitions in the Saudi construction firms are low and constitute major weaknesses. Finally, the results of the survey are utilized further to identify the suitable generic strategies for the Saudi construction firms.*

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خلاصة الرسالة

مقدم الرسالة : إرشاد أحمد

عنوان الرسالة : الأثر المحتمل لمنظمة التجارة العالمية على مؤسسات التشييد السعودية

المجال الرئيسي : هندسة وإدارة التشييد

تاريخ الدرجة : ديسمبر 2004

ستنضم المملكة العربية السعودية قريبا إلى منظمة التجارة العالمية وهي منظمة تضم مائة وثمانية وأربعين عضوا وتحتوي اتفاقيات هذه المنظمة على قواعد التجارة في البضائع والخدمات والملكية الفكرية مجتمعة في اتفاقية واحدة شاملة، وفي عصر منظمة التجارة العالمية سيتعين على مؤسسات التشييد السعودية العمل ضمن إطار تحرير التجارة لمنظمة التجارة العالمية.

و تحدد هذه الرسالة و تصف الخصائص الاثنتين والعشرين لإطار تحرير التجارة لمنظمة التجارة العالمية بغرض تقييم التغييرات البيئية المحتملة على مؤسسات التشييد السعودية ، كما تنظر الرسالة في مواطن القوة والضعف للمؤسسات التشييدية السعودية الكبرى وذلك من خلال ست وعشرين منظورا استراتيجيا تم جمع معلومات عنها وُزعت على بارزين في صناعة التشييد ، وتبين الدراسة أن العمليات العالمية والتخطيط الاستراتيجي والتدريب وإعادة التدريب والإبتكار في الخدمات ونشاطات البحث والتطوير والمشاركة التجارية وإستخدام تقنية المعلومات وأنظمة المعلومات وحوزة المعرفة هي مناطق الضعف الرئيسية لدى مؤسسات التشييد السعودية . وفي النهاية تستخدم نتائج الاستبيان لتحديد استراتيجيات مناسبة لهذه المؤسسات. ولقد تم إستخدام نتائج المسح في هذه الدراسة في إقتراح الإستراتيجيات العامة المناسبة.

Chapter 1

INTRODUCTION

1.1 Introduction

The World Trade Organization (WTO) is an international organization positioned at Geneva, Switzerland. Currently there are hundred and forty-eight members and five-hundred and ninety-six regular employees in the WTO from various parts of the world. It encompasses the rules of trade in goods, services, and intellectual properties in chorus under one blanket agreement. It consists mainly of four agreements viz., General Agreement on Tariffs and Trade (GATT), General Agreement on Trade in Services (GATS), Trade–Related Intellectual Property Rights (TRIPS), and the agreement on Dispute Settlement Procedure (DSP). In addition, it also contains some Built-in-Agenda (BIA) which point towards further multilateral negotiations on the progressive liberalization in services' trade including construction and related engineering services. It primarily deals with the global rules of trade between nations by acting as a forum for bilateral, multilateral, and plurilateral agreements (Agreement on Government Procurement, Agreement on Trade in Civil Aircraft) (WTO, 1994, Goode, 2003).

With the accession of twenty-four countries including China, Jordan, Oman, and others into the WTO from 1995-2004, the WTO now covers approximately more than 97% of the world's population. Moreover, approximately twenty-eight more countries are lining up to have a seat in the WTO. Saudi Arabia is the only member of the Gulf Co-operation Council (GCC) countries, without a permanent seat in the WTO yet. It is an observer to the WTO (having right only to attend and observe the ministerial conferences in the WTO). However, at this time, it is in the very advanced stage of accession to the WTO (Arab News, 2003, 2004, WTO News, 2003, 2004).

1.2 Statement of Problem

'The globalization trend is irreversible. It is like a train traveling at high speed, with the US economy acting as the locomotive (Azzam, 1998).'

Though, the current process of globalization of services trade liberalization can occur bilaterally, regionally, and multilaterally, in the GATS Framework of Liberalization (GFOL), bilateral liberalization between two Members is automatically converted into multilateral liberalization by virtue of the MFN principle of the GATS (Zutshi, 2000). Therefore, as soon as Saudi Arabia joins the WTO, the Saudi construction firms will be braced with new opportunities and challenges. They will have to deal with new business environment, characterized by the GFOL. The GFOL is expected to bring both disadvantages and advantages for the large Saudi construction firms. For instance, on the

one hand, it allows overseas firm's access to the domestic market, but on the other hand, it opens opportunities for domestic firms in overseas markets.

It is quite likely that the Saudi construction industry needs to equip itself to effectively tackle the new challenges that are going to emerge in the post-WTO environment. With the remarkable progress in the process of accession to the WTO, construction professionals as well as government are eager to know the pros and cons of the WTO membership. The objectives of the WTO negotiations with the commercial partners vary from member to member and mainly depend on the economy, negotiating power of the relevant government, and political conditions of the members (WTO, 2003a).

International economists admit that the WTO agreements in general and the GATS agreements in particular are complex in nature (Zutshi, 2000, Arab News, 2003). For instance, while the horizontal commitments of the new members result from multilateral negotiations, the specific commitments in the GATT and GATS schedules result from bilateral negotiations during the accession negotiations. In addition, reduction in the present privileges and protections due to the WTO accession, economic globalization, and GFOL that the Saudi construction firms enjoy today is expected to negatively affect its competitiveness and prospects for growth. Therefore, understanding the GFOL is of immense concern to the large Saudi construction firms and professionals therein before Kingdom joins the WTO. It is a matter of great concern that the Saudi construction industry has not taken any major steps to address the consequences of accession to the WTO. This raises a serious question on the awareness of the Saudi construction industry. Three important questions, which can be viewed as statement of problem in this research,

are: (1) what are the relevant features of the WTO and the GFOL? (2) What are the strategic perspectives that incorporate strengths or weaknesses for the Saudi construction firms? (3) What should be the strategies for the Saudi construction firms to prepare themselves for the post-WTO scenarios?

1.3 Objectives of the Research

The specific objectives of this research are:

(i) To explore features of the WTO and the GATS which are likely to impact the Saudi construction industry

(ii) To investigate the impact of the economic globalization and GATS Framework of Liberalization (GFOL) on the Saudi construction firms as a result of Saudi Arabia joining the WTO

(iii) To discuss the pertinent issues identified and synthesize appropriate conclusions

(iv) To identify the suitable strategies for Saudi construction firms in the post-WTO environment

(v) To recommend areas of further research

1.4 Significance of Research

Globally, the construction industry is one of the largest sectors accounting for a sizeable proportion of most countries' Gross Domestic Product (GDP). The construction industry contributes about 5 - 15% of a national economy in value, and generally, 8 - 10% comes out to be an average value (Mawhinney, 2001). The Saudi construction industry is not an exception. The construction sector in Saudi Arabia has been a major force in the non-oil economy. The recent trend of GDP contribution of the construction sector in Saudi Arabia shows that it has been in the range of SR 39 - 49 billion as illustrated in Figure 1.1. In the last decade (1990-2000), the percentage GDP contribution of the Saudi construction sector to the national economy has been in the range of 8.2 - 9.5%. The construction industry is of importance to Saudi Arabia because it not only plays a key role in facilitating economic development, but also it is a major source of employment facilitates economic development by establishing basic infrastructure. In addition, it is a major source of employment in the Kingdom (employed 14.4% of the total workforce in 2001). Considering this important economic role of the Saudi construction industry coupled with the potentially significant ramifications of joining the WTO, this study is both needed and timely for the Saudi construction industry (Sixth Development Plan, 1999, Al-Shaikh, 2000, Al-Deen and El-Kohly, 2001, NCB Economist, 2003, US-Saudi Arabian Business Council, 2003).

Even though the GATS is a government-to-government agreement, it is of direct relevance to the construction firms because it lays down the framework of international rules of trades in services including construction services. Suppliers of construction - related

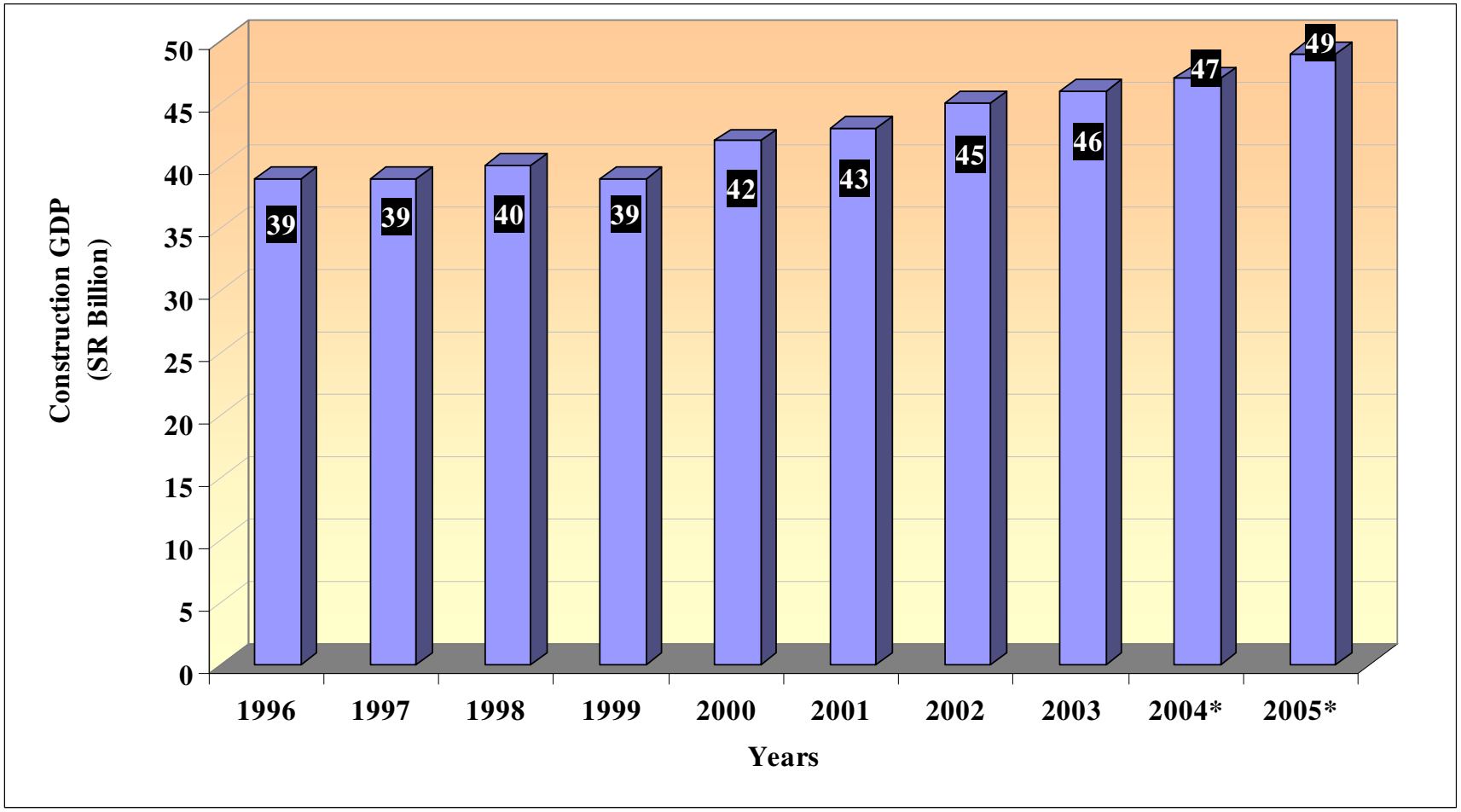

Figure 1.1: GDP Contribution of Saudi Construction Sector
Source: Compiled from (NCB Economist, 2003, EIU, 2004a)
Note: * = Projected values

services have to operate around the globe within the GFOL. The importance of the GATS to the non-governmental organizations is also quite evident from their increasing participation in the WTO's ministerial conferences as illustrated in Figure 1.2 (WTO, 2003b, 2003c).

Whether Saudi construction firms decide to expand their businesses internationally or defend their home market, they will need to understand the concept of the GFOL in construction and related engineering services. The GFOL not only provides guidance, but also serves as the first point of reference for trades in services including construction. A good understanding of the GFOL will assist in decision making process for the Saudi construction professionals and managers. For instance, if the Saudi construction firms encounter barriers related to exporting their services; they can verify whether the concerned members of the GATS have made commitments in the relevant sector. If it is so, the Saudi construction firms can approach the dispute settlement body of the WTO with the assistance of Saudi government.

1.5 Scope and Limitations

The first limitation of this research lies in its approach wherein the analysis is based on the perspective of perfect competition in the Saudi construction industry as a result of Saudi Arabia joining the WTO. However, in defense of the approach taken by this research, it is argued that this limitation is imposed mainly due to the fact that Saudi

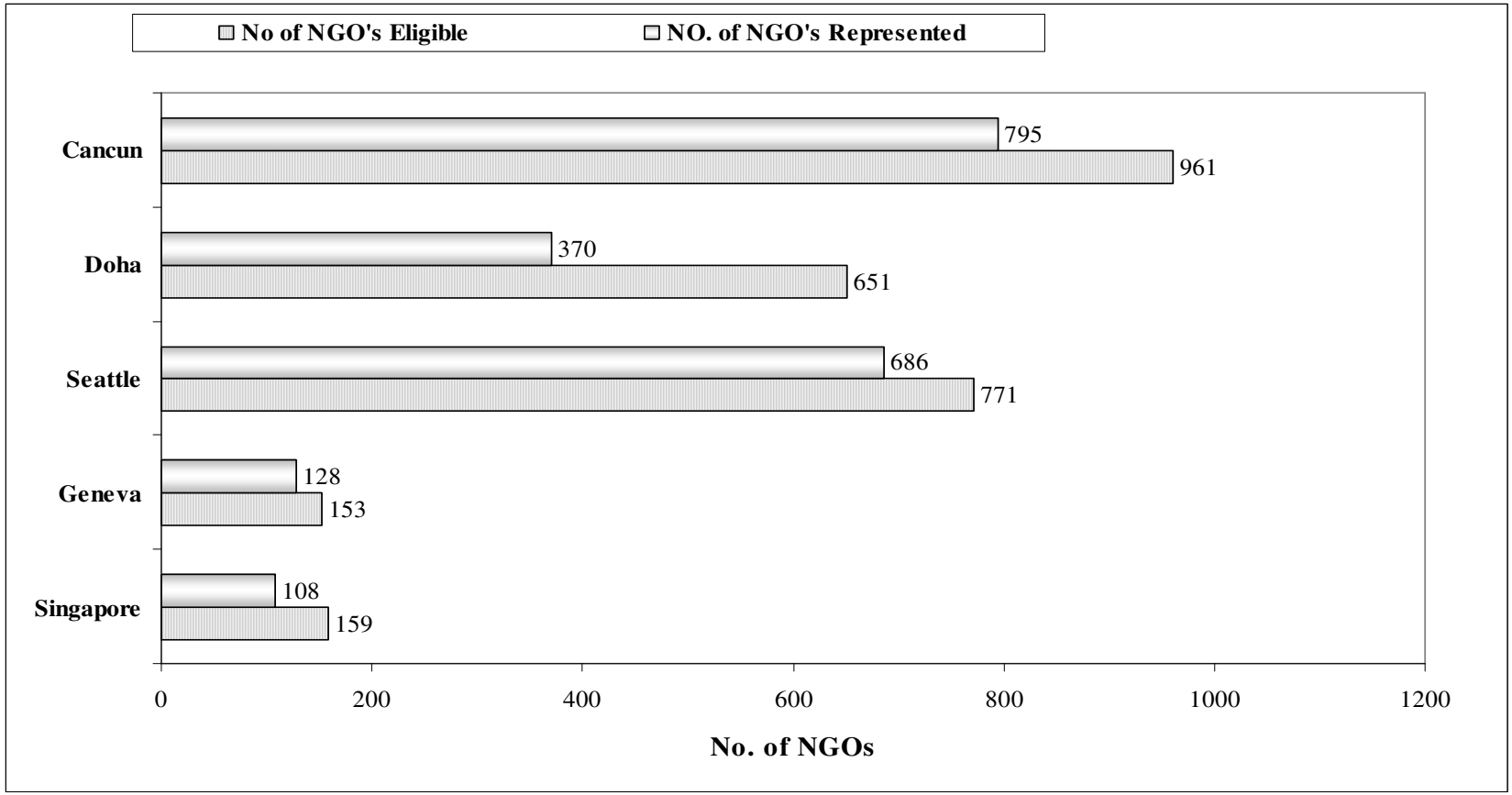

Figure 1.2: Increasing Participation of the NGO's in the WTO's Ministerial Conferences
Note: Singapore: Dec-1996, Geneva: May-1998, Seattle: Nov to Dec-1999, Doha: Nov-2001, Cancun: Sep-2003
Source: Compiled from (WTO, 2003b, 2003c, Goode, 2003)

Arabia is still in the process of accession to the WTO, the schedule of specific commitments and their stages of implementation by the Saudi construction sector are not known. Moreover, the WTO not only covers the GATS, but also GATT, TRIPS, dispute settlement agreements, plurilateral agreements (not signed by all the members) and others (WTO, 2001b). Keeping in mind the abovementioned points, it was appropriate to restrict this research to assess the direct impact of the GATS on construction and related engineering services.

The second limitation of this research is due to the purposive sampling wherein only selected experts are handpicked to survey the current status of the large Saudi construction firms. This is selection of experts having various specific backgrounds such as academia, construction project management, and strategic planning in construction firms was done to maximize the accuracy of the responses.

The third limitation of this research is that the study is restricted only to the determination of the WTO impact on construction contractors. This is done for two main reasons. The first reason is that the criteria for assessing the contemporary status of contractors' organizations differ from those of other types of construction–related firms such as consulting firms, construction material suppliers, and construction equipments manufacturers. The second reason is that the large contractors' firms constitute the major part of the Saudi construction sector in terms of their contribution to the nation's GDP.

The fourth and the last limitation of this research is that the study is based on the assumptions of total liberalization i.e., the worst case scenario and does not consider

opinions of the respondents concerning the opportunities and threats. The reason is that the terms of accession to include relaxation or abolition of present regulations so as allow more market access to foreign construction firms and offer them national treatment and the elimination of present support measures (the requirements of joint-venture, the thirty percent sub-contracting to Saudi firms, restrictions on the movement of natural labors, etc.) are not known as yet. As a result of the lack of information about the accession terms, the thesis had to adopt a worst process case scenario by assuming a total liberalization of the sector in the areas of the sector in the areas of market access and national treatment, even though the liberalization is more likely to be partial and selective. This likelihood is based on the Government present support policies in general and on the case studies of UAE and Oman suggesting the same restrictions will likely be maintained.

Chapter 2

LITERATURE REVIEW

2.1 General

This chapter reviews the existing literature and is presented in eleven sections. Section 2 presents the historical background of the World Trade Organization (WTO). Section 3 describes the objectives and functions of the WTO. Section 4 explores the WTO agreements. Section 5 unveils the general benefits of joining the WTO. Section 6 underlines some of the important features of the GATS Framework of Liberalization (GFOL) in the context of construction industry. Section 7 summarizes the Kingdom's status in the WTO accession process. Sections 8 presents the case studies of two selected countries: Oman, and UAE including their respective commitments, lessons learned, or/and experiences of joining the WTO. Section 9 reviews the background of the SWOT analysis technique and the major steps involved therein. Section 10 describes the relevant features the GFOL (external factors). Section 11 presents the GFOL as a double-edged Sword for Saudi construction firms. Section 12, the last part of this chapter identifies the strategic perspectives (internal factors) specific to the construction business.

2.2 Historical Background

A search through the web site of the WTO reveals that the WTO was created on 1 January 1995, but its trading system is more than fifty years old. The drafters of the WTO seem to be inspired from the General Agreement on Tariffs and Trade (GATT) in that the fundamental philosophy of the GATT (e.g., non-discrimination, transparency, and predictability) are also crucial rudiments of the WTO. The eights and final rounds of trade negotiations, also called Uruguay round of negotiations (1986-1994) gave birth to the GATS that is the most important agreement dealing with trades in services including construction and related engineering services (Khalid et al, 1999, WTO, 2001b, Goode, 2003).

Currently there are hundred and forty-eight members in the WTO and approximately twenty-eight countries are lining up to have a seat in the WTO. While, more than sixty countries initially made specific commitments in the construction and related engineering services, the rest of the members are to liberalize their respective construction sectors in the near future (the grace period is going to end by 2005) (Arab News, 2003, 2004).

2.3 Objectives and Functions of the WTO

The WTO overriding objective is to encourage free and fair trading environment, help trade flow smoothly, freely, fairly and predictably through upholding and

inflicting the provisions of trade laws and conventions. Other objectives of the WTO are to ensure complete employment and to raise the living standards of the world populace (Khalid et al, 1999, WTO, 2001b, Goode, 2003).

In order to attain the abovesaid objectives, the main functions of the WTO include administering shared and mutually gainful trade agreements, acting as a round-table for trade negotiations, settling trade disputes, reviewing national trade policies, expanding trade in goods and services, cooperating with the other international organizations such as World Bank, International Monetary Fund, etc., assisting developing countries in trade policy issues through technical assistance and training programs, and so on (Khalid et al, 1999, WTO, 2001b, Goode, 2003).

2.4 The WTO Agreements

The Marrakesh Agreement establishing the WTO consists of sixteen articles and four annexes. The contents under each article and annex in the WTO appear in Appendix-A1. Various agreements establishing the WTO with special emphasis on the GATS is illustrated in Figure 2.1. The abovementioned agreements are deemed to be annexes to the Marrakesh Agreements.

2.5 General Benefits of Joining the WTO/GATS

As stated by the renowned economist Adam Smith, 'The countries engaged in international trades to obtain goods and services more cheaply from abroad than the indigenously produced goods and supplied services' (WTO, 1994).

Now-a-days, the pure autarky (national self-sufficiency in production of goods and services) has almost become an imaginary perception only. Therefore, the GATS have become real and unavoidable practice by any country through out the world. The main benefits of joining the WTO include fortification of the governments from lobbying and narrow interest groups, stimulation of economic growth and national incomes, apposite settlement of trade dispute and peace among trading nations, more choices for products/services and qualities for users, greater market access for goods and services suppliers, greater certainty and clarity about the trading conditions, most-favored nation and national treatments, technology and managerial skill transfer, greater transparency and predictability, augmented Foreign Direct Investment, reduced costs of living for general public, reduced corruptions, faster innovation, and so on (Klein, 1998, Khalid et al, 1999, WTO, 2001a, 2001b, Kandah, 2002, Goode, 2003, Arab News, 2003, 2004, Khaleej Times, 2003, 2004).

2.6 The GATS

2.6.1 General

The GATS is the first ever set of multilateral, legally enforceable rules covering global trade in services including construction and related engineering services. All the WTO members have to sign the GATS agreements also. Most of the terminologies used in the GATS are adapted from the GATT agreements that had already been tried and tested for trade in goods. However, the GATS is more

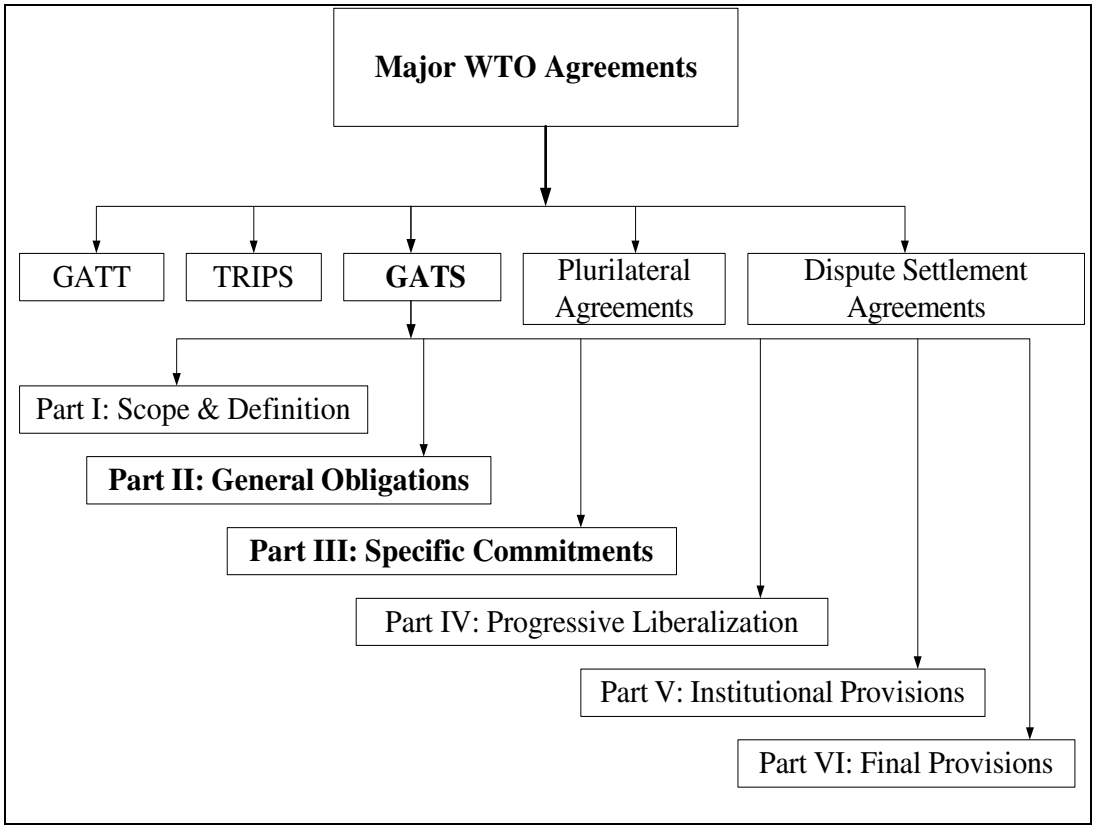

Figure 2.1: Key Agreements Establishing the WTO

Source: Compiled from (WTO, 1994, Gallagher, 2000, Goode, 2003)

intricate because of the uncommon nature of trade in services. For instance, while the GATS takes into account both services and suppliers, four modes of services supply, horizontal commitments, and specific commitments for each of the services sectors (WTO, 1994, 2001b, Gallagher, 2000, Ahmad, 2004).

There are twenty-nine articles of the GATS covering all services' sectors with the exceptions of air transportation and the services supplied in the exercise of governmental authorities, not on the commercial basis. The provisions under each of the twenty-nine articles of the GATS and eight annexes thereof appear in Appendix-A2 (WTO, 1994, 2001b, Gallagher, 2000, Goode, 2003, WTO, 2003a).

2.6.2 Objectives of the GATS

Following are the main objectives of the GATS (WTO, 2001a, 2001b, 2003a, Goode, 2003):

(i) Assuring transparency and predictability of rules and conventions concerning the trade in services

(ii) Acting as a body for reciprocal trade negotiations and enforcement of trade agreements

(iii) Upholding progressively higher level of liberalization

(iv) Inflicting the principles of Most-Favored-Nation and national treatment

(v) Upholding the economic growth of all trading partners

(vi) Guarding the development of developing countries

(vii) Endowing the least-developed countries with special treatments keeping in mind their economic situation and financial needs trade in services

2.6.3 Services Classification

According to the GATS, services sectors are categorized into twelve core sectors of economy and about one hundred and sixty sub-sectors. Every member needs to put forward its schedule of specific commitments for each of the following twelve services sectors (WTO, 1998a, 2001b, 2003a):

(i) Business (including professional and computer) services

(ii) Communication services

(iii) Construction and related engineering services

(iv) Distribution services

(v) Education services

(vi) Environmental services

(vii) Finance (including banking and insurance) services

(viii) Health services

(ix) Tourism and travel services

(x) Recreation (including cultural and sporting) services

(xi) Transportation services

(xii) Other services

Furthermore, the GATS follows the United Nation's Central Product Classification (CPC) series. Hence, the construction and related engineering services are

classified into nine groups (CPC 511-518 and CPC 8671-8674) that are listed as follows (WTO, 1998a, 2001b, Khalid et al, 1999):

(a) General construction work for buildings (CPC 512)

(b) General construction work for civil engineering (CPC 513)

(c) Installation and assembly work (CPC 514, 516)

(d) Building completion and finishing work (CPC 517)

(e) Other construction services such as pre-construction work, specialized construction work such as foundation work, water well drilling, roofing, concrete work, steel bending and erection, and masonry work (CPC 511, 515, 518)

(f) Architectural services (CPC 8671)

(g) Engineering services (CPC 8672)

(h) Integrated Engineering services (CPC 8673)

(i) Urban planning and landscape architectural services (CPC 8674)

2.6.4 Services Commitments

Unlike concessions in the GATT, which are general and obligatory applies to all goods sectors, concessions in the GATS are selective, and applies only to the sectors or sub sectors in which concessions were made. Furthermore, the extent of any privileges or subsidies is allowed under ongoing government policies and regulations. As such whether or not the construction sector or its sub sectors lose any existing privileges depend on whether or not commitments will be made against it and to what extent in the GATS schedule.

Under the GFOL, by including a service sector or sub-sector in its national schedule, the country mainly points out that it will apply to trade in the services sector market access and national treatment obligations. It is however, up to the concerned members to specify the limitations under which it will award market access and/or national treatment for each of the four modes of services takes place. Such restrictions could be of two types:

(i) Specific-covering a particular sector or sub-sector under consideration

(ii) Horizontal-covering the entire range of services

Sector specific and horizontal commitments are further described in Section 2.10.2- vii and viii. In case of Saudi Arabia, precise information concerning the abovementioned is not known yet. However, it will have to adjust its policies, and change laws to some extent so that the WTO membership is achieved at the earliest possible time. The following section explains the schedules and exemption lists and indicates their commercial implications.

The GFOL consists not only of a set of agreements and the annexes thereof, but also contains the specific commitments' schedules, and MFN exemptions for each Member. The schedule of specific commitments and its MFN exemption lists make users understand which services sectors in terms of market access, national treatment, and MFN treatment exemptions apply within the territory of concerned Members. The schedules of commitments contain the limitations with respect to each of the four modes of services supply constituting the definition of trade in a particular service. It is also necessary to examine the range of activities covered in

each service sector and the limitations on market access, national treatment pertaining to the different modes of supply and the list of MFN exemptions (if any) to review the degree of preferential treatment of discriminations in the territory of a member.

From the abovementioned discussions, it is clear that the Government of Saudi Arabia is going to commit a certain level of market access and national treatment and undertakes not to impose any new measures that will be binding on the Saudi construction firms (if it includes the construction sector and the sub sectors thereof). In case, the Government of Saudi Arabia wants to withdraw or modify its commitments in future, it will need to face compensatory adjustments with affected countries. While, it is impossible for the government of Saudi Arabia to withdraw or modify the specific commitments before three years after the GATS membership, modifications of horizontal commitments can be further enhanced at any time based on bilateral or multilateral negotiations.

The schedule of commitments mainly consists of separate rows for horizontal and specific commitments with a total of eight entries, which are as follows:

The first column contains the sector or sub sector. The second and the third columns respectively comprise of limitations on market access with respect to four modes of market access and the extent of national treatments thereof. Finally, the fourth column contains the additional commitments that do not subject to market access or national treatment schedules.

(i) Sector or sub-sector column: contains a clear definition of the sector or/and sub sector thereof. Furthermore, in most cases, the Sectoral entries are accompanied by numerical references to the Central Product Classification system of the United Nations (Ref. Section-2.6.3 of Chapter-2) which gives a detailed elucidation of the services activities covered by each listed sector or/and sub sectors thereof.

(ii) Market access column: This column indicates for each mode of supply what limitations, if any, a member maintains on market access. According to the GATS Article XVI, these limitations may be quantitative restriction plus limitations on types of legal entity and on foreign equity participation.

(iii) National treatment column: The limitations on national treatment affect the overseas services or service suppliers.

(iv) Additional commitments column: Entries in this column is not obligatory, but a member may decide in a given sector to make additional commitments. This contains positive actions in terms qualifications, standards, and licensing matters.

The GATS commitments are usually bound for the concerned Member. However, the uniform terminology, viz., none, and unbound are repeatedly used in the schedule of commitments that are described as hereunder:

(a) **None:** It indicates that there are no limitations on market access and/or national treatment in a given sector and four modes of supply. However, there may be certain limitations as per horizontal commitments.

(b) **Unbound:** By entering the term "unbound, a member can stay without any binding in a particular sector and mode of supply and hence it can continue with the existing measures not in agreement with market access and/or national treatment in some situations or in case of a particular mode of supply. In such cases, the term unbound is also used with an explanatory footnote stating "Unbound due to lack of technical feasibility". This kind of limitation is usually applied for a particular mode of supply.

Finally, the list of MFN exemptions is also an integral part of the GATS. However, it can not usually be maintained for more than ten years and is subject to assessment by Services Committee within five years of membership. The abovementioned list is easy to understand as it is structured in a clear-cut way. In the MFN exemptions section, each member needs to mention the names of sector and/or sub sectors thereof, explanation of the MFN exemptions and the reasons thereof, the member(s) to which the limitations apply, the anticipated period of the exemption, and the circumstances causing the need for the exclusion.

2.6.5 Salient Features of the GFOL

In the context of this research, the external factors are twenty-two relevant features of the GATS as summarized in Table 2.1 and described with appropriate examples in Section-2.10.

2.7 WTO and Saudi Arabia

There are several privileges that the domestic construction firms in Saudi Arabia currently enjoy that are most likely to be reduced or eliminated in the post-WTO era. A few important concessions include but are not limited to the following (Ceramic Industry Troy, 2001, OPEC Fund Newsletter, 2002, NCB Economist, 2003, Saudi-Online, 2004):

(i) No custom duties on construction materials, construction equipments, machineries, tools and plants

(ii) Restriction for foreign construction-related firms to own only minority shares (less than 50%) in the kingdom

(iii) Plots of lands for the domestic construction firms are provided on nominal rates for industrial projects and developments

(iv) Low rates of utility services (electricity, water, etc.) for domestic firms

The Kingdom began its process of accession to the WTO in December 1995. In order to become a permanent member of the WTO, it needs to successfully negotiate with the major trade partners. Currently, Saudi Arabia has an observer status in the WTO. However, since late 2003, the accession process has gained momentum. It is now approaching very rapidly towards its final stage of joining the WTO. In nutshell, Saudi Arabia has already traveled the protracted route towards accession to the WTO; the distance to be traveled is much shorter. Saudi Arabia has already successfully completed bilateral negotiation and signed the

relevant accords with more than thirty Members including the European Union, Japan, Australia, New Zealand, Canada, Malaysia, South Korea, Uruguay, Mexico, Argentina, Brazil, Venezuela, Czech Republic, Ecuador, Pakistan, Turkey, South Africa, Taiwan, Poland, Latvia, Hungary, Kyrgyzstan, Switzerland, Norway, India, China, Indonesia, Philippines, Sri Lanka, Paraguay, and Panama.

Besides, it is striving hard to negotiate the pending issues with USA and to fulfill the other requirements such as changes in laws and conventions, the economic reforms, and restructuring of Saudi public enterprises to be compatible with the WTO (OPEC Fund Newsletter, 2002, Arab News, 2003, 2004, Khaleej Times, 2003, 2004, Gulf Cooperation Council, 2004, WTO News, 2003, 2004).

During the last few years, Saudi Arabia has taken a number of noteworthy economic and legal reforms such as (Azzam, 1999, Ceramic Industry Troy, 2001, OPEC Fund Newsletter, 2002, NCB Economist, 2003, Arab News, 2003, 2004, Khaleej Times, 2003, 2004):

(i) Establishment of a supreme economic council

(ii) Opening of stock market to foreign investors

(iii) Privatization of such vital sectors as power, telecommunication, transportation, operation and maintenance in industrial and power sectors, urban developments, buildings, and docks and related facilities.

(iv) Approval of a new Foreign Direct Investment law

(v) Approval of a new Saudi labor law

(vi) Amendment of the real estate law to allow foreign ownership

Table 2.1: Summary of External Factors (Opportunities/Threats)

Sl. No.	GATS Features/External Factors
i	Most-Favored-Nation (MFN) Treatment (Article II)
ii	National Treatment (Article XII, XIV, XVI, XVII, and XXI)
iii	Government Subsidies (Article XV)
iv	Transparency (Article III & VI)
v	Recognition (Article VII)
vi	Progressive Liberalization (Articles XIX, XX, and XXI)
vii	Specific Commitments (Articles XV, XVII, XIX, XX, and XXI)
viii	Horizontal Commitments (Article II, III, IV, and V)
ix	Additional Commitments (Article XVIII)
x	International Payments and Money Transfers (Article XI &XII)
xi	Dispute Settlement and Enforcement (Article XXIII)
xii	Government Procurement Agreements (Article XIII)
xiii	Trade Policy Reviews (Article III)
xiv	Electronic Commerce (Articles I, II, III, IV, VI, VII, VIII, IX, XVI, XVII, GATS Basic Telecommunication agreements and the relevant Annex)
xv	Increasing Participation of Developing Countries (Article IV)
xvi	Domestic Regulation (Article VI, XVI, and XVII)
xvii	Business Practices (Article IX)
xviii	General and Security Exceptions (Article XVI)
xix	Technical Cooperation (Article XXV)
xx	Emergency Safeguard Measures (Article X)
xxi	Market Access (Article XVI)
xxii	Others (Economic Globalization)

(vii) Establishment of the new policy bodies such as the General Investment Authority, the Supreme Tourism Authority, and the Supreme Council for Petroleum and Mineral Affairs.

(viii) Establishment of regulatory bodies for telecommunications, electricity, stock market, and investments in industrial parks.

2.8 Case Studies of Selected WTO Members

Following sections provide the case studies of construction sectors of the two selected members (viz., Oman, and UAE) that joined the WTO prior to Saudi Arabia and have some resemblances to Saudi Arabia in one way or another.

2.8.1 Oman's Experience

Oman has many resemblances with Saudi Arabia. For instance, both are members of Arab Monetary Fund (AMF), Gulf Co-operation Council (GCC), Arab League, and Organization of Arab Petroleum Exporting Countries (OAPEC). It formally joined the WTO on 9, November 2000 through accession process. Since April 1996 until November, 2000 it had been an observer to the WTO. The potential of Oman's being a lucrative construction market is quite evident from the ongoing landmark construction projects viz., new ports, industrial zones, free trade zones, roads, water and tourism projects, and others. The budgeted construction spending

(2001-2005) of Oman can be seen in Table 2.2 (WTO, 2003c, 2003d, UK Trade and Investment, 2004a).

The Oman's schedule specific commitments pertaining to the construction and related engineering services under the GFOL appear in Table 2.3 that can be read in association with Section-2.6.4 for accurate and simple interpretations.

Oman had to put great effort in the process of accession to the WTO particularly in fulfilling the demands of its trading partners that joined the WTO prior to Oman. For instances, Oman is the first GCC country that implemented transparency in the tendering process through advertising them in the leading local newspapers, international bulletins/ periodicals/ magazines, and tender board's website. In addition, Oman is also the first GCC country that made commitments concerning Government Procurement. The Government of Oman has undertaken various steps to face the challenges of the WTO and globalization including introduction of a special training course on strategic planning and economics in cooperation with the Arab planning Institute of Kuwait (Khaleej Times, 2003, 2004, Gulf News, 2003, 2004, Gulf Cooperation Council, 2004).

Foreign construction firms are increasingly allowed to participate in ongoing major construction projects beyond a value of OR 250,000. Construction firms from several member countries including India, Egypt, Lebanon, UK, and others are already operating in Oman. However, foreign construction firms need to make joint venture agreements with some suitable local partners. An extensive training program for Omani professionals has successfully been launched by the

Table 2.2: Construction Spending in Oman

Sl. No.	Ongoing Project's Head: Five-year (2001-2005) Plan	Allocated Funds
1	Low cost public housing	US$ 42 million
2	Utilities and Municipal Services	US$ 650 million
3	The Palace	US$ 210 million
4	Road Building	US$ 380 million
5	Total Spending on Construction	US$ 1282 million

Source: Compiled from (UK Trade and Investment, 2004a).

Table 2.3: Schedule of Omans Specific Commitments

Sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Construction and Related Engineering Services	Mode I: None Mode II: None Mode III: None Mode IV: Unbound (except as indicated in the horizontal section)	Mode I: None Mode II: None Mode III: None Mode IV: Unbound (except as indicated in the horizontal section)	---

Source: Compiled from WTO Website (www.wto.org)

Government of Oman to effectively face the WTO challenges (EIU, 2004b, UK Trade and Investment, 2004a).

2.8.2 UAE Experience

UAE is one of the 51 original members of the GATT. It formally joined the WTO on 10 April 1996, just five days before the end of accelerated membership process and the consequent commencement of strict WTO's accession process (Azzam, 1999, WTO, 2003c, 2003d, EII, 2004c).

Some of the key facts showing the significance of UAE construction market can be seen in Table 2.4. The recent trend of GDP contribution of the UAE construction sector has been in the range of fifteen to sixteen thousand millions of UAE Dirham (7 to 10 % of the UAE national GDP). In addition, the UAE construction sector provides employment for approximately two-hundred and fifty thousand to three-hundred thousand employees (17 to 19 % of the total UAE workforce) (Ministry of Planning, 2003, EIU, 2004c).

At the time of joining the WTO, the Government of UAE made specific commitments only in six services sectors out of twelve major services sectors under the GATS. The specific commitments of UAE construction and related engineering services are shown in Table 2.5 that can be read in association with Section-2.6.4 for accurate and simple interpretations.

The relevant sectors wherein UAE made specific commitments include architectural services, engineering services, urban planning, and landscaping

services. The UAE negotiated a 10-year exemption from several WTO obligations that are going to expire in January 2005.

Table 2.4: Key Facts about UAE Construction Market

Sl. No.	Key Facts	Remarks
1	Size of construction market	$15 billion (Approx.)
2	GDP contribution	7-10%
3	No. of building projects completed in the first six-months of 2002.	1,142: 792 villas, 350 industrial or service buildings including 15 hotels and 141 multi-storey apartment buildings.
4	Cost of building projects completed in the first six-months of 2002.	$3 billion
5	No. of multi-story building projects under construction in 2004.	337
6	Landmark projects	1. The world's largest man-made islands: The Palm Islands-the eighth wonder of the world (Completed). 2. The world's first seven-star hotel, the Burj Al-Arab (Completed). 3. The 705-meter high Burj Dubai tower (Ongoing): going to outstrip by more than 250 meters the current contender, Patrons Towers in Kuala Lumpur. This skyscraper will house a hotel wing, apartments, offices, entertainment centers, restaurants, one of the world's largest malls (the Dubai Mall with over two million square feet of retail space), and an old town that will make it a city within a city.

Source: (Compiled from UK Trade and Investment, 2004b, Arab News, 2004)

Table 2.5: Schedule of UAE Specific Commitments

Sector	Limitations on Market Access	Limitations on National Treatment	Additional Commitments
Construction and Related Engineering Services	Mode I: None Mode II: None Mode III: None Mode IV: Unbound (except as indicated in the horizontal section)	Mode I: None Mode II: None Mode III: None (except as indicated in the horizontal section) Mode IV: Unbound (except as indicated in the horizontal section)	---

Source: Compiled from WTO Website (www.wto.org).

2.9 SWOT Analysis

2.9.1 General

SWOT is an acronym for the strengths, weaknesses, opportunities, and threats. While, the strengths and weaknesses are internal factors, the opportunities and threats respectively are complimentary and adverse

circumstances in the firm's environment in which it operates. There are numerous definitions of the SWOT analysis found in the literature. The few important ones are as described hereunder (Stutely, 1999, Pearce II and Robinson Jr., 2000, Rabin et al., 2000, Macmillan and Tampoe, 2000, Turban et al, 2002, Business Hotline, 2004):

(i) A structured approach that helps strategists to imagine systematically about strategic issues.

(ii) A convenient and concise way of summarizing the results of other analyses.

(iii) An important strategic forecasting tool for systematic development and evaluation of past, present, and future data to identify internal strengths and weaknesses and external threats and opportunities.

(iv) A tool for auditing an organization and its environment that provides an assessment of the current situations of strategic perspectives.

Jabsheh (2001), in his study on the impacts of the GATS on the Kuwaiti Banking sector, suggested that the SWOT analysis has the potential of being effectively utilized in the similar future research. The usefulness of the SWOT is also quite evident from the successful application at both agency and subunit levels of a number of public-sector agencies. However, it is suggested that the SWOT analysis is most suitable in the circumstances where the intention is to gain a better understanding of the strengths, weaknesses, opportunities, and threats (Stutely, 1999, Pearce II

and Robinson Jr., 2000, Rabin et al., 2000, Macmillan and Tampoe, 2000, Turban et al, 2002, Business Hotline, 2004).

2.9.2 Major Steps in the SWOT Analysis

The SWOT analysis involves three major steps as illustrated in Figure 2.2. Each step is described in the subsequent sections.

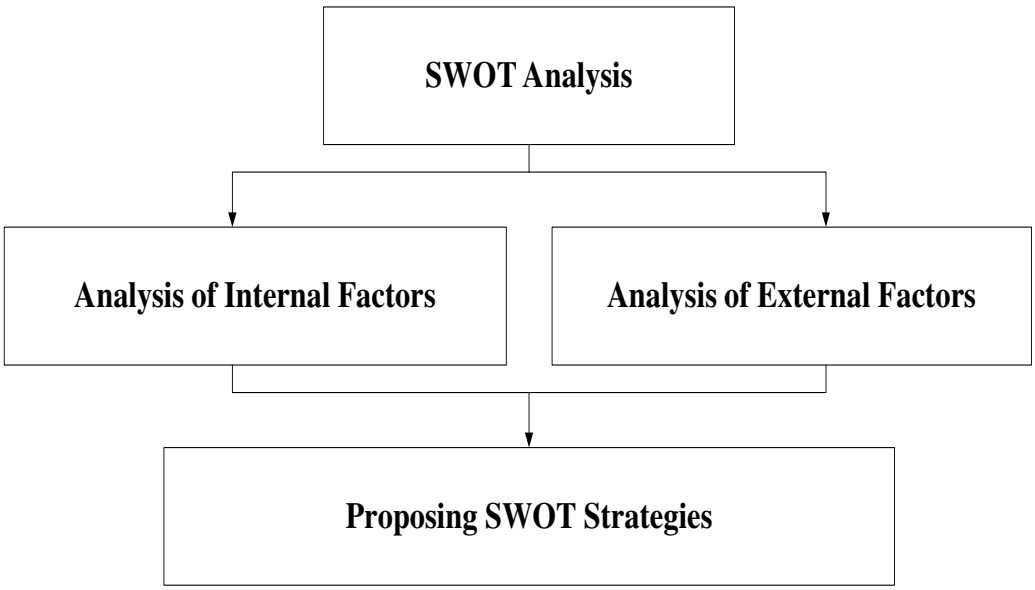

Figure 2.2: Major Steps in the SWOT Analysis

(i) Analysis of Internal Factors (Strengths and Weaknesses):- Internal analysis is used to separates strengths and weaknesses of a firm and to assess their internal capabilities. The criteria for determining the firm's strengths and weaknesses should be in comparison with existing as well as impending key players (Stutely, 1999, Pearce II and Robinson Jr., 2000,

Rabin et al., 2000, Macmillan and Tampoe, 2000, Turban et al, 2002, Business Hotline, 2004).

(ii) Analysis of External Factors (Opportunities and Threats):- The analysis of external factors aims at revealing the external factors due to the prospective environmental changes (Saudi Arabia joining the WTO in this case) that forces the firms to alter their strategies. For instance, the imminent GFOL in Saudi Arabia would alter the way the Saudi construction firms do business today and would create a paradigm shift (Stutely, 1999, Pearce II and Robinson Jr., 2000, Rabin et al., 2000, Macmillan and Tampoe, 2000, Turban et al, 2002, Business Hotline, 2004).

(iii) Matching Internal and External Analyses: - As stated by William Cohen, a renowned strategic planner, cited in 'the opportunities and threats existing in any situation always exceed the resources needed to exploit the opportunities or avoid the threats. Thus, strategy is essentially a problem of allocating resources. If strategy is to be successful, it must allocate superior resources against a decisive opportunity' (Pearce II and Robinson Jr., 2000:88).

Once the consensus is reached concerning the contemporary strengths, weaknesses, opportunities, and threats, appropriate strategies need to be proposed based on the sound matching among them. This stage of strategies formulation needs brainstorming among the concerned people.

A typical SWOT diagram is shown in Figures 2.3 and Figure 2.4 illustrates the SWOT strategies matrix. The SWOT diagram is a two-way matrix with strengths (S) and weaknesses (W) constituting the first dimension, and the opportunities (O) and threats (T) constituting the second dimension. Thus it consists of four cells. The first cell (SO strategies cell) pursues opportunities that are a good fit to the organization strengths. The second cell (WO strategies cell) overcomes weaknesses to pursue opportunities. The third cell (ST strategies cell) identifies ways that the organization can use its strengths to reduce its vulnerability to external threats. The fourth and last cell (WT strategies cell) establishes a defensive plan to prevent the organization weaknesses from making it highly susceptible to external threats. From the results of the SWOT analysis, strategies (plans and actions) can be developed to align the organizations with its environment. At this stage, all ideas and comments should be written down that might be raised and later the ideas generated can be edited and short-listed by deleting anything irrelevant. Finally, strategies (plans and actions) are developed to achieve alignment of the internal factors with the external environment (Stutely, 1999, Pearce II and Robinson Jr., 2000, Rabin et al., 2000, Macmillan and Tampoe, 2000, Turban et al, 2002, Business Hotline, 2004).

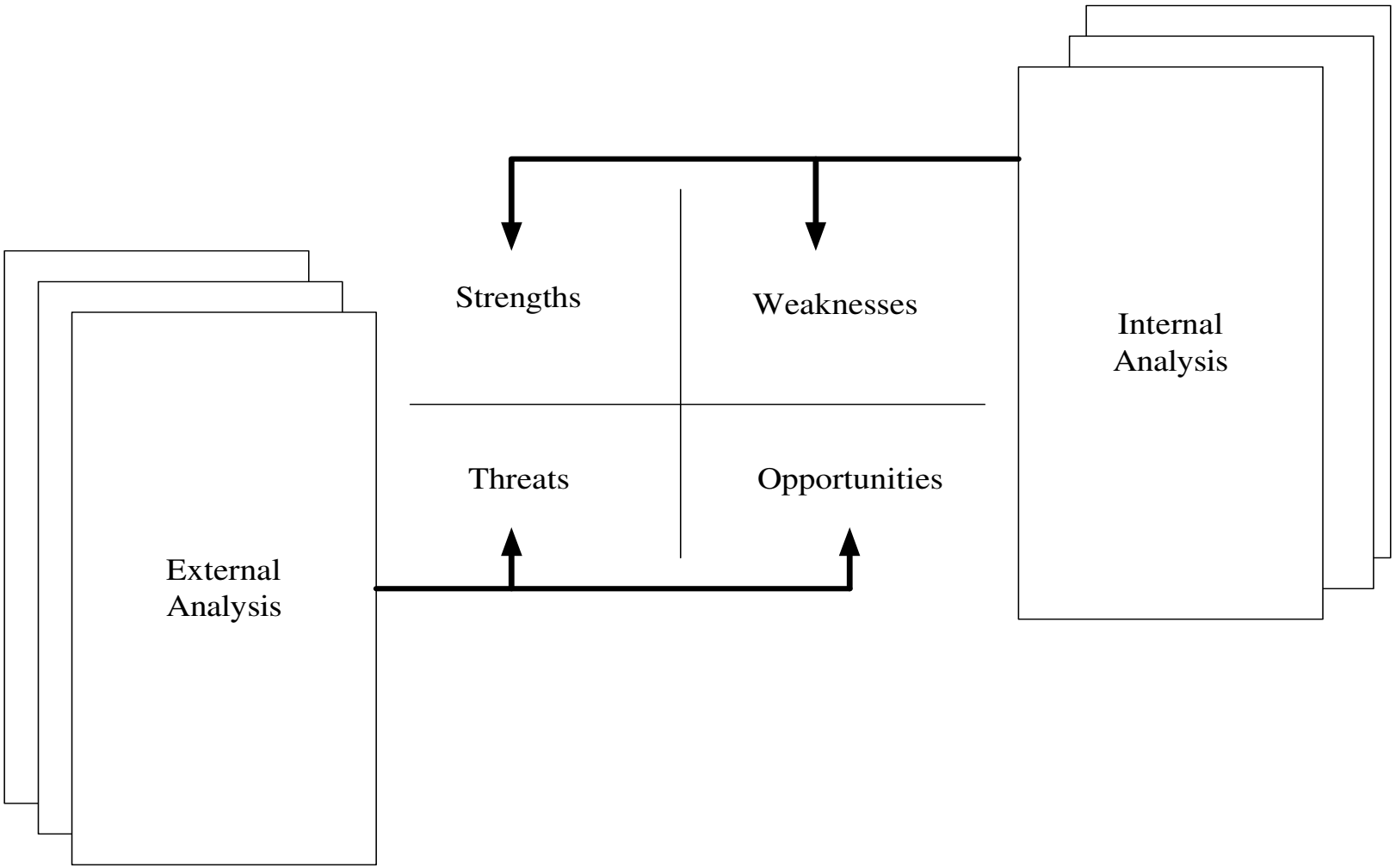

Figure 2.3: Basic SWOT Diagram

Source: Adapted from Macmillan (2000)

Internal Factors / External Factors	**Strengths (S)**	**Weaknesses (W)**
Opportunities (O)	**"S-O" Strategies** Generate Strategies here that use strengths to take advantage of opportunities.	**"W-O" Strategies** Generate Strategies here that take advantage of opportunities by overcoming weaknesses.
Threats (T)	**"T-S" Strategy** Generate strategies here that use strengths to avoid threats.	**"W-T" Strategy** Generate strategies here that minimize weaknesses and avoid threats.

Figure 2.4: A Typical SWOT Matrix

Source: Adapted from (Turban et al, 2002)

2.10 External Factors (Opportunities/Threats)

Various relevant features of the GFOL (Ref. Section-2.6.5 of Chapter-2) are briefly described in the following sections.

(i) MFN Treatment: - As mentioned in the GATS Article II, one member has to treat all the members/trading partners by the same token without any discriminations. For instance, in the post-WTO era, if Saudi Arabia liberalizes its construction sector, it will have to liberalize it to the same extent for all the members. Similarly, the Saudi Arabia will be treated by all the members without any discrimination (WTO, 1994, Gallagher, 2000, Goode, 2003).

(ii) National Treatment: - As described in the GATS Article XII, XIV, XVI, XVII, and XXI, national treatment stands for equal treatment irrespective of whether they are overseas or domestic firms as long as they are allowed to enter into the market to deliver their services including construction. This feature and the extent of this feature apply only to the sector(s) for which a Member has made the commitment. For instance, in the post-WTO environment, if Saudi Arabia made specific commitments in its construction sector, it will have to eradicate all the precincts on foreigners' participation in construction company boards, land ownership, discriminatory minimum investment requirements, monopoly operators, and other quantitative precincts in this sector. However, the GATS permits some of the exemptions to protect the public spirits, safety, and health of all concerned (WTO 1994, Gallagher, 2000, Goode, 2003).

(iii) Government Subsidies: - As mentioned in the GATS Article XV, further multilateral negotiations are needed in this regard. The ultimate aim is that every GATS member will keep reducing subsidies to its domestic services suppliers. In addition, every member will have right to consult and demand for fair competitions with the other concerned member (s) if the subsidies seem to negatively affect the services supplies/suppliers of one's own nationals (WTO 1994, 2001c, Gallagher, 2000, Goode, 2003).

(iv) Transparency: - As indicated in the GATS Article III and VI, transparency aims at making economic, legal, Government procurement, and political data or materials exclusively evident and free from facade or deception. Therefore, Saudi Arabia will have to set up and uphold essential secretarial mechanisms through publishing all pertinent laws and conventions in official journals and Government gazettes. Saudi Arabia will also need to create enquiry points from where the overseas firms can obtain trade-related information concerning any of the service sectors including construction and related engineering services (WTO, 1994, Gallagher, 2000, Goode, 2003, Cousins, 2004).

(v) Recognition: - As mentioned in the GATS Article VII, mutual recognition of qualifications or credentials and the synchronization of curricula is very important for successful liberalization of services. The GTAS encourages the mutual recognition of each others educations, experiences, licenses, or certification based on bilateral agreements. In other words, the GATS aims at establishing the common international standards (WTO 1994, Gallagher, 2000, Goode, 2003).

(vi) Progressive Liberalization: - As mentioned in the GATS Article XIX, XX, and XXI, it requires more bilateral, plurilateral, and multilateral negotiations to persevere with the liberalization process. The main goal is to take the liberalization process further by increasing the level of commitments in schedules, and bringing down the barriers to trades in services in the due course of time. The progressive liberalization is basically as a result of multi-lateral negotiations. However, if it results from the bilateral negotiations between any two or more Members, they have to be granted to the rest of the Members as per the MFN principle. The step-by-step progressive liberalization could be as follows (WTO, 1994, Gallagher, 2000, EIC, 2001, Goode, 2003, Cousins, 2004):

(a) Provisions for joint ventures

(b) Provisions for subsidiaries

(c) Provisions for branches

(d) Provisions for foreign minority shares (less than 50%)

(e) Provisions for foreign majority shares (more than 50%)

(f) Provisions for wholly owned (100%) foreign firms

(vii) Sector Specific Commitments: - As mentioned in the GATS Article XVI, XVII, XIX, XX, and XXI, each country's sector specific commitments are distinctive and state the coverage of that country's liberalization sector-by-sector. The specific commitments of a new Member results from bilateral negotiations during the accession negotiation. The schedule of commitments concerning construction sector mainly contains the following (WTO, 1994, Goode, 2003):

(a) Citations of the extent of MFN treatment for construction sector

(b) Precincts on market access (number of licenses for foreign construction firms)

(c) Precincts on national treatment (number of branch offices for foreign construction firms)

(d) Four modes of construction services' supply and limitations (if any) on the number of services suppliers, quotas, monopolies, exclusive services suppliers, requirements of an economic need tests, value of services transactions, total number of natural persons, foreign shareholdings, and the schedule including the timeframe and date of entry into force (if necessary)

(viii) Horizontal Commitments: - As mentioned in the GATS Article II, III, IV, and V, they contain certain rules and conventions that are uniformly applied for all services sectors. In other words, the horizontal commitment section indicates precincts that are common for all the services sectors. This section typically comprises of MFN exemptions, fiscal measures, investment measures, measures related to the presence of natural persons, land and immovable property laws, legal form measures, and standards applied. The horizontal commitments of a new Member results from multilateral negotiations. The upshots of the extent of the impact of Saudi Arabia's WTO membership on the construction sector-as distinct from the liberalization dictated by the economic globalization in general is whether or not privileges will be reduced affecting negatively the competitiveness and prospects of growth for the local construction sector (WTO, 1994, 2001a, 2001b, 2003a, Gallagher, 2000).

(ix) Additional Commitments: - As mentioned in the GATS Article XVIII, the members are encouraged to negotiate among themselves and come up with some additional commitment outfitting to their local conditions. These may include the matters related to qualifications, standards, or licensing (WTO, 1994, Gallagher, 2000, Goode, 2003).

(x) International Payments and Money Transfers: - As mentioned in the GATS Article XI and XII, they require eradicating all the precincts related to money transfer for services supplied except under certain unavoidable circumstances. This would facilitate the timely finance that is vital for effective supplying of services in general and construction and related engineering services in particular (WTO, 2001a, 2001b, 2003a).

(xi) Dispute Settlement and Enforcement: - The likelihood of trade-related disputes among nations increases with growth of trade. Moreover, there is an enormous need for some arrangement to resolve such trade related disputes in order to enforce the rules and conventions of the WTO. As described in the GATS Article XXIII, the GATS helps resolving the aforementioned disputes quietly, equitably, impartially, promptly, and effectively through the WTO's system of Dispute Settlement Mechanism away from civil court of any nation. The decisions of the panel are binding on the parties in the dispute and consequently the affected parties are assured of the recompense and the right to impose countervailing sanctions against the offending parties (WTO 1994, 2001b, 2001c, 2003a, Gallagher, 2000, Goode, 2003).

(xii) Government Procurement Agreement: - Previous literature reveals that the Government Procurement (GP) of services accounts for as much as 10-15 % of Gross National Product (GNP), in almost each economy of the world that is a significant amount and have enough potential for becoming an important issue for the multilateral negotiations (Zutshi, 2000).

Currently, the GATS Articles II, XIII, XVI, XVII are not operational for the Government Procurement Agreements (GPA's) for social services, provided that they are not being delivered on commercial basis. In addition, GPA's are incomplete except for issues related to transparency and domestic regulation that need further negotiations (WTO, 1994, Zutshi, 2000, Goode, 2003).

(xiii) Trade Policy Reviews: - As mentioned in GATS Article III, it is mandatory for the members to let the WTO for conducting regular trade policy reviews through established Trade Policy Review Mechanism at some preset intervals of time between each review. The time intervals depend on the contribution of a Member in the world trade. For instance, it is conducted at the intervals of every two years for the EU, the USA, Japan, and Canada, at every four years for next sixteen members, and every six years for the rest of the members with the possibility of a longer time intervals for the least developed countries. The main aim is to ensure all the Members that they tag along austerely the WTO's obligations and to keep sticking on to their commitments. This also ensures the persistence of the liberalization process (WTO, 1994, 2001a, 2001b, Gallagher, 2000, Goode, 2003).

(xiv) Electronic Commerce: - The issues of electronic commerce (EC) are discussed in various sections (Articles I, II, III, IV, VI, VII, VIII, IX, XVI, XVII, Telecommunication Annex, and the Basic Telecommunication agreements) of the GATS. It is basically a part of GATS Mode I of services supply. EC facilitates the transmission of information, products, and services. For instance, on-line blue prints, architectural drawings and maps, engineering designs and data, consulting services, post-construction operation and maintenance services (using maintenance management software), transactions for sales or purchase, etc. are made easier. However, while delivering in-situ construction services abroad, the direct role of EC is inconsequential (WTO, 1994, Zutshi, 2000, Goode, 2003).

(xv) Increasing Participation of Developing Countries: - As mentioned in the GATS Article IV, it facilitates the increasing participation of developing countries through one-hundred and forty-five special and differential (S&D) treatment provisions. For instance, developing countries are given the flexibility to put forward their commitments both in terms of market access and national treatment to go well with their development objectives. It is also obligatory for the developed country members to assist the developing country members in strengthening their domestic services capabilities, efficiency, and competitiveness through technology transfer and improved information networks. In addition, the developing country Members are given privileges to open fewer sectors, liberalizing fewer varieties of transactions, and gradually extending their market

access corresponding to the development in a particular service' sector (WTO, 1994, Gallagher, 2000, Zutshi, 2000, Goode, 2003, Keck and Low, 2004)

(xvi) Domestic Regulation: - As mentioned in the GATS Articles VI, XVI, and XVII, it is obligatory for all the Members to ensure that comportment of handling any of the domestic regulations that might influence the trade in services including construction (if it appears in the schedule of specific commitment) be rational and unprejudiced. For instance, Saudi Arabia will need to institute the legal or administrative courts or procedures as appropriate (WTO, 1994, 2001b, Gallagher, 2000, Zutshi, 2000, Goode, 2003).

(xvii) Business Practices: - As mentioned in GATS Article IX, each of the members is required to cooperate with the other members with a view to eliminating any business practices of services suppliers that may restrain the perfect competition in the market. These practices might include the supply of the monopoly services beyond the scopes of the monopoly rights not covered in the specific commitment sections of the Member concerned (WTO, 1994, Gallagher, 2000, Goode, 2003).

(xviii) General and Security Exception: - As mentioned in GATS Article XVI, it is up to the discretion of a member to enforce some measures necessary for the following reasons (WTO, 1994, 2001b, Gallagher, 2000, Goode, 2003):

(a) to protect public ethics and morals

(b) to maintain public orders

(c) to protect the lives and/or health of all living beings

(d) to thwart the misleading and deceitful practices

(e) to protect the confidentiality of people pertaining to propagation or processing of their private records

(f) to protect any information concerning the services that might contradict to the national security interests

(xix) Technical Cooperation: - As mentioned in GATS Article XXV, one of the key functions of the WTO Secretariat is to provide technical assistance to the services providers especially from the developing countries. This is decided and accomplished through the WTO's Council for Trade in Services (WTO, 1994, 2001b, Gallagher, 2000, Goode, 2003).

(xx) Emergency Safeguard Measures: - As mentioned in GATS Article X, Emergency Safeguard Measures (ESM) could not be completed during the Uruguay round of negotiations and were left for further negotiations through progressive liberalization principle. ESM indirectly upholds and facilitates the members to make additional commitments safely because it endows a member with the ability to take certain safeguard measures in the emergency circumstances such as economic crisis or/and natural disasters (WTO, 1994, Gallagher, 2000, Zutshi, 2000, Goode, 2003).

(xxi) Market Access: - As mentioned in GATS Article XVI and annex to the GATS concerning movement of natural persons, conditions of market access is

flexible and it is up to the discretion of a member concerned to include or exclude a particular sector from the schedule of commitments. However, in the sectors listed in a member's schedule of specific commitments, a member cannot take measures that are defined in the GATS as restricting market access. The GATS defines the four possible ways of providing construction services that are described in the following sections (WTO 1994, 2001b, 2001c, 2003a, Gallagher, 2000, Goode, 2003):

(a) Mode I (Cross-Border Supply):- provides the possibility for non-resident supplier to supply cross-border services into the member's territory without any need for personal meeting between services supplier and clients. For instance, an architect supplies his architectural drawings overseas and a consultancy firm supplies its consulting services from his native country to any member. Information and advices through international telephone calls, video conferencing, and cargo transportation are also included in this mode of services supply that support the construction services supply through each mode of services supply. A large number of members have made commitments under Mode I of services supply.

(b) Mode II (Consumption Abroad):- provides the freedom for the member's residents to purchase services in the territory of another. Under this mode of services supply, client/customer needs to travel abroad to receive the desired services. For instance, a construction firm sends its employees abroad for higher studies or professional training courses not available in its territory. Quite few

signatories to the GATS have made commitments under this mode of services' supply.

(c) Mode III (Commercial Presence):- provides the opportunities for the overseas service suppliers to establish, operate, or expand the commercial presence through a branch, agency, or wholly-owned subsidiary in the member's territory adding up to the Foreign Direct Investment (FDI). For instance, a construction firm expands its business internationally by a locally established affiliates, incorporations, branches, subsidiary, representative office, or joint ventures in any of the members' territories. Mode III of services supply is important for most of the trade in services in general and construction services in particular because of the in-situ performance characteristics. Only few members have made commitments under Mode III of services supply.

(d) Mode IV (Movement of Natural Person):- provides the possibilities offered for the ingress and temporary stay in the members' territory of overseas individuals in order to supply a particular service for which the concerned members have made specific commitments with regards to the movement of natural person. This mode of construction services supply includes the self-employed and the workforce thereof that is particularly of interests to the developing countries in that they can have opportunity to realize their labor cost advantage in supplying construction overseas. A construction firm can independently supply its services within the members' territories that have made specific commitments in construction and related engineering services under

Mode IV. Only few members have made commitments under Mode IV of services supply as compared to other modes of services supply. Moreover, the commitments under Mode IV are further limited to its validity for certain experts for whom visa processing is done through fast track system (GATS Visa).

(xxii) Others:- The upshots of the extent of the impact due to the Saudi Arabia's WTO membership on the construction sector is not distinct and separate from that dictated by the economic globalization and varying government policies and regulations thereof. For instance, the impact of the reduced concessions or privileges will obviously have a negative impact on the competitiveness of the local construction and related engineering firms.

2.11 The GFOL as a Double-Edged Sword

There are several advantages and disadvantages of the GATS Framework of Liberalization (GFOL). For instance, on one hand, it grants overseas firm's access to the domestic market but on the other hand, it opens opportunities for domestic firms in the markets of one-hundred and forty-eight Members. Following are the main prospective advantages for the large Saudi construction firms as a result of the Kingdoms' entry into the WTO (WTO, 1994, Goode, 2003, Ahmad, 2004):

(i) MFN treatment in the one-hundred and forty-eight Members without any discrimination

(ii) National treatment for Saudi construction firms and Saudi construction professionals of the Members nations

(iii) Right of Saudi Arabia to consult and demand for fair competitions with the other concerned Members wherein the subsidies seem to negatively affect the services supply through biased competition

(iv) Conducive business environment in the prospective overseas markets of all signatory countries to be characterized by economic, legal, Government Procurement, and political data or materials exclusively evident and free from facade or deception

(v) Mutual recognition of educations, experiences, licenses, or certification based on bilateral agreements

(vi) Increasing level of commitments in the commercial partners' schedules of specific commitments and reducing the barriers to trades in relevant services

(vii) Effective resolutions of all the trade-related disputes away from civil court of any nation and founded on an established legal basis that are quiet, equitable, impartial, effective, prompt (within twelve months without appeal and fifteen months with appeal), and commonly satisfactory to each party. Therefore, the allegations of inequitable practices will be passed on to a global dispute resolution body at Geneva Switzerland

(viii) A reduction in the barrier to trade in construction services in terms of international money transfer, payments, and exchange of money while providing services in the member's territory

(ix) With the developments in E-commerce agreements under the GATS framework, Saudi construction firms can serve the clients in the members from domestic market through transmission of information, products, or services. For instance, on-line blue prints architectural drawings and maps, engineering designs and data, consulting services, post-construction operation and maintenance services.

(x) Saudi construction firms will also be indirectly benefited through abridged import duties on construction equipments, computers, and other office equipments.

However, in spite of the abovementioned advantages of Kingdoms' entry into the WTO for the Saudi construction firms, the Government of Saudi Arabia will also have to provide the same benefits for the interested international construction firms of the one-hundred and forty-eight Members.

From the discussions in earlier paragraphs, it is quite evident that the GFOL is analogous to a double-edge sword for Saudi construction firms. As illustrated in Figure 2.5, while it facilitates the ingress of overseas construction firms into the domestic market it also opens the overseas opportunities for domestic firms in the markets of hundred and forty-eight Members.

2.12 Internal Factors (Strengths/Weaknesses)

2.12.1 General

The strengths or weaknesses of an entity, whether an organization, a business sector, or a nation are not absolute. Sometimes strength can be viewed as a weakness and vice versa, depending on the situation or circumstance and the way the strength or weakness is perceived. For instance, it might be possible for a dominant realestate developer to strategically turn a shortage of production capacity into the shortage of housing available in the market. Similarly, some of the strengths might turn into weaknesses. For instance, if the management of a construction firm is highly experienced (strength), but since experience comes with age, those managers will be expected to retire soon leading to a loss of experience (weakness).

From the review of available literature, twenty-six internal factors that might constitute the strengths or weaknesses of construction firms are identified (Tatum, 1987, Ubaid, 1991, Betts and Ofori, 1992, Al-Barrak, 1993, Warszawski, 1994, 1996, Dorsey, 1995, Kumaraswamy, 1996, 1997, Bubshait and Al-Gobali, 1996, Gushgari et al, 1997, Maloney, 1997, Azzam, 1998, Dulaimi and Hwa, 2001, Oz, 2001, Mawhinney, 2001, Fellows, et al, 2002, Ofori, 2000, 2003, Dikmen and Birgonul, 2003) in Table 2.6 and defined in the subsequent sections.

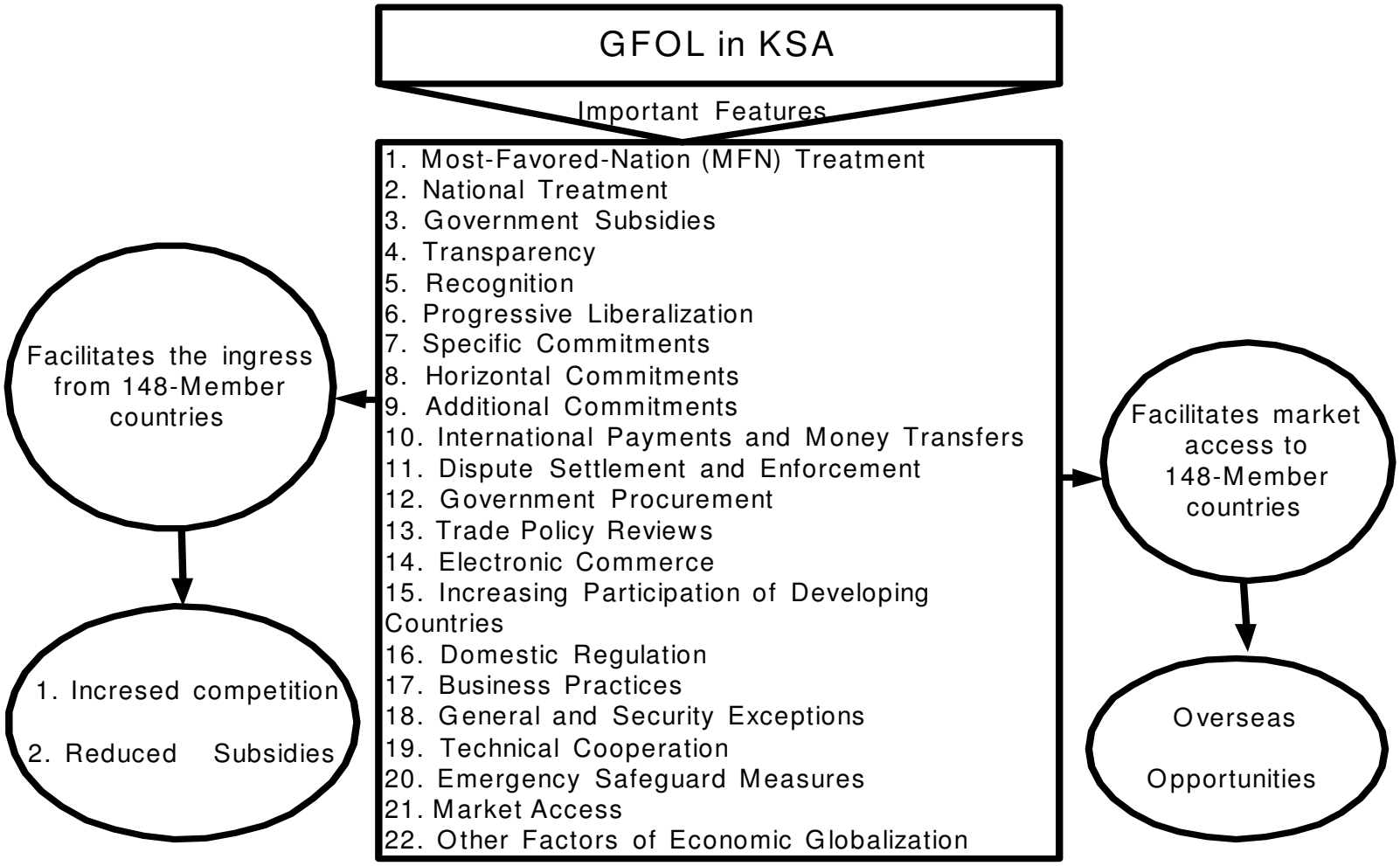

Figure 2.5: The GATS Framework of Liberalization as a Double-Edge Sword

Table 2.6: Summary of Internal Factors (Strengths/Weaknesses)

Sl. No.	Internal Factors	Sl. No.	Internal Factors
i	Financial resources	xiv	Government policies
ii	Technological capabilities	xv	Procurement management
iii	Managerial capabilities	xvi	Production efficiency
iv	Organizational structure	xvii	Strategic planning
v	Plant and equipment management	xviii	Training/retraining
vi	Suppliers selection	xix	Clients relations
vii	Products/services quality	xx	Experience
viii	Human resources	xxi	Strategic alliances (locally)
ix	Marketing skills	xxii	Joint ventures (overseas)
x	Innovation in services	xxiii	Utilization of IT
xi	Global operations	xxiv	Information systems and knowledge acquisition
xii	R&D activities	xxv	Size of the firm
xiii	Market shares	xxvi	Related and supporting industries

2.12.2 Descriptions of Internal Factors

(i) Financial Resources: - Construction firms need financial resources for investment in facilities, business development, personnel, bidding for new projects, successfully executing the projects in hand, and so on. A lack of working capital hampers the business in general and the successful marketing efforts in particular. This factor can be measured in terms of comparative parameters derived from the financial statements such as liquidity ratios, activity ratios, profitability ratios, leverage ratios, quick ratios, and current ratios.

(ii) Technological Capabilities: - Technological capabilities refer to the competence of a company in the collective deployment of technical processes (for instance, the translation of principles or models into specified project deliverables). It can be measured in terms of efficiency of facilities and effective utilization of the sophisticated and specialized technologies that facilitates in the realization of competitive advantages over the competitors.

(iii) Managerial Capabilities: - The managerial capabilities entail the subjective judgment that measures the effectiveness of managers of the Saudi construction firms. This parameter can be measured in terms of ability to make sound decisions, successful recruitment, effective training, good motivation, high morale, efficient administration, and so on. The management weaknesses may include failure to delegate and train successors, high staff turnover, and so on.

(iv) Organizational Structure: - Organizational structures may be defined as the manner in which the organizational staff is assigned with discrete responsibilities and coordinating them consequently. It can be measured by considering the degree to which each individual has a well-defined role in the company. Other measures include the appropriateness of assignment of authority, responsibility, and duty to an individual in the company, the extent of cross-functional and multi-tasking skills and capabilities, etc.

(v) Plant and Equipment Management: - Plant and equipment are an economic investment and that its proper management determines the profitability of a company. It can be measured in terms of availability of effective equipment management policy, utilization of IT in this regard, and so on.

(vi) Suppliers Selection: - It is an important management strategy wherein a company minimizes the cost of a project through careful selection of suppliers of materials and other services. It can be measured in terms of effective relationships with suppliers, established (recorded policies) of appointing them, and the extent to which mutually beneficial agreements are made.

(vii) Products/Services Quality: - Quality is the totality of features which have a bearing on a product or service satisfying stated requirements. It may also be defined as the degree of excellence of the deliverable product or service. Quality is pivotal in defining a competitive strategy.

(viii) Human Resources: - Human resources are means to the success of a company. Human resources can be measured in terms of qualification and experience of the staff, effective criteria for recruiting new personnel, average turnover of the managers, and extent of the employee's loyalty to the company.

(ix) Marketing Skills: - Marketing skill implies the capability of the company to identify potential clients and to keep them informed about the firm's capabilities. It also includes attracting and maintaining a client base. It can be measured in terms of the effectiveness of marketing personnel in a company in securing additional work orders.

(x) Innovation in Services: - Innovation in products and services provides a competitive edge in today's marketplace. Innovation is needed to satisfy client's special requirements such as construction speed or reliability under various constraints. It can be measured in terms of extent of the sophisticated construction or innovative management techniques.

(xi) Global Operations: - Business activities are moving progressively further away from a world in which national economies were relatively isolated from each other by barriers to cross-border trade and investment. It can be measured in terms of extent of work experience of a company and professionals in the international construction markets.

(xii) Research and Development (R&D) Activities: - R&D activities in a construction company are important to survive and flourish in the today's

competitive marketplace. It can be measured in terms of the budget amount invested on R&D.

(xiii) Market Shares: - A large market share helps in achieving a dominant position that can translate into a competitive edge. It can be measured in terms of extent of market share of a company in the attractive market and the ability to translate into pricing controls.

(xiv) Government Policies: - Some of the pertinent government's policies can directly or indirectly help local construction firms and provide competitive advantage to them. The examples may include facilitating manpower training, initiatives in new technology schemes to uphold R&D, facilitating adequate investment and financing opportunities, making available regional market information through publications to enhance market networks and access to the regional markets, pecuniary incentives, preferential treatment to local firms, rebates on duty, reduced bureaucratic obstacles, quality/productivity assessment scheme, enhancement of business environment by creating more government contracts, launching total business process planning schemes, recognition through national awards in various fields of excellences such as quality, productivity, and so on. This is a subjective judgment of the government policies that would directly or indirectly benefit the domestic firms.

(xv) Procurement Management: - Procurement management involves the acquisition of equipment, material, and services by means of purchasing, renting,

leasing, and contracting. It includes inquiry, requisitions, bid evaluations, purchase order, award, documentation, inspection, reporting, and evaluation of vendor performance. Proper procurement of construction material (including production of some of the materials and/or components thereof), subcontractors work, equipment, and other services are pivotal for a construction company. It can be measured in terms appropriateness of procedures and policies of maintaining the inventories of materials, extent of application of state of the art techniques such as just in time material management, successful liaisons with specialist subcontractors, and criteria for selection of suppliers.

(xvi) Production Efficiency: - The success of a construction company in today's competitive international market largely depends on its production efficiency. Low-cost rapid construction is one of the most important sources of competitive advantage in the current business environment. Production efficiency can be measured in terms of extent of attainment of cost leadership strategy or differentiation strategy. It can be measured in terms of time taken to complete a particular project.

(xvii) Strategic Planning: - Strategic planning entails the long term plan of a company in support of its business. It is one of the essential management functions. This parameter can be measured in terms of clarity and effectiveness of long-term strategies that are derived from the internal and external business environment in which the companies operate, and their short-term achievements.

(xviii) Training/Retraining: - Training of personnel is an important part of the widely used strategies in the competitive environment. It can be measured in terms of extent of saving of both time and cost (of construction) as a result of training and retraining of personnel.

(xix) Clients Relations: - Maintaining strong client relations are means to success in the international construction markets. It can be measured in terms of successful liaisons with clients and the resulting increased work orders obtained therefore.

(xx) Experience: - Experience is an important competitive advantage. It can be measured in terms of number of years in construction business, the extent that the acquired knowledge has been retained in the form of records, documents, details (also, updated operating and technical manuals, established efficient business processes), etc. Other measures include the extent of effective utilization of the aforementioned acquired knowledge by the staff for achieving more efficient and economic designs, and satisfying clients.

(xxi) Strategic Alliances: - It is a fact that properly agreed upon alliances with other firms, even with competitors can be beneficial for a construction company. There may be several types of alliances depending on the purpose to be served. It can be measured in terms of the extent of mutual benefits a company exploits as a result of aforementioned agreements in terms of concentrating on core business, securing work-orders, taking up a large project, boosting project quality,

improving project execution, exploring new technology and expertise, sharing of information through intranet, internet, and extranet (an extension of the limited intranet facilities such as information concerning products/services, pricing, inventory, and scheduling to the business partners, suppliers, and clients organizations), joint R&D efforts, and so on.

(xxii) Joint Ventures: - Joint ventures overseas are widely practiced by the global players to augment their competitive advantage. It can be measured in terms of the extent of spreading risks, pooling of resources, assets, skills, and facilities to win the contract, obtaining work that is too large for any one of the entities in the joint venture and achieving the goal of successful project completion.

(xxiii) Utilization of IT: - Information Technology (IT) has always been the foremost driver for revolutionizing the business community in general and that of construction in particular. Apart from designing, planning, controlling, and quality control purposes, IT is being strategically used in construction firms for accessing foreign markets, marketing, advertising, international outsourcing, eliminating the need of intermediaries, making use of infomediaries, and supplying services. The assessment of this factor is subjective in nature.

(xxiv) Information Systems and Knowledge Acquisitions:- In the WTO era, like other businesses, construction firms will be in need of precise, wide-ranging, well-timed, and handy information in order to acquire competitive advantages.

While information results in the standardization of operational procedures and centralized control at the highest level, acquisition of knowledge is treated as one of the necessities and accepted investment to survive and thrive in today's competitive edge of global marketplace. The assessment of this factor is subjective in nature.

(xxv) Firm's Size:- Size of the firm is of strategic importance in that it not only provides added advantages of protection, negotiating power, business expansion opportunities but also it helps in achieving economies of scale, augmenting the market shares, and consequently leading to the market control. It can be assessed in terms of number of employees, volume of business, and number of operating offices/branches.

(xxvi) Related and Supporting Industries:- Construction industry is supported by a large number of ancillary industries and sub sectors such as those dealing in construction materials, construction equipment, design, engineering, and consultancy services. Local accessibility of such associated services strengthens the local presence as well as augments trade of construction services. Local availability of design, engineering, and consultancy firms will have all the prospects to uphold the exploitation of indigenous materials, plants and equipments, and subcontractors.

Chapter 3

RESEARCH METHODOLOGY

3.1 General

The philosophy common to all research methods and techniques, although, they may vary considerably from one science to another, is usually given the name of scientific method (Fellows and Liu, 1997, Kothari, 1998). In addition, theoretically, the purpose of any research is to discover answers to questions through the application of scientific procedures. In line with this and as stated in Section-1.3, the main purpose of this research is to investigate what are the important features of the GFOL and to assess the internal factors of Saudi construction firms and hence to propose some of the generic strategies for them.

3.2 Research Methodology

Selection of an appropriate approach is an important part of research. Most of the Construction Management research is currently dominated by the following three principal approaches:

(i) Quantitative methods

(ii) Qualitative methods

(iii) Mixed Approach (A combination of quantitative and qualitative methods)

In case of present research, both quantitative (Survey results of internal factors) and qualitative data (Interpretations from Literature survey) were available. In addition, a thorough review of all the approaches, a combination of quantitative (Statistical Analysis) and qualitative (SWOT Analysis) approach appeared to be an appropriate approach for this study. Figure 3.1 present a flow chart consisting of a number of closely related major activities required to achieve the objectives of this research.

3.3 Research Process for Present Study

Most of the activities in this research overlap rather than follow strictly the sequencing as shown in Figure 3.1. However, the following is a general order of the elements of the research process:

(i) Formulating the research problem

(ii) Extensive literature review

(iii) Identification of external and internal factors

(iv) Research design

(v) Construction of the questionnaire

(vi)Pilot study of questionnaire survey

(vii) Selection of respondents and administering the questionnaire

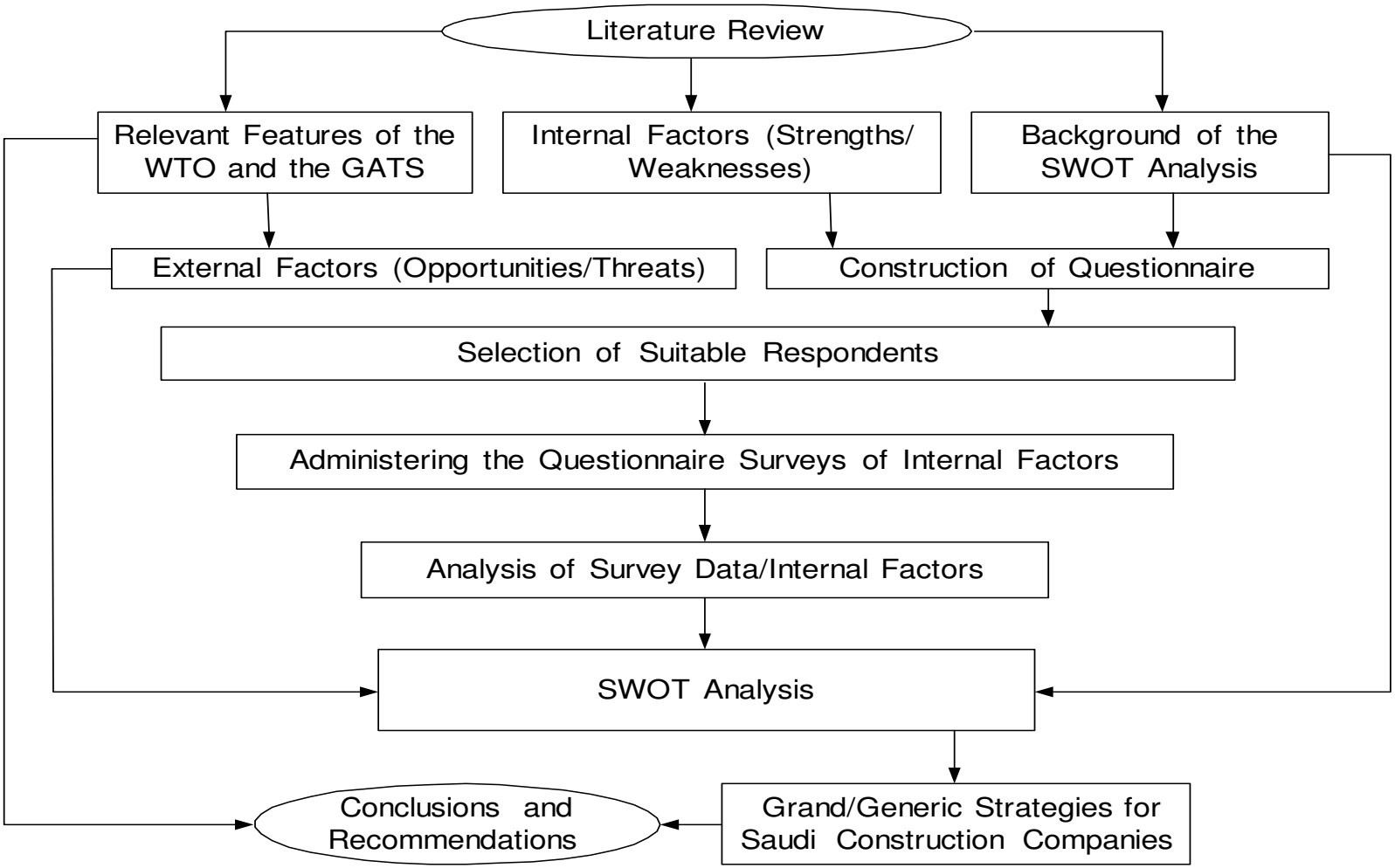

Figure 3.1: Research Design

(viii) Analysis of data

(ix) SWOT analysis and proposing generic strategies

The following sections describe the major elements in the above list and how they were achieved.

3.4 Formulating the Research Problem

In a research process, the first and the foremost step is selecting and properly defining a research problem. Furthermore, the formulation of objectives determines the data that are to be collected, the characteristics of the data that are relevant, relations that are to be explored, choice of techniques to be used, and the form of the final report (Fellows and Liu, 1997, Kothari, 1998).

In this research, it was realized that a thorough assessment of internal factors of the large Saudi construction firms are pre-requisite for proposing a set of post-WTO generic strategies. This idea was developed by some of the members of the thesis committee who are currently involved in the similar research project in the King Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia.

3.5 Preparing the Research Design

Based on the formulated research problem and with a view to formulate the research problem in clear cut terms, a research design was prepared. The research problem required data to be collected by survey. The survey results in conjunction with the potential WTO environment for the large Saudi construction firms paved the way to propose a set of apposite strategies using the well-known SWOT analysis tool.

3.6 Pilot Study of Questionnaire Survey

A pilot study involving five respondents (faculty members of Construction Engineering and Management Department at KFUPM), was conducted to ascertain the adequacy of the questionnaire and the absence of confusing items. The pilot study resulted in the incorporation of few minor changes to the questionnaire.

3.7 Selection of Respondents and Administering the Questionnaire

The objective of the survey is to obtain expert opinions on the status of Saudi construction firms in terms of their internal factors.

Respondents were chosen from a variety of backgrounds such as project management, strategic planning, and those acting as owners or clients'

organizations responsible for prequalifying and evaluating bids of contractors and/or subcontractors. In general, they were highly experienced. Their designations showed them to be at quite high positions in their respective firms. Necessary care was taken to ensure that the respondents participated in this research have global knowledge of the internal strengths and weaknesses of the large Saudi construction firms. In order to ensure the careful selection of the respondents, some of the thesis committee members themselves were responsible for selecting them. Furthermore, the questionnaire was mailed to the respondents only after personal contacts were made by the Chairman of the Construction Engineering and Management Department.

Fifty-three prominent Saudi construction professionals were selected as potential respondents for this study, and were mailed the questionnaire. Every respondent was individually reminded that they should complete the questionnaire independently and not in accordance with the policies of their firms. In addition, the respondents were followed up so as to expedite the data collection processes. Completed responses were received from thirty respondents, constituting about 57% response rate.

3.8 Construction of the Questionnaire

The format for the questionnaire survey used in this study appears in Appendix-A3. The questionnaire essentially required the respondents to answer three types of questions:

(i) For each factor, what is the current status of large Saudi construction firms? For instances, respondents were asked to provide their opinions concerning what is status of Saudi construction firms in terms of financial resources, technological capabilities, managerial capabilities, and others. The respondents were provided with three response choices: low, fair, and high. All the twenty-six factors were briefly described in the end of questionnaire survey to make the intent of questionnaire as clear as possible.

(ii) For each factor, what does the current status of Saudi construction firms represent? The respondents were provided with five choices: major weakness, minor weakness, neutral, minor strength, and major strength.

(iii) Is/Are there additional factor (s)? If yes, what are they?

3.9 Analysis of Data

Analysis of data requires several closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation, and then drawing statistical inferences (Fellows and

Liu, 1997, Kothari, 1998). In this research, each response was coded appropriately to make them suitable for analysis using computer package. The first and foremost aim of analysis was to group the internal factors into strengths and weaknesses. The results of this analysis were subsequently utilized in the SWOT analysis.

3.10 SWOT Analysis and Proposing Strategies

SWOT analysis aimed at identifying the strengths and weaknesses of Saudi construction firms and matches them with the opportunities and threats in the post-WTO environment, and proposing general strategies in order to become more resilient to the effects of liberalization. The SWOT analysis was carried out using the external factors (opportunities and threats) as described earlier as one dimension and the major strengths and weaknesses of the Saudi construction firms that were identified through the questionnaire survey as another dimension.

In order to carry out the SWOT analysis and propose the post-WTO strategies, this researcher carefully coordinated the associated internal and external factors in the form of a two-way matrix based on the suitable matching between the internal and external factors. In order to achieve the desired result, a systematic thinking process as described in Section 2.9 was utilized.

Chapter 4

RESULTS AND DISCUSSION

4.1 General

This chapter analyzes and presents the results of survey on internal factors (strengths/weaknesses) for large Saudi construction firms. The results of analyses of the questionnaire survey data are presented in section two. The third section presents the additional internal factors suggested by the respondents. Finally, the discussion of the results of statistical analysis is presented in section four.

4.2 Analysis of Data

As mentioned in Section 3.8, one of the objectives of the questionnaire is to understand the strengths and weaknesses of Saudi construction firms. To simplify the presentation of the results, a format utilizing the frequency of responses similar to that used by Dikmen and Birgonul (2003) for Turkish construction companies has been used. However, in case of this study, the status of the Saudi construction firms in terms of twenty-six internal factors and the corresponding impact i.e., whether the contemporary status represents strengths, weaknesses, and/or none, are difficult to detect from Table 4.1 based on the frequency of majority responses.

Therefore, further matrices for each internal factor were prepared after combining the responses in the major and minor strengths and major and minor weaknesses as illustrated in Figures 4.1 to 4.26. Finally, Figure 4.27 summarizes the survey results. In order to make interpretations from Figures 4.1 to 4.26, the following criteria to interpret the responses are utilized:

(i) If fifty percent or more of respondents agree if a factor is strength or weakness, it is correspondingly categorized otherwise it is concluded that the respondents do not agree among themselves whether or not the status of a factor represents strength or weakness.

(ii) If fifty percent or more of respondents agree if the status a factor is low, medium, or high, it is correspondingly categorized otherwise it is concluded that the respondents do not agree among themselves whether or not the status of a factor is low, medium, or high.

(iii) If in any of the nine cells of Figures 4.1 to 4.26, thirty-three percent or more of responses fall, it is correspondingly categorized according to that cell, otherwise it is concluded that the respondents do not agree among themselves whether or not the categorization of a factor falls in any of the cell categories.

(iv) For the purpose of this study, if the pattern of response for a factor satisfies all the above criteria to be grouped into either H-S or L-W, it is assumed that the respondents have reached sufficient degree of consensus both in terms of its status of an internal factor and whether it represents a strength or weakness. Hence, these factors are further considered while proposing strategies in Chapter 5.

4.3 Additional Factors

The last part of the questionnaire asks the respondents to indicate any internal factors not listed in the questionnaire. The responses to this came from two respondents who suggested the additional factors listed in Table 4.2. However, these factors were basically subsets of one or more of the twenty-six factors already listed in the questionnaire, and hence were not given any additional consideration.

Table 4.1: The Current Status of Large Saudi Construction Firms

Strategic Perspectives	Status			Representing strength/weakness				
	Low (L)	**Medium (M)**	**High (H)**	**Major Weakness (W)**	**Minor Weakness (W)**	**Neutral (N)**	**Minor Strength (S)**	**Major Strength (S)**
i. Financial resources	6	12	12	7	2	4	4	13
ii. Technological capabilities	4	22	4	5	6	6	10	3
iii. Managerial capabilities	13	13	4	10	5	6	2	7
iv. Organizational structure	12	13	5	7	10	4	4	5
v. Plant and equipment management	9	18	3	3	10	9	6	2
vi. Supplier selection	3	16	11	1	4	8	7	10
vii. Products/ services quality	4	18	8	5	6	8	3	8
viii. Human resources	12	13	5	9	7	5	4	5
ix. Marketing skills	12	13	5	3	6	13	5	3
x. Innovation in services	16	13	1	10	6	13	1	0
xi. Global operations	22	7	1	14	7	6	2	1
xii. R&D activities	30	0	0	16	6	7	1	0
xiii. Market shares	8	17	5	0	5	12	7	6

xiv. Government policies	13	12	5	9	2	6	6	7
xv. Procurement management	9	11	10	7	5	6	4	8
xvi. Production efficiency	10	13	7	8	5	6	3	8
xvii. Strategic planning	17	10	3	13	5	4	5	3
xviii. Training/ retraining activities	22	6	2	14	8	3	4	1
xix. Client relations		16	14		4	7	7	12
xx. Experience	4	14	12	4	4	4	7	11
xxi. Strategic alliances	13	14	3	8	3	10	7	2
xxii. Joint ventures	17	7	6	13	2	7	5	3
xxiii. IT Utilization	16	12	2	11	4	9	6	0
xxiv. Information system and knowledge acquisitions	17	13	0	14	4	8	4	0
xxv. Firm size	3	16	11	4	3	10	7	6
xxvi. Related and supporting industries	5	15	10	1	4	10	7	8

Note: Numbers in each cell show the total number of responses out of 30.

Table 4.2: Additional Factors Suggested by Respondents

Sl. No.	Additional Factors
i	Firm's Systems
ii	Super Co-ordinate Goals
iii	Customer Satisfaction
iv	Financial Credibility
v	Financial Laws
vi	Cultural Familiarity
vii	Government Support
viii	National Strength
ix	Ability to create mutually advantageous interests
x	Stable Currencies/ Less Escalations
xi	Relatively Low Cost of Living
xii	Tax Free Perks for the Employees
xiii	No Double Taxation Agreement
xiv	Availability of Heavy Construction Equipment and Machinery
xv	Government Policy of Import Duties
xvi	Strong Infrastructure and Transportation Network
xvii	Advantages of High Currency Conversion Rates
xviii	Unique Culture & Language
xix	Availability of Expatriate Workforce in Abundance
xx	Non-Availability of Specific Trades Locally
xxi	Availability of Kingdom wide Database of Personnel and Vehicles
xxii	Stringent Immigration Policies
xxiii	Availability of Natural Resources
xxiv	Presence of Petrochemical and Oil & Gas Companies
xxv	Presence of International Charters like PMI, OSHA, AACEI, etc.
xxvi	Presence of Universities like KFUPM
xxvii	Consistency in the Work Force
xxviii	Non-Union Environment
xxix	Willingness of the Human Resources to Work Overtime in Need
xxx	Specialization
xxxi	Flexibility
xxxii	Mobilization
xxxiii	Demobilization
xxxiv	Type of Contract
xxxv	Availability of Skilled and Unskilled Labors
xxxvi	Cash Flow
xxxvii	Bank Relations
xxxviii	Bidding Strategies
xxxix	Professionalism/ Ethics and Principles

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**0**	**3**
Medium (M)	**5**	**4**	**3**
High (H)	**11**	**0**	**1**

Figure 4.1: Response Matrix for Financial Resources

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**1**	**5**
Medium (M)	**5**	**4**	**7**
High (H)	**6**	**0**	**1**

Figure 4.2: Response Matrix for Technological Capabilities

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**2**	**10**
Medium (M)	**3**	**5**	**5**
High (H)	**4**	**0**	**0**

Figure 4.3: Response Matrix for Managerial Capabilities

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**0**	**10**
Medium (M)	**3**	**4**	**8**
High (H)	**4**	**0**	**0**

Figure 4.4: Response Matrix for Organizational Structure

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**0**	**8**
Medium (M)	**4**	**10**	**4**
High (H)	**3**	**0**	**0**

Figure 4.5: Response Matrix for Plant and Equipment Management

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**0**	**3**
Medium (M)	**5**	**9**	**2**
High (H)	**10**	**1**	**0**

Figure 4.6: Response Matrix for Suppliers Selection

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**1**	**3**
Medium (M)	**3**	**8**	**7**
High (H)	**8**	**0**	**0**

Figure 4.7: Response Matrix for Product/Services Quality

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**0**	**10**
Medium (M)	**4**	**6**	**5**
High (H)	**4**	**0**	**0**

Figure 4.8: Response Matrix for Human Resources

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**4**	**8**
Medium (M)	**4**	**9**	**0**
High (H)	**4**	**1**	**0**

Figure 4.9: Response Matrix for Marketing Skills

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**3**	**14**
Medium (M)	**1**	**10**	**2**
High (H)	**0**	**0**	**0**

Figure 4.10: Response Matrix for Innovation in Services

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**2**	**18**
Medium (M)	**1**	**5**	**2**
High (H)	**1**	**0**	**0**

Figure 4.11: Response Matrix for Global Operations

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**5**	**24**
Medium (M)	**0**	**0**	**0**
High (H)	**0**	**0**	**0**

Figure 4.12: Response Matrix for R&D Activities

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**5**	**3**
Medium (M)	**8**	**7**	**2**
High (H)	**5**	**0**	**0**

Figure 4.13: Response Matrix for Market Shares

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**2**	**2**	**8**
Medium (M)	**7**	**4**	**2**
High (H)	**4**	**0**	**1**

Figure 4.14: Response Matrix for Government Policies

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**1**	**8**
Medium (M)	**3**	**5**	**3**
High (H)	**9**	**0**	**1**

Figure 4.15: Response Matrix for Procurement Management

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**0**	**10**
Medium (M)	**6**	**6**	**2**
High (H)	**5**	**0**	**1**

Figure 4.16: Response Matrix for Production Efficiency

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**1**	**16**
Medium (M)	**5**	**3**	**2**
High (H)	**3**	**0**	**0**

Figure 4.17: Response Matrix for Strategic Planning

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**1**	**20**
Medium (M)	**2**	**2**	**2**
High (H)	**2**	**0**	**0**

Figure 4.18: Response Matrix for Training/Retraining Activities

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**0**	**0**
Medium (M)	**5**	**7**	**4**
High (H)	**14**	**0**	**0**

Figure 4.19: Response Matrix for Client Relations

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**0**	**3**
Medium (M)	**6**	**4**	**5**
High (H)	**12**	**0**	**0**

Figure 4.20: Response Matrix for Experience

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**3**	**8**
Medium (M)	**6**	**8**	**1**
High (H)	**3**	**0**	**0**

Figure 4.21: Response Matrix for Strategic Alliances

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**3**	**14**
Medium (M)	**4**	**2**	**1**
High (H)	**4**	**2**	**0**

Figure 4.22: Response Matrix for Joint Ventures

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**3**	**14**
Medium (M)	**4**	**5**	**2**
High (H)	**2**	**0**	**0**

Figure 4.23: Response Matrix for IT utilization

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**2**	**15**
Medium (M)	**4**	**6**	**3**
High (H)	**0**	**0**	**0**

Figure 4.24: Response Matrix for Information System and Knowledge Acquisitions

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**1**	**0**	**3**
Medium (M)	**3**	**10**	**2**
High (H)	**9**	**0**	**2**

Figure 4.25: Response Matrix for Firm Size

Represent / Status	Strength (S)	Neutral (N)	Weakness (W)
Low (L)	**0**	**2**	**3**
Medium (M)	**5**	**8**	**2**
High (H)	**10**	**0**	**0**

Figure 4.26: Response Matrix for Related and Supporting Industries

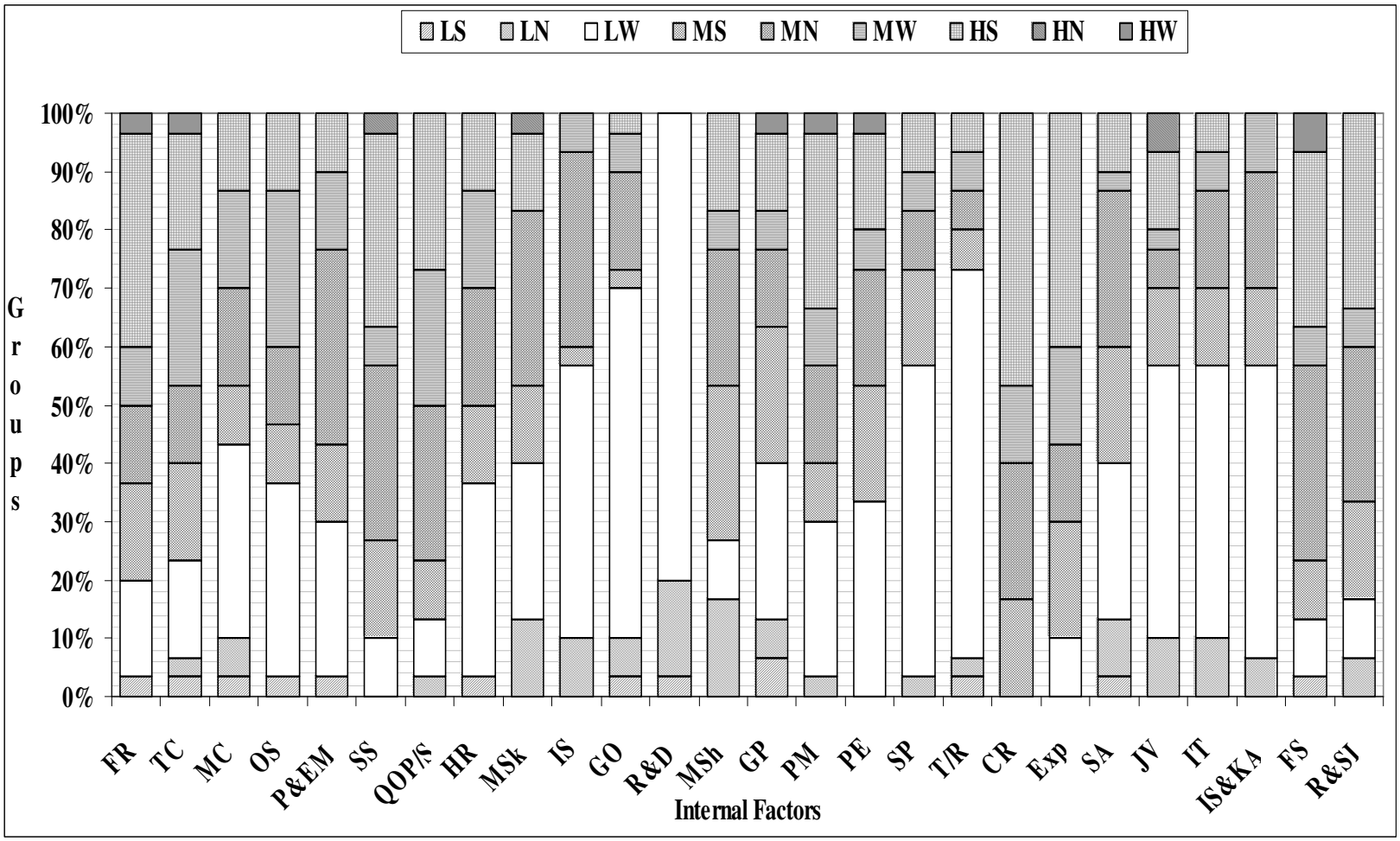

Figure 4.27: Summary of Survey Results

4.4 Discussion of Results

The data presented in Table 4.1 represents two sets of information. The first set is the frequency of responses to the status of given internal factors i.e., the extent of the Saudi construction firm's standing in terms of twenty-six internal factors. The second set presents frequency of responses indicating what the status of Saudi construction firms with respect to each internal factor represents.

To facilitate the analysis of the results, the first set of data concerning the status of Saudi construction firms from Table 4.1 is distributed into following three categories - high (H), medium (M), low (L) depending on frequency of majority responses. Similarly, the second set of data (concerning strengths/weaknesses) from Table 4.1 is distributed into three categories based on frequency of majority responses–strengths (S), neutral (N), and weakness (W).

The above classification was also needed to propose the post-WTO generic strategy for Saudi construction firms, which is one of the objectives of this research. High status (H) of a factor means the high level of its presence in the large Saudi construction firms, which may suggest that these firms are better prepared to face the international competition as a result of Saudi Arabia joining the WTO. Medium status (M) of a factor means the medium level of its presence in the large Saudi construction firms, which may suggest that these firms need to improve to a little extent to be able to compete with the potential international competitors. Similarly, Low status (L) of a factor means the low level of its

presence in the large Saudi construction firms, which may indicate the clear areas of infirmities and call for a lot of resources and efforts to improve upon these factors. Strength (S) and weakness (W) indicate minor or major strength and weaknesses respectively. Neutral (N) shows the internal factors that neither constitutes a strength nor a weakness of Saudi construction firms. This classification of the internal factors (status as H, M, and L and their impact as S, N, and W) results in partitioning of these factors into following possible groups: High-Strength (H-S), Medium-Strength (M-S), Low-Strength (L-S), High-Weakness (H-W), Medium-Weakness (M-W), Low-Weakness (L-W), High-Neutral (H-N), Medium-Neutral (M-N), and Low-Neutral (L-N). Obviously, a response that could lead to H-W or L-S grouping would be most unlikely. From the results presented in Figures 4.1 to 4.26, it can be seen that this gets confirmed. Out of a possible fifty-two occurrences for these two combinations, only 18 such occurrences exist with sixteen of them having a frequency of just one. Figure 27 reinforces the above statement by showing explicitly that only three percent of the responses fall in these two matrix cells. This also validates the questionnaire design to a great extent, and serves the purpose of the study pretty well. The following sections discuss the survey results for each of the twenty-six factors:

(i) Financial Resources (FR):- From Figures 4.1 and 4.27, it is observed that fifty-seven percent (>50%) of respondents agree that status of FR represents a source of strength. However, the respondents do not agree among themselves whether or not the status of a factor is low, medium, or high. Despite being equally

divided between the M and H status categories (12 responses each), only 20% of them choose the L category for this factor. Besides, thirty-seven percent (>33%) of the respondents agree that FR falls into H-S category. Therefore, for the purpose of this study, it can be concluded that the status of FR is neither high nor low, but it represents one of the strengths. This result provides some reassurance to the local firms that they are almost ready to compete with the international competition.

(ii) Technological Capabilities (TC):- From Figures 4.2 and 4.27, it is quite evident that the respondents differ widely over this internal factor. Insignificant portion (<50%) of respondents agree that the status of TC represents either an area of strength or a weakness. However, fifty-three percent (>50%) of respondents agree among themselves that the status of TC is medium. Besides, only an a few (<33%) of respondents agree that TC falls into any of the nine categories as discussed earlier. Therefore, for the purpose of this study, it can be concluded that the status of TC is neither a strength nor a weakness.

(iii) Managerial Capabilities (MC):- From Figures 4.3 and 4.27, it is observed that respondents differ to a great extent in rating this internal factor. Half (50%) of respondents place this important factor under the weakness category. However, the respondents do not agree among themselves whether or not the status of this factor is low, medium, or high. Besides, thirty-three percent (33%) of the respondents agree that MC fall into L-W category. Therefore, for the purpose of this study, it

can be concluded that the status of MC is neither high nor low, but it represents one of the weaknesses.

(iv) Organizational Structure (OS):- From Figures 4.4 and 4.27, it is quite evident that respondents are in agreement, to some extent, in rating this important internal factor. Sixty percent (>50%) of respondents agree among themselves that the status of OS represents a weakness and half (50%) of respondents do agree among themselves that the status of OS is medium. Further thirty-three percent (33%) of the respondents agree that MC falls under L-W category. Therefore, for the purpose of this study, it can be concluded that the status of OS is medium, but it represents one of the weaknesses.

(v) Plant and Equipment Management (P&EM):- From Figures 4.5 and 4.27, it is quite evident that although the ratings by respondents vary for this internal factor as well, 33% of the respondents indicated plant and equipment management to be grouped under M-N, a relatively large number of respondents (27%) group it under L-W, while the rest prefer to choose groupings other than these two. An important observation that can be made here is that about one-third of the respondents either do not consider this factor to be of importance for the local construction industry or they are not certain whether this factor represents strength of weakness vis-à-vis ensuing international competition. Besides, less than fifty percent of respondents indicated P&EM to be either a strength or a weakness. So, for the purpose of this study, it can be concluded that the status of P&EM is medium, but it neither constitute an area of strength nor a weakness.

(vi) Suppliers Selection (SS):- Figures 4.6 and 4.27 portray a relatively less varied picture so far as assessment of this internal factor is concerned. While a decisive thirty-three percent (33%) of the respondents indicated suppliers selection to be grouped under H-S, almost the same percentage of respondents (30%) grouped it under M-N, whereas the rest – almost the same percentage again – prefer some other groups. Half (50%) of respondents indicated that SS represents a source of strength for Saudi construction firms. However, concerning the status of this factor, fifty-three percent (>50%) of respondents agree among themselves that it is medium. Besides, it is encouraging to see, here, that only one-sixth of the respondents consider the contemporary status of this factor to be representing some kind of weakness for the Saudi construction industry. So, for the purpose of this study, it can be concluded that the status of SS is medium and it represents one of the strengths.

(vii) Products/Services Quality (P/SQ):- It can be seen in Figures 4.7 and 4.27 that the respondents are almost equally divided in assigning a rating for this internal factor, in terms of S, N, or W. The same is also represented in the grouping of this factor by respondents. For example, while 27% each from the respondents indicated products/services quality to be grouped under H-S or M-N, a considerable percentage of respondents (23%) prefer to group it under M-W. At the same time, 23% of the respondents place this factor in some or the other groups. Similarly, the respondents do not agree among themselves whether the status of P/SQ represents a strength or a weakness. This kind of wide assessment

by the industry experts may be representative of some danger signals for this factor which has wide-ranging implications in winning over the customers and keeping them tied-up in a long-term relationship. So, for the purpose of this study, it can be concluded that the status of P/SQ is medium and it represents neither a strength nor a weakness.

(viii) Human Resources (HR):- Figures 4.8 and 4.27 represent a much less extensive division among the respondents in assessing this factor. While decisive one-third (33%) of respondents indicated human resources to be grouped under L-W, twenty percent of respondents group it under M-N, which is considerably large. An overwhelming forty-seven percent of respondents place human resources in one or the other groups, making the dispersion even more obvious. However, a considerably large portion (50%) of respondents indicated the status of HR to be medium. Similarly, fifty percent of respondents rate status of this factor to be weakness. Therefore, for the purpose of this study, the status of HR can be treated as medium and representing one of the weaknesses.

(ix) Marketing Skills (MSk): - From Figures 4.9 and 4.27, it is quite evident that the respondents are much widely divided over this internal factor. While thirty percent of respondents are not so decisive in rating marketing skills with respect to high, medium, or low and strength or weakness and indicate this factor to be grouped under M-N, a considerable number of respondents (27%) group it under L-W, and the rest are not in agreement with any of the abovementioned groups. Another indication from almost 47% of respondents placing this factor in the

Neutral category may be that marketing skills do not carry great importance for the construction industry in comparison with the other 25 internal factors, so far as facing the global competition is concerned. For the purpose of this research, the status of MSk is neutral and it neither represents a strength nor a weakness.

(x) Innovation in Services (IS):- Figures 4.10 and 4.27 point towards a less widely varied mandate for this factor by the respondents, a considerable forty-seven percent (>33%) of whom indicated innovation in services to be grouped under L-W, leaving a much lower percentage of respondents (23%) undecided about placing innovation in services in any group other than M-N. It is observed that fifty seven percent (>50%) of respondents rated the status of IS to be low. Similarly, fifty-three percent (>50%) of respondents agree among themselves that the status of IS represents a weakness. The indication of a relatively less divided assessment is also emanating from just a single respondent considering the current status to be strength. Therefore, for the purpose of this study, the status of IS can be considered as low representing a major weakness.

(xi) Global Operations (GO):- From Figures 4.11 and 4.27, it is quite evident that most of the respondents are almost of the same opinions. While a great number of respondents (60%) indicated global operations to be grouped under L-W, a negligibly small number of respondents (3%) group it under H-S, and the rest are variably divided from L-W to H-S and are not in agreement with the abovementioned groups. Furthermore, an overwhelming seventy percent (>50%) of respondents agree among themselves that the status of GO is low. Similarly,

sixty-seven percent (>50%) of respondents are of the opinion that the status of GO represents a weakness of large Saudi construction firms. Therefore, for the purpose of this study, the status of GO can be considered as low representing a major weakness.

(xii) R&D Activities (R&D):- Figures 4.12 and 4.27 indicate a near consensus of opinions, with a whopping eighty percent (>50%) of respondents placing R&D activities under the L-W group, and none of respondents grouping it under H-S category. Only a small minority of the respondents are either undecided or variably divided among other grouping options. It is interesting to learn that all respondents have consensus about the status of R&D to be low in Saudi construction industry. Besides, eighty percent (>50%) of respondents agree among themselves that the status of R&D represents a weakness. These results reinforce the opinion of the experts that the construction industry in Saudi Arabia may not be ready, as yet, to face the imminent global competition in so far as the R&D activities are considered, particularly because only a small proportion of experts (one-sixth) believe this factor to be of insignificant consequences. So, for the purpose of this study, it can be concluded that status of R&D is low and it represents a major weakness.

(xiii) Market Shares (MSh):- From Figures 4.13 and 4.27, it is quite evident that the respondents are widely divided over placing this internal factor in any of the matrix cells. While 27% of the respondents indicated market shares to be grouped under M-S, another large group of respondents (23%) place it under the M-N

subset, whereas the rest of them prefer to differ with the abovementioned groups. Besides, respondents do not agree among themselves whether the status of Msh represents a strength or a weakness. But, in terms of status, a decisive fifty-seven percent (>50%) of respondents rated Msh to be medium. So, for the purpose of this study, the status of Msh is medium and it represents neither a strength nor a weakness.

(xiv) Government Policies (GP):- Referring to Figures 4.14 and 4.27, we can conclude that the responses are dispersed with respect to the groupings under discussion, for this internal factor. While 27% of the respondents indicated government policies to be grouped under L-W, a significant portion (23%) of respondents group it under M-S. Almost half of the respondents' preferences are for assigning other groupings for this factor. Concerning both status of GP and what it represents, respondents do not agree among themselves. An interesting implication evolves from the fact that two respondents assign an unlikely group of L-S to this factor. This may imply that a low status for the GP could actually lead to strength for the local firms, perhaps because tight GP may actually be an impediment to free operation of firms and could actually block free and fair competition. For the purpose of this study, it can be concluded that the neither the status of GP nor what it represent is clear from the response matrix shown in Figure 4.14. Further investigation into this conclusion will be required to reach an undisputed understanding.

(xv) Procurement Management (PM):- The variance in assigning of groups by respondents continues for this internal factor also, as is obvious from Figures 4.15 and 4.27. Just thirty percent of respondents indicated PM to be grouped under H-S, but a considerable percentage (27%) of respondents also group it under L-W, which is contradicting the abovementioned opinions. Others, constituting almost forty-five percent choose to place this factor in groups other than discussed above. It is interesting to learn that respondents do consider this factor to be of great importance with eighty percent of them choosing to indicate that this factor does lead to strength or weakness for the Saudi construction firms. However, respondents do not agree among themselves both concerning the status of PM and whether it represents a strength or weakness. Therefore, the contemporary status of PM and what it represent need to be further examined to reach a definite perceptive about the same.

(xvi) Production Efficiency (PE):- From Figures 4.16 and 4.27, it is quite evident that the respondents are divided over this internal factor. Although a decisive thirty-three percent (33%) of respondents indicated PE to be grouped under L-W, a considerable portion of respondents prefer to group it either under M-S or M-N. This factor is of prime importance for the construction industry strategists to work on, as only a meager one-sixth of respondents place this factor in the desirable H-S group. Concerning both the status of PE and what it represents, respondents do not agree among themselves. So, further investigation into this conclusion is required to reach consensus over this issue.

(xvii) Strategic Planning (SP):- From Figures 4.17 and 4.27, we can see that fifty-three percent (>33%) of respondents indicated SP to be grouped under L-W, with the next highest percentage (17%) grouping it under M-S, it can be concluded that relative consensus exists among respondents concerning the grouping of SP. According to fifty-seven percentage (>50%) of respondents, the status of SP is low. In addition, sixty percent (>50%) of respondents do agree that the current status of SP represents a weakness. So, it can be concluded that the status of SP is low and represents a weakness of large Saudi construction firms. It is important to note that the near-consensus grouping under L-W raises concerns for the firms in Saudi construction sector.

(xviii) Training/Retraining Activities (T/R):- From Figures 4.18 and 4.27, it is quite evident that majority of the respondents are of the same opinion concerning this internal factor, with sixty-seven percent (>33%) of respondents indicating T/R to be grouped under L-W, and only a negligibly small number (6% each) of the respondents group it either under M-S or H-S. Rest of them is not in agreement with the abovementioned groups, although their number is not so significant. Only one-tenth of respondents consider this factor to be carrying no importance in driving strength or weakness for the local construction firms. In addition, an overwhelming seventy-three percent (>50%) of respondents consider current status of T/R to be low and it represent a weakness. So, for the purpose of this study, it can be concluded that the status of T/R is low and represents a major weakness.

(xix) Client Relations (CR):- From Figures 4.19 and 4.27, it is quite evident that the respondents are relatively less widely divided in indicating whether the current status of the Saudi construction firms is a source of strength or weakness for this internal factor. About forty-seven percent (>33%) of the respondents indicated client relations to be grouped under the H-S category. But, it can be seen that a relatively large number of respondents are undecided over whether this factor and its contemporary status is a driver of strength or weakness for the industry under study. For instance, fifty-three percent (>50%) of respondents agree that the status of CR is medium. However, it is encouraging to learn that an overwhelming sixty-three percent (>50%) of respondents agree among themselves that the status of CR represents a strength. Therefore, for the purpose of this study, it can be concluded that the status of CR is medium and represents one of the strengths.

(xx) Experience (Exp):- The difference in opinion between respondents is somewhat apparent from Figures 4.20 and 4.27, wherein while forty percent (>33%) of respondents indicated Exp to be grouped under H-S, a considerable portion (20%) of others group it under M-S, and the rest are in disagreement with the abovementioned groups. As such the clear majority of the respondents (60%) consider Exp as strength. However, according to half of the respondents, the status of Exp is medium. So, for the purpose of this study, it can be concluded that the status of Exp is medium and represents one of the strengths.

(xxi) Strategic Alliances (SA):- From Figures 4.21 and 4.27, it is quite evident that the respondents are widely divided over this internal factor. While twenty-

seven percent (<33%) of respondents indicated strategic alliances either to be grouped under L-W or M-N, a considerable portion (20%) of respondents group it under M-S, and the rest are not in agreement with the abovementioned groups. Moreover, a relatively large percentage of respondents (37%) are unable to indicate whether the industry can derive either strength or weakness from the existing strategic alliances in the industry. However, a decisive fifty percent of respondents are of the opinions that the status of SA is medium. From the above discussion, it can be concluded that the current status of SA is medium, but further investigation is required to reach a consensus among respondents concerning the grouping of this factor and to understand whether SA represents a strength or weakness of large Saudi construction firms.

(xxii) Joint Ventures (JV):- Significant consensus seems to exist on this factor among the respondents, as evident from Figures 4.22 and 4.27. Forty-seven percent (>33%) of respondents indicated JV to be grouped under a single category of L-W. Only thirteen percent each (<33%) of respondents group it either under H-S or M-S. Concerning the status of JV, fifty-seven percent (>50%) of respondents rate it to be low. Similarly, according to fifty percent of respondents, the status of JV represents a weakness. Therefore, for the purpose of this study, it can be concluded that the status of JV is low and represents a major weakness of large Saudi construction firms.

(xxiii) IT Utilization (IT):- From Figures 4.23 and 4.27, it is observed that the respondents are able to be closer to consensus over this internal factor, but with a

clear inclination towards L-W. As shown in Figure 4.23, forty-seven percent (>33%) of the respondents indicated IT utilization to be grouped under L-W. Concerning status of IT, fifty-seven percent (>50%) of respondents consent that the status of IT is low. Furthermore, fifty-three percent (>50%) of respondents indicated the status of IT to represent a weakness. Therefore, for the purpose of this study, it can be concluded that the status of IT is low and symbolizes a major weakness of large Saudi construction firms.

(xxiv) Information Systems and Knowledge Acquisitions (IS&KA):- From Figures 4.24 and 4.27, grouping of IS&KA by respondents has an inclination towards L-W. It is observed from Figure 4.24 that a significantly large portion (50%) of respondents indicated IS&KA to be grouped under L-W. According to fifty-seven percent (>50%) of respondents, the status of AS&KA is low. Also, sixty percent (>50%) of respondents are in agreement among themselves that the current status of IS&KA represents a weakness. So, for the purpose of this study, it can be concluded that the status of IS&KA is low adding up to the list major weaknesses for the large Saudi construction firms.

(xxv) Firm Size (FS):- From Figures 4.25 and 4.27, it is quite evident that the respondents are divided over this internal factor, but not without asserting their decisiveness in many ways. While 33% of the respondents view size of the firms as less critical and grouped under M-N, the second majority of respondents (30%) group it under H-S, and the rest are not in agreement with the abovementioned groups. From Figure 4.25, it can be seen that fifty percent of respondents rate the

status of FS to be medium. Furthermore, there is no clear majority indicating the status of FS to represent either a strength or a weakness. So, further investigation into this issue is required to reach the consensus.

(xxvi) Related and Supporting Industries (R&SI):- From Figures 4.26 and 4.27, it is quite evident that the respondents are divided over this internal factor, only to a small extent. While thirty-three percent of respondents indicated related and supporting industries to be grouped under H-S, another considerable portion (27%) of respondents grouped this factor under M-N, and the rest are not in agreement with the abovementioned groups. From Figure 4.26, it can be perceived that fifty percent of respondents rate the status of R&SI to be medium and the same proportion (50%) of respondents agree that the status of R&SI corresponds to strength. So, for the purpose of this study, it can be concluded that the status of R&SI is medium and represents one of the strengths.

As presented in the above discussion, it is clear that, the experts participated in this study are divided over most of factors including financial resources, technological capabilities, managerial capabilities, plant and equipment management, products/services quality, human resources, marketing skills, strategic alliance, client relations, government policies, procurement management, production efficiency, experience, market shares, and related and supporting industries. The experts are however in a reasonable agreement regarding eight internal factors: innovation in services, global operations, R&D activities, strategic planning, training/retraining activities, joint ventures, IT utilization, and information systems

and knowledge acquisitions. They assessed the status of large Saudi construction firms to be low that represents weaknesses in facing the challenges of WTO.

The above low level of agreement among the experts on the status of large Saudi construction firms and what most of the internal factors constitute has two major implications:

(i) It indicates high level of uncertainty of the Saudi construction business in working under the WTO environment.

(ii) It curtails the development of a comprehensive strategic plan for the Saudi construction industry in the WTO business environment.

Consequently, the strategic plan proposed in Chapter 5 of this study is partial in that it will focus only on limited internal factors, where the surveyed experts have achieved some reasonable agreement on.

Chapter 5

PROPOSED STRATEGIES

5.1 General

This chapter identifies the suitable strategies to reduce/improve the extent of weaknesses of Saudi construction firms, to avoid the areas of business activities wherein the contemporary weaknesses are pre-requisites for success, and to exploit the strategic perspectives constituting major strengths.

Section 5.2 presents the major strengths, weaknesses, opportunities, and threats (SWOT) summary for Saudi construction firms in the light of survey results. Section 5.3 presents the techniques used to develop the proposed strategies to exploit the strengths and to reduce the extent of weaknesses of Saudi construction firms. Finally the Sections 5.4 and 5.5 present the proposed strategies for the large Saudi construction firms.

5.2 SWOT Summary

The major strengths, weaknesses, opportunities, and threats (SWOT) summary for the large Saudi construction firms in the light of survey results and literature review is presented in Figure 5.1. As stated earlier, based on this SWOT summary the following sections propose the suitable strategies for the large Saudi construction firms to cope the prospective challenges of the post–WTO environment.

5.3 Techniques Used to Develop Proposed Strategies

As discussed earlier in Section 2.9, in the process of developing SWOT strategies, all ideas and comments are written down that might be raised during study that could be edited and short-listed to refine the proposed strategies. In the case of present study, external factors due to the prospective post-WTO scenario were explored through detailed literature survey and the internal factors (strengths/weaknesses) for the Saudi construction firms were identified through analysis of questionnaire survey. Once the above mentioned data were known, an investigation of the global practices concerning each of the internal factors was carried out through available literature (The knowledge gained from the literature survey (Ubaid, 1991, Al-Barrak, 1993, Warszawski, 1994, 1996, Dorsey, 1995, Rowing et al, 1996, Kumaraswamy, 1996, 1997, Bubshait and Al-Gobali, 1996, Gushgari et al, 1997, Azzam, 1998,

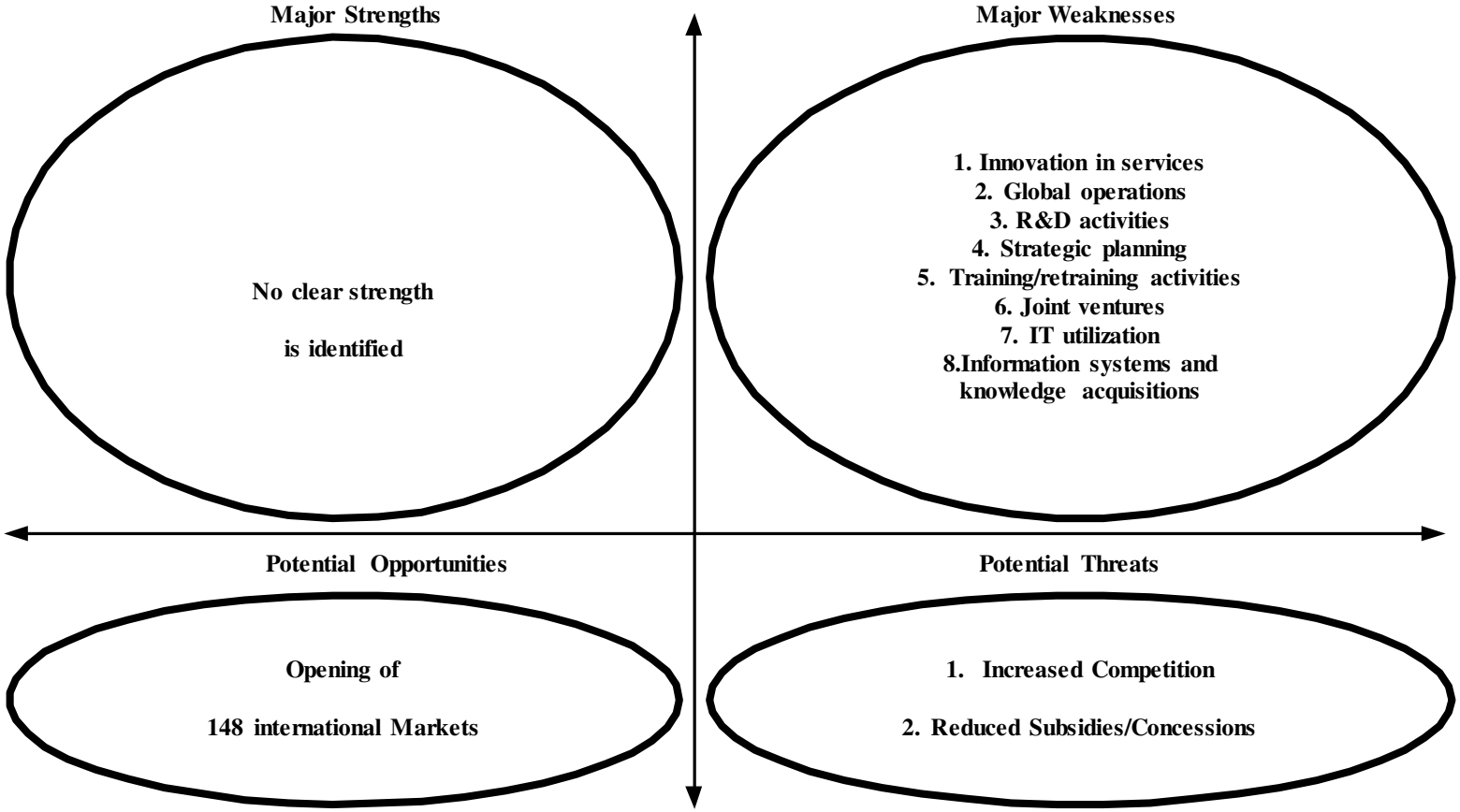

Figure 5.1: The SWOT Summary for the Saudi Construction Firms

Dulaimi and Hwa, 2001, Mawhinney, 2001, Fellows, et al, 2002, Dikmen and Birgonul, 2003), and brainstorming the issues among thesis committee and colleagues.

5.4 Proposed Strategies

5.4.1 General

The SWOT strategy matrix encompassing all major strengths, weaknesses, opportunities, and threats ("S-O", "S-T", "W-O", and "W-T") is shown in Figure 5.2. The various possible generic strategies for construction firms can be categorized into following fifteen components (Betts and Ofori, 1992, Warszawski, 1996, Pearce II and Robinson Jr., 2000, Rabin et al, 2000):

(i) Concentrated growth (specialization in and targeting on selected markets and products/services)

(ii) Market development (adding new markets for the range of services)

(iii) Products/services development (modification or improvement in existing products/services)

(iv) Innovation (offering new alternative for existing products/services)

(v) Horizontal integration (acquisition of firms with the same products/services)

(vi) Vertical integration (acquisition of suppliers and/or users organization)

(vii) Joint ventures

(viii) Concentric diversification (acquisition of businesses with the specific intention to improve weaknesses or exploiting contemporary strengths)

(ix) Conglomerate diversification (acquisition of discrete firms)

(x) Retrenchment (reducing assets or scale of activities)

(xi) Divestiture (closing or selling part of the firm)

(xii) Liquidation (step-by-step closure of the business)

(xiii) Monopolization (protection of present markets)

(xiv) Cost leadership (cost reduction of products/services)

(xv) Differentiation (offering special value to the customer through distinguished quality and performance)

In the case of this study, the suitable generic strategies are identified based on the contemporary strengths and weaknesses in order to effectively build the competitive advantages, to reap the benefits of overseas opportunities, and to defend themselves from the potential international competition as a result of Saudi Arabia joining the WTO. Strategy formulation entails the creation of a set of prospective strategies from which an organization can choose strategies that match with it objectives and missions (Maloney, 1997). In the context of this study, the generic strategies are grouped into three categories:

(i) Proactive Strategies- strengthening the weakness to reap the benefits of Saudi Arabia joining the WTO

(ii) Defensive Strategies- to defend locally in the post-WTO scenarios by minimizing the exposure to weakness

(iii) Exploiting the contemporary strength- to reap the benefits of Saudi Arabia joining the WTO and to cope the post-WTO threats

However, since the internal factors considered in this study are weaknesses, only the first two approaches will be needed.

Internal Factors (Strengths/Weaknesses) / External Factors (Opportunities & Threats)	**1. Innovation in services (L-W)** **2. Global Operations (L-W)** **3. R&D Activities (L-W)** **4. Strategic Planning (L-W)** **5. Training/Retraining (L-W)** **6. Joint Ventures (L-W)** **7. IT Utilization (L-W)** **8. Information Systems and Knowledge Acquisitions (L-W)**
1. Overseas Opportunities (O) **2. Increased Competition (T)** **3. Reduced Concessions/subsidies (T)**	Proposed Strategies

Figure 5.2: SWOT Strategies Matrix

5.4.2 Innovation in Services

The results of questionnaire survey data signify that the status of innovation in services is low and represents a major weakness for the large Saudi construction firms.

Farid et al (1993) indicated that competitiveness of an organization depends on its creativity and innovative products and services.

Client satisfaction is a function of innovative services' delivery by contractors. As the instability in a market increases, the competitors have to find the new ways to innovate services. However, the extent of innovativeness depends on the subsistence of the right environment and the sufficient incentive for innovation in services (Dikmen and Birgonul, 2003).

(i) Proactive Strategies: In order to face the challenges of Saudi Arabia joining the WTO, and hence to be prepared to counteract the heat of prospective international competition, following proactive strategies are proposed:

Farid et al (1993), Gushgari et al (1997), and Kenny (2003) suggest that a construction firm must reveal the required leadership, motivation, and incentives with a view to promote creativity. A few important characteristics of creative professionals are that they are highly motivated, open to feelings, curious, tolerant of psychological and physical isolation, persistent, tolerant of uncertainty, technically knowledgeable, sensitive to problems, analyzer and synthesizer, highly

imaginative, highly original, very flexible, quite selective, brave enough to be different, intrigued by bold ideas, quick with suggestions, capable of conceptualizing nontraditional solutions to problems, and seeker of high productivity. Stemming from this, the Saudi construction firms must not only consider developing an appropriate recognition and reward system, but also providing their employees an environment conducive for creativity (circulation of professional magazines, opportunities to interact with colleagues, brainstorming sessions, listening to creative ideas, suggestion programs, patent policies, tolerating nonconformity/mistakes, avoiding fear of failure and losing authority, and others), recognition, and rewards as required for stimulating their creative employees.

The culture within an organization has much to do with its knack to effectively realize the fundamental changes required for innovation in services. The top management must initiate, set up, and encourage the culture, organizational practices, and the structure conducive to the innovation in services (Kenny, 2003). Stemming from this, the top management of Saudi construction industry must start taking initiatives similar to those suggested above so as to improve the innovation in services.

In order to improve the innovation in services, the Saudi construction firms may consider utilizing the state-of-the-art construction and management tools and techniques (Business Process Reengineering, Total Quality Management, Time

Based Competition, Lean Production System, Computer Integrated Construction, Scenario planning, SWOT analysis, PEST analysis, opinion surveys, competitors analysis, benchmarking approaches, and others) to be more cost effective (Dikmen and Birgonul, 2003).

The Saudi construction industry must also encourage R&D activities with a view to inculcate a culture of innovation. For instance, the large Saudi construction firms may consider identifying the innovation gaps (customization of products/services, emerging client's needs, new ways of producing and delivering products/services to the clients) both locally and in the relevant international markets and filling the same before international competitors do. All the business functions (such as management, finance, administration, procurement, project offices, marketing, design) should contribute to the implementation of innovation processes as a team effort to make them cheaper, quicker, and optimally successful. The time span until innovations are copied by imitators is getting shorter in the competitive environment. Therefore, care should be taken to see that the innovation in services is continuous and should be backed by core competencies so as to be always strategically ahead of competitors. Besides, in order to minimize risk of failure, innovation should be based upon long-term objectives and strategies, adequately compatible to and mostly guided by company size, value chains and availability of resources, already existing to quickly realize new and changing needs, initiated by the market and not by transitory technological developments.

(ii) Defensive Strategies: Innovation in services not only requires much time and commitment, but also it has much probability of being lead to failure and frustration. Moreover the financial involvement often is very high and requires a sufficient return on investment to secure the future particularly in the looming WTO environment. This calls for other set of strategies called defensive strategies.

The defensive strategies for the large Saudi construction firms could be to identify the ways wherein the innovation in services is not the pre-requisite for success. For instance, they may consider being specialized in, targeting selected markets and products/services. For instance, the abovementioned strategies could be realized through concentrating on projects/ clients with item rate contracts wherein technical specifications of materials, work methods, applications, test procedures, performance parameters on workmanship, quality assurance, quality control, safety procedure, etc. are provided in detail and enforced by the clients' organization.

5.4.3 Global Operations

It is quite evident from the results of questionnaire survey data that the global operation is low and represents a major weakness for the large Saudi construction firms. Saudi construction firms are relatively weak in terms of global operations and the experience thereof. Going global may be attractive, yet risky for the beginners like Saudi construction firms.

Bubshait and Al-Gobali (1996), Oz (2001), and Ofori (2003) indicated that the global experience of construction companies is an important competitive advantage all over the world because the experience in geographical location of project is regarded as one of the important factors in prequalifying contractors/sub-contractors.

Globalization and consequent varying business environment call for strategic alliances and joint ventures with global giants to achieve effective transfer of technology. For instance, international expansions of construction business must consider the ranges of activities in which the concerned organization can do best and the markets should be identified in such a way that the cost of products/services therein is low apart from other considerations such as availability of infrastructure required for a particular business segment (Warszawski, 1996, Azzam, 1998, Ofori, 2000).

Warszawski (1994, 1996) indicated that professional services such as design consultancy, value engineering, etc. rather than taking up the physical construction when considering expansion of business overseas are the tried and tested strategies.

In order to be successful in the global markets, making joint ventures with global players, partnerships with local and/or global suppliers, and merger and acquisitions of local firms are prerequisites (Warszawski, 1994, Fellows, et al, 2002, Dikmen and Birgonul, 2003).

(i) Proactive Strategies: Keeping in mind the post-WTO environment and the abovementioned viewpoints, the proactive strategy for the Saudi construction firms could be to diversify their products/services range and expand into the new markets of the WTO member countries, acquisition of firms with the same products/services, suppliers and/or users organization, joint ventures with global giants, expansion of present products/services, reduction of products/services costs, offering special value to the customer through distinguished quality and performance (Warszawski, 1996, Azzam, 1998).

The abovementioned strategies could be made successful through identifying the preferred markets for expansion of business activities taking into account the schedule of specific commitments of the concerned countries apart from other considerations (availability of candidates for joint venture, partnerships, and possibilities for merger and acquisitions). Thereafter, identification of the starting point for globalization needs to be carried out. This can be possible by going to one country and provide selected service (s) to gain experience therein. Cultural preferences, conventional differences, and the concerned legal issues must also to be identified. In addition, the large Saudi construction firms should carry out a few pilot projects in the lucrative overseas markets in the territories of the WTO member countries. The GCC countries can be the best starting points wherein the experience gained in the local market can best be utilized because of their many cultural similarities. This would assist the Saudi construction firms in deciding about the most appropriate post-WTO global strategies.

(ii) Defensive Strategies: The defensive strategies for the large Saudi construction firms could be to identify the ways wherein the global operations are not the pre-requisite for success. For instance, they may consider being specialized by targeting selected markets and products/services, reducing assets or scale of activities through retrenching, closing or selling part of the firm, protection of present market(s) through monopolization, reduction of products/services cost in the present market, offering special value to the customer through distinguished quality and performance in the local market so as to compete and beat the prospective international competitors in the domestic market. The Saudi construction firms may also consider to providing products/services locally and exporting them to the rich markets of developed countries, where tariffs are expected to keep on lowering. By doing so, the Saudi construction firms can perk up their efficiency, save costs, and trim down prices. For instance, a construction firm can consider being specialized in construction of religious structures such as mosques for which it can extend the most proficient design, choose the most cost-effective suppliers, adopt the most competent construction procedures, thus saves costs, and hence be competitive.

5.4.4 R&D Activities

As stated by a renowned strategic planner, William Spenser, 'as the market windows open and close more quickly, it is important that R&D be tied more closely to corporate strategy' (Pearce II and Robinson Jr., 2000:91). In addition to

the above quotation, it is quite evident from the results of questionnaire survey data that the R&D activities are low and represent a major weakness for the large Saudi construction firms.

R&D is an important strategic perspective to survive and flourish in the competitive marketplace and hence, sufficient investment in this regard is indispensable (Warszawski, 1994, Dulaimi and Hwa, 2001, Dikmen and Birgonul, 2003). Dulaimi and Hwa (2001) and Fellows et al (2002) indicated that R&D activities in construction industry are hampered due to lack of coordination among different R&D organizations. Furthermore, the key areas for wherein R&D in construction industry that should be focused include, but are not limited to the emerging technologies, optimization of various construction resources, and technology integration (integration of new technologies with innovative building methods):

(i) Proactive Strategies: Keeping in mind the post-WTO environment and the abovementioned viewpoints, the Saudi construction firms may consider making joint ventures with global giants with R&D as the responsibilities of second party, acquisition of businesses with the specific intention to improve R&D activities and and/or exploiting the sound financial resources (Warszawski, 1996).

The abovementioned can be achieved through collaboration with the national laboratories, universities, research groups, scientific institutions, and individuals in partner companies around the world would be the preferred strategies to

enhance the R&D activities in the large Saudi construction firms. This can be realized by increasingly dedicating the important resources to global R&D activities in search of sustainable competitive advantages and to enhance the global competitive advantage. This can be achieved, at least partially by support construction research in Saudi universities. Furthermore, the large Saudi construction firms may consider making joint venture agreements or/and strategic alliances with global giants such as Bechtel, Fluor and Daniel, Foster Wheeler, and others, which have strong R&D facilities and can fetch long-term profitability and capacity building.

(ii) Defensive Strategies: The defensive strategies for the large Saudi construction firms could be to consider specialization through targeting selected markets and products/services wherein the need for R&D activities is not strategically significant, suitably modify the existing products/services range, reducing assets or scale of activities through retrenchment, and closing or selling part of the firm.

The abovementioned can be accomplished through concentrating on specialized construction projects through subcontracts from primary overseas contractors. Furthermore, it is obvious that the large Saudi construction firms need to avoid taking up the projects involving high level technologies such as construction of nuclear reactors, clean room construction for scientific laboratories, manufacturing electronic appliances, etc, offshore oil/gas exploration and drilling

projects, projects involving sensor technology such as intelligent air-conditioning, smart-cameras, remote-controlled maintenance, etc, and infrastructure projects such as metro rail, rapid transit systems, desalination, etc.

5.4.5 Strategic Planning

in the post-WTO scenario, strategic planning is very important for construction firms in general and Saudi construction firms in particular especially, because of expected changing economic, legal, regulatory, political, socio-cultural, technological, financial, and market conditions (Tatum, 1987, Betts and Ofori, 1992, Maloney, 1997, Pearce II and Robinson Jr., 2000, Dulaimi and Hwa, 2001, Dikmen and Birgonul, 2003, Ofori, 2003, Kwak et al, 2004).

Results of the survey data in this study analysis showed that strategic planning in the Saudi construction firms are low and represents a major weakness.

(i) Proactive Strategies: Keeping in mind the post-WTO environment and the abovementioned viewpoints, the Saudi construction firms must consider paying increased attention to strategic planning.

Tatum (1987) indicated that strategic planning in construction and related engineering firms means selection of products/services and markets. He further suggested that strategic planning must be based on distinctive competencies, resources, and competitive advantage. In line with this the Saudi construction firms may consider assessing their respective own strengths and weaknesses as

compared to their local as well as prospective international competitors before developing their company strategies.

(Betts and Ofori, 1992) concluded that all the construction firms will be required to consider strategic planning, if they need to survive and flourish in the prospective global marketplace characterized by intense competition. The Saudi construction firms may suitably make use of tools and techniques (Porter's five forces model, the value chain, and the generic competitive strategies) presented in the abovementioned study.

Maloney (1997) and Pearce II and Robinson Jr. (2000) suggest that the best way to strategic planning is to break it down into phase. The Saudi construction firms may consider systematizing the strategic planning by breaking it down into phases such as initiation, formulation, implementation, and assessment. In line with this, they need to keep investigating and rationalizing business plan and operational strategies, policies, and procedures through frequent SWOT analysis or similar tools taking into account the swiftly changing markets both in the WTO member countries and those in the local market. Besides, they must align strategies to keep gaining competitive advantages in terms of cost leadership, differentiation, and focus/niche strategies.

While there is no shortage of strategic planning tools, such as those found in Kwak et al (2004), Macmillan and Tampoe (2000), and Pearce II and Robinson Jr. (2000) including Business Process Reengineering (BPR), Total Quality

Management (TQM), Time Based Competition (TBC), Lean Production System (LPS), Computer Integrated Construction (CIC), Scenario planning, SWOT analysis, PEST analysis, opinion surveys, competitors analysis, benchmarking approaches, and others, it remains the most important requirements for the Saudi construction firms to adopt initiative of strategic planning. The abovementioned tools and techniques can suitably be utilized by the Saudi construction firms.

Finally, strategic plan must be communicated appropriately to every level of the organization to meet the shared objectives through a culture of team work (Pearce and Robinson, 2000, Rabin and Hildreth, 2000).

(ii) Defensive Strategies: Keeping in mind the increasing competition in the international markets, the Kingdom's ongoing reforms to join the WTO, and the consequent boost in competition both in the local and international markets, strategic planning is unavoidable irrespective of whatever a construction firm specialized in and whichever selected markets and/or products/services we target. Hence, for this internal factor, it is not applicable to propose some defensive strategies.

5.4.6 Training/Retraining Activities

Construction industry employs human resources at varying skill levels such as technical, non-technical, skilled, semi-skilled, and unskilled. Kumaraswamy (1996) indicated that the training/retraining of construction professionals can lead

the construction sector of any nation towards a successful construction industry. For instance, it not only leads to improved performance in terms of productivity, but also it is crucial to the successful project in terms of time, cost, and quality through getting rid of rework, change orders, disputes, and other sources of nuisances (Kumaraswamy, 1997, Warszawski, 1996, Gushgari et al, 1997, Dulaimi and Hwa, 2001, Fellows et al, 2002, Dikmen and Birgonul, 2003). The results of questionnaire survey data that the training/retraining activities are low and represent a major weakness for the large Saudi construction firms.

(i) Proactive Strategies: Amjad (2003) has addressed the importance of professional training for client's representative and other construction professionals in Saudi Arabia is inversely proportional to time overruns with a proportionality constant as "–24.76%." This work of Amjad (2003) may be utilized to develop an appropriate post-WTO strategic plan for training/retraining of Saudi construction professionals. For instance, based on literature review of available sources, Amjad (2003) suggests the growing demand for training at different levels is accomplished by a rapid increase in training technology and communication capabilities such as the elements of multimedia based training that may include text, graphics, 3-D views, still pictures and motion pictures. Such multimedia packages may be used to supplement a conventional training program conducted by a trainer; or interactive sessions may be designed, depending on the nature and level of training required. Furthermore, related aspects that should be of immediate interest to industry itself is the training of some personnel on the use of

basic multimedia facilities, since this can enhance on trainees construction communications considerably and thereby upgrade efficiency. Such enhancement of construction communications using multimedia can be demonstrated in a research programme in Saudi universities that may include, but not be limited to the applications such as video conferencing, shared screen computing and remote multimedia links on construction projects could have a significant impact on inter-professional communications and informal exchanges of information, for example, between head office and a series of sites. Another important aspect of overall professional training as outlined in Amjad (2003) is that the net benefit/cost ratio of different training programs in terms of "the average performance improvement per participant", "the number of participants against the costs" of a program must be considered. Long and medium term benefits must of course be incorporated into such assessments; while approximate quantification is also needed in the case of apparently intangible benefits.

Kumaraswamy (1996, 1997) suggest that upgrading the quality of construction personnel at all levels is possible through integrated (with joint cooperation of Government, industry, and universities) training programs. He further argued that productivity of an operator can be linked to his abilities/capabilities, culture, motivation, commitment, and the management structures. Therefore, it is reasonable to argue that the status of training/retraining in the large Saudi construction firms may be converted into strengths by augmenting the managerial skills and/or attitudes of the professionals.

McCuen and Chang (1995) and Kumaraswamy (1996) are described the benefits of "on-job training." The large Saudi construction firms may consider a well planned "on-job training" program for different disciplines and management levels in order to be synergistic. Besides, working with mentor is considered as one of the best types of training construction professionals (Gushgari et al, 1997).

The large Saudi construction firms need to have a well defined goal like (Gushgari et al, 1997, Maloney, 1997):

(a) Skilled workers such as carpenters, structural steel and reinforcing steel workers, masons, fabricators, plumbers, etc. can be given opportunities to work with more experienced persons in their respective fields and they should be assigned progressively more challenging and independent assignment to perform. This would make workers to be multitalented and flexible enough to be employed to perform different activities in a project.

(b) Fresh graduates who joins a construction firm as management trainees or construction managers' assistants should be continuously trained and keep on promoting them to the post of schedulers, cost estimators, construction managers, general superintendents, construction building inspectors, executives/ contractors/ consultants, and general managers with time.

The Saudi construction firms must encourage their professionals to take part in relevant trainings, workshops, technical meetings, seminars, and trade fairs,

taking courses in business, and others to further keep endowing their professionals with the technological developments to face the WTO challenges. For instance, Saudi construction professionals could take training courses on strategic planning and economics similar to the one launched by the government of Oman (UK Trade and Investment, 2004).

Growing demand for training at different levels has fortunately been accomplished by a rapid growth in educational/training technology and communication/dissemination capabilities such as the multimedia based training are available on compact disks. These multimedia packages may be strategically utilized by the Saudi construction firms to supplement their conventional training programme.

Maloney (1997) mentions about several key areas in which a construction worker/professional must be trained. A few important areas are as follows:

(a) Interpersonal skills/group dynamics/team work

(b) Problem solving and decision making

(c) Job management (planning, organizing, scheduling, and controlling)

(d) Performance analysis

(e) Total Quality Management (TQM) and continuous improvement

(f) Business/Engineering Economics

The Saudi construction firms can focus on the key areas including the areas mentioned above for training their workers/professionals.

(ii) Defensive Strategies: As a matter of fact, whatever we specialized in, whichever selected markets and/or products/services we target, the need for training/retraining activities is inevitable. Therefore, proposing some defensive strategies in this regard is not applicable.

5.4.7 Joint Ventures

It is quite evident from the results of questionnaire survey data that the joint venture of large Saudi construction firms with overseas firms are low and represent a major weakness.

Previous studies indicate that joint ventures with the global giants are not only the best way to improve information systems and knowledge acquisition in the developing countries, but it also provides local contractors/subcontractors with learning opportunities through technology transfer (Ofori, 1996, 2000, Dulaimi and Hwa, 2001).

(i) Proactive Strategies: The proactive strategies for Saudi construction firms in this regard should be to consider making joint ventures wherein technology/organizational capability can diffuse gradually over time to move over ultimately to a time bound plan into a stand alone accomplished entity.

Results of survey conducted by Dulaimi and Hwa (2001) suggest that local construction companies of Singapore are keen to make joint ventures with international firms so as to increase their competitiveness both locally and in the

global marketplace through rapid infusion of capital, skill, and technology. The Saudi construction firms must also adopt the same kind of thinking, especially to survive and flourish in the post-WTO scenario.

In order to accomplish the abovementioned objectives, the Saudi construction firms need to obtain ISO 9000 or equivalent certification to attract the potential joint venture partners, minimize the operational difference through possession of similar processes and systems. The Saudi construction firms may consider promoting economies of scale and get rid of incompetence through objective-oriented and meaningful joint ventures with global giants such as Bechtel, Fluor and Daniel, Foster Wheeler, and others.

(ii) Defensive Strategies: The defensive strategies for the large Saudi construction firms could be to consider specialization through targeting selected markets and products/services wherein the need for joint venture is not strategically significant. For instance, the Saudi construction firms may consider defending locally by making strategic alliance with local firms, suitably modifying the existing products/services range, reducing assets or scale of activities through retrenchment, and closing or selling part of business.

5.4.8 IT Utilizations

Results of questionnaire survey data show that the status of IT utilization in the large Saudi construction firms are low and represents a major weakness.

The strategic importance of IT in construction has widely been discussed in available literature. For instance, IT utilization is imperative to endure and prosper in contemporary hyper-competitive business environment, in that it impacts almost all the areas/stages of construction operations including, but are not limited to design, management and administration, decision making, contract, procurement, construction, communication between project team (Warszawski, 1994, 1996, Sey et al, 2002, Shen et al, 2003, Dikmen and Birgonul, 2003, Olofsson and Emborg, 2004). In line with this, Sey et al (2002) indicated that IT utilization is proficient to offer augmented integration, improved interdependence, interrelatedness, inter-organizational business relationships, intra-organizational coordination, and flexibility in organizational structures. IT utilization has gained strategic importance among global players not only because of its ability to increase operational efficiency and productivity, but also for the reason that it makes decision making cheaper, quicker, and more effective. Furthermore, Ruikar et al (2003) pointed out the inadequate use of IT in construction industry in general and developed a business process reengineering model exemplifying various benefits of new and innovative applications of IT in construction.

(i) Proactive Strategies: Keeping in mind the post-WTO environment discussed in Section 2.11 and the abovementioned viewpoints, the proactive strategy of Saudi construction firms in this regard will be to consider improving the status of IT utilization.

Shash and Al-Amir (1997) analyzed the Saudi construction industry in terms of several application areas of IT in construction through a questionnaire survey; the outcomes of this study may provide a guideline for developing IT strategies in the Saudi construction firms.

Aoud et al (1999) pointed out that the most important reasons for the failure of IT in construction is that detailed analysis of the business processes has not been done in many cases, and investments have not been done based on right technologies. They further described how IT system of a construction company should be developed. The Saudi construction firms may consider duly making use of the findings of this study.

Fischer and Kunz (2003) indicated the benefits of utilizing the three-dimensional (3-D) models. For instance, the construction firms can use 3-D models during conceptual design phase to present the architects idea about the final structure and the opportunity to suggest some of the useful preventive measures of the possible future problems. Further, their study suggested that the construction firms must determine which IT applications present the utmost strategic significance and when to put one into practice keeping in mind the limitations prevailing in a particular firm. In line with this, the Saudi construction firms may consider prioritizing the IT application areas including 3-D modeling and assess the feasibility of the same in order to implement them with an appropriate timeframe.

A recent benchmarking study has been conducted by Shen et al (2003) through a questionnaire survey among fifteen major Quantity Surveying (QS) companies in Hong Kong. It focuses on how QS companies use IT in their daily operations including information flows among business partners. In line with this, El-Ghandour and Al-Hussein (2004) provide an impressive synopsis of possible application areas of IT in construction. The outcomes of these studies could serve as the initial points of references to the Saudi construction firms for developing IT strategies, because these studies delineate various possible areas wherein IT could strategically be utilized.

Chan et al. (2004) propose a conceptual model of web-based information system for construction project management to facilitate data exchange among concerned project members during different phases of construction. The application of IT in terms of online construction negotiations and advantages thereof are widely discussed by Cheung et al (2004). They also propose a software program using internet based simulated negotiation support system, called construction negotiation online (CoNegO). The Saudi construction firms may consider exploiting suitably this system both locally and in the prospective international markets.

A systematic framework for gap analysis specific to application areas of IT in construction is proposed by Shelburn et al (2004). They describe the gap analysis

framework suited to a particular company. The framework proposed in this study may be implemented by the Saudi construction firms to benefit from it.

(ii) Defensive Strategies: The defensive strategies for the large Saudi construction firms could be to become specialized, reducing assets or scale of activities through retrenchment, and closing or selling part of the firm.

The abovementioned can be accomplished through concentrating on those kinds of projects/clients that do not require high demands for tools and techniques that necessitate IT utilization. For instance, the Saudi construction firms may consider being specialized in business activities that include, but are not limited to supply of specialized construction materials (concrete, steel, asphalt, glass, aluminum, wood, insulators, refrigerators, boilers, etc.) and supply of specialty services (mechanical, electrical, plumbing, fire protection systems, HVAC systems, fabrication, building finishes, landscaping, geotechnical investigations and material testing, geophysical surveying, quantity surveying, value engineering, operation and maintenance, etc.) wherein the need for modern IT utilization could be of less strategic significance.

5.4.9 Information Systems and Knowledge Acquisitions

Results of questionnaire survey data reveals that the information systems and knowledge acquisitions are low and represent a major weakness of the large Saudi construction firms.

Warszawski (1994), Dikmen and Birgonul (2003) indicated that successful business needs precise, wide-ranging, well-timed, and handy information. In other words, the timely acquisition of precise knowledge is one of the necessities to survive and thrive in today's competitive marketplace.

While information systems can play a vital role in improving organizational structure and technological capabilities, improved knowledge acquisitions are the basis for addressing several strategic perspectives including production efficiency, R&D activities, products/services quality, experience, and hence augmented revenues (Dikmen and Birgonul, 2003, Mezher et al, 2003).

Olofsson and Emborg (2004), based on the result from in-depth interviews with the construction professionals, reported that integrated information systems can lead to reduced activities durations, efficient use of resources, and improved quality of work. For instance, electronic means of communication and database assists in reducing the need for frequent meetings of construction team, photocopying and paperwork, and hence, reduce overheads.

Improved information systems and knowledge acquisitions assist in outsourcing activities at quite lower expenditure than those carried out by the competitors, improve speed and quality of services' delivery, reduce long and tiresome meetings, make available timely information for every decision-maker, make possible data and information sharing among concerned departments (Warszawski, 1994, 1996, Azzam, 1998, Fellows et al, 2002).

(i) Proactive Strategies: Keeping in mind the post-WTO environment discussed in Section 2.11 and the abovementioned viewpoints, the Saudi construction firms need to consider developing innovative ways to improve information systems and knowledge acquisitions in order to improve their capability of executing projects in terms of speed of delivery and quality.

Curry and Stancich (2000) discussed the potential benefits that can be derived from establishing intranets. They indicate that an effective intranet can act as a very good tool not only for quick and timely transmission of information, but also it assists in improving the flow of communication, enhancing knowledge of professionals, sharing the best practices, reducing the duplication of information, reducing the paper/video/audio, copying, and distribution costs, and developing an environment conducive to innovation in services. Furthermore, they indicated that most of the respondents who participated in their study believed that intranet assists in improving productivity. Therefore, it is worth recommending that the top management in Saudi construction firms understand the usefulness of intranet and establish an effective intranet system in their respective firms so as to improve the information systems and knowledge acquisitions and hence, to develop the knack to deliver the precise and timely information to the concerned people.

The supply chain in construction industry encompasses networking among all concerned that including owners/developers, contractors/ subcontractors,

architects/engineers, lenders, merchants, and manufacturers of construction materials and equipments (Mezher et al, 2003). An e-business model to sustain supply chain dealings in construction is proposed by Cheng et al (2001). Saudi construction firms may consider making use of this model. However, in order to implement this model, strategists and concerned authorities of the Saudi construction industry need to ensure that each entity in the supply chain follows standard procedures such as ISO 9000 or other relevant standards. Besides, all the entities concerned must have access to state-of-the-art IT infrastructure in terms of computing facilities, internet, intranet, and extranet with fast connectivity.

Shelburn, et al (2004) suggested the step-by-step procedure to improve the information systems and knowledge acquisitions that can be exploited to improve the status of information systems and knowledge acquisitions in the large Saudi construction firms.

Shi and Halpin (2003) emphasize the importance of enterprise resource planning (ERP) for an enterprise and proposed a construction enterprise resource planning (CERP) that is claimed to project-oriented, integrated, scalable, remotely accessible, transparent, reliable, and robust. The Saudi construction firms may consider implementing CERP suitably with the intention of integrating their major business management functions utilizing the common database so as to improve the status of information systems and knowledge acquisitions.

In addition, the Saudi construction firms may consider improving their information systems and knowledge acquisitions by utilizing the following:

(a) Free information from various available construction industry electronic directories, cookies, software, online sources such as CNN Financial (www.cnnfn.com), Hoover's (www.hoovers.com), the Construction Claims Advisor (www.constructionclaims.com), and others

(b) Electronic catalogs (for effective procurement)

(c) Web chatting/web casting/internet telephony (for effective communication)

(d) Online learning (for effective training)

(e) Online tendering (for effective bidding)

(f) Virtual marketing (for effective marketing)

(g) Subscribing trade journals, and holding and/or attending seminars/conferences (for keeping track of recent technological developments)

The abovementioned can be accomplished by keeping updated with the up-to-the-minute information including those related to the policy changes in the concerned overseas markets, technical aspects of the supply of services, dispute resolution mechanism, environmental laws, insurance and financing regulations, registration, availability of the relevant technology, overseas opportunities in the lucrative overseas markets, and others. The Saudi construction firms may consider making strategic alliances and joint venture agreements with local and global giants respectively with a view to seek assistance in the development of in-house

information systems and knowledge acquisition assignment. By so doing, technology/organizational capability can diffuse gradually over time to move over ultimately to a time bound plan into a stand alone accomplished entity.

(ii) Defensive Strategies: The defensive strategies for the large Saudi construction firms in this regard could be to become specialized in, to reduce assets or scale of activities through retrenchment, and closing or selling part of the firm.

The abovementioned can be accomplished through concentrating on those kinds of projects/clients that do not require high demands for information systems and knowledge acquisitions. For instance, becoming specialized only in less complex projects such as typical residential, commercial, and institutional buildings in preference to taking up big projects involving hi-tech such nuclear reactors. By so doing, the Saudi construction firms can gradually avoid the need for advanced and sophisticated information systems and knowledge acquisitions by squeezing the extent of information and knowledge needed to be competitive both locally and in the prospective global markets of the WTO members.

Chapter 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 General

The main aim of this research was to explore the relevant features of the WTO and the GATS and to evaluate the potential impact on the large Saudi construction firms, resulting from Saudi Arabia joining the WTO. This chapter of the thesis presents the conclusions and recommendations. Section 6.2 provides conclusions of the present research. Section 6.3 presents the recommendations for construction industry. Finally, Section 6.4 suggests future research.

6.2 Conclusions

The main findings of this research, subject to the limitations stated in Section 1.5, indicate that the GTAS Framework of Liberalization is a double-edged sword for the large Saudi construction firms. While the Kingdoms' entry into the WTO will endow the large Saudi construction firms with the overseas opportunities in the 148 member countries, limited only by special privileges within regional groupings, increased competition due to the entry of international competitors into Kingdom and the reduced concessions/subsidies due to the WTO regulations are

also inevitable. Furthermore, in order to evaluate the potential impacts on Saudi construction firms, contemporary status of the large Saudi construction firms were investigated. The analysis of survey data reveals that the large Saudi construction firms are not prepared enough to compete with the potential international competitors in the WTO era and they need to address adequately their contemporary areas of major weaknesses such as innovation in services, global operations, R&D activities, strategic planning, training/retraining activities, joint ventures, IT utilization, and information systems and knowledge acquisitions. Figure 6.1 shows the summary of survey results.

In addition, the experts participated in this study are divided over several internal factors including financial resources, technological capabilities, managerial capabilities, organizational structure, plant and equipment management, products/services quality, human resources, marketing skills, strategic alliance, client relations, government policies, procurement management, production efficiency, experience, market shares, and related and supporting industries. The low level of agreement among the experts on the status of large Saudi construction firms and what most of the internal factors constitute has two major implications. The first, it indicates high level of uncertainty of the Saudi construction business in working under the WTO environment. The second, it curtails the development of a comprehensive strategic plan for the Saudi construction industry in the WTO business environment. Consequently, the strategic plan proposed in the chapter 5 of this study is partial in that

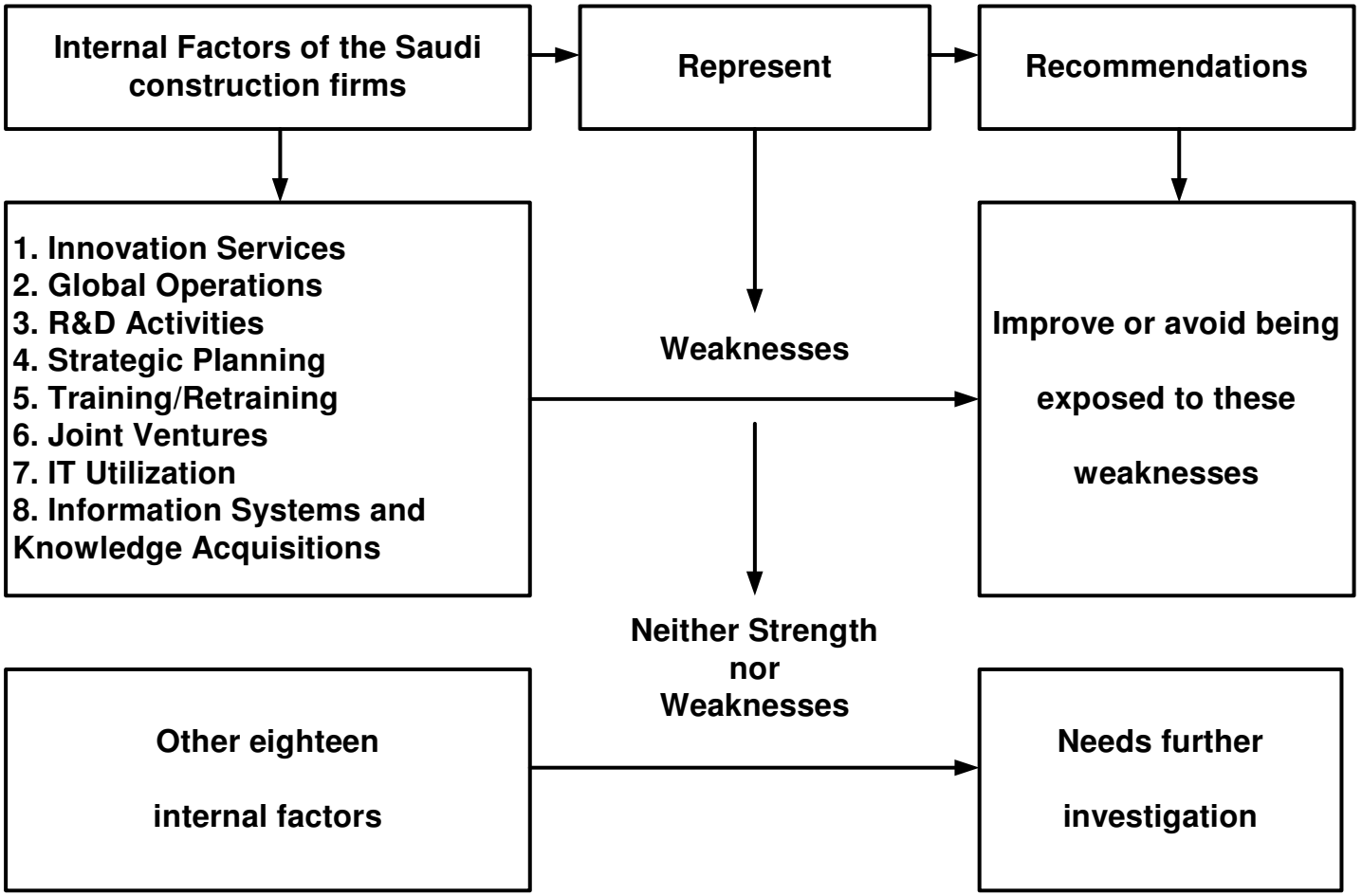

Figure 6.1: Summary of Findings

it focused only on eight internal factors, wherein, reasonably high level of agreement among the surveyed experts could be achieved.

6.3 Recommendations

6.3.1 Recommendations for the Construction Industry

Based on what has been presented in this study, the following are recommended:

(i) In order to face the challenges emanating from joining the WTO, the Saudi construction firms need to develop and adopt a culture of strategic planning/thinking. This will necessarily need top management commitments and coordination between the Government, construction industry, universities, and other research organizations in the Kingdom.

(ii) Stemming from above point, the large Saudi construction firms need to assess themselves with respect to all the twenty-six factors discussed and surveyed in this study. The determinants of this study constitute an initial step, which can be used as a guide for setting a strategic agenda considering different characteristics specific to a Saudi construction firm and the market(s)/submarket(s) thereof.

(iii) The Saudi construction firms must address the issues raised in this study properly so as either to improve or avoid being exposed to their obvious weaknesses such as innovation in services, global operations, R&D activities,

strategic planning, training/ retraining activities, joint ventures, IT utilization, and information systems and knowledge acquisitions, in order to face the WTO challenges.

(iv) The Saudi construction industry and hence the professionals involved therein must develop a clear understanding of the WTO and GATS rules, obligations, and the legal knowledge that will be needed in the post-WTO environment to protect their respective organizations from any adverse impact due to the competitor organizations from the WTO member countries not conforming to the WTO regulations, and indulging in unhealthy means of competition. Anti-competitive regulations need to be formulated by the Government to limit the adverse impacts from such acts of large organizations that may have monopolistic agenda.

(v) In order to successfully enter into the WTO era, more interactions (through meetings/seminars/conferences) among construction and related engineering professionals/associations to discuss/exchange views on the relevant issues such as understanding of the WTO and GATS rules, obligations, and the legal knowledge that are expected to impact local construction firms in the post-WTO environment.

(vi) The findings of this study can provide an initial medium for assessing the contemporary status of the large Saudi construction firms as compared to those of global giants. In addition, the results of this study and the partial strategies/recommendations made in this study can be utilized as a preliminary

stride for developing a national strategic agenda for the Saudi construction industry.

(vii) Future strategies for the Saudi construction firms must be flexible and in accordance with their mission, objectives, aligned suitably with contemporary internal and external environment as indicated in this study.

6.3.2 Recommendations for Further Studies

The present research investigated the current status of the large Saudi construction firms and identified some of the possible strategies for the prospective WTO era. From the insight gained from this study, the recommendations for further studies would include:

(i) The results of this study show that the respondents are widely divided about most of the internal factors. Further study is required using the Delphi rounds of survey to arrive at a more common understanding of the contemporary strengths and weaknesses of the Saudi construction firms and to propose the strategies thereof. Further study may also include the respondents covering wider range, especially business executives involved in the Saudi construction industry and having global knowledge of construction business.

(ii) A study on the strategies proposed in this research mainly to seek the opinion of firm's executives on the practicality of adopting the recommendations.

(iii) Similar studies for other segments of construction business such as consultancy, construction material suppliers, construction equipment manufacturers, and others.

(iv) This study did not take stock of various Government regulations that might impede the implementation of strategies proposed in this study. Further study might address this issue.

(v) Present research identified generic strategies for the large Saudi construction firms. A similar study for proposing strategies specific to certain company(ies) and/or small and medium sized enterprises (SME's) may be carried out taking into considerations specific problems, constraints, resources, objectives, and missions of the relevant firms.

(vi) This study did not survey the opinions of the respondents about the attitudes of the large Saudi construction firms towards overseas opportunities and their future plans in this regard. Future study might address this issue to suggest more specific strategies for the WTO environment.

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APPENDIX-A1

(Components of the WTO Agreements)

Sl. No.	WTO Articles	Contents
1	Article I	Founding of the organization
2	Article II	Scope of the WTO
3	Article III	Functions of the WTO
4	Article IV	Structure of the WTO
5	Article V	Relations with the other organizations
6	Article VI	The secretariat
7	Article VII	Budget and contributions
8	Article VIII	Status of the WTO
9	Article IX	Decision-making
10	Articles X	Amendments
11	Article XI	Original Membership
12	Article XII	Accession
13	Article XIII	Non-application of multilateral trade agreements between particular Members
14	Article XIV	Acceptance, ingress into force and deposit
15	Article XV	Withdrawal
16	Article XVI	Miscellaneous provisions
17	Annexes	Annex 1A: Multilateral agreements on trade in goods
		Annex 1B: General agreements on trade in Services and Annexes
		Annex 1C: Agreements on trade – related aspects of intellectual property rights
		Annex 2: Understanding the rules and procedures governing the settlement of disputes
		Annex 3: Trade policy review mechanism
		Annex 4 (Plurilateral trade agreements): 1. Agreement on trade in civil aircraft 2. Agreement on government procurement 3. International dairy agreement 4. International bovine meat agreement

Source: Compiled from (WTO, 1994, Goode, 2003).

APPENDIX-A2

(Components of the GATS Agreements)

GATS Articles	Contents
PART I: SCOPE AND DEFINITION	
Article I	Scope and Definition
PART II: GENERAL OBLIGATIONS AND DISCIPLINES	
Article II	MFN treatment
Article III	Transparency and disclosure of confidential information
Article IV	Increasing participation of developing countries
Article V	Economic integration and labor markets integration agreements
Article VI	Domestic convention
Article VII	Recognition
Article VIII	Monopolies and exclusive service suppliers
Article IX	Business practices
Articles X	Emergency and safeguard measures
Article XI	Payments and transfers
Article XII	Precincts to safeguard the balance of payments
Article XIII	Government procurement
Article XIV	General exceptions and security exceptions
Article XV	Subsidies
PART III: SPECIFIC COMMITMENTS	
Article XVI	Market access
Article XVII	National treatment
Article XVIII	Additional commitments
PART IV: PROGRESSIVE LIBERALIZATION	
Article XIX	Debate of specific commitments
Article XX	Schedules of specific commitments
Article XXI	Schedule of commitments by individual Member country
PART V: INSTITUTIONAL PROVISIONS	
Article XXII	Consultation
Article XXIII	Dispute settlement and enforcement
Article XXIV	Council for trade in services
Article XXV	Technical cooperation
Article XXVI	Relationship with other international organizations
PART VI: FINAL PROVISIONS and Annexes	
Article XXVII	Denial of benefits in the final provisions
Article XXVIII	Definitions of final provisions
Article XXIX	Annex on Article II (MFN treatment) Exemptions
	Annex on Movement of Natural Persons Supplying Services
	Annex on Air Transport Services
	Annex on Financial Services
	Annex on Negotiations on Maritime Transport Services
	Annex on Telecommunications
	Annex on Negotiations on Basic Telecommunications

Source: Compiled from (WTO, 1994, Goode, 2003).

APPENDIX-A3

(Questionnaire Survey)

King Fahd University of Petroleum & Minerals

Construction Engineering and Management Department

A Survey on Large Saudi Construction Firms

Part A: General Information about the Respondent

Please complete the following information:

1. Name of Respondent:
2. Company Name:
3. Telephone #:
4. Fax #:
5. E-mail:

6. Please mark the type of business you/your organization is involved in:

(a) Construction contracting [ ]	(b) Consultancy [ ]
(c) Education [ ]	(d) Other (Pls. specify)…….

Part B: Survey of Factors

The following is a list of factors that may constitute a source of strength or weakness for Saudi large* construction firms. For each of the factors, please assess its current construction firm's status (level) and to what degree that level constitutes a strength or weakness by placing (x) in the appropriate box. At the end of the list please add any other relevant factors not included in the list and assess their current status similar to those for the given factors. A description of each factor is provided after the table.

Factor	Current Status of Large* Saudi Construction Firms			What does the current status of this factor represent?					Remarks
	Low	Fair	High	Major Weakness	Minor Weakness	Neutral	Minor Strength	Major Strength	
1. Financial Resources									
2. Technological Capabilities									
3. Managerial Capabilities									
4. Organizational Structure									
5. Plant and Equipment Management									
6. Suppliers' Selection									
7. Products/Services' Quality									
8. Human Resources									
9. Marketing Skills									
10. Innovation in Services									
11. Global Operations									
*. Large firms are those construction firms classified in category 1&2 in the Ministry of Public Works & Housing (MPWH)									

12. Research and Development (R&D)									
13. Market Shares									
14. Government Policies									
15. Procurement Management									
16. Production Efficiency									
17. Strategic Planning									
18. Training/Retraining									
19. Clients' Relations									
20. Experience									
21. Strategic Alliances									
22. Joint Ventures									
23. Utilization of IT									
24. Information Systems and Knowledge Acquisitions									
25. Firms' Size									
26. Related and Supporting Industries									
Please add below and assess any other factors that may constitute a strength or weakness to the Saudi construction firms.									
27…..……..									
28……..									
29 ……..									
30 ……..									
31…..……..									
32……..									
33 ……..									
34 ……..									
35…..……..									
36……..									
37 ……..									
*. Large firms are those construction firms classified in category 1&2 in the Ministry of Public Works & Housing (MPWH)									

VITAE

- Irshad Ahmad
- Born in Samastipur district of Bihar state, India on 1 Jan 1977
- Received Bachelor of Civil Engineering (BE, Civil) from Khaja Banda Nawaz College of Engineering (KBNCE), Gulbarga, India in Sep 2000
- Worked as a Project Engineer at Geotech Consultants, New Delhi, India from Oct 2000 to Jun 2001
- Worked as a Asstt. Engineer at Centre for Research and Planning in Highway and Transportation Systems (CRAPHTS), New Delhi, India from Jul 2001 to Jan 2002
- Worked as a Asstt. Highway Engineer at Construma Consultancy, New Delhi, India from Feb 2002 to Aug 2002
- Worked as a Research Assistant at King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia from Sep 2002 to present
- Received Master of Science (MS) in Construction Engineering and Management from King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia in Dec 2004
- This researcher can be reached at "0091-6272-280211/0091-6274-265785" (India) or "irshadatoz@yahoo.co.in, irshad_kfupm@rediffmail.com"