

**Location Motivations for Foreign Direct Investment in the Petrochemicals Industry:  
The Case of Saudi Arabia**

**A thesis submitted for the degree of Doctor of Philosophy**

**By**

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## **Abstract**

Foreign Direct Investment (FDI) is an important source of capital and economic growth in developing countries. It provides a package of new technologies, management techniques, finance and market access for the production of goods and services. However, attracting FDI is a major challenge for host countries, as they face the challenge of identifying the major factors that motivate and affect the FDI location decision, and also the key competitive drivers that determine FDI location.

After reviewing the literature on FDI, we identified the major location factors for FDI with regard to the petrochemicals industry. These location factors are as follows: cost factors, market factors, economic factors, infrastructure and technological factors, political and legal factors, and social and cultural factors. We have noticed that previous studies have failed to discuss the complexity of the relative importance of location factors in relation to a specific industry and a specific country, and the competitiveness of these factors in terms of other FDI locations. This study therefore aims to fill the gap in the literature by examining the relative importance of the location factors on FDI location decision, and the major competitive forces that determine the attraction of FDI inflows in the petrochemicals industry in Saudi Arabia.

We have found in this study that the most important location factors that affect the location decisions for FDI in the Saudi petrochemicals industry are cost factors, followed by political and legal factors, and infrastructure and technological factors. An interesting finding of this study is that economic factors, followed by market factors, and social and cultural factors, which in previous studies in the literature have been found to be important factors for multinational enterprises' (MNEs) location decisions for FDI have not been found in this study to be important for FDI location decisions in the Saudi petrochemicals industry. Another finding of this study is that the most competitive location factors for FDI inflows in the Saudi petrochemicals industry are cost factors, political and legal factors, followed by infrastructure and technological factors, and economic factors. This study found that market factors and social and cultural factors are not the key competitive drivers in terms of attracting FDI inflows into the Saudi petrochemicals industry.

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## List of Abbreviations

ACNOVA	Analysis of Covariance
ANOVA	Analysis of Variances'
ARAMCO	Arabian American Oil Company (now Saudi ARAMCO)
BMI	Business Monitor Group
BPM	Balance of Payments and International Investment Position Manual
CEECs	Central and Eastern European Countries
CSAs	Competitive Specific Advantages
CUFTA	Canada-U.S. Free Trade Agreement
EPC	Engineering, Procurement and Construction
EU	European Union
FDI	Foreign Direct Investment
FSAs	Firm Specific Advantages
GCC	Gulf Cooperation Council
GCR	Global Competitiveness Report
GDP	Gross Domestic Product
GNP	Gross National Product
ICSID	Center for Settlement of Investment Disputes
IEA	International Energy Agency
IFC	International Finance Cooperation
IMF	International Monetary Fund
JEE	Jazan Economic City
JV	Joint Venture
KAEC	King Abdul-Aziz Economic City
KEC	Knowledge Economic City
KSA	Kingdom of Saudi Arabia
LDPE	Low-Density Poly-Ethane
LPG	Low Price Gas
M&A	Mergers and Acquisition
MNC	Multinational Corporation
MNE	Multi-National Enterprises
NAFTA	North American Free Trade Agreement
NCC	National Competitiveness Center (Saudi Arabia)
NGLs	Natural Gas Liquids
NIDL	New International Division of Labor
OECD	Organization for Economic Cooperation and Development
OLI	Ownership, Location and Internationalization
PABMEC	Prince Abdul-Aziz Bin Musa'ed Economic City
PPP	Public Private Partnership
PRS	Political Risk Services
R&D	Research and Development
RCJY	Royal Commission of Jubail and Yanbu
SA	Saudi Arabia
SABIC	Saudi Basic Industries Company
SAGIA	Saudi General Investment Authority
SAIAC	Saudi International Arbitration Commission
SECS	Special Economic Cities
SIDF	Saudi Industrial Development Fund

SNA	System of National Accounts
SPSS	Statistical Package for Social Science
SR	Saudi Riyal
TNCs	Trans-National Corporations
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference for Trade and Development
USA	United State of America
USD	United State Dollar
WIR	World Investment Report
WTO	World Trade Organization

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## **Chapter 1**



## **Chapter 1 : Introduction**

### **1.1 Introduction**

In this chapter, we introduce the main body of this research including research background, research objectives, research questions and hypotheses, research structure, research contributions, research limitations, and future research direction.

### **1.2 Research Background**

Foreign Direct Investment (FDI) is an important source of capital for growth in developing countries. It provides a package of new technologies, management techniques, finance and market access for the production of goods and services. Thus, it contributes significantly to raising total factor productivity in host countries and helps improve their overall rate of economic growth.

The Kingdom of Saudi Arabia considers the attraction of increased levels of foreign direct investment as one of its major economic goals for sustained economic growth. Thus, this research examines and analyses the location factors that influence location decisions with regard to FDI, and the major competitive forces that determine FDI inflows in the petrochemicals industry in Saudi Arabia.

### **1.3 Research Objectives**

There is a startling gap between previous studies and our study on the relative importance and competitiveness of location factors in respect of FDI location decision-making on the part of countries and industries. The main objective of this research is to narrow this gap by making use of comprehensive survey data to identify the relative importance of the location factors in relation to a specific industry (petrochemicals) and a specific country (Saudi Arabia) and the competitive drivers that determine the location decision of FDI inflows compared to other locations.

### **1.4 Research Questions**

Following exponents such as (Tatoglu and Glaister, 1998; Oh, 2001; MacCarthy and Atthirawong, 2003; Buckley, Devinney and Louviere, 2007; Galan, Benito and Vincente, 2007; Tam, Newton, Strange and Enright, 2008, among others), we use the same questions that these researchers have asked in their various studies to ascertain whether in the case of

Saudi Arabia which of the location factors are the main determinants of MNEs FDI location decisions. Therefore, the questions that we are exploring in this research are as follows:

- *Q1: What is the relative importance of FDI location factors in the Saudi petrochemicals industry?*
- *Q2: What is the relative competitiveness of FDI location factors in the Saudi petrochemicals industry compared to other locations?*

Q1 is divided into sub-questions to clarify the purpose of the research. The sub-questions are as follows:

- *Q1a: What is the relative importance of cost factors in FDI location decisions in the Saudi petrochemicals industry?*
- *Q1b: What is the relative importance of market factors in FDI location decisions in the Saudi petrochemicals industry?*
- *Q1c: What is the relative importance of economic factors in FDI location decisions in the Saudi petrochemicals industry?*
- *Q1d: What is the relative importance of infrastructure and technological factors in FDI location decisions in the Saudi petrochemicals industry?*
- *Q1e: What is the relative importance of political and legal factors in FDI location decisions in the Saudi petrochemicals industry?*
- *Q1f: What is the relative importance of social and cultural factors in FDI location decisions in the Saudi petrochemicals industry?*

The main objective of this research is to explore the relative importance of FDI location factors in the Saudi petrochemicals industry. In order to answer the research questions, the main question is expressed in the form of a hypothesis as follows:

- *H1: The relative importance of FDI location factors will vary in the Saudi petrochemicals industry.*

The main hypothesis above (*H1*) is divided into the following sub-hypotheses:

- *H1a: Cost factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1b: Market factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1c: Economic factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*

- *H1d: Infrastructure and technological factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1e: Political and legal factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1f: Social and cultural factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*

In the second part of this research, we aim to test the competitiveness of FDI location factors in the Saudi petrochemicals industry. In view of this, the following questions were expressed in hypothesis form as follows:

- *Q2: What is the relative competitiveness of FDI location factors in the Saudi petrochemicals industry compared to other locations?*

Q2 is divided into sub-questions to clarify the purpose of the research as follows:

- *Q2a: What is the relative competitiveness of cost factors for FDI in the Saudi petrochemicals industry compared to other locations?*
- *Q2b: What is the relative competitiveness of market factors for FDI in the Saudi petrochemicals industry compared to other locations?*
- *Q2c: What is the relative competitiveness of economic factors for FDI in the Saudi petrochemicals industry compared to other locations?*
- *Q2d: What is the relative competitiveness of infrastructure and technological factors for FDI in the Saudi petrochemicals industry compared to other locations?*
- *Q2e: What is the relative competitiveness of political and legal factors for FDI in the Saudi petrochemicals industry compared to other locations?*
- *Q2f: What is the relative competitiveness of social and cultural factors for FDI in the Saudi petrochemicals industry compared to other locations?*

The second main question was expressed in hypothesis form as follows:

- *H2: The relative competitiveness of FDI location factors will vary in the Saudi petrochemicals industry compared to other locations.*

The main hypothesis was further divided into sub-hypotheses as follows:

- *H2a: Cost factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2b: Market factors are competitive for FDI in the Saudi petrochemicals industry*

*compared to other locations.*

- *H2c: Economic factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2d: Infrastructure and technological factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2e: Political and legal factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2f: Social and cultural factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*

## **1.5 Research Structure**

Chapter 1 includes the research background, the research objectives, the research questions, hypotheses, the research structure, the contributions of the research and the research limitations and future directions. Chapter 2 reviews the literature on FDI including definitions of FDI, the reasons for studying FDI, trends with regard to FDI, types of FDI, key theories of FDI and the literature on FDI location factors. Chapter 3 includes the background information on Saudi Arabia, an overview of FDI in Saudi Arabia, and a discussion of FDI inflows into the petrochemicals industry in Saudi Arabia. Chapter 4 reviews in the first section the globalization and the political economy of FDI, including political economy of FDI, trends with regards to FDI, FDI in developing countries, FDI in GCC countries, and FDI in Saudi Arabia, the second section reviews the research methods, population definition, sample size, selection of methods, the survey design, data collection, and response rate and the research questions and hypotheses. Chapter 5 presents the analysis of the research findings, including analysis of the importance and competitiveness of location factors. Chapter 6 presents the empirical evidences of the importance/competitiveness of the Saudi petrochemicals industry. Chapter 7 present the conclusions and implication of the study including the research conclusions, limitations, future research directions and research contributions.

## **1.6 Research Contributions**

The study derives its importance from its coverage of an area in which there are relatively few studies in the context of developing countries. We notice that developing countries in general, and Saudi Arabia in particular, have a great need for this kind of study to understand what location factors matters the most for FDI location decision and what are the

competitiveness of these location factors compare to other locations. As far as the researcher is aware, this study is the first of its kind in Saudi Arabia to investigate the importance and competitiveness of FDI location factors in the Saudi petrochemicals industry. We therefore hope that it will be the starting point for subsequent studies, and will provide some useful insights, policy implications and recommendations for the Saudi Arabian government, international firms and the international business community. Reviewing Saudi Arabia's economic reform policies and private sector-led investment initiatives, its legal, monetary, political and social issues and business procedures that enhance or delay FDI inflows are important steps for local and foreign investors, as well as for the Saudi government, to understand in terms of the major obstacles that investors face in Saudi Arabia. It also provides the Saudi government with a clear picture of the strategic steps that should be taken to attract more FDI into the country. As the global demand for FDI grows, and the supply of FDI contracts, there is an overwhelming need to understand better the effect of location factors in respect of FDI location decisions and how these factors shape the final location destination for FDI.

### **1.7 Research Limitations**

The research has limited geographical focus as it focuses only on FDI located in Saudi Arabia. Thus, the generalisability of these results to petrochemical industries in other countries remains to be established. Another limitation is that the survey samples are only from the petrochemicals industry in Saudi Arabia, and are not representative of other FDI sectors in the country as well as other sectors in other countries.

### **1.8 Future Research**

Given that this research area has not been covered extensively in the past, the results and conclusions of this study therefore constitute a significant platform for future work in this area. It thus gives the opportunity for scholars to extend further international business research into the relative importance of the location factors and the competitive drivers that determine FDI location decisions in other industries and in other countries. The findings of this study are critical to the international development community and the business community alike, in order to understand better the complexity of MNEs' location decisions.

## **1.9 Summary**

The introductory chapter serves as a plan for the thesis. An introduction to the tenets of the research, including the research background and objectives, have been drawn up in this chapter. In addition, the research questions and hypotheses have also been illustrated. The chapter also outlines the research structures, research contributions, research limitations, and future research directions. The next chapter discusses prior studies that have been undertaken in the area of foreign direct investment location.

## **Chapter 2**

## Chapter 2 : Literature Review

### 2.1 Introduction

For researchers using quantitative methods, the existing literature has a specific use, as they can discover the gaps in the current studies. It also helps them to develop theoretical and conceptual frameworks and models and to identify important variables and test the relationships between them. For qualitative studies, quite often the researcher wants to discover relevant variables and the relationships between them, and to put these variables together in a new way. Therefore, the main goal of the literature review is to identify the problem under consideration, identify related concepts, methods/techniques and facts, and position the study to add something new to knowledge (Ghauri and Gronhaug, 2005).

### 2.2 Definitions of FDI

The Organisation for Economic Co-Operation and Development's (OECD) *Benchmark Definition of Foreign Direct Investment* (OECD, 2008) sets the world standard for direct investment statistics. It is fully compatible with the underlying concepts and definitions of the *International Monetary Fund's (IMF) Balance of Payments and International Investment Position Manual (BPM)*. It also follows the general economic concepts set out by the *System of National Accounts (SNA)* (Dunning, 2008).

According to the OECD (2008, p. 10), FDI as a "...direct investment is a category of cross-border investment made by a resident firm in one economy (the *direct investor*) with the objective of establishing a lasting interest in an enterprise (the *direct investment enterprise*) that is resident in an economy other than that of the direct investor".

The United Nations 1999 *World Investment Report* (UNCTAD, 1999, p. 465) defines FDI as "...an investment involving a long term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise, affiliate enterprise or foreign affiliate)".

The IMF (1993, p. 7) *Balance of Payments Manual* defines FDI: "...Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy ('direct investor') in an entity resident in an economy other than that of the investor ('direct



investment enterprise’). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise”. The IMF recommends a 10% stake for identifying direct investment. There is, nonetheless, as yet no firm international consensus on the minimum equity stake deemed necessary for such an effective voice, but for the majority of countries it is likely to vary between 10% and 25% of the total equity stake of an enterprise (Dunning, 2008).

### **2.3 Literature on FDI Location Factors**

Due to the fact that the literature on FDI location factors is massive, we are limiting our study to the most important ones related to our study objectives. Moreover, many scholars’ studies have focused on several factors, and some of these factors may overlap with each other. For this reason, we may have some repeatable factors in different sections. Many researchers have theorised about the potential determinants of FDI location which, when taken together, identify many possible factors. These factors are now considered along with a brief rationale for their importance. In the next section, the empirical evidence for these variables is reviewed (Jones and Wren, 2006).

#### **2.3.1 General Overview of FDI Location Factors**

Dunning (1998) stressed that, in recent years, the location behaviour of MNEs when expanding into cross-border locations has not been the focus in studies on the part of international business scholars. He explained that the lack of attention of scholars on MNEs’ location decisions has been because scholars have believed that a firm’s national location decisions can be expanded to explain the cross-border location choice and because economics scholars may have found the current explanations of MNEs’ location choices to be acceptable. In addition, they may not be interested in the subject of MNEs’ location decisions. According to Cleeve (2007), economists in the 1960s and 1970s (for example, Hymer, 1960; Kindleberger, 1969) gave more attention in their studies to analysing the ownership advantages of multinational firms, mostly overlooking the location advantages of FDI location decisions. However, not much has changed recently, as scholars are still not giving much attention to the location-specific advantages that have influenced FDI inflows (Cleeve, 2007; Dunning, 1998; 2002).

Dunning (2000) argues that international business scholars and economists have not focused

on how MNE activities across the world can be explained by the location-related theories and how the FDI location can affect the competitiveness of these firms globally. However, the interest on the part of scholars in the subject of FDI location factors has grown in stature in recent years. Economists such as Audretsch (1998), Krugman (1991; 1993) and Venables (1998) and industrial clustering analysts such as Scott (1996), Storper (1995), Storper and Scott (1995), Cushman (1985), Froot and Stein (1991) and Rangan (1998) identify the role of exchange rates in affecting the extent, geography and timing of FDI. In addition, business scholars such as Porter (1994; 1996) and Enright (1991; 1998) have evaluated the competitiveness of FDI location. Recent studies have extended the location factors that may affect FDI location to include exchange rates, political risks, host government investment policies, cultural differences and other new factors (Dunning, 2000).

Dunning's (1998) eclectic paradigm points out that the importance of the location decision in a host country is a critical factor in terms of the location choice of MNEs for their operation site selection. According to Dunning (2000), since the 1930s there have been many theories attempting to explain the location choice of FDI and the competitive advantages firms will gain from locating in a particular country. Some of these theories include the location aspect of Vernon's (1966) 'product life-cycle' theory and that of Knickerbocker's (1979) 'follow the industry leader' theory that improves on earlier theories in terms of explaining the clustering of an industry. Rugman's (1979) risk diversification theory demonstrates that firms prefer to diversify their investments in different locations to minimise risk. However, as stated by Dunning (2000), the question of where to locate was not the focus of interest for students of MNE activities.

According to UNCTAD (1998), when studying FDI location factors, some points should be acknowledged. First, FDI is not similar to trade, licensing or portfolio investment. Rather, FDI tends to relate to complex projects that involve long-term commitment to MNEs in foreign countries. Second, the relative importance of FDI location factors is dependent on four features of investment: the motive for investment (e.g. market-seeking or efficiency-seeking FDI), the type of investment (e.g. new or sequential FDI), the sector in which the investment takes place (e.g. services or manufacturing) and the size of the investors (small- and medium-sized or large companies). Furthermore, the relative importance of location factors will change over time in particular countries, as the economic environment in the host country, and globally, changes. At the same time, the importance of some location factors

remains stable (UNCTAD, 1998). This document concluded that host countries that offer what FDI is seeking, and host countries with favourable investment policies toward FDI, will be in a good position to attract FDI. Moreover, MNEs will also evaluate the relative importance of location factors based on their ownership and on the international advantages that support their strategies.

According to Ho and Lau (2007), investment location decisions tend to be dominated by three theoretical approaches suggested by researchers, including the stepwise approach, the maximisation approach and the conceptual framework. First, the stepwise approach suggested by Blair and Premus (1987) shows that firms will firstly form a committee to choose the new location, and the committee will list the 'must have' factors and the desirable factors in the new location and will compare potential locations that mostly fulfil the list of factors. The committee will then choose the location. Second, the maximisation approach is based on Dunning's (1989) eclectic paradigm of FDI, where the location decision is the solution to a maximisation problem, with ownership advantages, internationalisation advantages and location advantages all being considered. Although Dunning's paradigm provides a framework for location decision levels, the relevant factors associated with the decision making process have not been revealed (Ho and Lau, 2007). Third, the conceptual framework is based on Porter's competitive advantages framework. Porter (1990) suggested that a firm will gain a competitive advantage based on the location they choose, and that the firm must evaluate the advantages and restrictions of potential locations before they make the final location decision. The restrictions include the host country's investment policies toward foreign investment, technology limitations and transportation costs.

Cohen (2007) points out that the diverse impact of FDI and MNEs on the world economy and on the location behaviour of MNEs has not been explained completely in spite of almost forty years of theories. Cohen points out that the limitations of theory when it comes to explaining MNE locations are a reflection of the assumptions made by scholars that the local strategic location of a firm can be generalised to MNE global expansion. Moreover, a single theory with regard to why FDI take place in foreign markets cannot be applied to other MNE subsidiaries in other locations, regardless of the size and objectives of the industry. Or, as Cohen (2007, p. 126) concludes, "Calculating trade-offs between positive and negative country characteristics is an art, not a science". Investing overseas by MNEs cannot be blended into a broad economic model that can explain the location behaviour of firms.

Furthermore, another mistaken assumption in the literature is that a firm's decision to invest overseas normally occurs as a result of detailed research by the firm, and calculations of the risk and return associated with the investment, without the involvement of senior management objectives. However, the decision to invest overseas, as suggested by Cohen (2007, p. 127), is as follows: "Decisions to build foreign subsidiaries ultimately are based on the perceptions of a small group of senior managers, not a scientific formula" and sometimes the decision to locate in a particular location is the result of the strong preferences of the executives concerned. Furthermore, Dunning (1993, p. 68) believes that "it is not possible to formulate a single operationally testable theory that can explain all forms of foreign-owned production any more than it is possible to construct a generalized theory to explain all forms of trade or the behaviour of all kinds of firms".

The FDI location literature is loaded with studies that identify which location factors have the most important effect on FDI location decisions. However, as explained by Cohen (2007), the critical objective for firms when expanding overseas is to find a location that gives them the highest return on investment with the least risk. Cohen (2007) points out that two location factors play a major role in the location decision in terms of FDI. First, the firms focus on the return on investment in the foreign market, and what the profit margin will be compared to other locations, and they will not pay too much attention to a single factor such as labour costs, but rather, will group factors that will result in a higher profit margin and return on their investment. Second, firms will focus on the investment environment of the host country and how friendly and unfriendly the host country is to foreign investors, relative to other countries in terms of the location for a long-term investment commitment. Cohen (2007) urges that there are no factors with relative importance to location decisions that cannot be found in the studies of FDI location decisions. The decision to choose a cross-border location on the part of a firm is a case-by-case decision, and cannot be generalised to other location decisions, because the same location factors may be viewed differently by corporate executives, and the relative importance of these factors will vary according to the type of investment and the objectives of the firm. In addition, personal firm cultures will give a different rating to what are considered as important factors. Cohen (2007) believes that only a resource-seeking FDI has a clear, unchanging priority in terms of location factors when they make their location decisions. The most important location factors are access to raw materials, quality infrastructure and a benign investment environment in the host country. Market-seeking FDI is attracted to large market sizes, economic growth and host government

membership of free trade agreements. Efficiency-seeking FDI is attracted to less well-developed countries with low wage costs. Strategic asset-seeking FDI, such as merging with another firm, may overshadow the host country location factors. Here, the corporate-specific factors would be the most important aspects to consider.

Surveys asking corporate executives how they rate the relative importance of location factors are the best way to understand what is important in terms of the location factors for MNEs (Cohen, 2007). Deloitte and Touche's (2002) study of 130 companies from around the world is the most widely cited survey on the relative importance of location factors from the point of view of executives. Access to customers is the highest rated factor among the 20 factors in the survey. Other location factors listed in the survey in decreasing order of importance are: a stable social and political environment, the ease of doing business, the reliability and quality of the physical infrastructure, the ability to hire technical professionals, the ability to hire management staff, the level of corruption, the cost of labour, crime and safety, the ability to hire skilled labourers, national tax rates, the cost of utilities, the quality of roads, raw materials, the availability and quality of university and technical training, the availability of land with services, local taxes, access to suppliers, labour relations and unionisation, and air facilities.

Buckley, Devinney and Louvriere (2007) believe that most of the empirical studies of FDI location factors are based on surveys on the location decisions made by firms when they choose their international investment location. However, Buckley, Devinney and Louvriere (2007) suggest that these studies contain two limitations. First, they rely only on the location factor choices of firms, and they presume that these factors can be applied to other firms. Second, these studies assume that the location decisions of firms follow a systematic approach. However, the location decisions are made by a range of executives who may follow different approaches when they make their international location decisions. Buckley, Devinney and Louvriere (2007, p. 2) conclude that FDI location decisions have not received attention in the international business literature, and they point out that "FDI is not a point-of-time 'go/no-go' decision, but a process". Mudambi and Navarra (2003) believe that FDI location choice studies are missing in the literature. Many empirical FDI location studies that were based on surveys did not show several important issues, as pointed out by Devinney et al. (2003). First, the surveys deal with the final location choices of firms, thus we do not

know what other choices they had and what the relative importance of these choices was from the point of view of the executives. Second, the surveys are based on internal decisions within the firms, thus we do not know if the choices are unique to the executives making them and how these executives' location factor choices can be applied to other firms. Buckley, Devinney and Louvriere (2007) studied the effect of managers' experience on the location decision with regard to FDI. They found that firms with extensive international experience will give low priority to familiar markets or those similar to those of the home country. Moreover, as the firms gain experience in the international markets, they may give higher priority to a host market that is less attractive to other less experienced firms, due to their lack of unfamiliarity.

Scholars face difficulty in showing the relative importance of FDI location factors because of scalar differences (Cohen, 2003). Scalar differences appear because of differences in response styles, which are defined as "tendencies to respond systematically to questionnaire items on some basis other than what the items were specifically designed to measure" (Paulhus, 1991, p. 17). Dunning (1998) suggests that the motives for FDI location decisions are influenced by the industry involved in the investment process. Furthermore, manufacturing FDI would need large investments in fixed assets such as equipment, natural resources and land than would service FDI. Therefore, service FDI may not give high priority to the availability of land or natural resources in the host country. Mellahi, Gurmat, Frynas and Al-Bortmani (2003) also suggested that the relative importance of location factors would be affected by the sector to which the FDI relates. Bass et al. (1977) found that different industries place different emphases on FDI factors. Fatehi and Safizadeh (1994) concluded that political factors affect different sectors in different ways and confirm the diversity of the importance of FDI location factors by sector.

Identifying the FDI location factors has significant policy implications for the host governments and international business community alike (Cleeve, 2007). Understanding what influenced FDI location choices can help policy makers in host countries to understand what matters the most to FDI location decisions and modify their investment policy accordingly in order to attract more FDI inflow (Cleeve, 2007). Many policy makers in developing countries face the problem of identifying the related important factors of FDI inflow. Many studies provide vast variations of factors that influence FDI inflow, or, as Dunning (2008) suggested, a shopping list of factors that fail to give the policy makers the correct and specific

recommendations that identify the most important related factors that influence FDI inflow for a specific location. Cleeve (2009) believes that policy makers in host markets should know their markets and economies better and accordingly, they should formulate the policies that fit their markets the most, because the empirical results are only predictions that will work differently for each country under the right set of conditions.

Cheng and Kwan (2000) did a study on the influence of FDI location factors in China between 1985 and 1995, and found that China's large market size, well-established infrastructure and benign environment toward FDI including government policies had a positive influence on FDI inflow into the country. The authors, however, found that the cost of wages had a negative effect on FDI inflows into China. Furthermore, they found that education also had a positive effect on FDI inflow, but was not statistically significant. Biswas (2002) believes that traditional and non-traditional location factors will jointly determine the location decisions of FDI. By studying FDI in the US from 44 countries during the period 1983 to 1990, Biswas concluded that good infrastructure, low wages, political stability and a good legal system are important factors in attracting FDI. From the author's point of view, these factors play a major role in determining the investor's FDI location decision. Banga (2003) pointed out that, until recently, there had been a strong agreement between scholars that MNEs choose a specific location for their operations, largely due to the good economic environment of the host country, such as the existence of a large market, stable economy, etc. Dunning (1993), Globerman and Shapiro (1999), Shapiro and Globerman (2001), however, counter-argued that economic factors alone may not be sufficient to induce FDI inflows due to the globalisation and the integration of global markets. Therefore, there is an urgent need for international scholars to investigate the new factors that affect the FDI location in the new global market (Banga, 2003).

According to Banga, the impact of host government policies and investment agreements would be an important factor to consider. He also concludes that the host country's large market size, low labour costs, availability of qualified labour, good financial system, investment agreements, low tariffs and low energy costs are significant factors for attracting FDI inflows. Banga (2003) showed that the effect of the location factors will vary significantly from one nation to another, especially from developed nations to developing nations. For example, low tax incentives is a significant factor for the attraction of FDI in developing countries, but this is not an important factor in terms of attracting FDI to

developed countries. The UNCTAD report (1992) shows that market factors, human capital, economic stability, a good financial system and the availability of an infrastructure in a host country would have a positive effect on FDI inflows. However, an increase in cost factors such as energy costs and labour costs would have a negative impact on FDI inflows.

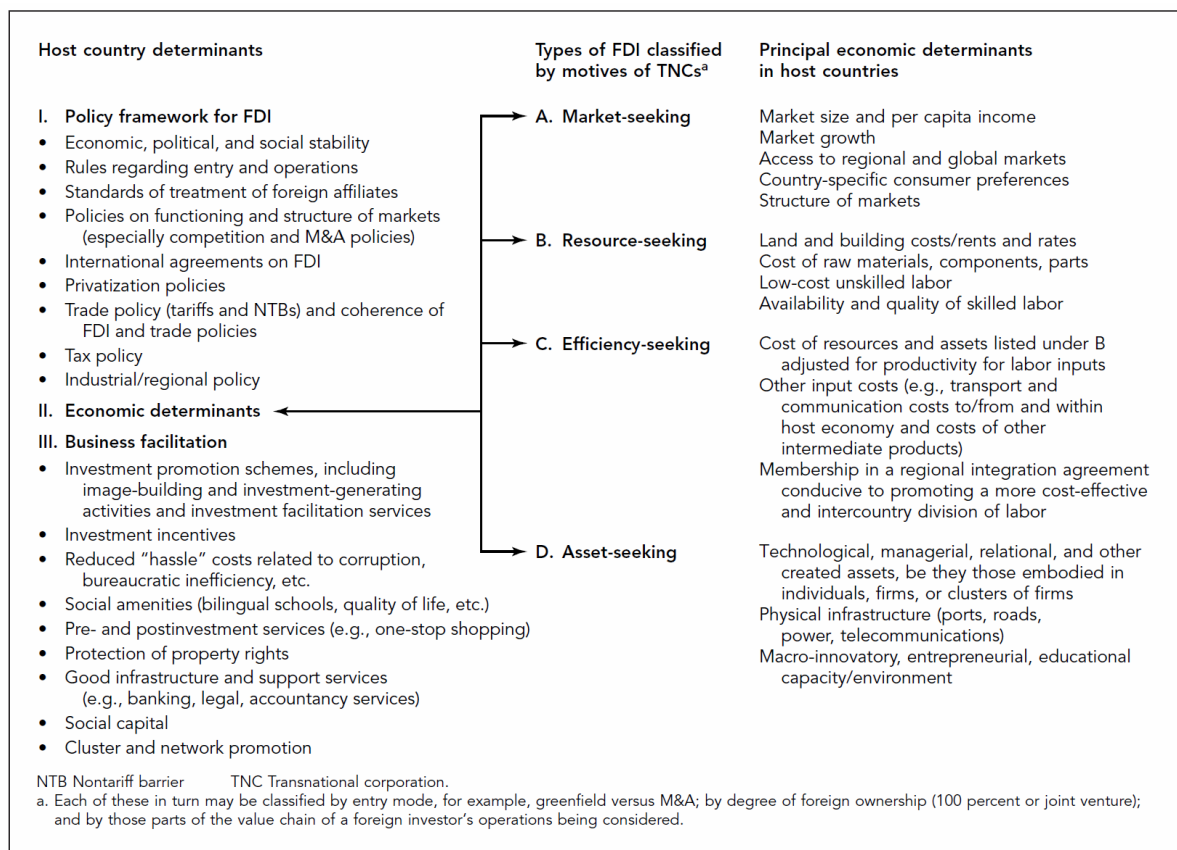
According to Cleeve (2004; 2009), the location decision of FDI would be affected by the motives of investment such as natural resource seeking, market seeking, efficiency seeking and strategic asset seeking FDI. The natural resource seeking FDI, according to Dunning (1998) and Caves (1996), is influenced by the availability, cost and quality of natural resources, the availability of an infrastructure and the investment incentives in the host country. The market seeking FDI will be influenced by the size and growth of the host market, the availability and cost of skilled labour, the quality of infrastructures and institutional, agglomeration and support services, and the macroeconomic policy of the host government. The efficiency seeking FDI location decision is affected mainly by the production cost-related factors, the availability of skilled labour, the completion in the host market, the quality of the infrastructure, economic stability and the availability of agglomeration economies. The strategic asset seeking FDI location decision is influenced by the availability of knowledge-related assets, institutional quality, the price and availability of assets and access to the different cultures and institutions in the host market (Caves, 1996 ;Dunning, 1998). Dunning (2004) points out that the location decisions for FDI in most empirical studies are seen to be affected by motivation factors such as market-seeking, resource-seeking, efficiency-seeking and asset-seeking. The host-country business environment, economic conditions, government policies and mode of entry will play a major role in shaping the FDI location motivations.

The UNCTAD (1998) report has been extensively used by many scholars, including Dunning (2004), to explain the significance of the location determinants for FDI in a host country and how these determinants change with the motives for FDI and the investment environment in the host country (see Figure 2.1). Dunning (2004) asserted that increased intensive competition in the global markets has forced MNEs to re-evaluate their international location strategies and has also forced the host governments to reconfigure their investment policies to attract new FDI and to protect current FDI from going to more competitive countries. However, MNEs' location strategies will be affected by the FDI industry and the motivations for FDI. Dunning (2004) also pointed out that host governments who want to attract more



FDI should understand that the location factors that FDI seek in a new location have changed in recent years. For example, MNEs in developing countries are attracted to traditional economic factors such as market size, natural resources and cheap labour, while MNEs in developed countries seek a good business environment, good legal setup, infrastructures to support the investments, supportive industries and services, and a range of institutions and government policies that would help improve the FDI operations and global competitiveness in the host country (Dunning, 2004). Cleeve (2009) also believes that the FDI location decision in developing countries is motivated by either market access, low costs of production or the availability and price of natural resources. However, Cleeve (2009) believes that the importance of market factors is declining.

**Figure 2.1 Host Government Determinants of FDI**



**Source: UNCTAD (1998); Dunning (2004)**

Nunnenkamp (2002) believed that the movement of MNEs in the direction of globalising the marketing and production of their operations has affected the developing countries' attractiveness in terms of FDI. MNEs in the early 1990s increased their FDI inflows into

developing countries as they considered these new locations as profitable for their operations. Many scholars, including Kokko (2002) and Nunnenkamp (2002), pointed out that globalisation has reshaped the importance of location factors for FDI in developing countries and host countries with attractive markets would not be sufficient to attract FDI to them. Therefore, host governments will face a challenge with regard to offering the right policies to attract FDI. UNCTAD (1998) pointed out that because of globalisation, MNEs have changed the way they attempt to achieve their market-seeking, resource-seeking and efficiency-seeking goals. As countries open their markets for FDI, MNEs now have a large variety of locations to choose from that best serve their strategies and objectives (Dunning, 1999). MNEs seek locations where they can combine their own assets most efficiently with the resources they need for their production for the target market (UNCTAD, 1998). Nunnenkamp (2002) concluded that globalisation would have two effects on FDI location factors. First, MNEs have used a wide range of policies when evaluating the host country with regard to potential investment. Second, the relative importance of FDI location factors has changed as a result of globalisation. Furthermore, the importance of traditional location factors has not diminished as a result of globalisation, but their importance in terms of FDI location decisions has declined. For example, the market size of the host country is one of the most important location factors in the opinion of many scholars. However, this factor has diminished in importance in terms of FDI location decisions. At the same time, new factors have become more important with regard to FDI location decisions – factors such as low costs, infrastructure quality, a benign business environment and the availability of highly skilled workers in the host country (UNCTAD, 1996; Nunnenkamp, 2002).

Dunning (1999) concluded that globalisation has changed FDI location motivations. According to Dunning (2002), the motives for FDI in developing countries have changed from resource- and market-seeking FDI to (vertical) efficiency-seeking FDI. Moreover, Dunning (2004), in Table 2.1, shows the changes in the significance of some of these variables during the last decade or so. Note the four types of FDI set out in Table 2.1 and how both the principal economic determinants and the responses of host country governments to these determinants have affected, and are affecting, the location strategies of MNEs. Globalisation has increased the competition between MNEs and has forced them to cut their prices. As a result, MNEs would transfer their production sites to low-cost developing countries. However, FDI in developing countries remain motivated to access natural resources or the market opportunities provided by the host country (Nunnenkamp, 2002). If

globalisation changes the FDI location motivational importance, host governments would find it hard and complex to shape their investment policies in such a way as to attract FDI. Therefore, host governments can no longer rely on the classic location factors defined in the literature by many scholars (e.g. market factors) that explain the FDI location decisions. Moreover, Cleeve (2009) urges that the FDI inflow is shifting from oil and mineral reserves toward service sectors such as banking and telecommunications. This, according to Cleeve (2009), indicates that FDI factors are changing and shifting from resource seeking to more efficiency seeking FDI.

**Table 2.1 Changing Locational Variables Affecting FDI, 1970-80 and 1990-2000**

	1970-80	1990-2000
<i>1. Industrial country-industrial country</i>		
Firms' motives and strategies	<ul style="list-style-type: none"> <li>Mainly market-seeking and horizontal efficiency-seeking FDI</li> <li>Mixture of greenfield FDI (or expansion of same) and M&amp;As</li> </ul>	<ul style="list-style-type: none"> <li>More asset-augmenting and horizontal efficiency-seeking FDI</li> <li>More M&amp;As and strategic alliances</li> <li>Integrated MNE operations</li> <li>Emphasis on business facilitating variables</li> <li>Availability of creative assets</li> <li>Agglomerative economies</li> </ul>
Host country determinants	<ul style="list-style-type: none"> <li>Many domestic MNE operations</li> <li>Predominantly FDI policy and economic determinants affecting market efficiency-seeking FDI</li> </ul>	
<i>2. Industrial country-developing country</i>		
Firms' motives and strategies	<ul style="list-style-type: none"> <li>Mainly market resource-seeking</li> <li>Greenfield and joint ventures</li> <li>Many domestic MNE operations</li> </ul>	<ul style="list-style-type: none"> <li>More vertical efficiency-seeking FDI and subcontracting</li> </ul>
Host country determinants	<ul style="list-style-type: none"> <li>Predominantly FDI policy and economic determinants, especially regulation of incentives in relation to FDI</li> </ul>	<ul style="list-style-type: none"> <li>Emphasis switched to using FDI to upgrade domestic competitive advantages</li> <li>More attention given to economic policies and business facilitation</li> </ul>
<i>3. Developing country-industrial country</i>		
Firms' motives and strategies	<ul style="list-style-type: none"> <li>Little FDI</li> </ul>	<ul style="list-style-type: none"> <li>Some market-seeking and asset-seeking FDI</li> </ul>
Host country determinants	<ul style="list-style-type: none"> <li>As for (1) above</li> </ul>	<ul style="list-style-type: none"> <li>Market size and growth</li> <li>Availability of technology, organizational capacity</li> </ul>
<i>4. Developing country-developing country</i>		
Firms' motives and strategies	<ul style="list-style-type: none"> <li>Almost entirely market resource-seeking</li> </ul>	<ul style="list-style-type: none"> <li>As for 1970-80, but an increasing amount of efficiency-seeking and some asset-augmenting FDI.</li> </ul>
Host country determinants	<ul style="list-style-type: none"> <li>Many domestic MNE operations</li> <li>As for (2) above</li> </ul>	<ul style="list-style-type: none"> <li>As for (2) above</li> </ul>

**Source: Dunning (2004)**

Globalisation increased the international competition between countries to induce FDI; locational advantages based only on traditional location factors that explain FDI location decisions may be insufficient to attract FDI (Cleeve, 2004). Moreover, Nunnenkamp (2002) made the point that there is no strong evidence in recent empirical studies to support the view of the influence of globalisation on competition for FDI between countries, and of the changes in the relative importance of traditional and non-traditional location factors for FDI in developing countries. He also concluded that surprisingly slight has change in the relative

importance of location factors utile now. According to Nunnenkamp (2002), traditional market factors are still some of the most important factors for FDI location decisions, and the large size of the host market has become more important rather than weaker. On the other hand, non-traditional location factors such as cost factors and the business environment have become less important with globalisation. Furthermore, UNCTAD (1998) concluded that it is hard to derive any conclusion from these studies as to whether the list of determinants has changed over time or whether some have gained or lost importance.

Flores and Aguilera (2007) believe that the assumptions underpinning FDI location choices have shifted in the last 20 years, and that the change in the factors associated with choosing a location over other locations in terms of FDI remains uncertain and needs more study. Dunning (1998) urges international business scholars to pay more attention to the changing of MNEs' location preferences in the last few decades due to the globalisation of the world economies. Buckley and Ghauri (2004, p. 81) pointed out that the 'next big question' in international business will be "the analysis of globalization, with a focus on economic geography, arising from the changing strategy and the external impact of multinational enterprises (MNE) on the world economy". Flores and Aguilera's (2007) findings show that neither economic factors nor institutional-cultural factors taken alone fully explain foreign location choice. Instead, systematically considering these two factors jointly, we are better able to explain MNEs' choices. They also reveal that the relative importance of location factors on the part of a firm's managers is dependent on the host country. They found that managers consider a group of location factors related to assets when seeking a motive to invest in a developed country. However, when they target a developing country, social and cultural factors play the most important roles with regard to location.

Galan, Benito and Vincente (2007) believed that the FDI location decision is one of the most complex decisions that managers have to make, especially on the part of MNE managers. Therefore, MNE managers must understand how the location factors in different countries can affect their location decisions and how they can benefit from that knowledge in order to be successful in highly competitive global markets (Dunning, 1998; Narula and Dunning, 2000). Galan, Benito and Vincente (2007) urged that most studies of FDI location factors have been written without clearly taking into consideration the views of MNE managers, since they have tended to rely on econometric approaches using secondary data (e.g. Swamidass, 1990; Woodward and Rolfe, 1993; Loree and Guisinger, 1995; Grosse and

Trevino, 1996; Tan and Vertinsky, 1996; Ulgado, 1996; Cheng and Kwan, 2000; Zhou et al., 2002). Galan, Benito and Vincente (2007) point out how the scholars' view on FDI location movements has changed in recent years and how international business studies have had only a slight interest in FDI location. Dunning (1998) suggests this because scholars wrongly believe that the location behaviour in the home country of firms can be extended to describe their international location choices. Dunning (2000), Hosseini (2005) and Galan, Benito and Vincente (2007) point out that until the 1950s, most theories explaining MNE locations were based on the exchange of natural resources between countries.

The comparative advantages between countries were the dominant explanation for MNEs where countries and firms traded the products they produced for products that required resources and efforts that they were relatively incapable of producing (Dunning, 1998). However, the model of comparative advantage has been shown to be lacking when it comes to explaining recent FDI locations (Dunning, 2000; Hosseini, 2005). Because of this, in recent years, a large number of scholars and researchers have tried to come up with a better explanation, including new theories and empirical studies explaining the motivations for the FDI location decisions of MNE managers (Galan, Benito and Vincente, 2007). Some of the major theories on FDI location are as follows: theories related to the product cycle (Vernon, 1966; 1979); exchange rate theories (Aliber, 1971; Blonigen, 1997); internationalisation process theories (Hirsch, 1976; Johanson and Vahlne, 1977; 1990); theories of risk diversification (Rugman, 1979); agglomeration theories (Krugman, 1991; 1993; Porter, 1994; 1996); government incentive theories (Loree and Guisinger, 1995); and theories of location (Dunning, 1997; Kuemmerle, 1997; Chen and Chen, 1998). However, even these new theories tend to understate FDI location decisions; they mostly rely on frameworks or models that test the effect of specific factors on determining the other factors that may be of importance, as well as the location choice. None of them, however, provides an acceptable rationalisation of the location factors that influence MNE managers when it comes to making the final location decision for FDI globally (Galan, Benito and Vincente, 2007).

Dunning (1998) pointed out that the FDI location choice will not be influenced mostly by the type of industry of the FDI, but will also be affected by the motives of investments and whether it is a repeated or a new investment. Furthermore, FDI will require a different type of incentive on the part of host countries when it comes to attracting FDI inflow, where the types of incentives required by market seeking, natural resource seeking or efficiency seeking

firms are different (Dunning, 1998). For example, efficiency seeking FDI, which target markets, are not interested in the national market of the host country. Instead, they may target the export markets and will be less influenced by the market size of the host country. Instead, the cost of production will be more important. In contrast, the market size of the host country will be a very important factor in terms of market-seeking FDI (Campos and Kinoshita, 2003).

Blonigen (2005) points out that recent world trends have led to extensive recent interest on the part of economists and academics in empirically studying the major factors that motivate FDI location activities. The literature explaining FDI location decisions is relatively large. Nevertheless, it is perhaps still in its early years and is still available for anyone to study. Therefore, it is perhaps not surprising that Chakrabarti (2001) found that most FDI location factors are quite weak statistically. Scholars should avoid using the general hypotheses that generally explain the location motivation for FDI inflows, such as low labour costs encouraging FDI inflows. Additionally, the more innovative and ground-breaking studies that have studied FDI location factors in the literature have created hypotheses that test which FDI location factors are considered to be important for FDI and when they are not, and found innovative solutions to test these hypotheses empirically (Blonigen, 2005). Sethi, Guisinger, Phelan and Berg (2003) pointed out that, despite most FDI location studies and theories offering a reasonable explanation for the location behaviour of MNEs, none, however, have included all the factors related to FDI location, and the methodologies used by these studies also vary significantly. Sethi, Guisinger, Phelan and Berg (2003) statistically analysed US FDI into the Western European and Asian regions over the 20-year period 1981-2000. They revealed that although the Asian region is not considered to be the ultimate location choice according to the traditional USE FDI location factors, MNEs have made large investments in Asia to benefit from the considerable low wage costs in this region. Furthermore, the openness of these countries' markets and infrastructure development has influenced US FDI location in Asia. The Economist Intelligence Unit (2002) studied the most important factors that affect the location decision for FDI. The business executives in the study indicated that political stability, institutions, infrastructures, investment policies toward FDI, competition in the host country and economic conditions are the most important location factors that will influence the future location of FDI in the coming years.

Tatoglu and Glaister (1998) studied FDI inflow into Turkey and found that the market size,

the return on investment, economic growth and the host government policies toward FDI are the most important location factors with regard to FDI in Turkey. They also found that the relative importance of the location factors in the host country would vary in terms of the origin of FDI, the sector of interest to the FDI and the size of the investment, and they found no relationship between the importance of location factors and the type of FDI ownership. Furthermore, Tatoglu and Glaister (1998) revealed that location motivations for FDI can take two forms and all play an important role in FDI location decisions. The first is the Ricardian form that includes natural resources, the labour market and market proximity. The second is the environmental factors that include the economic, political, infrastructure and legal factors in the host country. Tatoglu and Glaister summarise the studies that explained the location factors in terms of market size and economic growth (Aharoni, 1966; Kobrin, 1979; Davidson, 1980; Buckley and Mathew, 1980; Root, 1987; Young et al., 1989; Sabi, 1988), raw materials and labour supply (Moxon, 1975; Buckley and Casson, 1985; Dunning, 1988), the political and legal environment (Goodnow and Hansz, 1972; Kobrin, 1979; Anderson and Gatignon, 1986; Agarwal, 1994), host government policies (Davidson and McFetridge, 1985; Goodnow, 1985), the level of industrial competition in the host country market (Goodnow, 1985; Harrigan, 1985a; 1985b), geographical proximity and transportation costs (Goodnow and Hansz, 1972; Davidson and McFetridge, 1985) and host country infrastructure (Dunning and Kundu, 1995; Ulgado, 1996). However, according to Tatoglu and Glaister (1998), there is limited empirical research into the relative importance of location factors for FDI and how these would vary according to the type of investment.

According to UNCTAD (2006), there are motivations that influence firms when it comes to expanding or moving their operations to cross-border markets or internationalisation. The motivations for internationalisation can be defined in terms of 'push' (home country) and 'pull' (host country) factors. Home country push factors that motivate or force the firms to expand or move their operations out of the home country can include market conditions, costs of production, local business conditions and domestic government policies. The market conditions in the home country include the limited opportunity to expand in the local market, especially when it is a mature market. The cost conditions in the home market may be the higher production costs, especially labour and resource costs. Home country business conditions can also force a firm to expand overseas, especially when competition is high in the home market. The home country's conditions can act as a push factor when the local government policies towards trade are not favourable to domestic companies. Host country

pull factors include the attractive market of the host country, cost savings in the host country, the availability of production resources in the host country, a benign business environment in the host country and the host government's open policy to trade. However, UNCTAD (2006) pointed out that while push and pull factors may influence the location decision of MNEs, these factors are not sufficient to explain the final choice of MNEs, as the motive and strategies of firms must be taken into account when analysing the location choice. Location factors can have a different impact on MNEs' location strategies and motives, which explains the location diversity of MNEs. Furthermore, the motives for investing can differ between developed country MNEs and developing country MNEs. For example, in the oil extraction industry, the motive on the part of MNEs from developed countries is to discover resources, but for MNEs from developing countries, their motive may be to enter a new market because they already have the raw materials (UNCTAD, 2006).

Campos and Kinoshita (2003) believe that the FDI motive will play a major role in the location choice and in what type of host country they are looking for. According to Campos and Kinoshita (2003), there are three types of FDI location motives including market-seeking FDI, resource-seeking FDI and efficiency-seeking FDI. For market-seeking FDI, the size and growth of the host-country market is the main driver with regard to location choice. For the resource seeking FDI, the natural resources, the labour costs and the raw materials in the host country, that are not available in the home country, are many of the drivers when it comes to location choice. For efficiency seeking FDI, the clustering of industries and the geographical location play a major role in FDI location choice. Campos and Kinoshita (2003) conclude that a host country with a large market, natural resources, geographical proximity to major markets and low labour costs would be an attractive location for FDI. However, other studies have shown that other factors also play an important role in FDI location choice (Campos and Kinoshita, 2003).

Ramady and Saeed (2007) studied FDI inflow into Saudi Arabia between 1984 and 1997. They found that a lack of skilled Saudi manpower, the Saudisation (nationalisation) labour policy of the Saudi government, high taxes, the fear of foreign companies with regard to entering the Saudi market alone, and the fact that FDI is concentrated mostly in the petrochemicals and related industries – all of these factors negatively affect FDI inflows. Mellahi, Gurmat, Frynas and Al-Bortmani (2003) studied FDI in Oman and found that political and economic stability are the most important FDI location factors. In contrast, they found that the



purchasing power of customers, the market size and the availability of low-cost inputs are not important location factors for FDI in Oman. Abdel-Rahman's (2002) study indicated that the location factors that influence location decisions for FDI in Saudi Arabia are economic factors, political factors, cost factors, the degree of openness of the economy and the macroeconomic environment of the country. However, the country's GDP growth, exports and imports, and domestic investment are not significant factors for FDI inflow. Globerman and Shapiro (1999) believed that the business environment will affect the FDI location choice. Brewer (1993) concluded that the host government policies towards FDI can influence the FDI location by changing the relative attractiveness of the host country to FDI, compared to other locations. If the host countries identify the location factors that are of greatest importance to FDI, they can use these factors to influence and attract new FDI to the host country (Billington, 1999). Zitta and Powers (2003) show that human resources, the political climate, the need for capital, the need for technology, the need for profit, the market size and the need for growth were found to be important location factors for FDI in the United States. Mina (2007) examined the location determinants that are favourable in terms of attracting FDI flows to GCC countries. He found that the market size, trade openness, institutional quality and the quality of the infrastructure attract FDI inflows, while human capital, including the availability of well-qualified personnel, has a negative influence on FDI inflows into the GCC countries.

According to Cleeve (2009), the location advantages are divided into three groups. The first is the access to and the relative cost of production factors. A firm's decision to invest abroad will be affected by certain geographical factors such as natural resources and man-made resources. Some of these factors are the quality and productivity of the labour, materials quality and cost, energy costs, and language and cultural differences between the home and host country. The second is tax and trade barriers. A foreign company's location decision is affected by the government policies towards foreign firms. These policies include government intervention, tax rates, incentives, investment claimed, political stability and trade freedom. The third is transportation costs and access to the market. The importance of transportation costs in the FDI location decision will be affected by the type of industry. In some industries such as the construction materials and food, when the quantity and volume are high, the transportation costs and distance are of importance. On the other hand, in the knowledge and high technology industry the transportation costs are not important in the FDI location decision. Usually firms will locate near their market when the goods they produce

have a higher transportation cost.

Dunning (1993) and others (e.g. Narula and Dunning, 2000; Zaheer and Manrakhan, 2001; Makino et al., 2002) suggest that MNEs expand into new cross-border markets for several reasons, all of which are related to the intense competitive global market. These include overcoming the restrictions on exporting by the home government, to achieve economies of scale, to expand into new markets, to access new suppliers, to compete with competitors in the host market, to build a relationship with local customers, to reduce transportation costs and to benefit from host government incentives (Galan, Benito and Vincente, 2007). All of these reasons explain the location factors that influence FDI inflow. These have been highlighted by several empirical studies (e.g. Terpstra and Yu, 1988; Li and Guisinger, 1992; Woodward and Rolfe, 1993; Grosse and Trevino, 1996; Cheng and Kwan, 2000). Kang and Lee (2007) found that market size and government policies in terms of economic zones, quality of labour and transport infrastructure play a positive role in deciding on the location. On the other hand, labour costs, in-country waterways and distance show negative and significant correlations. According to Hong and Chen (2001), the major FDI location factors in China are the controlling advantages of technology for foreign investors, the management experience of foreign investors, the large market size and growth of China, low labour costs, the availability of product suppliers, the deflation of the Chinese currency compared to other major currencies, geographical location, culture and the international business strategies of foreign investors. Bensebaa (2005) concluded that labour costs, market size, agglomeration economies, geographical risk and the quality of the infrastructure all play an important part in influencing the FDI location choice.

Asiedu (2001) examined why Sub-Saharan Africa has been relatively unsuccessful in attracting FDI, even with policy reform in these countries. He found that in Africa, the FDI factors that may be recognised by many as being important factors for FDI location might have a different effect. In particular, infrastructure quality and a high return on investment would be major factors in other locations, but in Africa they are not considered to be important enough to attract FDI. However, openness to trade and trade liberalisation received equal importance in African countries and in other countries. According to Asiedu (2001), all this suggests that Africa is different. Cleeve (2005; 2006; 2008) showed that the most critical factors for FDI inflow into Sub-Saharan Africa are market openness, the real exchange rate, market growth, market size and policy factors such as tax holidays. However, the significance

of market size and growth rate has become less important in recent years (Cleeve, 2009). In contrast, human capital, political stability and infrastructure development are becoming more important in FDI inflow over time (Cleeve, 2009). After studying 16 Sub-Saharan Africa countries, Cleeve (2004) concluded that traditional factors such as a large market size, good infrastructures, quality labour and labour costs are important FDI location factors. Government policies toward FDI are also considered as an important factor for FDI inflows.

The fiscal policy of the host country such as tax holidays and institutions play a very important role in attracting FDI. Furthermore, after studying the Japanese electronics firms in the UK, Cleeve (2007) concluded that access to financial markets, the real exchange rate, agglomeration economies, and the cost and quality of labour are the factors that are important in FDI inflow. Moreover, Cleeve's (1997) study on the Japanese firms in the UK concludes that the most important factors that influenced Japanese firms to locate in the UK were the low cost and availability of raw materials, low labour costs, low energy costs, tax incentives, the language and the opportunity to access neighbouring markets. Moreover, Cleeve (2004) urges that Africa's image, as a high-risk investment destination, is affecting the FDI inflow into Africa as FDI is very sensitive to economic and political risk in the target markets of their investment. Furthermore, Cleeve (2004) shows that fiscal incentives provided by African governments have failed to increase FDI in Africa. Cleeve (2004) believes that what is needed in Africa to attract FDI is political and economic stability, improvements in investment regulations and improvements in infrastructure and service-supporting services. According to Cleeve (2004), host countries that provide a stable economic and political environment have implemented trade liberalisation and privatisation policies and have adopted international trading agreements that will be more successful in attracting FDI inflow. Mmieh and Owusu-Frimpong (2004) studied Ghana's FDI inflow and showed that the Ghanaian government's execution of its Structural Adjustment Program (SAP) and the economic improvements policy has led to an increase in FDI inflow. Furthermore, Mmieh and Owusu-Frimpong concluded that the Ghanaian government's efforts to reduce inflation, promote financial stability, remove FDI licensing requirements, eliminate exchange controls and limit the foreign exchange black market all lead to Ghana increasing its FDI inflow.

Gilmore, O'Donnel, Carson and Cummins (2003) studied the FDI location motivations in two countries – Northern Ireland and Bahrain – in that they share comparable economic and political features. The study compared the view of executives in foreign companies who had

invested in the two countries. The findings revealed that the responses in the two countries were relatively different. However, in both countries, low labour costs were not considered as an important factor for the FDI location. Moreover, the availability of skilled labour was regarded as an important motivation for the FDI location in both countries. The findings also revealed that transportation costs and cultural similarity were regarded as significant location factors for FDI in Bahrain, more so than in Northern Ireland. Furthermore, the host government's influence in terms of attracting FDI inflow was found to be stronger in Northern Ireland than in Bahrain, but not to a statistically significant extent.

Tahir and Larimo's (2005) research results indicate that the large size of the parent firm, international experience, large host country market, cultural similarity and low labour costs will influence the market-seeking and efficiency-seeking FDI. Moreover, a host country with low inflation, political stability and a stable currency will attract risk-reduction seeking FDI. In addition, a high level of research and development in the parent firm will attract knowledge-seeking FDI. Stoian and Filippaios's (2008) study showed that Greek firms will enter similar host countries with a small market size and open economies, and the legal issues and ease of doing business will play a major role in the location decision for FDI. Buckley, Devinney and Louvriere's (2007) study suggests that the relative importance of location factors on FDI location decision in decreasing order of importance are return on investment, market growth, market size, remaining in the same line of business, market stability, exploitation of assets, asset protection and the cost of the product. They also identified the least important factors as being established relations in the market, barriers to trade, pre-emption of competition, access to new resources, currency depreciation, investment incentives, having a democratic government and culture. MacCarthy and Atthirawong (2003) suggest that the research into the factors that affect FDI location decisions for manufacturing companies is limited. By studying a range of location factors that include the location decision, MacCarthy and Atthirawong's study reveals that the top five location factors are costs, infrastructures, labour, economic factors, and government and political factors. They also identified other sub-location factors including the quality and the availability of transportation, political stability, legal factors, telecommunications, the quality and availability of labour, and other costs related to operations.

Dunning (2008) believes that institutions play a critical role in explaining an MNE's location choice and, because of this, he added such institutions to his OLI framework. Bevan et al.

(2004) show that MNEs have recently become increasingly interested in the creating-assets locations, including knowledge-based assets, the infrastructures and the institutions in the host country (Narula and Dunning, 2000). According to Mudambi and Navarra (2002), institutions play a major role in terms of FDI location decisions because they symbolise the intangible factor in the host country, including the political, legal and administrative environments that will affect, directly or indirectly, the relative transaction costs of production and will determine the locational attractiveness of the host country. However, Pournarakis and Varsakelis (2004) found that institutions alone do not give a full explanation for FDI location choice. Rather, FDI location decisions need a combination of market and institution factors. Accordingly, FDI prefer locations where the institutional framework helps the development of their firm-specific advantages, as a result, creating new challenges for both MNEs and host-government policymakers (Rugman and Verbeke, 2001).

One of the few publications that we found that focuses on the location of the petrochemicals industry is the paper by Molle and Wever (1984). There are three reasons behind the slow development of the petrochemicals industry in Western European countries before 1960. First, the demand for petrochemical products was weak in Western Europe in the 1960s. Second, the supply of petrochemical raw materials needed for petrochemicals production was low in Western Europe as they had a limited refining capacity. Third, in Western Europe, they were relying on coal for producing products similar to petrochemical products and this was sufficient for satisfying the demand for such products (Molle and Wever, 1984). However, in the 1960s there was a dramatic change in the petrochemicals industry in Western Europe as production shifted from a predominantly coal-based operation to a completely oil-based production process. The increased demand for petrochemical products such as plastics, fibres and rubber, as well as increasing the capacity of feedstock production in Western Europe, all contributed to the dramatic increase in the demand for, and production of, petrochemical products (Molle and Wever, 1984). According to Molle and Wever (1984), several factors contributed to the location of the petrochemicals industries. These factors were the output market, the availability of raw materials, the availability of an infrastructure for transportation and the economics of scale. Molle and Wever made the point that with limited crude oil production and few sources of raw materials in Western Europe, the location of the petrochemicals industry there was dominated by market pull factors and transport factors in terms of minimising transportation costs. Furthermore, other factors also played an

important role in the location of the petrochemicals industry in Western Europe, including economies of scale, the availability of raw materials, transportation costs due to locations near markets, minimising the risks of the transportation of products as most petrochemicals are dangerous to transport, the proximity to the buyer and the availability of production complexes (clustering) of the petrochemicals industry (Molle and Wever, 1984).

## **2.4 Summary**

In this chapter, we introduced the concept of FDI and discussed the FDI location factors including FDI definitions, the reasons for studying FDI, the history of FDI, FDI trends, types of FDI and key theories of FDI. Furthermore, we also discussed the general literature on FDI location factors including literature on cost factors, market factors, economic factors, infrastructures and technological factors, political and legal factors, and social and cultural factors. This chapter helped this research to formulate the research objectives and to examine the related location factors in detail. It also helped this research to formulate the research questions, hypotheses, and explore the gap in the literature. The above review of prior studies suggests that globalization and the political economy of FDI have had impact on FDI, the theoretical underpinning which is illuminated in the next chapter.

## **Chapter 3**

## **Chapter 3 : Globalization and the Political Economy of FDI**

### **3.1 Political Economy of FDI**

There have been international organisations engaged in trading activities as far back as 2500 BC, with banks and churches also having formed international organisations throughout history (Ghertman and Allen, 1984). The appearance of the modern MNE's control over foreign production units did not occur until the nineteenth century (Wilkins, 1977), but early resemblances to the modern MNE appeared in the 1600s and 1700s, when large trading companies from the UK and the Netherlands entered parts of Asia, the West Indies and America. It is generally accepted that the true birth of the modern multinational arose in Europe in the nineteenth century (see Wilkins, 1986; Rugman and Brewer, 2001; Mossa, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008). However, it was not until the latter part of the nineteenth century that larger-scale foreign direct investment started to emerge. A major motivation for the spread of these firms was the increase in the protectionist behaviour of countries, which in turn was a by-product of increased nationalism (Micklethwait and Wooldridge, 2003). Other important reasons for the upsurge in FDI and the growth of MNEs were the search for larger markets as enterprises began to grow in size and improvements occurring in transportation and communication, most notably the railways and telegraphs (see Wilkins, 1988; 1986; Rugman and Brewer, 2001; Mossa, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008).

The increase in FDI at the turn of the twentieth century was halted in the interwar period, both by the destruction caused by the First World War and by the threat of another war, leading to discrimination against foreigners by the occupants of many countries (Rugman and Brewer, 2001; Mossa, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008). The First World War also resulted in European multinationals being forced to sell their pre-war investments, with political upheaval and border changes also impacting on cross-border activities (Dunning, 1983). Other factors leading to a worldwide fall in investment included the Great Depression of the late 1920s and early 1930s and the substantial rise in inflation in Europe (Jones, 1995). However, after the Second World War, a new wave of FDI began to emerge, arising mainly from the US. The factors behind this were improvements in technology and communication systems, greater economic and political stability, the formation of trading blocks and a more liberalised attitude on the part of host governments



(Hood and Young, 1999).

European firms were hindered by a lack of finance from their governments, which, at the time, were still recovering from the effects of the Second World War. Despite this, both the US government and the European government welcomed the new wave of FDI into Europe, as it enabled European firms to gain the latest technologies and helped to reduce European dependence on US government aid. In the immediate post-war period, the UK had become the home to the largest share of US investment, mainly as it had a common language, close historical links and could offer access to the Commonwealth market. Yet, by the end of the 1950s, there was a shift of US FDI from the UK to Continental Europe, following the establishment of the Common Market (Rugman and Brewer, 2001; Mossa, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008).

It was not until the latter part of the twentieth century that world FDI flows began to increase substantially. There are three periods of growth – the late 1970s, the late 1980s and the late 1990s – which were interrupted by recession, so that FDI follows the movement in the economic cycle. The early years of the twenty-first century saw FDI fall from its record level in 2000. The main reason for the decline was the slowdown in the world economy, which included a recession in the world's three largest economies, as well as lower stock-market valuations and reduced corporate profits. However, there have been signs of a recovery, with flows rising again in 2004 (UNCTAD, 2002; 2003).

The upward trend in FDI in recent decades is seen by many to be part of a wider and growing phenomenon known as 'globalisation'. For many authors, globalisation is seen to represent the increase in cross-border commercial activities that were a prominent feature of the global economy in the latter part of the twentieth century (Rugman and Brewer, 2001; Mossa, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008). According to Teeple (2000), the conditions that led to a rise in international economic integration, FDI and 'globalisation' stemmed from changes in the world economy that took place after the Second World War. This process was assisted by the creation of institutions and agencies such as the United Nations, the International Monetary Fund and the General Agreement on Tariffs and Trade. These factors provided a framework for international economic integration, but it was not until the last decade of the twentieth century that globalisation became apparent. Dunning (2008) attributes this to the increase in technological progress and to market deregulation and

liberalisation. Dunning (2008) thinks that technological progress is the key component of rapid globalisation, which has led to a rapid improvement in infrastructures and communication networks. This has enabled a faster transfer of information at a lower cost, facilitating the transfer and diffusion of ideas, and has enabled much quicker communication between firms located in different countries. According to Dunning (2008), policy reforms, including privatisation, deregulation and the de-monopolisation of national markets, have also led to an environment that promotes globalisation and FDI. National policy reforms have resulted in greater competition within countries, while greater international liberalisation of trade and investment has resulted in greater competition across world markets. This increased competition has, in turn, led to a need for firms to invest abroad in order to compete effectively with their rivals (Rugman and Brewer, 2001; Mosso, 2002; Jones and Wren, 2006; Dunning and Lundan, 2008).

### **3.1.1 FDI in Developing Countries**

Developing countries are being integrated into the global economy through growing foreign investment. During the 19th Century, foreign investment was driven by a search for natural resources. However, companies today are largely either seeking growth by entering developing markets or reducing costs by relocating some or all of their production facilities to a location with lower costs. Two factors play a major role in this change: the removal of policy on the part of the host countries barriers to foreign investment and the large reduction in transactions cost for MNCs when it comes to relocating their operations to low cost countries. Many developing countries have been removing trade barriers with regard to FDI. India, for example, has removed some of the restrictions on FDI entry to the country. The transaction costs have declined rapidly as the cost of transactions and telecommunications have been reduced. This has enabled MNCs to relocate their production processes to lower cost countries (McKinsey, 2003).

According to Dunning (1994), there are many factors contributing to the increase in FDI. From a host country's perspective, there is the renaissance of the market system, the globalization of economic activities, the enhanced mobility of wealth-creating assets, the increasing number of countries approaching the "take-off" stage in development, the convergence of economic structures among developed countries and in some newly industrializing economies, the changing criteria by which governments evaluate FDI and a better appreciation by governments of the cost and benefits of FDI. From an MNE's

perspective there is the increasing need to exploit global markets, competitive pressures to procure inputs (raw materials, components etc.) from the cheapest possible sources, regional integration which has prompted more efficiency-seeking investment, the growing ease of trans-border communications and reduced transport costs, heightened oligopolistic competition among leading firms, the opening up of new territorial opportunities for FDI, the need to tap into foreign sources of technology and organizational capabilities and to exploit economies of agglomeration, new incentives to conclude alliances with foreign forms, changes in the significance of particular location costs and benefits and the need to better balance the advantages of globalization with those of localization (Dunning, 1994).

The motives for investment for foreign investors could affect the impact of FDI on a host country. For example, efficiency-seeking FDI could impact on the sector in terms of the host country's productivity, output and employment. Furthermore, these investments focus on exports and do not have significant costs to the incumbent domestic firms. For this reason, many developing countries focus on increasing export-oriented FDI, even while keeping local markets closed to foreign investors (e.g. India). A typical example of efficiency-seeking FDI is the business process off-shoring in India. Foreign companies have located part of their value chain in a lower labour cost country such as labour-intensive data management and customer support in India. According to a study by McKinsey (2003), the positive impact of multinational corporations in developing countries goes beyond the claim that efficiency seeking FDI are consuming their host countries because they pay lower wages and fewer benefits than they provide in their home countries. In reality, the McKinsey study for different developing countries found that beyond the economic impact of FDI on the host country, FDI paid a wage above that of their domestic competitors, and they were expected to obey the labour regulations of the host country more than were domestic companies. Market seeking FDI also had a positive impact on the host country's productivity and output. In Mexico, Wall-Mart acquired a leading modern retailer and introduced aggressive pricing cuts and advanced practices in the operation and supply chain. This change has led other leading domestic food retailers to improve their operations and, in turn, this has improved the sector's productivity (McKinsey, 2003).

Foreign investors seek local markets and export platforms based on the host country's resources such as low labour cost or the existence of natural resources. Many foreign investors follow market-seeking intentions. Nevertheless, resource-seeking FDI represent the majority of large projects, giving them an important role when measuring FDI. Primarily,

many FDI may be motivated by only one of the objectives, but over time, most FDI create a range of activities and objectives and serve local and global markets (Mayer, 2005).

The role of MNCs in developing countries has become a major part of the modern argument over the advantages of globalization (Mayer, 2005). Globalization has led to the opening of many markets and thus increased competition, not only in developing countries, but also in developed countries. The supporters of globalization see MNCs as the reason behind many of the failures of the global economy, from persistent inequality, to sweatshop working conditions and to environmental degradations. Supporters of MNCs, on the other hand, point to many of the benefits that the global economy and markets may bring, from lower consumer prices, knowledge and technology transfer, and the transfer of modern working values and management practices (Mayer, 2005).

There are two reasons for the changing outlook towards FDI (Chudnovsky and Lopez, 1999). At the microeconomic level, FDI is considered as a powerful tool for access to international markets, and for acquiring the technological and management capabilities needed for producing and exporting new products and services in global competitive markets. In this way, FDI may enhance the international competitiveness of the host country. At the macroeconomic level, FDI may be a major source for financing the current account deficit in the balance of payments of the host country. Furthermore, FDI is considered as less unstable than portfolio investment and other types of international financial flows. For both reasons, an increasing volume of FDI is often taken as a major contribution to the development process in the host country (Chudnovsky and Lopez, 1999). As Dunning (1993, pp. 284) states, "...many countries in the world are dependent on MNCs as providers of resources, capabilities and markets, as creators of job and wealth, as suppliers of foreign currency, as stimulators of entrepreneurship and worker motivation, and as raiser of demand expectancies". The impact of FDI on the host country depends not only on its volume, but also on the quality of investment, the type of investment, the destination sector, the type of assets brought by FDI, and the role played by the affiliates within the global network of MNEs (Chudnovsky and Lopez, 1999).

Access to foreign technology or know-how is a key factor for economic development in developing countries. The more complex and rapidly changing the technology, the more difficult it is for local companies to access the technology they need without foreign investment (McKinsey, 2003). The economic literature identifies technology transfer as the

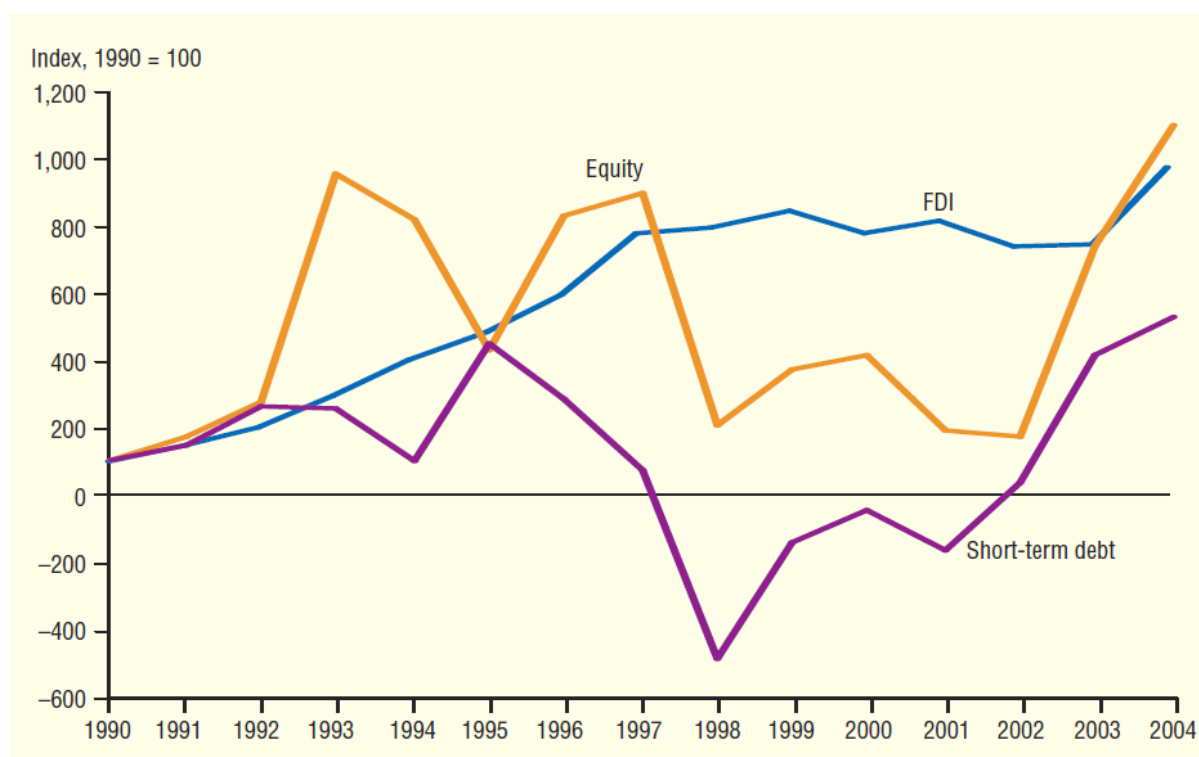
most important benefit of FDI in terms of the host developing country (OECD, 2002). MNCs are the creator and developer of the world's most important technology and research and development activities, and they normally hold a higher level of technology than is available in developing countries. For this reason MNCs are likely generate substantial technological spillovers in host developing countries. However, the level of MNCs generating such spillovers would vary according to the host country and sector (OECD, 2002).

According to OECD (2002), technology transfer to a host country works via four interconnected channels: vertical linkages with suppliers or purchasers in the host country; horizontal linkages with competing or complementary companies in the same industry; the migration of skilled labour; and the internationalisation of research and development. For technology transfer to have a positive impact, the technologies transferred by foreign investors need to be relevant to the host country's business sector and the technology gap between domestic firms and foreign investors must be relatively limited (OECD, 2002). The importance of FDI technology transfer to the developing countries lies in the fact that technology transfer to the host developing country cannot be accomplished by way of the trading of goods and services as well as the investment of financial resources (Economy Watch, 2010).

FDI has become an important source of private external finance for developing countries. It is different from other types of capital flows in that it is motivated mainly by the foreign investors' long term approach to making profits in the host country (Mallampally and Sauvant, 1999). Capital inflow from FDI is critical for a sector's performance and for development in developing countries. From a macroeconomic perspective, FDI is less volatile than other types of capital flow (see Figure 3.1). Equity and short-term debt tend to be highly volatile and speculative, and they were considered to play a major role in starting and deepening the financial crises of the 1990s. FDI's relative stability and long term commitment make it the preferred source of foreign capital for many developing countries (Kumar, 2007). The resilience of FDI during the financial crises may have led many developing countries to regard it as the private capital of the choice, and some economists have referred to it as "good cholesterol" for developing countries (IMF, 2001). FDI is viewed as "good cholesterol" because FDI is bolted down and cannot leave easily at the first sign of trouble as is the case with other types of capital flows such as short-term debt.

There are many examples of FDI's resilience during financial crises. For example, in East Asian countries, FDI was extremely stable during the global financial crises of 1997-1998. In contrast, other forms of private capital flows such as portfolio equity and debt flows, especially short-term flows, were subject to large reversals during the same period. Domestic banks in Mexico had been severely undercapitalized after the financial crisis of 1997, and the FDI inflow was critical for capitalizing and maintaining the stability of the Mexican financial system (McKinsey, 2003; Economy Watch, 2010). Moreover, the resilience and stability of FDI during financial crises was also made clear during the Mexican crises of 1994-1995 and the Latin American debt crises of 1998 (IMF, 2001).

**Figure 3.1 FDI more stable than equity and short-term debt**



Source: Federal Reserve Bank of Dallas, 2007

FDI provides a broad range of skills to the host country that improves local sector productivity and leads to a growth in output. These skills include operations/organizations of functions and tasks, marketing and product design, managerial and organizational skills and global market access (McKinsey, 2003).

Operations/organizations of functions and tasks. Large foreign players coming from developed and competitive home markets brought with them global capabilities in operations to the host developing country. For example, in China, foreign investors brought to the country supply chain processes and inventory management, plant operations and disruptions and advanced business operations (McKinsey, 2003).

Marketing and product design. The host developing country experienced improvement in marketing skills as a result of foreign players entering the country. For example, MNCs introduced competitive pricing practices in food retailing in Mexico, improved in-store marketing and merchandizing in Brazil, while in China and India, some MNCs modified products to suit local markets (McKinsey, 2003).

Managerial and organizational skills. MNCs brought new organizational and managerial skills to the host country. These skills included more professionalism in the country's culture and increased accountability, and more specific management tools like performance measurement and wage structures (McKinsey, 2003).

FDI contributes to human capital formation through training and labour mobility. Employees who are trained as a result of FDI may move to local firms or create their own entrepreneurial businesses. FDI helps in creating new jobs and increasing the salaries of the workers in developing countries. MNCs normally pay salaries and benefits above local standards in developing countries, which persuades highly trained employees not to leave the foreign firm. Many successful local firms in developing countries have prior links to MNCs, either by entrepreneurs or by top managers who worked in MNCs (Mayer, 2005; Economy Watch, 2010).

FDI's positive impact on human capital in developing countries could be indirect, occurring not mainly through the MNCs, but rather through policy makers in the host country seeking to attract FDI via enhanced human capital. When local employees are employed by MNC subsidiaries, their human capital may be enhanced further through training and on-the-job learning. Those subsidiaries may also have a positive influence on human capital enhancement in other local firms and suppliers. These enhancements can be stronger when the employees move to other local firms, and some employees become entrepreneurs (OCSD, 2002; Economy Watch, 2010).

The positive impact of FDI on human capital would depend on the level of human capital in the host country. This confirms the success of FDI on the growth of China and India, which have vast, untapped technical workforces, in that China graduates 600,000 engineers every year and India also produces 210,000 graduate engineers yearly (Kumar, 2007).

The competition within sectors within the host country is a critical driver for improvements in sector performance as a result of FDI. FDI and the presence of MNCs could have a significant influence on competition in the host country markets. The presence of FDI in developing countries may greatly support economic development by encouraging domestic competition and consequently lead to higher productivity, lower prices and more efficient resource allocation (OCSD, 2002). The positive impact of FDI on host country competition can be great because of the combination of scale, capital, and global access capabilities that allowed MNCs to aggressively narrow the productivity gaps in local markets. FDI can improve competition in the host market. Such markets tend to be distinguished by low competition and poor productivity. Competition caused by FDI can benefit domestic consumers through lower prices. For example, in China, the aggressive competition caused by foreign players has kept the supplier margins low, and has led to rapidly declining prices for both Chinese and global consumers (McKinsey, 2003).

FDI, especially in efficiency-seeking cases, provides access to export markets through their global distribution networks, market position, and brands. MNCs in developing countries are more likely to share general trade knowledge with local firms, as it is less industry-specific and not part of their core capabilities. Therefore, sharing that knowledge with local firms does not jeopardize their own competitive advantage. Furthermore, foreign investors may help build trade channels and improve the reputation of the country of origin. Local firms may benefit from this and use it to support their export activities (Mayer, 2005). For example, in India, leading global players like IBM which have located their off-shoring operations in India, have established the credibility of the Indian IT sector and opened the door for local Indian companies to follow suit. This is also the case for the consumer electronics sector in China as well as the automotive industry in Brazil and Mexico (McKinsey, 2003).

Many developing countries attract FDI as tool for export promotion rather than for production for local markets. For example, FDI build plants in countries where they can produce products for export at a lower cost. At the same time, FDI helps boost exports through the favoured access to markets of the FDI parent country. MNCs, the originators of



FDI, play a dominate role in global trade, accounting for two-thirds of all cross-border sales. Foreign affiliates accounted for more than half of China's exports in 2001, and represented 21% of Brazil's exports (Kumar, 2007). The profits that are generated by FDI can contribute to commercial tax revenue in the host country (Economy Watch, 2010).

FDI also has a positive impact on suppliers in the host country. FDI may support local suppliers in the host country and markets for specialized inputs, such as labour and materials. FDI may enhance the quality of products and the services provided by suppliers, such as just-in-time delivery and default rates. As a result, local firms in turn may improve their productivity (Mayer, 2005). When a foreign company needs to create a full value chain within the host country, FDI would lead to major supplier spillovers. For example, in Mexico, Wall-Mart led to improvements in supplier distribution and to low prices on the part of the suppliers that led to increased competitions among suppliers and led to productivity improvements through increases in scale and productivity-improving investment (McKinsey, 2003).

FDI may make a planned effort to improve the quality of local suppliers, particularly for components that cannot be cost-efficiently imported due to higher transportation cost or where the local industry has natural cost advantages (e.g. for labour-intensive components). These effects also benefit firms in other industries such as business service providers such as accounting or legal services (Mayer, 2005).

The most positive impact of FDI entry to protected markets is to local consumers, who experience reduced prices, improvements in the quality of products and services, more product range selection, and increasing domestic competition. For example, in China, consumers experienced car prices falling by more than 30% between 1995 and 2001 after multinational auto companies entered the market (McKinsey, 2003). Another example of FDI benefits to local consumers is Wall-Mart in Mexico, where everyday low prices ended a long history of hefty margins for local leading retailers, to such an extent that some analysts credit Wall-Mart for helping Mexico to reduce the inflation rate. In India, the price of electronic appliances such as air conditions, televisions and washing machines fell by around 10% in 2001 alone, after foreign companies entered the market (McKinsey, 2003).

FDI has the significant potential to promote enterprise development in host countries. The direct impact includes the achievement of synergies within the acquiring MNE, efforts to raise efficiency and to reduce costs in local enterprises. Moreover, local firms may benefit

from efficiency gains in unrelated demonstration effects and other spillovers like those that lead to technology and human capital spillovers (OCSD, 2002).

The available evidence points to a significant improvement in economic efficiency in local firms acquired by MNEs, although to degrees that vary by country and by sector. Local firm acquisition by MNEs leads to changes in the management and corporate governance of such firms. MNEs normally impose their own company policies, internal reporting systems and principles of information disclosure on the acquired firm, and a number of foreign managers normally come from the MNEs. As foreign corporate practices are superior to the ones existing in the host country, especially in developing countries, this may enhance corporate efficiency (OCSD, 2002).

Local firms can benefit from FDI in many ways: learning by example, labour mobility, export market access, improved supply base, or direct relationships with suppliers or customers. However, the impact varies depending on the type of FDI project, and its ability to develop local supply networks, its investment in human capital, employee mobility, and the value added in terms of local operations. Moreover, the impact of FDI will vary with the ability of local firms to obtain benefits from foreign partners and as a result of FDI by learning from them. After contact with MNEs, local firms can learn from MNEs and observe innovations adapted to local conditions and can imitate them (Myer, 2005).

FDI has the potential to bring social and environmental benefits to host countries through the demonstrations of good practice and technologies within MNEs, and through their spillover to local firms. The technologies that are transferred to developing countries through FDI tend to be more modern, and environmentally cleaner, than what is available locally. Furthermore, local firms may imitate foreign firms' environmental practices through employment turnover and supply-chain requirements that lead to more environmental improvements in the host countries. However, to obtain the full environmental benefits of FDI in host countries, adequate local capacity is needed with regards to environmental practices and the general technological capabilities of host country enterprises.

In the least developing countries, FDI have, to some extent, a smaller effect on growth within the host country. Therefore, developing countries have to have reached a certain level of

development in education, technology, infrastructures, and health before being able to benefit from FDI (OCSD, 2002).

Negative spillover of FDI in host countries is also possible, notably through crowding out effects. Foreign firms may gain a market share at the expense of local firms. This could leave the local firms with excess production capacity leading to low productivity and profitability. Furthermore, FDI in a host country may be sourced internationally, and therefore weaken the local industry's suppliers (Mayer, 2005).

Through FDI, foreign investors can gain vital inside information about the productivity of the local firms under their control. This gives them an informational advantage over uninformed local investors. Taking advantage of this superior information, foreign investors will tend to hold productive firms under their control and ownership, and sell low productivity firms to uninformed local investors (IMF, 2001). FDI may not be of benefit to the host country when such investment is geared toward serving domestic markets protected by high tariffs or non-tariff barriers. FDI may strengthen lobbying efforts to maintain the existing misallocation of resources (IMF, 2001). Through ownership and control of domestic firms, foreign firms learn more about local firms and the host country's productivity, and they could overinvest, at the expense of local producers. Moreover, there is the possibility that the most productive firms will be financed through FDI, leaving local investors stuck with low productivity firms (Kumar, 2007).

FDI may flow to relatively risky destinations. FDI tends to take advantage of countries where the market is inefficient. This happens because foreign investors prefer to operate directly instead of relying on local financial markets, suppliers, or legal arrangements (Liquori, 2009). Some host countries, especially developing countries, may be worse off as result of FDI activities. The host-country may lose national control over strategic economic sectors, domestic firms may move out of certain activities, and local jobs may be lost (Dunning, 1993). As Dunning has clearly pointed out, this implies a difficult and a controversial question on the real benefits of FDI to the host country, and what would happen in the absence of MNCs or in the absence of a set of policies aimed at maximizing the net benefits of MNCs and at building national capability (Chudnovsky and Lopez, 1999). Although FDI inflows to a host country where domestic polices and institutions are weak, this cannot be regarded as a criticism of FDI in itself. In reality, without it, developing countries would be much poorer (Liquori, 2009).

The relative advantages of FDI during crises are well documented. However, capital escape during crises can't be ruled out. During financial crises, FDI may be accompanied by distress sales of local assets, which could be damaging to the host country. Even in normal times, FDI can be overturned or reduced through domestic borrowing by affiliates of MNEs and the repatriation of funds (Kumar, 2007).

FDI leads to the import of capital to host countries, but at a later stage, capital is repatriated through profit payment or project termination. Therefore, the host country pays for the capital and this could weaken the balance of payment of that country (OECD, 2002). Nevertheless, FDI capital is critical and welcomed by host countries because it tends to be less volatile than other forms of capital inflow (UN, 1999).

FDI creates employment, especially in developing countries, and additional jobs may be created on the part of domestic suppliers. However, FDI may crowd out domestic enterprises that use more labour-intensive methods of production and accordingly can lead to more unemployment. The policy related to the net-employment effect in the host country is therefore hard to assess (Dunning, 1993; UN, 1999).

FDI increases gross domestic investment. However, part of it may be locally funded or the capital inflow might increase the exchange rate in the host country. Thus the cost of international borrowing to the host country might increase. This would lead to the crowding out of domestic investment (Mayer, 2005). FDI generate exports. Yet FDI also generates imports, especially in the case of market-seeking FDI, and in the case of outsourcing operations that process imported components (Mayer, 2005).

Dunning concluded in 1993 (p.413) that "...the question is not whether MNE activity is trade promoting or trade replacing, but whether it is an efficient instrument for the reorganization of the cross-border allocation of economic activity in a way that is conducive to both national and international economic welfare". This conclusion was true in 2009, as transactions have grown in complexity.

There is the potentially harmful environmental impact of FDI, especially in the extractive and heavy industries. There are also the risks that a foreign firm could use FDI to export production processes that are no longer approved in their home countries for environmental reasons. Moreover, MNEs may move equipment considered environmentally unstable in the home country to their affiliates in developing countries (OECD, 2002).

FDI may lack positive linkages with local communities, and the social distractions of hastened commercialization, especially in developing countries (OECD, 2002). Some authorities in host countries especially in developing countries have experienced an increasing dependence on MNEs, resulting in a loss of political sovereignty. Some expected benefits of FDI may even prove indefinable if, for example, the host country is not be able to take advantage of the technologies or know-how transferred through FDI (OECD, 2002).

### **3.1.2 FDI in GCC Countries**

According to recent economic development plans and political rhetoric on the part of Gulf Cooperation Council (GCC) countries, the future prospects for these country's social, economic and political development depends on their ability to attract more FDI inflows.

Since the late 1990s, the GCC countries have improved their business environment, including their legal business framework, have liberalised entry, have insisted on fewer performance requirements, have created more incentives, and have initiated more guarantees and protection for foreign investors. The number of activities with regard to which FDI is banned or controlled, have been reduced, especially in manufacturing, natural resources and the service sectors (Mellahi, et al., 2003)

The goal for this improvement in the business environment and in the globalization policies of GCC governments has been the promotion of increased efficiency through competition, both locally and globally, with the view to providing a sounder basis for sustainable and real employment-creating growth. The outlook of global competition demands that enterprises in GCC countries make the most of their existing assets in order to survive and to succeed in the global economy (Mellahi, et al., 2003).

Officials and managers in GCC countries often claim that FDI firms in their countries will improve productivity levels among local enterprises in the same industries in which FDI occurs, and will operate by improving the distribution of resources and managing them more efficiently. This is likely for three main reasons. First, FDI and other forms of foreign investment tend to arise in sectors with relatively high entry barriers. As a result it will help limit monopolistic distortion and related inefficiencies in the host country. Second, through either the FDI competitive force or through demonstration, local enterprises operating in imperfect markets such as in the GCC countries, may be encouraged to introduce a higher level of efficiency. Finally, FDI present in GCC countries may speed the process and reduce

the cost of technology and knowledge transfer. Imitation effects and the movement of local employees who trained at FDI firms in host country also enhance the transfer of management practices, knowledge or know-how to local firms (Mellahi, et al., 2003).

Based on an interview with King Abdullah of Saudi Arabia (Business Week, 2000), it was noted that "...GCC countries hope to encourage a more open economy where companies compete on their merit rather than by connections. They want foreign investors to bring not just capital but management know-how and technology" (Mellahi, et al., 2003). However, the FDI spillovers don't arise automatically in the host country. Instead, for the host country to take full advantage of the presence of FDI, local firms need to invest in learning activities, on their ability to catch up, and on their level of commitment to learning new ways and unlearning old ways of management (Mellahi, et al., 2003). Gulf oil producing countries are going through a foreign investment boom as significant as their first oil boom when they started to realise the benefits of foreign investment to their economies. While the GCC countries have played a major part in attracting FDI inflows, their strong economies and resilience to global crisis have also attracted FDI.

The favourable FDI policies in GCC countries have arisen in acknowledgment of the unquestionable economic benefits of FDI. Foreign capital in many cases involves a strategic long-term commitment, and tends to be stable and sticky. Therefore, it provides an attractive alternative to historically dominated bank credit which is often not readily available on favourable terms for long-term investment (NCB, 2010).

The ability of GCC countries to attract large amounts of FDI in recent years has emerged as one of the most impressive success stories of the Gulf Region, and a sign of its growing integration into the global economy. The relative resilience of the GCC countries to global crises in attracting FDI flows has highlighted the progress made in improving the business environment and the favourable macroeconomic fundamentals in these countries. Governments in the Region are continuing with their efforts to attract FDI with a number of new regulatory programmes as well as image building. However, the regulatory environment facing FDI in GCC countries remains unfavourable (NCB, 2010). FDI is also an important supporter of the GCC countries' increasingly urgent diversification efforts.

Access to know-how, experience, and pre-existing solutions can serve as an effective way of development with regards to new areas, and the accelerating of the catch-up process in sectors that are lagging behind objectives or their proper perspective (NCB, 2010). FDI can

improve the competitive edge of local firms by exposing them to established foreign rivals, thereby forcing them to develop their management practices and strategies and to learn from example. The main challenge for the GCC countries in attracting FDI has been their status as one of the world's leading holders of capital. This has shaped the perception that the region, which controls around 45% of the world reserves of oil, does not need foreign capital from FDI. Rather they need technology transfer, know-how and employment (NCB, 2010).

### **3.1. 3 FDI in Saudi Arabia**

The Saudi Arabian government has sent a strong signal that it welcomes FDI inflows into the country by establishing the Saudi Arabian General Investment Authority (SAGIA) to improve the business environment and to attract more FDI inflow (Ramady, 2006). Some host countries evaluate the level of economic reform programmes in terms of how successful they are in attracting large quantities of FDI. However, the quantity of capital inflow is not enough to evaluate the effectiveness and benefits of FDI to a host country.

The advantages related to FDI for those countries such as Saudi Arabia that have experienced a capital surplus are many. First, FDI in Saudi Arabia will lead to higher productivity and improved labour standards through the demonstration effect of FDI in the way that they manage production processes and systems. Second, local firms will benefit from modern know-how and technology transfer as a result of FDI. Third, the government of Saudi Arabia looks at FDI as a potential method of reducing the high level of unemployment among Saudis. In a 2010 study by the National Commercial Bank (NCB), Saudi Arabia's largest bank, FDI in the GCC countries is an important source of employment. According to the NCB, FDI projects in Saudi Arabia employ 375,000 people, 27 per cent of whom are Saudis, and generate salaries of \$7.8 billion (NCB, 2010). Fourth, FDI improves and creates a local skilled workforce, and who can be employed by local firms. For example, the Saudi petrochemical industry is one such case in point, whereby the foreign joint venture petrochemical partners have brought in advanced management and training practices and young Saudis have benefitted from foreign partners training programmes and have moved on to senior positions and taken up management responsibilities in other domestic firms. However, this argument does not hold if the foreign firm is highly capital-intensive and relies on a small skilled workforce (Ramady, 2006). Fifth, FDI within the Saudi Arabian economy will not lead to banking or debt crises compared with financing lending from abroad, such as happened with many Latin American countries that saw an inward inflow of capital, not in

terms of projects, but as government lending. Many countries have become so dependent on foreign loans that it takes them many years to remove the debt servicing obligations and for them to obtain a better borrowing rating (Ramady, 2006). Sixth, unlike international loans, part of the profit of FDI in Saudi Arabia is reinvested in the country, which leads to further growth in project investment.

The disadvantages of FDI should not be ignored. One such disadvantage is that successful foreign operations could drive local competitive firms out of the market as foreign investors, especially in developing countries, have superior technological know-how and management techniques compared to domestic enterprises. When MNEs may borrow from local banks in order to expand, the result could drive borrowing rates up, causing difficulties for domestic firms when it comes to borrowing. FDI could concentrate on narrow base sectors and investment in the host country such as mining and other forms of natural resource extraction, which could limited the benefits to a small section of the population (Ramady, 2006).

Fortunately, for Saudi Arabia, some of these potential drawbacks in relation to FDI are limited, as the oil sector is under government control, and most mineral and petrochemical projects are through joint ventures. Despite the fact that there is significant FDI concentration in the petrochemical industry in Saudi Arabia, equally there is also evidence that foreign firms are operating in many sectors of the economy. Furthermore, the Saudi petrochemical sector doesn't seem excessively worried at the opening up of this profitable sector to FDI. FDI has forced Saudi petrochemical companies to become more competitive, more productive, and have a greater global perspective than before (Ramady, 2006).

The major FDI benefit that Saudi Arabia obtained from the opening up of its market was to be considered in terms of the transfer of up-to-date technology, the transfer of knowledge or know-how, employment for Saudis, and sophisticated management practices, rather than capital inflows in terms of FDI. Based on an interview with King Abdullah of Saudi Arabia (Business Week, 2000), it was noted that "...GCC countries hope to encourage a more open economy where companies compete on their merit rather than by connections. They want foreign investors to bring not just capital but management know-how and technology" (Mellahi, et al., 2003).

The Saudi government developed a strategic plan to diversify its economy from its almost complete dependence on crude oil exports, to a broader industrial base. The diversification of



the country's sectors became a major aspect of the Saudi government's economic strategy. As a result, the government has encouraged the development of a wide range of industries.

In its efforts to diversify its economy and to transfer technology, management and training for its nationals, in 1976, the Saudi government created the Saudi Basic Industries Corporation (SABIC), that manufactures petrochemical products. SABIC was founded as the fruit of an ambitious vision. Natural gas, a previously useless by-product of oil extraction which often polluted the air has been transformed into valuable petrochemical products and has also been a major source of supply to the world and an export earner to the Saudi government (SABIC, 2000).

In just 25 years, SABIC now ranks second among the top 100 Saudi companies, exceeded in assets only by Saudi Aramco. SABIC has become the largest non-oil industrial company in the region. SABIC today sells its products to customers in more than 100 countries. SABIC has made itself a leading manufacturing and global marketer of hydrocarbon and metal products. It has made a major contribution to the Saudi economy and has led the way into industrial diversification. Moreover, SABIC has created thousands of new jobs, both directly and indirectly, for Saudi nationals. It has more than 30,000 Saudi and multinational employees, and has developed a highly trained skilled workforce capable of operating the company safely and efficiently.

Much of the success of SABIC today can be rooted in its founders' strategy to reach out to multinational companies through partnership, such as FDI through joint-ventures, to enable the company to have the technology, the technical expertise, and the market access and experience that they need from well-known companies such as Shell, Chevron and Exxon. The majority of SABIC projects are joint-ventures. As Abdulaziz Al-Zamil (SABIC, 2000. p.5), the first Vice-Chairman of SABIC, recalled "As we took steps to develop a petrochemical industry for Saudi Arabia, we had as assets the money, the raw materials, and a delivery system. What we did not have was the technological know-how and the commercial experience in the markets of the world that we needed to make a quality product and sell it. For these two assets, we needed to draw from wells of knowledge outside the Kingdom." The Saudi government knew from the start that the world's major oil companies possessed the world's leading technologies, global market experience, and sophisticated management expertise, but what those companies needed was petroleum. On the other hand, Saudi Arabia has the world's largest petroleum reserves, but they need technology, know-how, and

training. Therefore, the relationship between the two parties was a relation of equal and mutual interest, and each party got what it needed, and everyone benefits. The joint venture firms associated with SABIC provided the company with the technology, the know-how, the sophisticated management practices, and training for the Saudi workforce. Saudis were trained in the United States, Japan, and other developed countries as a result of the partnership between foreign companies and SABIC. The training of a young Saudi workforce for the role they would have to play in their nation's drive toward industrialization, was the most critical element with regard to the achievement of long-term success. As result, the Saudi workforce learned how to run modern petrochemical plants in a more productive way. When the foreign professionals go home, Saudis will have to take over, do the work and do it well. Saudi nationals at SABIC today account for 85% of the total number of employees (30,000), most of whom are engineers and skilled technicians. They also occupy 99% of management positions in SABIC and its affiliates. Furthermore, Saudis make up 79% of employees in the administrative field, 77% in technical areas, 63% in engineering, 72% in information technology, 78% in finance and 100% in safety and security (SABIC, 2009). Long-term SABIC partnerships with industrial leaders is one of the company's core strategies for growth, and its success in joint ventures has been cited as a model for developing countries.

### **3.1.4 Summary**

In this section we showed that FDI are integrating developing countries into the global economy, creating large economic benefits for both the global economy and for the developing countries. As far as the developing countries are concerned, FDI is a major tool for integrating them into the global economy by improving the standards of living, transferring technology, transferring and improving management skills, increasing productivity, sources of finance (capital), encouraging stability during crises, transferring marketing and production design, increasing competition, increasing access to export markets, reducing prices and improving quality to local consumers, and introducing social and environmental benefits. However, FDI may be considered a disadvantage to host developing countries through negative spillover. Foreign firms may gain access to inside information about local firms and come to control them, FDI may flow to riskier countries, and FDI may be harmful to a host country's environment. The future prospects of the GCC countries in terms of social, economic and political development depends on its ability to attract FDI. FDI in GCC countries improve productivity levels among local enterprises and

improves and manages resources more efficiently. They bring in not just capital, but management know-how and advanced technology. Saudi Arabia considers the FDI inflow as being vital to its economic and social improvements. FDI in Saudi Arabia will lead to higher productivity and labour standards, local firms benefitting from know-how and technology transfer, a reduction in unemployment among Saudis, and capital inflows. There are some disadvantages of FDI in Saudi Arabia including the fact that FDI could drive local competitors out of the market, could drive borrowing rates up, causing difficulties for local firms when it comes to borrowing, and could concentrate on narrowly based sectors such as mining and other forms of natural resource extraction. However, the disadvantages associated with FDI are limited in Saudi Arabia, as the oil sector is under government control, and most mineral, petrochemical, and other large projects are done through joint ventures. This section helped us to shape the research methodology for this research, which is discussed in detail in the next section.

## **3.2 Research Methods**

### **3.2.1 Introduction**

This section describes the instruments used in this research, including the population definition, the survey sample, instrument development, data collection procedures and data analysis techniques. The techniques that are most suitable for a particular type of research depends on the research objectives and problems. Ghauri and Gronhaug (2005, p. 109) define research methods as follows: “Research methods refer to systematic, focused and orderly collection of data for the purpose of obtaining information from them, to solve/answer a particular research problem or question. The methods are different from techniques of data collection”. The methods in research refer to the way that we gather the data through historical review and analysis, surveys, experiments and case studies. On the other hand, research techniques refer to the step-by-step procedure that the researcher follows in order to collect data and to analyse and answer the research questions (Ghauri and Gronhaug, 2005).

### **3.2.2 Research Approaches**

A researcher observes and faithfully records what is seen without any prejudice. Some of these statements of observation are established as true and serve as the basis for theories and laws. There are two ways of establishing what is true or false and to draw conclusions: induction and deduction. Induction is based on empirical evidence, while deduction is based on logic

(Ghauri and Gronhaug, 2005). Deduction owes more to positivism and induction to interpretivism (Saunders, Lewis and Thornhill, 2007).

Inductive approach theory would follow data rather than vice versa, as is the case with a deductive approach (Saunders, Lewis and Thornhill, 2007). Through induction, we draw general conclusions from our empirical observations. In this type of research, the process goes from observations, findings, theory building and incorporating findings back into existing knowledge (literature/theories) to improve theories. In this research, therefore, theory will be the outcome of the research (Bryman and Bell, 2007). This type of research is often associated with a qualitative type of research. It is, however, important to note that we can never be 100 per cent sure about the above inductive conclusions, as these conclusions are based on some empirical observations.

Deduction owes much to what we would think of as scientific research. It involves the development of a theory that is subjected to a rigorous test. As such, it is the dominant research approach in the natural sciences, where laws present the basis of explanation, allow the anticipation of phenomena, predict their occurrence and therefore permit them to be controlled (Saunders, Lewis and Thornhill, 2007). By deduction, we mean that we draw conclusions through logical reasoning. In this case, it need not be true in reality, but it has to be logical. The researcher in this type of research builds/deduces hypotheses from the existing knowledge (literature), which can then be subject to empirical scrutiny (testing) and thus can be accepted or rejected. The researcher's main job is not only to built hypotheses from existing knowledge, but also to present them in operational terms (operationalisation), to show how information can be collected in order to test these hypotheses and the concepts being used (Bryman and Bell, 2007). In this type of research, theory and hypotheses build on it, come first and influence the rest of the research process. This type of research is often associated with the quantitative type of research.

### **3.2.3 Research Design**

The research design is the overall plan for relating the conceptual research problem to relevant and practicable empirical research. In other words, the research design provides a plan or a framework for data collection and its analysis. It reveals the type of research (e.g. exploratory, descriptive or causal) and the priorities of the researcher. Research methods, on the other hand, refer to the techniques used to collect data (Ghauri and Gronhaug, 2005).

Empirical research is carried out in order to answer or elucidate research questions. Poorly formulated research questions will lead to a misguided research design. The strategic choice of research design should come up with an approach that allows the researcher to solve the research problem in the best possible way, within the given constraints.

Based on the structure of the problem, we may distinguish between the three main classes of research design. There is exploratory research. When the research problem is badly understood, a (more or less) exploratory research design is adequate. In terms of descriptive research, the problem is structured and well understood. In causal research, the problem under scrutiny is also structured. However, in contrast to descriptive research, the researcher is also confronted with ‘cause and effect’ problems (Ghauri and Gronhaug, 2005).

### **3.2.4 Data Sources**

A first distinction can be made between secondary and primary data sources, according to Ghauri and Gronhaug (2005, p. 91), as follows: “Secondary data are information collected by others for purposes that can be different from ours. Primary data are original data collected by us for the research problem at hand”. These two types of data sources are discussed in some detail.

#### **3.2.4.1 Secondary Data**

Bryman and Bell (2007, p. 326) defined secondary data as “the analysis of data by researchers who will probably not have been involved in the collection of those data, for purposes that in all likelihood were not envisaged by those responsible for the data collection”. Secondary data are useful, not only to find information to solve our research problem, but also to better understand and explain our research problem. In most research, we need to begin with a literature review involving earlier studies on and around our topic of research. This will include books, journal articles or data sources such as web pages of firms, government publications, those of semi-government organisations and catalogues (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007). Secondary data can help researchers in the following manner: by answering research questions or solving some or all of the research problems; helping in problem formulation and/or devising more concrete and focused research questions; deciding about the appropriateness of a certain research method or even suggesting better research methods for a particular problem; providing benchmarking measures and other findings that

can be compared later on with the results of the study at hand (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007).

Secondary data offer some advantages over other types of data. The biggest advantage of using secondary data is the vast saving in resources, especially time and cost, compared to the researcher collecting the data. If the researcher needs to gather data quickly, secondary data is the best choice (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007). The majority of the data collected by international organisations and governments are of high quality and trustworthy, because the collection has been done by experts in their fields (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007). Opportunity for longitudinal analysis. Secondary analysis can offer the chance for accessing and analysing data over a long period of time or using a time series analysis (longitudinal research), which is rather uncommon in business and management research because it involves high costs and takes a long time to perform (Bryman and Bell, 2007). Opportunity for cross-cultural/international research. Secondary data offers the opportunity to compare data from other countries at low cost and takes less time (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007). Help in finding a suitable method or source of data. With secondary data, a researcher can screen research done by others to find the best methods and data for a specific piece of research (Ghauri and Gronhaug, 2005). Offers more time for data analysis. As data collection is considered to be one of the most difficult phases of research because of the time and the cost involved, and could affect and limit the time spent on analysis, secondary data provide more time for the analysis of the data (Bryman and Bell, 2007). Re-analysis may offer new interpretations. By re-analysing secondary data, the researcher may arrive at new findings (Bryman and Bell, 2007).

Taking into account all these advantages, many scholars recommend that all research should start with secondary data sources. Occasionally, secondary data give enough information to find the research problem and answer the research questions. In such a situation, there may be no need to collect primary data (Ghauri and Gronhaug, 2005).

However, secondary have some disadvantages over other types of data. It may not be appropriate for the study that the researcher wishes to undertake. As the data in the form of secondary data were collected for a different study that had a different aim, they may not completely fit the current study and may not answer the current study's research questions, and consequently will not meet the study's objectives (Ghauri and Gronhaug, 2005;

Saunders, Lewis and Thornhill, 2007). Difficulty in understanding the data. As the secondary data were collected by others, the researcher may find it difficult to understand the structures and outlines of the data as they are not familiar to the researcher (Ghauri and Gronhaug, 2005; Bryman and Bell, 2007). Absence of key variables. Because the secondary data were collected by others for a purpose other than that of the current study, some variables may be absent or may have been ignored (Bryman and Bell, 2007). No control over data quality. The researcher may find it difficult to ascertain the accuracy and the quality of the secondary data (Bryman and Bell, 2007). Variables may be defined differently. Secondary data involve variables or measurement units that are very different from those used in the current research. This makes the comparison between the two data or studies invalid (Ghauri and Gronhaug, 2005). Access may be difficult or costly. As secondary data may have been collected for commercial reasons, gaining access may be difficult or costly (Saunders, Lewis and Thornhill, 2007)

#### **3.2.4.2 Primary Data**

When secondary data are not available or are unable to help answer our research questions, we must collect the data that are relevant to our particular study and research problem ourselves; these data are called primary data (Ghauri and Gronhaug, 2005). What we should look for, ask about and collect depends upon our research problem and the research design. We have several choices as regards the means of collecting primary data. Usually this includes observations, experiments, surveys (questionnaires) and interviews.

Primary data have some advantages over other types of data (Ghauri and Gronhaug, 2005). The main advantage of primary data is that they are collected specifically for our study and research. This means that they are more reliable and more closely fit our research questions and research objectives. Primary data can help us to understand peoples' attitudes and buying behaviour for a specific product or service.

However, primary data have some disadvantages (Ghauri and Gronhaug, 2005) . The main disadvantage of primary data is that it takes a long time to collect and is expensive to collect, compared to secondary data. Difficult to gain access to the participants. Finding participants who are willing to participate in the research and answer the research questions may be difficult, especially when the study involves sensitive information or deals with different cultures in other countries. Difficulty in using the proper research tools. The researcher may

find it difficult to find the best tools, research methods and methods of analysis to answer the research questions, as the methods may not have been used by others and the researcher may put at risk the reliability and applicability of the study. Less control over data. A researcher collecting primary data would have limited control over the data collection. This might lead to the emergence of unexpected factors that may hinder the efficient collection of data. Fully dependent on respondents. The quality and focus of the information collected from primary sources are fully dependent on the willingness and ability of the respondents. Some respondents may refuse to participate or cooperate because of limited time or the lack of incentives or fear of providing sensitive information (Ghauri and Gronhaug, 2005).

### **3.2.5 Data Collection**

#### **3.2.5.1 Qualitative Versus Quantitative Methods**

The main difference between qualitative and quantitative research is not the quality but the procedures used in the research. In qualitative research, findings are not arrived at by statistical methods or through other quantification procedures (Ghauri and Gronhaug, 2005). Normally, the basic distinction between quantitative and qualitative research is that it is considered that quantitative researchers employ measurements and qualitative researchers do not (Bryman and Bell, 2007). The difference between quantitative and qualitative methods and approaches is not just a question of quantification, but also a reflection of different perspectives on knowledge and research objectives. One argument for using quantitative data is that quite often we collect individual data and aggregate it to analyse organisations. It is generally accepted that, for inductive and exploratory research purposes, qualitative methods are most useful, as they can lead us to hypothesis building and explanations. Historical review, group discussions and case studies are mostly qualitative research methods. These qualitative methods use relatively more qualitative techniques, such as conversations and in-depth, unstructured or semi-structured interviews (Ghauri and Gronhaug, 2005).

#### **3.2.5.2 Observation**

Ghauri and Gronhaug (2005, p. 120) define observation as “a data collection tool entails listening and watching other people’s behaviour in a way that allows some type of learning and analytical interpretation”. The advantages of observation are that we can collect the data in a real format as we have collected the data ourselves. Moreover, we can understand and analyse the observed attitudes, behaviour and case in a more accurate way compared to the



use of questionnaires and interviews. However, observation has some disadvantages including the difficulty in transferring what the individual has observed to a scientific format, as most observations are done by individuals who have observed and recorded a phenomenon and who may find it difficult to transfer what they have observed into scientifically useful data.

### **3.2.5.3 Communications**

For primary data, the researcher has to decide whether to communicate with the respondents/subjects or just to observe them. Communication does not have to be direct or face-to-face. We could send our questions by mail or email and ask for answers to be sent back to us in the same manner. The instrument used for this type of data collection is called a survey questionnaire. A questionnaire can be structured, unstructured or semi-structured. We could also use methods that are more personal, by meeting with the respondents/subjects face to face and asking questions. Ghauri and Gronhaug (2005, p. 123) define communication as “the collection of data by asking those who have experienced a particular phenomenon so that they can explain it to the researcher”. This type of data collection makes it possible to generalise the results and test theories.

The most commonly used primary data collection method is through communication. Many students and business researchers collect their data through surveys or interviews. In this case, the first question to ask is how structured or standardised the questions should be. In most structured questionnaires, whether in the form of a survey or an interview, the questions and the answers are predetermined. In the case of unstructured questionnaires or interviews, the questions are only roughly predetermined (Ghauri and Gronhaug, 2005).

### **3.2.5.4 Surveys**

Surveys refer to a method of data collection that utilises questionnaires or interview techniques for recording the verbal behaviour of respondents (Ghauri and Gronhaug, 2005). The survey is an effective tool to obtain opinions, attitudes and descriptions as well as for exploring cause-and-effect relationships. However, there are several circumstances that might influence respondents and their reactions, as well as their answers. According to Ghauri and Gronhaug (2005), there are factors that influence respondents. These might include:

- *Sponsor*: when a study is financed or sponsored by a particular organisation, this might

lead to suspicion and deter respondents from answering questions correctly.

- *Appeal*: when a researcher makes an appeal with regard to why or how important it is for him or her to get answers to his or her questions, and how it can be useful for the respondent/society if the study at hand is performed.
- *Stimulus*: when some type of reward is given to the respondents. Here a decision has to be made on whether the reward should be financial or non-financial.
- *Questionnaire format*: the appearance, layout, length and even the colour of the paper used can have an influence on whether the questionnaire will be responded to properly or not.
- *Covering letter*: its tone and stance can have an enormous impact on the respondent.
- *Stamped and self-addressed envelope*: so that the responder need not incur any expense while providing you with information, and to make it easier or more convenient for him/her to send the answers back.

### **3.2.5.5 Interviews**

Interviews need a real interaction between the researcher and the participant. The researcher needs to understand and take into account the respondent's background, values and expectations in order to carry out an interview effectively. There are two types of interviews. The first involves survey research or a structured interview, where the researcher uses a standard format of interview using fixed questions and answer choices, standard quantitative measures and statistical methods. The second type is the unstructured interview, where the researcher gives the respondent room for discussion, and permits the respondent to offer opinions and behaviour on specific points. The questions and answers in unstructured interviews are generally unstructured. In the literature, there is some discussion on another form of interview known as semi-structured interviews, which differ from both structured and unstructured interviews (Ghauri and Gronhaug, 2005). They differ in terms of the subjects and the points to be covered, the sample size, the questions, and the participants may have been determined beforehand. They also differ in that bias is minimised.

When doing the interview, the researcher or interviewer should take into consideration the following points (Ghauri and Gronhaug, 2005):

- Prepare for the interview by analysing the research problem, what information is sought from the interview and who is willing to provide this information.

- Draft the interview questions and pre-test them by undertaking a pilot study.
- Determine how much time is needed for the interview through the pilot study.
- Approach the persons you want to interview by telephone, letter or both.
- Create a reason for why the respondent should participate in the interview by explaining why they should participate, perhaps explaining how the study would help the industry, country and policymakers and the respondent firms.
- Consider all the costs associated with interviews such as travelling costs, the time necessary for the interview and the time needed to process it.
- On the day of the interview, the researcher should introduce the study to the respondent.
- The interviewer should assure the respondent of confidentiality.
- The interviewer should use clear and simple language and avoid using any terminology that is not understood by the respondent.
- The interviewer should avoid using leading questions or try to lead the respondent to the answer as this might force the respondent to answer in a way that the interviewer wants.
- The interviewer should explain to the respondent any questions that are not clear to the respondent.
- The interviewer should have control over the time.

### **3.2.5.6 Focus Group**

A focus group is another method used to collect data. This method is made up of different types such as discussion groups, focus interviews, group interviewing and group research. This method is often used in business research. Ghauri and Gronhaug (2005, p. 114) define a focus group as “a small group of people interacting with each other to seek information on a small (focused) number of issues”.

There are advantages of focus group (Ghauri and Gronhaug, 2005). Focus groups provide the researcher with rich and in-depth data from the respondents’ own words and reactions. Focus groups are low cost, fast and a flexible method of collecting data. This method gives a researcher the chance to observe people’s reactions and behaviour and gives the researcher the opportunity to interact with the respondents. Focus groups allow the collection of data from people of all walks of life, including children. The results from focus groups are easy to understand (Ghauri and Gronhaug, 2005).

However, focus group has disadvantages (Ghauri and Gronhaug, 2005). It is hard to summarise and categorise the information collected. Sometimes, it is difficult to get useful information from people when the moderator is unskilled. It may be difficult to gather people at a specific location. The people who participate in a focus group may not be representative of the population (Ghauri and Gronhaug, 2005).

### **3.2.5.7 Structured Interviews**

In a business research interview, the goal of the interviewer is to extract from the respondent all the information needed for the research including the respondent's behaviours and beliefs. There are different types of research interviews. However, the structured interview is the most widely used method in survey research (Bryman and Bell, 2007). The research interview is used as a data collection method in both quantitative and qualitative research. The main reason behind using the structured interview is that it provides standardisation in terms of asking questions and recording answers (Bryman and Bell, 2007).

A structured interview, sometimes called a standardised interview, needs the administration of the interview to be planned ahead by the interviewer. The goal is to give the respondents or interviewees the same set of questions, and to ensure that the interviewees are given the same friendly interview environment and incentives. The aim here is to make sure that the respondents' feedback can be aggregated, and this can be fulfilled only if they respond to the same questions and same survey design. The interviewer should read out the questions to the interviewees in the same format as they are printed. The questions in the structured interview are usually focused and specific, and offer the interviewees a fixed range of answers. A structured interview is a classic form of interview in social survey research (Bryman and Bell, 2007).

### **3.2.5.8 Self-Completion Questionnaire (Mail Questionnaire)**

In self-completion questionnaires, the respondents complete the questionnaire by themselves without the presence of the researcher. Mail or postal questionnaires are the most widely used form of self-completion questionnaires and they are sent to the respondents by post. The respondents are then asked to return the questionnaire to the researcher by post or at a specific location (Bryman and Bell, 2007).

There are some advantages of self-completion questionnaires over structured interviews

(Bryman and Bell, 2007). When the sample is geographically dispersed, the self-completion questionnaire would be the cheapest choice compared to interviews because of the time and cost of travel for interviewers, which can be expensive. Self-completion questionnaires can be sent by post and distributed in large quantities over a short period of time. In self-completion questionnaires, the interviewer's influence is limited because the interviewer is not present at the interview (Bryman and Bell, 2007). With self-completion questionnaires, the probing by interviewers by asking questions in a different order or in a different format is minimised. Self-completion questionnaires are more convenient for the respondents as they can fill out or complete the questionnaires in their own time and at a speed that suits them (Bryman and Bell, 2007).

However, self-completion questionnaires have some disadvantages compared to structured interviews (Bryman and Bell, 2007). When a respondent has difficulty in answering a question or questions, there is no one present to help them. There is no chance to investigate respondents by asking them to provide further details or more information on an answer. With self-completion questionnaires, respondents are more likely to become tired or bored of answering questions that are not relevant or not important to them. The respondents in self-completion questionnaires may not answer many open-ended questions because usually respondents do not want to write a lot. In a self-completion questionnaire, respondents can read the entire questionnaire before answering the first question or other questions. When that happens none of the questions is independent of the others, and the researcher cannot be sure whether the questions are answered in the correct format or order. One of the major drawbacks of self-completion questionnaire is that the researcher can never be sure that the right and targeted person answered the questionnaire. As firms receive many requests for survey participation, managers sometimes transfer the questionnaires to someone else in their firm such as a personal assistant to complete the questionnaires on their behalf. With self-completion questionnaires compared to interviews, the researcher cannot collect other relevant information about the firm. Managers tend to ignore questions that are not pertinent to the firm. As we have mentioned above, with a long questionnaire respondents may become tired and bored, and may not complete the questionnaire. Self-completion questionnaires will not be accessible for some respondents who have limited use of the English language or other language in which the questionnaire is based. There is also the added problem of illiteracy that may limit or prevent them from answering the questions. Due to lack of supervision and lack of prompting, unanswered questions are very common in self-completion questionnaires

(Bryman and Bell, 2007).

### **3.2.5.9 Survey Methods**

There is no best survey method as each one has its advantages and disadvantages. The decision to select the best survey collection method must be made on a study-by-study basis (Czaja and Blair, 2005).

#### **3.2.5.9.1 Mail Surveys**

Mail surveys involve sending invitation letters to participate in a study to potential respondents, which are then followed by a cover letter and a questionnaire sent to a specific person. The mail survey should be totally self-explanatory and in a format that is simple and uniformly understood by different participants (Czaja and Blair, 2005).

There are some advantages of mail surveys (Czaja and Blair, 2005). Less expensive than telephone or personal interviews. The respondents may consult household or personal records. With mail questionnaires, it is much easier than with other survey methods to collect data about sensitive topics. The time needed to collect mail survey data is shorter than with other survey methods (Czaja and Blair, 2005).

However, mail surveys have some disadvantages (Czaja and Blair, 2005). Response bias occurs when one subgroup is more likely to cooperate than another. The questionnaire can be very long or complex to complete, and the respondent can look over the questionnaire and decide whether to complete it or not. No one is present to explain a complex or unclear question that may prevent the respondent from completing the questionnaire. The researcher does not know who really answers the questions, as the researcher is not present when the respondent completes the questionnaire. The order of answering the questions cannot be controlled. This may affect the order of answering the questions set by the researcher. Limited feedback and detail in the responses to the questions compared with other types of surveys (Czaja and Blair, 2005).

#### **3.2.5.9.2 Internet Survey**

An internet survey is a relatively new approach. It is a popular type of self-administered survey and is similar to a mail survey, but with some differences (Czaja and Blair, 2005).

There are advantages of internet surveys (Czaja and Blair, 2005). With an internet survey, the interviewer-related costs found in face-to-face, telephone and mail surveys are minimised. Internet surveys will not be affected by the geographical distribution of the sample. Data collection using an internet survey is quicker than with other survey methods. It is possible to obtain detailed answers to open-ended questions. A researcher using an internet survey can use visual aids such as pop-up instructions, pictures, animations and other aids (Czaja and Blair, 2005).

However, Internet Survey have some disadvantages (Czaja and Blair, 2005). Some populations do not have access to the internet and so cannot participate in an internet survey. Low response rate and response bias. Difficult to obtain answers to a long questionnaire as the respondent may get bored or tired as a result of a large number of questions. There is no interviewer present to explain any complex questions. For this reason the internet survey must be simple. There is no control over who answers the questions. Internet surveys may not be suitable when it comes to collecting data about sensitive topics. There are concerns about the security of data over the Web, which may prevent people from participating in an internet survey (Czaja and Blair, 2005).

#### **3.2.5.9.3 Telephone Survey**

In telephone surveys, telephone numbers are selected from phone books or from a specific telephone number list and the respondents are selected from that list. The interviewer then contacts the respondent and collects information in a uniform and consistent manner. The respondent asks questions exactly as written in the questionnaire and in the same order for all respondents (Czaja and Blair, 2005).

There are advantages of telephone surveys (Czaja and Blair, 2005). Relatively low cost compared to other survey methods such as face-to-face surveys. High response rate. Short data collection time compared with other survey methods. Can use a sample with a wide geographical dispersion as it is easy and cheap to reach respondents. High quality and reliable data compared with other survey methods. The interviewer can control the order of the questions. The interviewer can convince the respondents over the phone to complete the questionnaire or to answer sensitive questions. The increase in the availability of telephone lines makes it easy to reach potential respondents (Czaja and Blair, 2005).

However, Telephone Surveys have some disadvantages (Czaja and Blair, 2005). The increased variety of telecommunication devices such as mobile phones, pagers and other devices in recent years makes it difficult and time consuming to reach potential participants. The increased use of telephones for telemarketing in recent years may annoy some people. For this reason they may refuse to participate in telephone surveys as they think it is the same as telemarketing. The interviewer cannot ask long or complicated questions and obtain detailed answers, as the questions in a telephone survey must be short and simple, and the answer choices must be few, short and simple. The interviewer cannot use visual aids such as product samples, videos and pictures. The interviewer cannot control the response situation. There may be limited responses to open-ended questions. The information about refusals and non-contacts is limited with a telephone survey (Czaja and Blair, 2005).

#### **3.2.5.9.4 Face-To-Face Surveys**

With face-to-face surveys, also known as personal interview surveys, data is usually collected by the interviewer in the location that is most convenient for the respondent. The respondent and the interviewer are together in the same location. The face-to-face survey is the most expensive method of survey as it involves travel costs and it takes a long time to collect data (Czaja and Blair, 2005).

There are advantages of face-to-face surveys (Czaja and Blair, 2005). Higher response rate compared to other survey methods. The reason behind the high response rate in face-to-face surveys is that the researcher usually sends a letter in advance, explaining the research or the study, the sponsor and the confidentiality issues related to the study. Another reason behind the high response rate is that it is more difficult to refuse some face-to-face surveys than other survey methods. Response bias is normally low in a face-to-face survey as the rate of cooperation is equal for all respondents. More control of the response situation. High quality recorded responses as the interviewer receives training in asking questions and recording answers. Can perform complex questionnaires and can ask for more detailed answers, because the interviewer and respondent are in the same location. Best for open-ended questions as the face-to-face survey allows a more relaxed atmosphere. The face-to-face interview can be longer compared to other survey methods as it takes place in the respondent's location and the answers can be longer and more detailed. There is the ability to consult records as the interview takes place in the respondent's location (Czaja and Blair,



2005).

However, there are disadvantages of face-to-face surveys (Czaja and Blair, 2005). High cost of performing a face-to-face survey compared with other survey methods as it involves travelling expenses. A face-to-face survey takes a long time to collect data as it involves travelling, collecting and analysing the data on the part of the researcher. Respondents may be hesitant to report personal behaviour or sensitive information in a face-to-face survey. The respondents are more likely to give socially desirable responses in face-to-face interviews (Czaja and Blair, 2005).

### **3.2.6 Population Definition**

According to Czaja and Blair (2005, p. 130), the population is “the group or aggregation of elements that we wish to study, the group to which we want to generalize the results of our study”. As stated in Chapter 4, the Saudi petrochemicals industry is one of the most important industrial sectors in Saudi Arabia in terms of foreign investment. The industry has developed rapidly and has played an important role in Saudi economic development. FDI in petrochemicals have become a vital force in the Saudi petrochemicals industry. Therefore, the petrochemicals industry has been selected for this research study.

It was particularly difficult to obtain a complete directory of information about foreign investment in petrochemical companies in Saudi Arabia. However, without the assistance of SAGIA and other complementary sources such as business associations and other sources, it would not have been possible to obtain the necessary data for this study. According to SAGIA (2008) and the Ministry of Trade (2009), 430 petrochemical companies operate in Saudi Arabia. From this total, 107 companies had received significant investments from foreign petrochemical firms. Consequently, 107 petrochemical companies with foreign equity were defined as the population for the research (SAGIA, 2008). However, due to the limited number of petrochemicals FDI in Saudi Arabia, we have a limited population.

### **3.2.7 Sample Size**

The sampling size in international business surveys involves complicated strategies and decision-making, as it involves people and organisations from different backgrounds. In some developing countries, it is usually difficult to obtain data with regard to potential participants, as the addresses are difficult to obtain or are not available. In some countries that have

several sub-cultural differences such as India, a sample selected from a specific region cannot be generalised to the whole country. Therefore, the major problem in international survey research is the ability to select the most representative and random sample of a country (Punnett and Shenkar, 2003).

One of the most frequently asked questions in research methods relates to the size of the sample: “How large should the sample be?” (see Bryman and Bell, 2007; Czaja and Blair, 2005). According to Bryman and Bell (2007) and Czaja and Blair (2005), there is no simple answer to this question, as it depends on a number of considerations and there is no definite answer to it. Most of the time, the sample size of the study would be affected by the cost and the time of the study. What really matters with regard to the sample size is the absolute size of the sample, not its relative size (Czaja and Blair, 2005). The sample size is a function of the research design, the variability of the key variables, the extent of the differences between variables, and the standard error of their differences (Czaja and Blair, 2005). In this study, 74 petrochemical companies with foreign equities operate in Saudi Arabia and account for 69.15 per cent of the population. This was defined as the sample size of this study.

### **3.2.8 Pilot Study**

Pilot testing the research instruments can control many of the problems found in questionnaires and interviews (Bryman and Bell, 2007). It is always desirable, if possible, to perform a pilot study before doing the structured interview and the self-completion questionnaire. By undertaking a pilot study, the researcher can be confident that the survey questions operate well and that the research instruments function well, and it allows them to detect any flaws in the questionnaire (Bryman and Bell, 2007). In a pilot study, a number of interviews or questionnaires are undertaken using the same methods planned for the main study. When the cost of the main study is high, or when some of the measures are innovative, complex, or unfamiliar to the researcher, it may be risky to proceed to the main data collection without a pilot study (Czaja and Blair, 2005).

There are advantages of using a pilot study (Bryman and Bell, 2007). When the main study uses mainly closed questions, open questions can be asked in the pilot study to come up with fixed-choice answers. A pilot study can provide the necessary training for the researcher who will be doing the research interviews. It will give him/her some experience and allow him/her to become confident with regard to conducting interviews. A pilot study can identify a

question(s) that may be answered the same by everyone. The researcher can then eliminate that question or questions from the main study. With a pilot study, the researcher can identify any questions that would make the respondents feel uncomfortable, such as sensitive questions, and the researcher could then eliminate those questions from the main study or rephrase them to make them less contentious. Questions that cannot be understood or questions that are often not answered would be visible in the pilot study, and could be eliminated or rephrased in the main study. A pilot study can help the researcher to identify how the questions flow and the logic of the questions, causing some moving around if necessary (Bryman and Bell, 2007).

In this study, a questionnaire was developed based around the factors and sub-factors that emerged from the literature. We identified five major factors and 19 sub-factors. The questionnaire was first pre-tested with a number of colleagues to check for clarity and consistency, and appropriate changes were made. Then, it was reviewed by, and discussed with, several academics. It was subsequently reviewed by the top executives of two firms who were working in foreign petrochemical firms in Saudi Arabia. They were asked to provide comments and feedback. This process led to an improvement in the questionnaire content, its design, its wording and its clarity, thus making the completion of the questionnaire both easier and more attractive. A proper pilot study of the questionnaire was conducted using a structured interview with 12 senior managers, who had engaged in the location decision for their firms when it came to choosing Saudi Arabia as the location for their petrochemicals FDI.

The pilot study provided the researcher with very useful suggestions and feedback with regard to improvements of the questionnaire in terms of structure, content, wording, questions and adding more factors to the questionnaire. The results of the pilot study have not been included here as the main goals of the pilot study were to improve the questionnaire and to make sure that the tools and instruments used functioned well. Moreover, the pilot study provided the researcher with very useful information on the interview process, timing and procedures.

### **3.2.9 Survey Design**

For survey research, the questionnaire design plays an important role with regard to the quality and reliability of the data collected. The design and administration of the tools used in

the questionnaire needed to be adapted according to the respondents' background and education level. Ghauri and Gronhaug (2005) introduced some guidelines for constructing the questionnaire, including the following:

- The questions must be asked in a very simple and brief language and should not have ambiguous meanings.
- The questions should take into account the level of knowledge, education, culture, etc. of the respondents when formulating the questions, and should avoid any sensitive questions that may prevent them from answering.
- Every participant should be able to understand the questionnaire and the questions should have the same meanings for each of them.
- Each question should be limited to asking about one variable or one element.
- The questions should be constructed in a format that does not permit the respondent to miss a question.
- The questions should be precise and not too broad, so that the respondent does not give more than one answer.
- The questions should not lead the respondents to the answer or the opinion.
- The questions should be phrased politely.
- The questions should be formatted in a correct and logical order from general to specific questions.
- The layout of the questionnaires should be smart and well organised, in order to motivate the respondents to answer.
- The questionnaires should be pre-tested by an advisor, colleague or friend before starting the official or main questionnaire, in order to eliminate any mistakes and avoid any of the issues raised above.
- Long questionnaires should be avoided as respondents may become tired or lose interest in answering the questions.
- The questionnaire should cover all the important issues. It should produce sufficient data for meaningful analysis and interpretation.
- The length of time needed to complete the questionnaire should be around 30 minutes on average, taking into consideration the busy lives of and limited time available to the participants.
- Participants should be assured of privacy by not asking for their name or for information about the firm they work for.

The process of designing a survey covering all the relevant areas and issues began by drawing an outline based on the theoretical framework (Czaja and Blair, 2005). In this study, for each factor included in the framework, a number of appropriate questions were created. The survey contained 62 questions. In the first part of the questionnaire, we had 31 questions testing the importance of each location factor in terms of the location decision with regard to petrochemicals FDI in Saudi Arabia. The second part of the questionnaire contained 31 questions testing the competitiveness of Saudi Arabia with regard to each location factor for FDI petrochemicals, compared to other locations.

There was an improvement in the survey design and contents after we had conducted the pilot study. We added one major factor (economic factor) and 12 sub-factors to the survey. Therefore, we had a total of six major factors and 31 sub-factors. After reviewing the related literature on FDI location factors and studying the Saudi petrochemicals industry, and after conducting the pilot study, we chose the following six major location factors and 31 sub-factors:

1. **Cost factors**, including the following sub-factors: factory site cost (land cost), labour costs, transportation/logistic costs, cost of raw materials, return on investment and energy costs.
2. **Market factors**, including the following sub-factors: large size of host market, market growth in host country, level of competition in host market and market familiarity.
3. **Economic factors**, including the following sub-factors: economic stability, economic growth, exchange rates and local financial support.
4. **Infrastructure and technological factors**, including the following sub-factors: level of infrastructure (ports, roads, airports, etc.), extent of industrial concentration (clustering), availability of well-qualified workforce, access to reliable and co-operative suppliers, availability of factory sites (land), availability of raw materials and geographical proximity to markets.
5. **Political and legal factors**, including the following sub-factors: political stability, international trade agreements, tax reductions in host country, benign environmental legislation with regard to FDI, diplomatic ties with host country, and legal and regulatory system.
6. **Social and cultural factors**, including the following sub-factors: cultural distance,

attitude of the local community toward the firm, local employees' loyalty to the firm and language.

In the planning and design of the research methodology for this study, an empirical survey was constructed based on the previous location factors and was distributed to senior managers working in FDI petrochemical firms in Saudi Arabia. The managers chosen were in high managerial positions such as president, CEO, vice president or other managers who were engaged directly in the location decision on the part of the firm when they chose Saudi Arabia as their investment location. The respondents were first asked to rate the importance of each of the 31 factors associated with the location decision on a five-point Likert scale (with 1 = very unimportant, 2 = unimportant, 3 = neutral, 4 = important and 5 = very important). Then, the respondents were asked to rate the attractiveness (competitiveness) of Saudi Arabia relative to its main competitors in other locations on each of the 31 factors, again on a five-point Likert scale (with 1 = much worse, 2 = worse, 3 = same, 4 = better, 5 = much better). The survey instrument was used to conduct a structured face-to-face interview with the senior managers of the petrochemicals FDI in Saudi Arabia, as identified by the Saudi General Investment Authority (SAGIA) and by professional industry associations.

The methodology used in this study improves upon previous studies on FDI location factors in three important ways. First, the previous studies have considerable benefits in terms of their simplicity, but did not capture the full complexity of the determinants of a location's attractiveness in a particular industry. However, in this study, a much larger range of potential location factors have been considered. Second, previous studies have a major drawback at the operational level in that they did not provide any mechanism for prioritising the location factors in terms of the relative importance of the location decisions of FDI and the attractiveness of Saudi Arabia compared to other locations. Third, on a conceptual level, most studies on the location factors assume that the importance of location factors could be applied to all countries and industries. In this study, we have identified the importance of location factors and noted that they vary significantly from one industry and country to another compare to other locations.

### **3.2.10 Survey Introduction or Cover Letter**

A survey introduction letter was sent to the respondents before conducting the interview. The introduction letter introduced the study, explained the subject of the study to the respondents,

its purpose, sponsorship and other details. The main purpose of the introduction letter was to provide the respondents with sufficient information to encourage him/her to participate in the survey. The instructions explained what the study was about, who was conducting it, who the sponsor was, the importance of the study and what will be done with the study results. A cover letter accompanied the questionnaire, which was part of the mail survey. Its purpose was similar to that of the introduction letter, but it also provided the respondents with a promise of information confidentiality, the importance of the respondent to the study, and a phone number and address for the researcher if the respondents needed to ask questions (Czaja and Blair, 2005).

In this study, an introductory letter in English, addressed to foreign general managers or representatives, was sent by fax to the selected sample of firms in Saudi Arabia in February 2009. The letter introduced the purpose of the research and sought the participation of the foreign general managers. The letter also indicated a period of time when contact would be made by the researcher. The introductory letter particularly emphasised that all responses would be treated as strictly confidential, and that the results would be reported in aggregated form so that no individual company or person could be identified. A promise was made to send participating companies a report summarising the major findings of the study on completion of this research study. Pre-test samples were also given the same assurances. The main purpose of the introductory letter was to give the potential respondents an initial impression that they would be contacted for an interview questionnaire survey.

### **3.2.11 Data Collection for This Study**

In recent years, more and more researchers have been actively conducting research fieldwork, and senior executives receive survey questionnaires and invitations to participate in research studies from time to time. In most cases, the senior executives do not readily accept any invitations to participate in survey research. Because we are approaching the top executives (senior managers) in targeted firms (FDI in petrochemicals), normal random sampling was abandoned for a more targeted approach.

In this study, approaching and seeking potential respondents to participate in the survey was, therefore, a complex and time-consuming process, and certainly a difficult task as well. To ensure the success of the fieldwork research, three major approaches were used to achieve the participation of the firms in the sample; i.e. introduction letter, networking and facsimile-

telephone approaches. The fieldwork began in early April 2009 and was conducted over a three-month period. The networking approach played the most crucial role in seeking the respondents' participation in the survey. The surveys were dependent on personal interviews.

In this study, as we explained earlier in this chapter, there are different methods of data collection. Questionnaires were used to collect data mainly from lower level employees, while interviews were used to collect data from high-ranking managers (Punnett and Shenkar, 2003). Moreover, after taking into consideration the complexity of network connections and relationships within Saudi business and social networks, it was clear that a structured personal interview that had been arranged with the assistance of the author's personal network and relevant Saudi government authorities would be the most appropriate approach for collecting the large amount of data required for this study. It was required that the interviewee/respondent be a senior executive (e.g. president, general manager or deputy general manager, etc.) or a representative of a foreign partner that has invested in a petrochemical company in Saudi Arabia. A senior member of management assigned by the firm or general manager, and who had sufficient knowledge about the parent firm's FDI decision-making process, was considered to be an acceptable participant. Furthermore, structured interview also presented other advantages when collecting data that were suitable for this study. First, it allowed a high level of standardisation, which simplified the data analysis and comparisons. A strict structure also helped avoiding different interpretations and misunderstandings of the questions, which is of great importance, since surveys offer no possibilities to explain the questions further to the respondent (Bryman and Bell, 2007). However, to avoid missing information that was not covered by the survey but still might be relevant to the study, secondary data such as national statistics and economic indicators were gathered from SAGIA and other official sources and used to compare the survey results with the data provided.

### **3.2.11.1 Network Approach**

Two approaches were adopted. The first one sought assistance from relevant Saudi authorities and government agencies such as SAGIA through both existing personal network connections and newly developed connections. This was necessary because the relevant SAGIA authorities had direct contacts with senior executives in foreign organisations in Saudi Arabia. The author started contacting personal network acquaintances in Saudi Arabia in April 2009. SAGIA officially provided the author with an introduction letter to the relevant



senior executives in petrochemical organisations with foreign equities in Saudi Arabia. This approach resulted in significant support for the survey.

The second approach involved seeking assistance from network members in terms of contacting potential respondents. This approach worked most effectively and efficiently. The author had worked for five years as a consultant for major organisations in Saudi Arabia, including foreign firms, and had developed strong network connections in the Saudi petrochemicals business, including relevant petrochemical administration authorities and petrochemical manufacturers in Saudi Arabia. The members of the network had direct and indirect connections with the potential respondents. The 12 pre-test respondents also provided effective assistance with the actual research fieldwork through their network connections in the Saudi petrochemicals industry.

#### **3.2.11.2 Facsimile-Telephone Approach**

This approach was used to send a facsimile first to potential responding firms, and then use a follow-up telephone call. The facsimile provided information with a brief introduction of the purpose and the significance of the research, and promised that no sensitive information would be disclosed and that no responding firm or individual respondent would be identified in the resulting research report. It also specified when a follow-up phone call would be made to the company, so as to discuss any possible arrangements for an interview or a mail questionnaire survey. This approach allowed the potential respondents to take their time and to take a closer look into the details of the research. This approach was particularly applicable to companies that were not accessible through the network connections. In some cases, the potential respondents called the researcher after receiving the facsimile for further information. In this case, an arrangement for an interview was most likely to be possible. On average, five to 10 phone calls were needed to gain a successful interview arrangement.

#### **3.2.11.3 Interview Process**

Most interviews were pre-arranged. A number of interviews were scheduled by one of the networking members and, for these interviews, the member actually accompanied the author all the way through the interviews. However, on a number of occasions, the author was on call, depending on the availability of the respondents. The senior executives in the Saudi petrochemical companies seemed particularly busy with company meetings and other external meetings. Some of them travelled frequently within Saudi Arabia and even overseas.

The length of the interviews differed significantly, from the shortest one lasting about 25 minutes to the longest one lasting two hours, depending on the interview environment and respondents' willingness. Interviews generally took longer when the interviews were conducted after hours, within a non-company environment.

About 25 per cent of the interviews were conducted in the respondents' homes, hotels and other non-company environments after business hours. In such instances, the interviews would take much longer than expected, as most of the respondents responded in a relaxed manner and gave rather detailed explanations as to why a particular variable scored higher or lower. The shorter interviews were mainly conducted in the respondents' workplaces and during normal business hours. However, some of the interviews conducted in the company environment did take much longer than the average when the respondents were interested in the topic. During the interviews, the respondents relied heavily on the questionnaire structure and its instructions in order to answer the questions. Both the interviewer and the interviewee had a copy of the questionnaire when the interview was being conducted. English was used during most of the interviews as the majority of the foreign managers had an excellent mastery of the English language. Five respondents requested a copy of the blank questionnaire after the interviews for their own purposes.

#### **3.2.11.4 Complimentary Letter**

On completion of the fieldwork, a letter was sent to each participating company. The author expressed his appreciation to the respondents for their cooperation during the survey and confirmed that the responses would be treated strictly on a confidential basis and that a brief summary of the major findings would be sent to them on completion of the research.

#### **3.2.12 Response Rate**

When conducting survey research, whether by structured interviews or by self-completion questionnaires, usually some people in the sample refuse to participate in the study. Therefore, the response rate is the percentage of a sample that agrees to participate in the study (Bryman and Bell, 2007). Czaja and Blair (2005) defined the response rate as "the number of eligible sample members who complete a questionnaire divided by the total number of eligible sample members". The response rate reflects the survey quality, in that the higher the response rate, the better the quality of the research (Czaja and Blair, 2005).

In this study, 42 companies participated in the research. Therefore, a 56.74% response rate was achieved, and this represented 39.25% of the entire population. We collected 42 survey instruments, representing 42 petrochemicals FDI from 107 petrochemicals FDI operating in Saudi Arabia out of a total of 430 petrochemical companies operating in Saudi Arabia. Because we had chosen a specific industry (petrochemicals) and specific companies in the same industry (FDI), and because the participants in each company (senior managers) were limited in number and difficult to reach, there were a limited number of participants in the study. However, the response rate is considered to be very good compared to other studies in the same field.

### **3.2.13 Data Analysis**

There are different types of statistical techniques which we can use to analyse the data. We have briefly listed them as follows (Pallant, 2007):

- T-tests are used when we have only two groups (e.g. males/females) or two time points (e.g. pre-intervention, post-intervention).
- Analysis of variance techniques are used when you have two or more groups or time points.
- Paired samples or repeated measures techniques are used when we are testing the same people on more than one occasion, or we have matched pairs.
- Between-groups or independent-samples techniques are used when the subjects in each group are different people.
- One-way analysis of variance is used when we have only one independent variable.
- Two-way analysis of variance is used when we have two independent variables.
- Multivariate analysis of variance is used when we have more than one dependant variable.
- Analysis of covariance (ANCOVA) is used when we need to control for an additional variable that may be influencing the relationship between the independent and dependent variables.

In this study, we used a combination of data analysis statistical techniques such as t-test, repeated measures (ANOVA), and Pearson and Spearman correlation analysis. To analyse the data, the Statistics Package for Social Science (SPSS) version 17 was used. The statistics analysis techniques were carefully considered and selected, with attention being paid to the

nature of the data (e.g. level of measurement) with a small sample size (42 cases) and relatively large number of variables (62 variables).

### **3.2.14 Research Questions and Hypotheses**

After reviewing the literature on FDI location factors, we had two main questions that we were seeking to investigate in terms of the importance and competitiveness of location factors in the Saudi petrochemicals industry. The first main question sought to investigate the relative importance of major location factors for FDI in the Saudi petrochemicals industry. Furthermore, the first question investigated which one of these factors plays the most important role in the location decisions for FDI in the Saudi petrochemicals industry and which major factors are of least importance. The second question sought to investigate the relative competitiveness of major factors in Saudi Arabia in terms of FDI in the Saudi petrochemicals industry compared to other locations. Moreover, the second question investigated which of the location factors are the most competitive with regard to FDI in the Saudi petrochemicals industry. The two main questions were divided into sub-questions that focused on each major factor in terms of its importance and competitiveness. Therefore, this research attempted to answer the following main questions and sub-questions:

- ***Q1: What is the relative importance of FDI location factors in the Saudi petrochemicals industry?***

Question 1 is investigating what is the relative importance of FDI location factors in the Saudi petrochemicals industry including cost factors, market factors, economic factors, infrastructures and technological factors, political and legal factors, and social and cultural factors.

- ***Q2: What is the relative competitiveness of FDI location factors in the Saudi petrochemicals industry compared to other locations?***

Question 2 is investigating the relative competitiveness of FDI location factors in the Saudi petrochemicals industry including cost factors, market factors, economic factors, infrastructures and technological factors, political and legal factors, and social and cultural factors.

One purpose of the research was to explore the relative importance of FDI location factors in

the Saudi petrochemicals industry. The importance of major location factors in FDI location decisions in the Saudi petrochemicals industry will vary, and some of these factors will play an important role in the location decisions for FDI, while others may not be particularly important for FDI location decisions in the Saudi petrochemicals industry. Based on this, we tested the relative importance of the major location factors in the location decisions for FDI in the Saudi petrochemicals industry. These factors include cost factors, market factors, economic factors, infrastructure and technological factors, political and legal factors, and social and cultural factors. Based on this, the following main hypotheses will be tested:

- ***H1: The relative importance of FDI location factors will vary in the Saudi petrochemicals industry.***

The main hypothesis is divided into sub-hypotheses to identify the importance of each major factor to the FDI location decision in the Saudi petrochemicals industry, what factors are perceived to play an important role in the FDI location decision and which factors are perceived to be relatively unimportant in terms of FDI location decisions in the Saudi petrochemicals industry. According to this, the following hypotheses will be tested:

Hypothesis 1a:

Cost factors play an important role in the location of FDI in the Saudi petrochemicals industry. These factors include factory site costs (land costs), labour costs, transportation/logistics costs, raw materials costs, return on investment and energy costs.

- ***H1a: Cost factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis 1b:

Market factors would play an important role in the location of FDI in the Saudi petrochemicals industry. These factors include the size of the host market, market growth in the host country, the level of competition in the host market and market familiarity.

- ***H1b: Market factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis 1c:

Economic factors play an important role in the location of FDI in the Saudi petrochemicals industry. These factors include economic stability, economic growth, exchange rates and local financial support.

- ***H1c: Economic factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis 1d:

Infrastructure and technology play an important role in the location decision with regard to FDI in the Saudi petrochemicals industry. These factors include the level of infrastructure (ports, roads, airports, etc.), high industrial concentration (clustering), the availability of a well-qualified workforce, access to reliable and co-operative suppliers, the availability of factory sites (land), the availability of raw materials and geographical proximity to the markets.

- ***H1d: Infrastructure and technological factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis 1e:

Political and legal factors play an important role in the location of FDI in the Saudi petrochemicals industry. These factors include political stability, international trade agreements, tax reductions in the host country, a benign environmental legislation towards FDI, diplomatic ties with the host country, and a good legal and regulatory system.

- ***H1e: Political and legal factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis 1f:

Social and cultural factors play an important role in the location of FDI in the Saudi petrochemicals industry. These factors include the cultural distance, the attitude of the local community toward the firm, local employees' loyalty to the firm and language.

- ***H1f: Social and cultural factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

In the second part of the research, we tested the relative competitiveness of the Saudi petrochemicals location factors compared to other locations in the region. The competitiveness of major location factors compared to other locations in terms of the FDI location decisions in the Saudi petrochemicals industry will vary. Some of these factors would be competitive factors for FDI in the Saudi petrochemicals industry compared to other locations. Based on this, we tested the competitiveness of the major location factors in the Saudi petrochemicals industry compared to other locations. These factors included cost factors, market factors, economic factors, infrastructure and technological factors, political and legal factors, and social and cultural factors. According to the second main question, the following main hypothesis will be used:

- ***H2: The relative competitiveness of FDI location factors will vary in the Saudi petrochemicals industry compared to other locations.***

The main hypothesis can be divided into sub-hypotheses to identify the competitiveness of each major factor for FDI in the Saudi petrochemicals industry compared to other locations. Moreover, the sub-hypotheses investigate which factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry, and which factors are perceived not to be competitive factors for FDI in the Saudi petrochemicals industry. According to this, the following hypothesis will be tested:

Hypothesis 2a:

Cost factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include factory site costs (land costs), labour costs, transportation/logistics costs, raw materials costs, return on investment and energy costs.

- ***H2a: Cost factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis 2b:

Market factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include the large size of the host markets, market growth in the host country, the level of competition in the host markets and market familiarity.

- ***H2b: Market factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis 2c:

Economic factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include economic stability, economic growth, exchange rates and local financial support.

- ***H2c: Economic factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis 2d:

Infrastructure and technological factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include the level of infrastructure (ports, roads, airports, etc.), high industrial concentration (clustering), the availability of a well-qualified workforce, access to reliable and co-operative suppliers, the availability of factory sites (land), the availability of raw materials and geographical proximity to the market.

- ***H2d: Infrastructure and technological factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis 2e:

Political and legal factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include political stability, international trade agreements, tax reductions in the host country, benign environmental legislation towards FDI, diplomatic ties with the host country, and a good legal and regulatory system.

- ***H2e: Political and legal factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***



Hypothesis 2f:

Social and cultural factors are perceived to be competitive factors for FDI in the Saudi petrochemicals industry. These factors include cultural distance, the attitude of the local community toward the firm, local employees' loyalty to the firm and language.

- *H2f: Social and cultural factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*

### **3.2.15 Summary**

In this section, we introduced the research methodology used in this study. The chapter gives an overview of the research methods, and the advantages and disadvantages of using each method that helped us when it came to choosing the most suitable methods for our research. It also explains how the data were collected, including the research population, sample size, pilot study, survey design, response rates, data analysis, the research questions and the formulation of the hypotheses. In addition, we used structured interviews to collect the data as the most suitable for our research. 107 petrochemical companies with foreign equity were defined as the population for this research. In this study, 74 petrochemical companies involved in FDI in Saudi Arabia and accounting for 69.15% of the population, was identified as the sample for this research. Moreover, 42 companies participated in this research representing a 56.74% response rate and representing 39.25% of the entire population. This chapter has indicated how these methodological constraints were reasonably handled, and how a specific statistical technique was selected to help extend the data analysis. The next chapter represents the social-political and economics context of FDI in Saudi Arabia.

## **Chapter 4**

## Chapter 4 : Social-Political and Economic Context of Saudi Arabia

### 4.1 Introduction

This chapter gives a general background on Saudi Arabia including country data, the economic environment, FDI in Saudi Arabia, the FDI pattern and FDI in the petrochemicals industry.

### 4.2 Background on Saudi Arabia

Table 4.1 gives a summary background on Saudi Arabia.

**Table 4.1 Summary Background on Saudi Arabia**

<b>Area</b>	2,240,000 sq km
<b>Population</b>	27,019,731 million
<b>Density of Population</b>	2.18%
<b>Capital</b>	Riyadh
<b>Main Cities</b>	<p>Riyadh (the Capital)</p> <p>Makkah (the most sacred place to Muslims, and their direction of prayer)</p> <p>Al Madinah (second most sacred place)</p> <p>Jeddah (Saudi's business capital. An important port and a major gateway for pilgrims).</p> <p>Dammam (capital of the Eastern region, well-off in terms of oil, and an important port).</p> <p>Dhahran (a military city, the location of Saudi Aramco's headquarters. This is the largest oil company in the world.</p>
<b>Political System</b>	Monarchy
<b>Judicial Law</b>	The constitution of Saudi Arabia is based on the Quran and the Sunnah. All legislative regulations have been derived from these two sources. The regime in Saudi Arabia is based on a monarchical system. The King and the Council of Ministers from the executive and the legislative authority. The State Consultative council has the mission of giving its opinion on any general issue submitted to the Council by the Prime Minister.
<b>Language</b>	Arabic
<b>Currency</b>	Saudi Riyal
<b>Overview of Saudi Arabia</b>	Saudi Arabia is located in South-west Asia. It is bounded by the Red Sea on the west, Jordan, Iraq and Kuwait on the north, the Arabian Gulf, Bahrain, Qatar, and the United Arab Emirates on the East and Yemen and Oman on the South.

Source: SAGIA, 2008

### **4.3 Economic Environment of Saudi Arabia**

#### **4.3.1 Criteria of the Saudi Economy's Openness**

According to the criteria of economic openness that measures foreign trade in goods and services as a ratio of the GDP, the Kingdom recorded the third highest level of openness, with an average of 79.1% during the period 1990-2006, compared to 23.5% for the USA, 25.2% for Japan, 45.8% for Australia, 44.7% for China, 49.2% for Turkey, 50.5% for Italy, 54.9% for France, 79.6% for the UK and 79.2% for Canada (UNCTAD, 2007).

#### **4.3.2 Increasing Interest Regarding Investment in Saudi Arabia**

The world's attention is increasingly being drawn to the unique investment opportunities in the Kingdom of Saudi Arabia (KSA). There is a variety of reasons for this situation. Amongst the most significant is the huge effort on the part of the Saudi government, encompassing economic reform, improvements designed to transform the investment environment and the opening up of more sectors to investment opportunities. These efforts have been streamlined through the Saudi Arabian General Investment Authority (SAGIA), which works in conjunction with all governmental agencies and institutions, to improve the investment environment (SAGIA, 2008). The objectives have been clearly expressed by the launch of the national 10X10 programme, which seeks to ensure that Saudi Arabia will become one of the ten most competitive nations in the world by 2010 (SAGIA, 2008).

Additional reasons for the encouragement of foreign investment in Saudi Arabia include the continuing increase in oil prices, combined with the Kingdom's membership of the World Trade Organization. During the 2005-2006 fiscal year, the Kingdom witnessed increasing interest on the part of the most significant international companies regarding investment opportunities in Saudi Arabia. During 2006, 1,389 branches concerned with the licensing of foreign and joint venture projects were opened, with an aggregate finance amounting to \$67 billion. This showed a growth rate of 25% compared with 2005. The SAGIA has a target of raising foreign and shared investment in excess of \$80 billion during 2007 (SAGIA, 2008).

### **4.4 FDI in Saudi Arabia**

#### **4.4.1 Investment Environment in Saudi Arabia**

In the new millennium, the KSA has set itself the objective of reducing the economy's vulnerability and heavy dependence on oil market income, and has opted for decentralised,

private market-based economic activities. The KSA aims to achieve this via a three-pronged approach that involves (1) joining the World Trade Organization (WTO) to enable a bigger Saudi world market share; (2) a domestic programme of privatisation of core government services; and (3) FDI to foster technology transfer and domestic economic stimulus (Najem and Hetherington, 2003; Ramady and Saeed, 2007).

The significant investment interest in the KSA, as demonstrated by increased FDI and the large number of ongoing major capital projects, shows the success of the Kingdom in reforming its investment environment and in attracting new investors. The Kingdom continues to develop new infrastructure and economic cities to provide the foundation for new industries, and to adopt a more investor-friendly approach in the face of increasing competition from other investment locations (SAGIA, 2007).

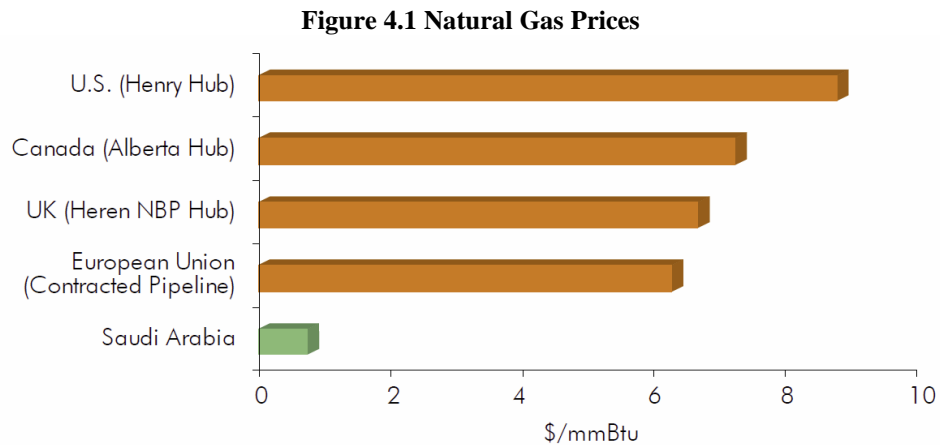
Saudi Arabia has a number of input cost competitive advantages over other locations which make it an attractive destination for investment. The competitive advantages of the KSA are in natural gas, propane and butane, electricity, water, labour, inflation and the cost of living, corporate taxation and land rental (SAGIA, 2007).

#### **4.4.1.1 Saudi Arabia Competitive Advantages**

##### **4.4.1.1.1 Natural Gas**

Because of the ready availability of natural gas associated with the production of crude oil, and the government's desire to encourage the industrialisation drive, Saudi Arabia has among the lowest natural gas prices in the world. Prices are currently fixed by the government at \$0.75/mmBtu. This is significantly lower than prices elsewhere in the world, where typical gas prices were above \$6/mmBtu in 2005 (see Figure 4.1). This attractive pricing for gas is available for any foreign or domestic investor willing to invest in the Kingdom. During its WTO accession discussions, Saudi Arabia was successful in arguing for a continuation of its competitive pricing formula, based on the additional costs of the alternative of exporting the gas. The Kingdom has therefore secured a continued and significant competitive advantage for any foreign or domestic investor willing to invest in the Kingdom (SAGIA, 2007). This favourable differential has clear benefits for domestic consumers of natural gas feedstock such as the petrochemicals industry, where about 60% of the integrated cash costs are hydrocarbon-based. This compares with figures of between 30% and 40% in power generation and water desalination, and in excess of 30% for metals processing (SAGIA,

2007).



**Source: SAGIA, 2007**

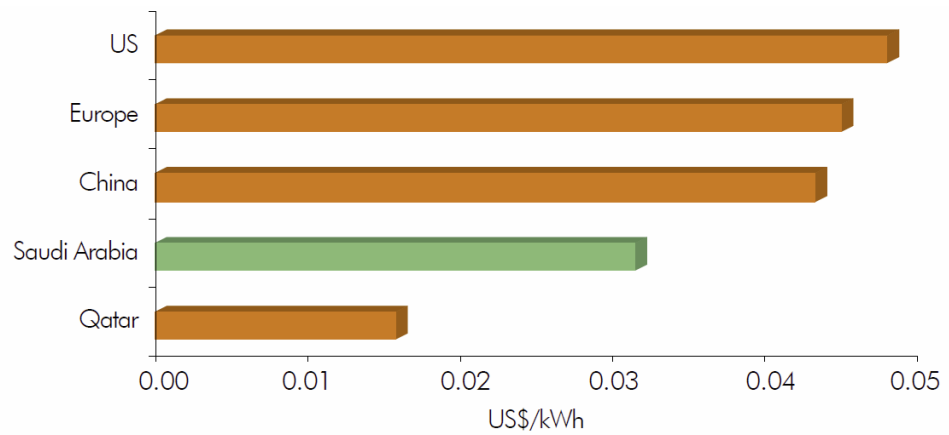
#### **4.4.1.1.2 Propane and Butane**

In the early 1990s, the government introduced discounts of 30% on the Saudi export market price of propane and butane for domestic industrial consumers to encourage further investment in the petrochemicals sector. As with the price of natural gas, Saudi Arabia successfully argued for a continuation of the competitive low-priced gas (LPG) during its WTO accession discussions, based on the additional cost of developing the infrastructure for exporting LPGs to major export markets. These prices will continue to be available to all domestic and foreign investors in Saudi Arabia, offering a further key competitive advantage. Natural gasoline, or field condensate recovered from the same operation as LPG, is also covered by the pricing agreement (SAGIA, 2007).

#### **4.4.1.1.3 Electricity**

Oil and natural gas are the main sources of power generation in Saudi Arabia. Electricity tariffs are low, at around \$0.03/kWh (see Figure 4.2), and such tariffs are a reflection of the competitively priced feedstock cost available to the Kingdom's power generators. Saudi Arabian electricity prices are structurally lower than those in the USA, Europe and China, and, critically, are stable and not open to the global markets fluctuation (SAGIA, 2007).

**Figure 4.2 Electricity Prices**

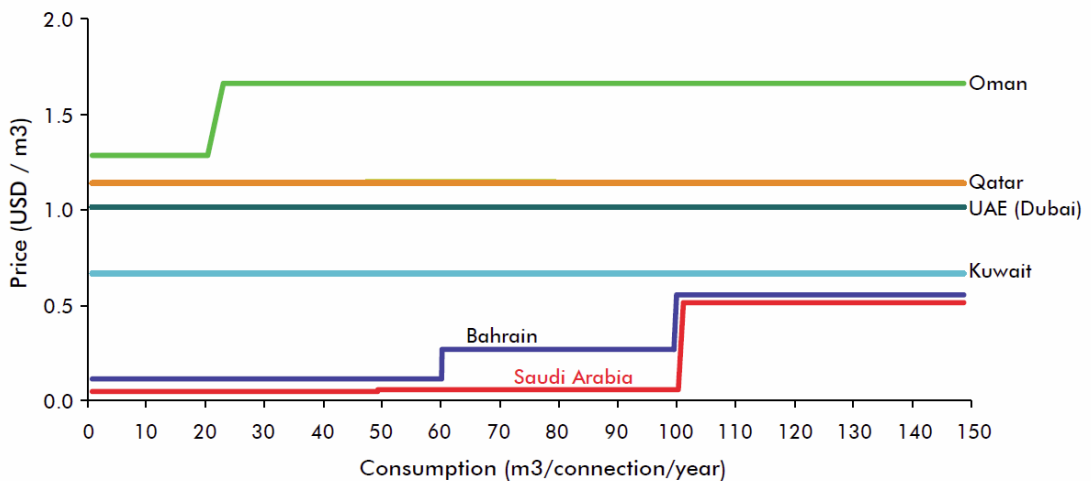


Source: SAGIA, 2007

#### 4.4.1.1.4 Water

Saudi Arabia is the world's largest producer of desalinated water, and currently has 30 desalination plants in operation, pumping 2.9 million litres of water daily, meeting almost 50% of its drinking water demand. Desalinated water prices are the lowest in the Gulf Corporation Council (GCC), and are negligible for consumption at less than 100m<sup>3</sup>/month and around \$0.5/m<sup>3</sup> for volumes above (see Figure 4.3) (SAGIA, 2007).

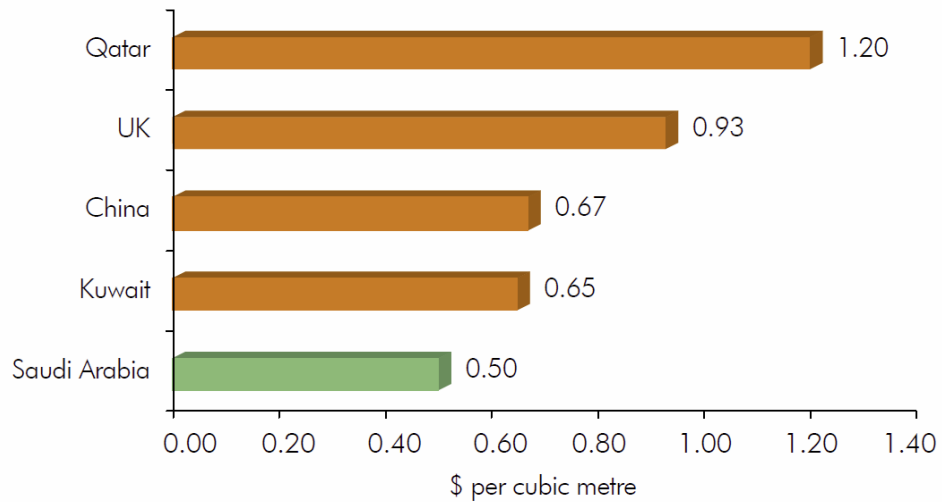
**Figure 4.3 Water Tariffs in GCC**



Source: SAGIA, 2007

Prices in Saudi Arabia are also low compared to other countries across the world, especially developed countries. For example, industrial users in the UK can typically pay around \$0.93/m<sup>3</sup>, while the industrial tariff in Beijing, China, was \$0.67/m<sup>3</sup> in 2004 (see Figure 4.4).

**Figure 4.4 Industrial Water Tariffs Across the World**

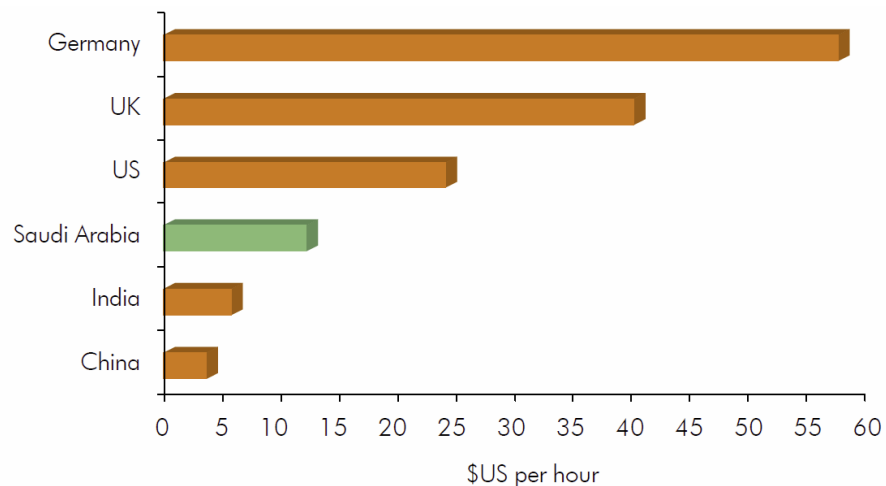


**Source: SAGIA, 2007**

#### **4.4.1.1.5 Labour**

Manufacturing labour costs in Saudi Arabia are low and are typically less than one quarter of comparable labour costs in Europe and the USA (see Figure 4.5). However, comparative labour costs in developing Asian countries such as China and India are likely to be even lower, although these costs have been escalating as these economies have begun to suffer competitive pressure from the labour market (SAGIA, 2007).

**Figure 4.5 Manufacturing Labour Costs**



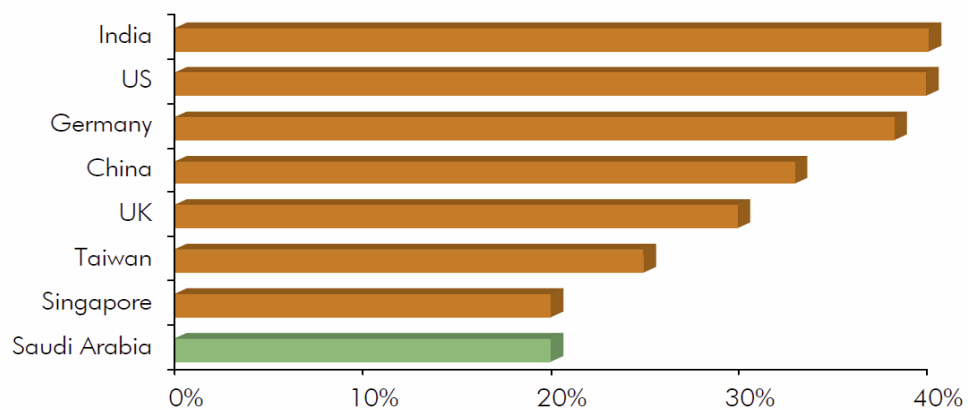
**Source: SAGIA, 2007**



#### 4.4.1.1.6 Corporate Taxation

A new tax code was introduced in the Kingdom in 2004, which reduced the tax payable by foreign investors to 20%, a level significantly below comparable rates in the USA and in most of Europe (see Figure 4.6). The tax code also contains a provision to allow losses to be carried forward to following years, along with allowable deductions for R&D expenditure (SAGIA, 2007).

**Figure 4.6 Corporate Tax Rates for Foreign Companies**

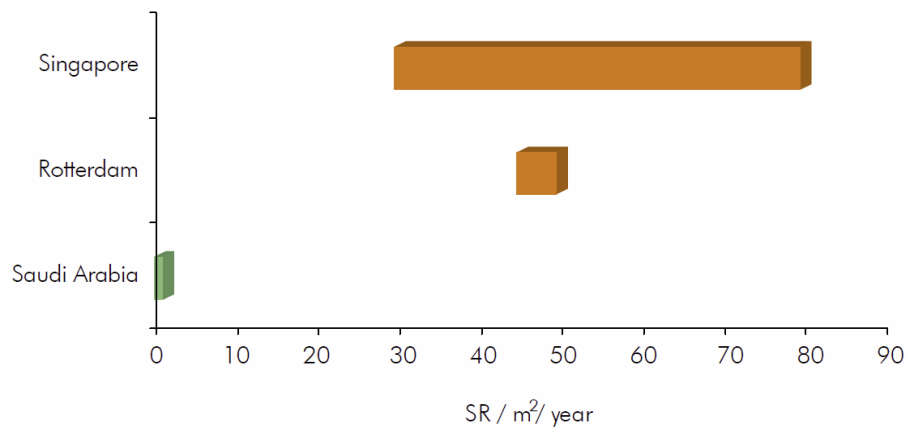


Source: SAGIA, 2007

#### 4.4.1.1.7 Land Rental

Saudi Arabia provides land for new development at very low rents compared to the rest of the world. For example, in the industrial cities of Jubail and Yanbu, land is being offered to new investors at an annual rate of SR1/m<sup>2</sup>, compared to international rentals of around SR45-50/m<sup>2</sup> in Rotterdam and SR30-80/m<sup>2</sup> in Jurong Island, Singapore (see Figure 4.7) (SAGIA, 2007).

**Figure 4.7 Industrial Land Rents**



**Source: SAGIA, 2007**

#### **4.4.2 Special Economic and Industrial Zones**

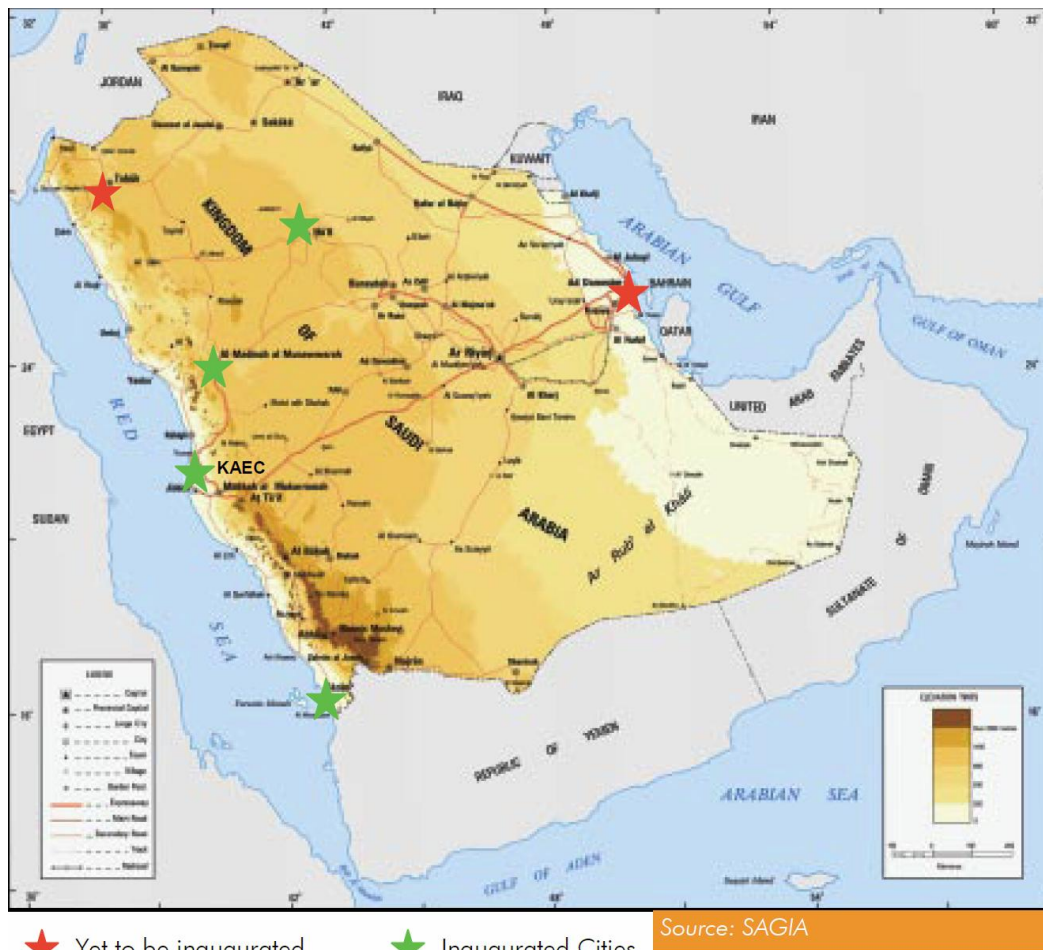
Saudi Arabia is also currently planning several new economic industrial cities, which it refers to as Special Economic Cities (SECs) (see Figure 4.8). The government is hoping the SECs will replicate the success of Jubail and Yanbu in attracting new investments and job creation to the Kingdom. The SECs will also serve to meet one of the SAGIA's objectives – that of achieving balanced economic growth throughout the Kingdom. Whereas Jubail and Yanbu were primarily developed and managed by the government (through the Royal Commission), the intention is that the SAGIA will be responsible for launching and managing the SECs, which will be entirely funded and developed by the private sector. All of the SECs will involve developing an excellent infrastructure and supporting facilities for industrial users. They may also be structured with a package of incentives to attract private investors, such as tax breaks, some relaxation of visa policies, and competitive energy and utility costs. SECs will also have a relaxed regulatory environment to attract foreign investors and their employees (SAGIA, 2007).

The first SEC, announced in December 2005, was the King Abdullah Economic City (KAEC). KAEC is currently the single largest private sector investment in Saudi Arabia, valued at around \$27 billion (SAGIA, 2008). In October 2006, the SAGIA announced a major expansion of KAEC, by nearly four times the original size. KAEC is now planned to cover an area of 168 million m<sup>2</sup>, is expected to generate 1 million jobs and will house 2

million residents. The city will be located north of Jeddah on the Red Sea at Rabigh, offering easy access to Makkah and Madinah. The current priority for the project is the construction of a new port, which will be on a similar scale to the world's largest ports. The port will have the facilities to handle cargo and dry bulk, and will be able to handle the world's largest vessels. 40 million m<sup>2</sup> is earmarked for an industrial park, which will house manufacturers operating mainly in the downstream petrochemicals and finished products and plastics sectors. These producers will be able to take advantage of the product streams planned from the integrated refinery-petrochemicals development at nearby Rabigh (SAGIA, 2007).

In October 2006, the SAGIA announced plans to establish a 'Plastics Valley' at KAEC, which will contain an excellent infrastructure to promote growth amongst local plastic manufacturers. Supporting all of this will be appropriate accommodation, leisure, health care and education facilities. The construction of KAEC began in December 2005, and the first tenants were expected in 2007, with the port planned for start-up operation in 2008. The second SEC was announced in July 2006, and will be the Prince Abdul Aziz bin Musa'ed Economic City (PABMEC) located at Hail. Although a smaller development than KAEC, PABMEC is nevertheless a substantial undertaking, costing \$8 billion to develop and creating 55,000 jobs during its development. The development will cover 156 million m<sup>2</sup> and will be focused on creating the leading logistics and transport hub in the Middle East, taking advantage of its close proximity to multiple markets and the region's raw mineral resources (SAGIA, 2007). The third SEC was announced in June 2006, and will be the Knowledge Economic City (KEC) to be located in Madinah, in the West of the Kingdom, with a focus on knowledge-based industries. KEC is a \$6.7 billion development and will cover 4.8 million m<sup>2</sup>, creating 20,000 new jobs during its construction (SAGIA, 2007). The fourth SEC was announced early in November 2006 and will be located in Jizan, in the South of the Kingdom, with a focus on energy-intensive industries such as metals processing and oil refining (SAGIA, 2007).

Figure 4.8 Special Economic Cities



Source: SAGIA, 2007

#### 4.4.3 Saudi Arabia and WTO

Saudi Arabia became a full member of the WTO on 11 December 2005. One of the final issues to be settled, after Saudi Arabia had agreed the terms with the US in September 2005 on its accession bid, related to EU concerns about the country's pricing of feedstock for petrochemicals. The WTO agreement obliges Saudi Arabia to ensure that its producers of natural gas liquids (NGLs) operate in terms of normal commercial considerations, based on the full recovery of costs and a reasonable profit. This has important implications for foreign firms, now operating in the upstream gas sector, and for part of the Saudi petrochemicals industry using NGLs. However, it is least likely to affect petrochemical units that use ethane as feedstock (BMI, 2009).

The SAGIA believes that WTO accession will help settle petrochemical dumping issues in

the Kingdom on the part of producers from tariff-protected economies, adding that it will also improve Saudi companies' competitiveness and strengthen the sector's position in the international market. The Saudi petrochemical industry stands to gain from the WTO provisions, including its extension to services, particularly relating to finance, insurance and transportation, the prices of which could now decrease. As these are purchased in large quantities by the Saudi petrochemicals industry, any reduction in costs will be of benefit (BMI, 2009). The SAGIA says that the removal of trade barriers will enable Saudi producers to offer lower prices to tariff-protected markets such as the EU, the US and Japan, which could lead to a sizeable increase in Saudi exports to these areas. Saudi Arabia is also having to lower its own tariffs: PE, PP and PS are to be reduced to 8% from 12% by 2008, and then to 6.5% by 2010. This will affect profit margins, and the SAGIA says that producers will need to reduce costs and increase efficiency to remain competitive. The nation has also committed to reducing tariffs on processed plastic imports from 20% to 6.5% by 2010. Over 50% of Saudi petrochemical exports go to non-tariff-protected Asian markets (Business Monitor International (BMI), 2009).

It is clear that WTO membership will create sustainable macroeconomic benefits for Saudi Arabia, and will create substantial opportunities for producers in the Kingdom to exploit growing export markets. Greater competition will serve to accelerate the pace of change in the private sector, more transparency will mean a more confident environment for foreign investors and exporters will benefit from greater access to foreign markets (SAGIA, 2007).

The petrochemicals industry will be a major beneficiary of WTO accession, as the Kingdom has managed to negotiate the continuation of competitively priced natural gas liquid (NGL) feedstock. Using the logic that the opportunity cost of exporting the gas to international markets would entail high capital cost for NGL export facilities, the Kingdom has ensured it can continue to offer this key competitive advantage to any foreign or domestic investor choosing to locate in the Kingdom (SAGIA, 2007).

#### **4.4.4 Infrastructure Development**

There are also a number of significant infrastructure developments in the Kingdom, which are set to improve the project enabler and logistics facilities for investors in the energy sector. These include expansions of the existing industrial cities of Jubail and Yanbu, the creation of new economic cities around the Kingdom and the development of a number of standalone projects to improve the Kingdom's transport and logistics network. The Royal Commission

has had great success in attracting new industries to the industrial cities of Jubail on the Arabian Gulf and Yanbu on the Red Sea. Over 200 companies have invested more than \$60bn in the cities, providing employment for over 85,000 workers. They also host some of the world's largest petrochemical facilities, and both cities are currently being expanded to cater for increased demand (SAGIA, 2007).

So far, Jubail has attracted over half of the Kingdom's total foreign direct investment, mainly in the petrochemicals sector. It is home to 77% of Saudi Arabia's petrochemical production, which makes up 6-7% of the world's supply. In total, Jubail produces around 70% of the Kingdom's non-oil exports, with 181 industries already present and another 95 in design or construction. In February 2005, the *Financial Times Foreign Direct Investment* magazine named Jubail as the city with the best economic potential in the Middle East, reflecting its future growth prospects. A SR255 billion expansion of Jubail is currently underway, of which SR240 will be funded by the private sector. This 'Jubail-2' expansion will upgrade the King Fahd industrial and commercial port, and add to the supporting infrastructure in the city. The project is planned in four stages, from now until 2012, and will eventually double the size of the serviced industrial area, catering for 25 industries producing 49 million tonnes of products per year (SAGIA, 2007).

#### **4.4.5 Transport Development**

There are a number of transport projects in development which will significantly improve the logistics networks in the Kingdom (see Table 4.2). This is a key sector for the government and is one of the SAGIA's core sectors for development outside of the energy sector (SAGIA, 2007). The consumption of products from more distant Asian economies (in particular, China) is forecast to continue growing rapidly. Establishing the Kingdom as an excellent transport and logistics hub is therefore important if it is to exploit growing export markets fully. Some of the key transport projects in development include:

- The Land Bridge railway project. This is a \$1.3 billion railway, which will connect Jeddah on the Red Sea to Dammam on the Gulf Coast, via Riyadh. It is intended to be used mainly for freight, and has a start-up date of 2010.
- The 2,400 km North-South freight and passenger railway is a \$2.8 billion link which will transport phosphates and bauxite from mines in the north of the country for processing at the new industrial city of Ras Az Zawr on the Gulf Coast.

- Expansion of the King Abdulaziz airport in Jeddah is scheduled for 2010, at a cost of \$1 billion. It is intended that other airports in the country will also be expanded to meet predicted increases in air transport.
- The development of the Special Economic Cities and the expansion of Jubail and Yanbu will involve significant expansions or construction of new ports and supporting facilities.

**Table 4.2 Major Infrastructures and Transport Projects in Development**

Type of Project	Project Name	Cost (\$ billion)	Scheduled Completion
New Economic Cities	King Abdullah Economic City	26.7	2009
	Prince Abulaziz bin Musaed Economic City	8.0	N/A
	Knowledge City, Madinah	6.7	2016
	Jizan Economic City	26.5	2011
New Industrial Cities	Ras Azour Mining City	1.0	2011
Expansions of Existing Industrial Cities	Jubail Industrial City I-New Projects & Expansions	18.3	2010
	Jubail Industrial City II - Phase 1 - 3 contracts awarded	1.3	2007
	Jubail Industrial City II - Phase 1 - 9 primary industries	19.2	2007
	Yanbu Industrial City - New and Expansion projects	1.9	2007
Railways	North-South Railway Project	2.8	2008
	Land Bridge Project	1.3	2010
	Makkah-Madinah Project	n/a	2010
Airports	Expansion of King Abdulaziz Airport in Jeddah	1.0	2010
	Privatization of Saudi Airlines (Saudia) and related services (including an "Open Skies" liberalisation of Saudi Arabia's international aviation market)	n/a	2008
Other	National Housing Plan	2.6	2010
	Hospitals and public schools	8.0	2010

**Source: SAGIA, 2007**

#### **4.4.6 Saudi General Investment Authority (SAGIA)**

SAGIA is the Saudi government agency responsible for managing the investment environment in the Kingdom, promoting investments within it, providing government services to investors and managing the Kingdom's Special Economic Cities (SECs). The SAGIA was established in April 2000 by Royal Decree and was created at the same time as the introduction of a new Foreign Investment Law, which grants foreign investors the same benefits as domestic investors (SAGIA, 2008).

The SAGIA's vision is to achieve rapid economic growth in Saudi Arabia, by capitalising on the Kingdom's competitive strengths in energy and on its strategic location between East and West. To achieve this vision, the SAGIA's primary objectives centre on contributing towards policy improvements which directly impact on the overall investment climate in the Kingdom, fostering and marketing investment opportunities to prospective investors, and supporting interested parties through the investment process by providing relevant services and information (SAGIA, 2008).

In the last few years, the SAGIA has therefore been at the forefront of implementing several initiatives to improve the business environment in Saudi Arabia. As a direct result, the Kingdom saw the level of foreign direct investment (FDI) on the part of international investors leap from \$0.2 billion in 2000 to over \$38.2 billion in 2008 (UNCTAD, 2009), reflecting increasing confidence among investors about the long-term stability and competitive benefits of operating in the Kingdom.

## **4.5 FDI Patterns in Saudi Arabia**

### **4.5.1 Sectoral Distribution of FDI in Saudi Arabia**

As far as the sectoral distribution of FDI inflows in Saudi Arabia are concerned, the manufacturing sector, especially refined petroleum products and petrochemical products, have alone attracted the lion's share of foreign investment (see Table 4.4 and Table 4.5), and made up almost 42% of the total FDI stock by 2008. In fact, almost 85% of manufacturing industry is concentrated on the manufacture of refined petroleum products and petrochemical, while the remaining part is distributed among other industries including real estate, finance services and insurance, mining, the extraction of oil and gas, electricity, transport, storage and communications, gas and water supply and other activities with minimal investment (see Table 4.3). The largest contribution to the FDI inflow was to the refining petroleum industry with 17.8% of total FDI stock in 2008, and to the petrochemical industry with a share of 17.5% of the total FDI stock in 2008, indicating a heavy concentration of FDI in that activity. Next comes real estate with a share of 14.5%, finance services and insurance with the share of 10.8%, mining, oil and gas with a share of 8.6%, contracting with a share of 7.5%, transportation, storage and telecommunications with a share of 5.0% and the remaining share distributed among other activities (see Figure 4.9 and Figure 4.10). As we can see, foreign investment in Saudi Arabia has been distributed across a very wide range of fields. Future



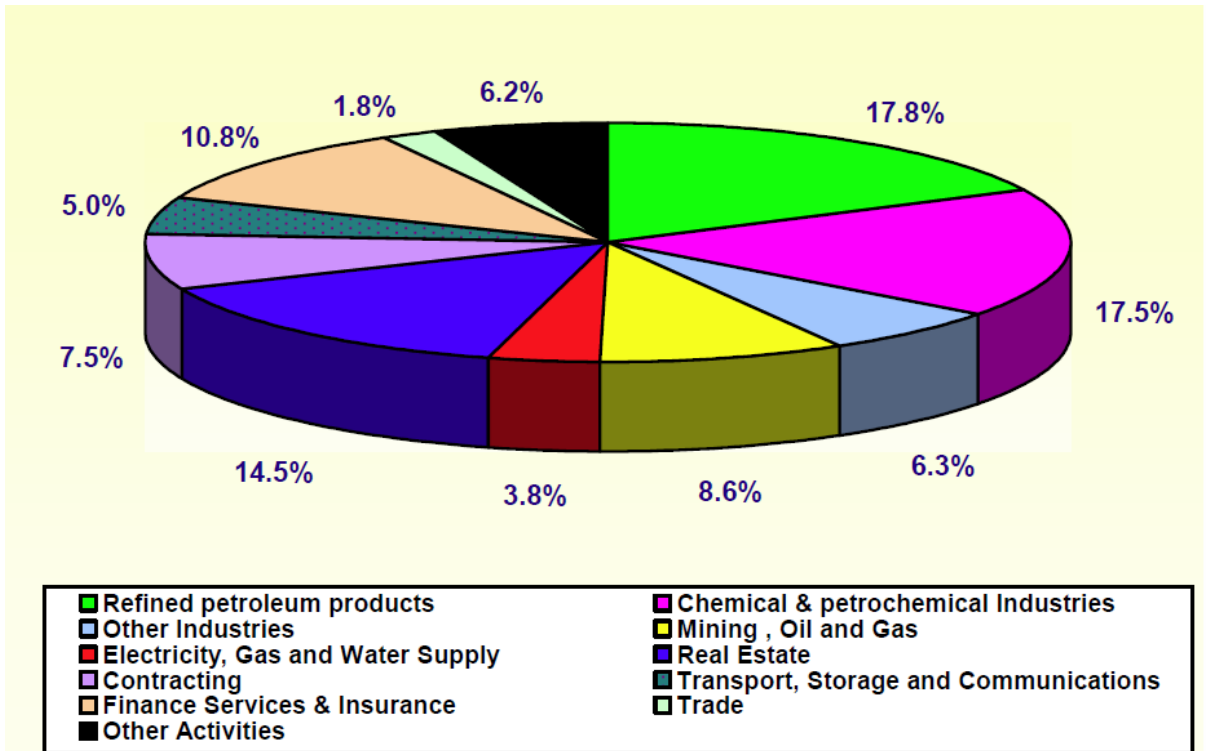
investment liberalisation and Saudi Arabia accessing to the WTO will result in more FDI inflow into Saudi Arabia (SAGIA, 2009).

**Table 4.3 FDI Inflows & Stocks In Saudi Arabia by Sector (Millions of dollars)**

	FDI Inflows			Total FDI Stocks 2008
	2006	2007	2008	
<b>Total FDI Inflows to KSA</b>	<b>18,293</b>	<b>24,318</b>	<b>38,222</b>	<b>114,277</b>
<b>1 Agriculture and Fishing</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>103</b>
<b>2 Mining , Extraction of Oil &amp; Gas Services</b>	<b>2,067</b>	<b>4,221</b>	<b>3,767</b>	<b>9,860</b>
<b>3 Industry :</b>	<b>6,613</b>	<b>9,659</b>	<b>14,066</b>	<b>47,620</b>
Manufacture of food products & beverages	- 542	151	206	1,017
Manufacture of textiles	1	6	15	82
Manufacture of wearing apparel	2	10	8	40
Tanning and dressing of leather ;handbags, footwear,...	0	8	9	35
Manufacture of wood & wood products ,except furniture	2	11	23	120
Manufacture of paper & paper products	2	76	100	481
Publishing, printing & reproduction of recorded media	0	3	6	25
Manufacture of coke & refined petroleum products	4,103	3,573	5,681	20,338
Manufacture of chemicals & chemical products	3,042	3,998	6,238	20,021
Manufacture of rubber & plastics products	11	93	113	486
Manufacture of other non-metallic mineral products	10	231	297	1,158
Manufacture of basic metals	0	949	842	1,424
Manufacture of fabricated metal products	- 33	314	269	1,216
Manufacture of machinery & equipment	1	97	69	304
Manufacture of office, accounting & computing mach.	0	1	1	4
Manufacture of electrical machinery & apparatus n.e.c	5	70	82	343
Manufacture of radio, television & communication equip	0	16	13	58
Manufacture of medical, precision & optical instruments	1	1	6	27
Manufacture of motor vehicles, trailers & semi-trailers	1	11	30	155
Manufacture of furniture & jewellery and related articles	7	33	52	258
Recycling of metal & non-metal waste and scrap	0	6	7	29
<b>4 Electricity, Gas and Water Supply</b>	<b>1,695</b>	<b>1,371</b>	<b>1,112</b>	<b>4,310</b>
<b>5 Contracting</b>	<b>1,034</b>	<b>1,552</b>	<b>2,852</b>	<b>8,587</b>
<b>6 Trade</b>	<b>0</b>	<b>960</b>	<b>810</b>	<b>2,109</b>
<b>7 Hotels and Restaurants</b>	<b>1</b>	<b>34</b>	<b>87</b>	<b>266</b>
<b>8 Transport, Storage and Communications</b>	<b>0</b>	<b>1,169</b>	<b>2,039</b>	<b>5,754</b>
<b>9 Finance Services &amp; Insurance</b>	<b>2,278</b>	<b>1,550</b>	<b>2,937</b>	<b>12,379</b>
<b>10 Real Estate</b>	<b>3,000</b>	<b>2,000</b>	<b>7,922</b>	<b>16,622</b>
<b>11 Other Activities</b>	<b>1,605</b>	<b>1,778</b>	<b>2,607</b>	<b>6,666</b>

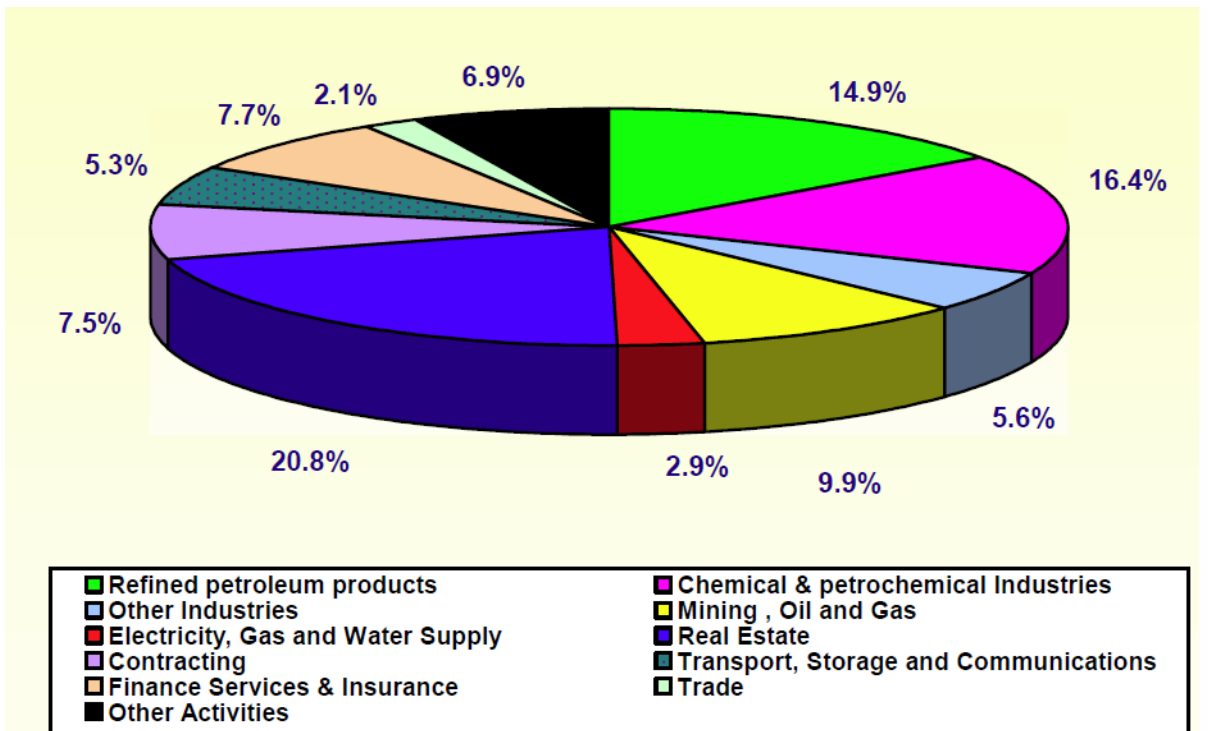
Source: SAGIA (2009)

Figure 4.9 FDI Stock by Sector in 2008 (Total US \$ 114.3 Billion)



Source: SAGIA (2009)

Figure 4.10 FDI Inflow by Sector in 2008 (Total US \$ 38.2 Billion)



Source: SAGIA (2009)

**Table 4.4 Major FDI Projects in Saudi Arabia in 2008**

Project Name	Location	Sector	Main Foreign Investors	Nationality
1 King Abdullah Economic City	Rabigh	Real state	Emaar	UAE
2 Prince Abdulaziz Bin Mousaed Economic City	Hail	Real state	GCC Companies	Kuwait , UAE
3 Jazan Economic City	Jazan	Real state	Malaysian Companies	Malaysia
4 Knowledge Economic City	Medinah	Real state		
5 .DAMAC PROPERTIES CO. LTD	Riyadh	Real state	UAE Companies	UAE
6 Rabigh Refining and Petrochemical Company	Rabigh	Petrochemicals	SUMITOMO CHEMICAL COMPANY	Japan
7 GAS INITIATIVE PROJECTS		Oil & Gas		
- Luksar Energy Limited			LUKOIL COMPANY	Russia
- Sino Saudi Gas Limited			SINOPEC COMPANY	China
- EniRepSa Gas Limited			- ENI COMPANY	Italy
			- REPSOL YPF CO.	Spain
- South Rub' al-Khali Company SRAK			- TOTAL COMPANY	France
			- ROYAL DUTCH SHELL CO.	Netherlands
8 ARAMCO-CONNOCO PHILLIPS REFINERY	Yanbu	Oil Refineries	CONNOCO PHILLIPS COMPANY	USA
9 ARAMCO-TOTAL REFINERY	Jubail	Oil Refineries	TOTAL COMPANY	France
10 SAUDI ARAMCO MOBIL REFINERY CO., LTD."SAMREF"	Yanbu	Oil Refineries	EXXONMOBIL INVESTMENT	USA
11 SAUDI ARAMCO SHELL REFINERY CO. "SASREF"	Jubail	Oil Refineries	SHELL INT. COMPANY	Netherlands
12 SAUDI ARAMCO LUBRICATING OIL REFINING CO. "LUBEREF"	Yanbu	Oil Refineries	EXXONMOBIL INVESTMENT	USA
13 SAUDI YANBU PETROCHEMICAL CO. "YANPET"	Yanbu	Petrochemicals	EXXONMOBIL INVESTMENT	USA
14 SAUDI PETROCHEMICAL CO. "SADAF"	Jubail	Petrochemicals	SHELL OIL COMPANY	USA
15 EASTERN PETROCHEMICAL CO. "SHARQ"	Jubail	Petrochemicals	MITSUBISHI CORP.	Japan
16 EASTERN PETROCHEMICAL CO. "SHARQ"- Exp.	Jubail	Petrochemicals	MITSUBISHI CORP.	Japan
17 JUBAIL PETROCHEMICAL CO. "KEMYA"	Jubail	Petrochemicals	EXXONMOBIL INVESTMENT	USA
18 SAUDI EUROPEAN PETROCHEMICAL COMPANY "IBN ZAHR"	Jubail	Petrochemicals	- ECOFUEL SBA COMPANY	Italy
			- NESTE OY	Finland
			- Arab Petroleum Investments Corporation (APICORP)	Arab Countries
19 ARABIAN INDUSTRIAL FIBRES CO. "IBN RUSHD"	Yanbu	Petrochemicals	- Gulf Investment Corporation - GIC	Kuwait
			- UGIC	Bahrain
20 JUBAIL CHEVRON PHILLIPS CO.	Jubail	Petrochemicals	CHEVRON PHILLIPS PETROCHEMICAL	USA
21 SAUDI METHANOL CO."AL-RAZI"	Jubail	Petrochemicals	MITSUBISHI GAS CHEMICAL CO.	Japan
22 NATIONAL METHANOL CO. "IBN SINA"	Jubail	Petrochemicals	HOECHST-CELANESE , DUKE ENERGY	USA
23 International Methanol Company	Jubail	Petrochemicals	Arab Japanese Methanol Limited Co.	Japan
24 SAUDI CHEVRON PHILEPS COMPANY LTD.	Jubail	Petrochemicals	CHEVRON PHILIPS CHEMICALS	USA
25 SAUDI FORMALDEHYDE CHEMICAL CO.,LTD	Jubail	Petrochemicals	- Al Mazroee Holding Company	UAE
			- Mohamed Galal & Brothers Company	Bahrain
			- Fahd Abdul Mohsen Al Nafisa	Kuwait
			- Mohamed Hamad Abdullah Al Mania	Qatar

Source: SAGIA (2009)

**Table 4.5 Continue Major FDI Projects in Saudi Arabia in 2008**




Project Name	Location	Sector	Main Foreign Investors	Nationality
26 International Dayol Company	Jubail	Petrochemicals	- Huntsman M A for Investment C.V. - D.V. Process Technology Company	Netherlands UK
27 SAUDI POLYOLEFINS COMPANY	Jubail	Petrochemicals	BASELL HOLDING M.EAST GMBH	Germany
28 SAUDI ETHYLENE & POLYETHYLENE COMPANY	Jubail	Petrochemicals	BASELL MOYEN ORINET INVESTMENTS	France
29 AL WAHA PETROCHEMICAL COMPANY	Jubail	Petrochemicals	BASELL MOYEN ORINET INVESTMENTS	France
30 ADVANCED POLYPROPYLEEN CO.	Jubail	Petrochemicals	صندوق البنك الاسلامي للتنمية للبنية الأساسية	Bahrain
31 International Acetyl Company Ltd.	Jubail	Petrochemicals	Helm Arabia	Germany
32 AL-JUBAIL FERTILIZER COMPANY "AL-BAYRONI"	Jubail	Fertilizers	TAIWAN FERTILIZER COMPANY	Taiwan
33 YAMAMA SAUDI CEMENT COMPANY	Riyadh	Cement	Kuwaiti Investors	Kuwait
34 CONSOLIDATED MINING CO. LTD	Khobar	Mining	Bateman Projects Holding Co. Ltd.	South Africa
35 Shaiba Water & Electricity Company	Shouiba	Electricity & Water	Malaysian Companies	Malaysia
36 RABIGH ARABIAN WATER & ELECTRICITY CO. LTD.	Rabigh	Electricity & Water	- MARUBENI CORPORATION - JGC CORPORATION - ITOCHU CORPORATION	Japan
37 TYHAMA POWER GENERATION CO. LTD.	Khobar	Electricity & Water	ABHO Holding Co. ,Eastern Energy Holding Co.	Bahrain
38 JUBAIL WATER AND POWER CO.	Jubail	Electricity & Water	اس جي مرفق القاطنة ذ.م.م	Bahrain
39 ETIHAD ETISALAT COMPANY "MOBILY"	Riyadh	Communications	Etisalat Al Emirate Co.	UAE
40 Mobile Telecommunications Company Saudi Arabia "Zain"	Riyadh	Communications	Mobile Telecommunications Company KSC "Zain"	Kuwait
41 SAAB (SAUDI BRITISH BANK)	Riyadh	Financing	HSBC Group	UK
42 BANQUE SAUDI FRANSI	Riyadh	Financing	CALYON BANK	France
43 ARAB NATIONAL BANK	Riyadh	Financing	Arab Bank	Jordan
44 SAUDI HOLLANDI BANK	Riyadh	Financing	ABN AMRO BANK	Netherlands
45 SAUDI INVESTMENT BANK	Riyadh	Financing	- JP Morgan International - Mizuho Bank	USA Japan
46 BANK AL-JAZIRA	Jeddah	Financing	National Bank of Pakistan	Pakistan
47 EMARET BANK / BRANCH	Riyadh	Financing	EMARET BANK	UAE
48 GULF INTERNATIONAL BANK / GIB BRANCH	Riyadh	Financing	GULF INTERNATIONAL BANK	Bahrain

Source: SAGIA (2009)

#### 4.5.2 Source of FDI in Saudi Arabia
















While the number of FDI source countries in Saudi Arabia is quite large, a handful of countries account for the sums invested. The USA comes first as a single investor in term of total FDI stock in Saudi Arabia with a share of 19.3% (see Table 4.6, Table 4.7, Table 4.8, Figure 4.11 and Figure 4.12). Other source countries with regard to FDI include the United Arab Emirates (UAE) (12.8%, ranked as second), Japan (10.5%, ranked as third), Kuwait (8.2%, ranked as fourth), France (7.8%, ranked as fifth), the Netherlands (6.6%, ranked as sixth), and China (3.3%, ranked as seventh) with other countries playing a minor role.

Table 4.6 FDI Inflows by Country in Saudi Arabia (Millions of dollars)

	FDI Inflows					Total FDI Stocks 2008
	2005	2006	2007	2008		
<b>Total FDI Inflows to KSA</b>	<b>12,097</b>	<b>18,293</b>	<b>24,318</b>	<b>38,222</b>		<b>114,277</b>
<b><u>FDI from North &amp; South America</u></b>	<b>129</b>	<b>1,589</b>	<b>4,030</b>	<b>5,397</b>		<b>22,653</b>
- USA	84	1,594	3,978	5,199		22,028
- Canada	4	2	37	195		615
- Others	41	- 7	15	3		10
<b><u>FDI from Europe</u></b>	<b>2,467</b>	<b>5,734</b>	<b>4,626</b>	<b>10,367</b>		<b>28,039</b>
- France	2,057	2,053	1,136	3,434		8,927
- Netherlands	49	820	904	3,374		7,544
- United Kingdom	147	636	444	800		2,230
- Italy	3	550	435	687		2,186
- Russia	0	1,099	550	687		2,168
- Germany	154	2	270	561		1,557
- Spain	1	558	557	244		1,200
- Switzerland	51	0	102	244		838
- Sweden	0	0	77	88		389
- Finland	0	0	78	70		252
- Belgium	2	0	5	58		180
- Norway	0	0	26	35		164
- Denmark	1	0	17	22		119
- Austria	0	2	5	22		111
- Luxembourg	0	0	1	19		97
- Cyprus	1	13	3	12		46
- Others	1	2	15	9		30
<b><u>FDI from Asia</u></b>	<b>8,562</b>	<b>7,032</b>	<b>9,886</b>	<b>17,653</b>		<b>53,266</b>
- UAE	5,015	- 19	2,381	5,873		14,642
- Japan	2,540	3,512	1,068	2,337		12,026
- Kuwait	25	267	2,370	4,461		9,382
- China	0	1,100	1,428	1,529		3,752
- Bahrain	445	789	593	1,003		3,548
- Jordan	73	557	384	582		2,673
- Malaysia	120	720	954	423		2,109
- Lebanon	51	7	189	279		1,249
- Pakistan	27	52	109	224		723
- Syria	62	17	95	168		598
































Source: SAGIA (2009)

Table 4.7 Continue. FDI Inflows by Country In Saudi Arabia (Millions of dollars)

	FDI Inflows					Total FDI Stocks 2008
	2005	2006	2007	2008		
- Taiwan	0	0	95	86		428
- Palestine	45	11	69	109		402
- Turkey	4	1	9	151		336
- Korea	113	0	35	103		334
- Singapore	0	2	6	146		326
- Yemen	26	7	36	66		267
- India	11	4	26	55		183
- Qatar	1	0	21	25		122
- Oman	0	1	4	11		66
- Iran	4	3	5	6		28
- Others	0	1	8	17		71
<b>FDI from Africa</b>	<b>37</b>	<b>11</b>	<b>114</b>	<b>203</b>		<b>732</b>
- Egypt	30	10	80	164		607
- Sudan	2	1	10	11		41
- South Africa	4	0	21	16		34
- Others	1	0	3	12		50
<b>FDI from Australia</b>	<b>0</b>	<b>8</b>	<b>25</b>	<b>145</b>		<b>455</b>
- Australia	0	8	21	141		435
- New Zealand	0	0	4	4		20
<b>Other Projects</b>	<b>900</b>	<b>3,919</b>	<b>5,638</b>	<b>4,456</b>		<b>9,132</b>

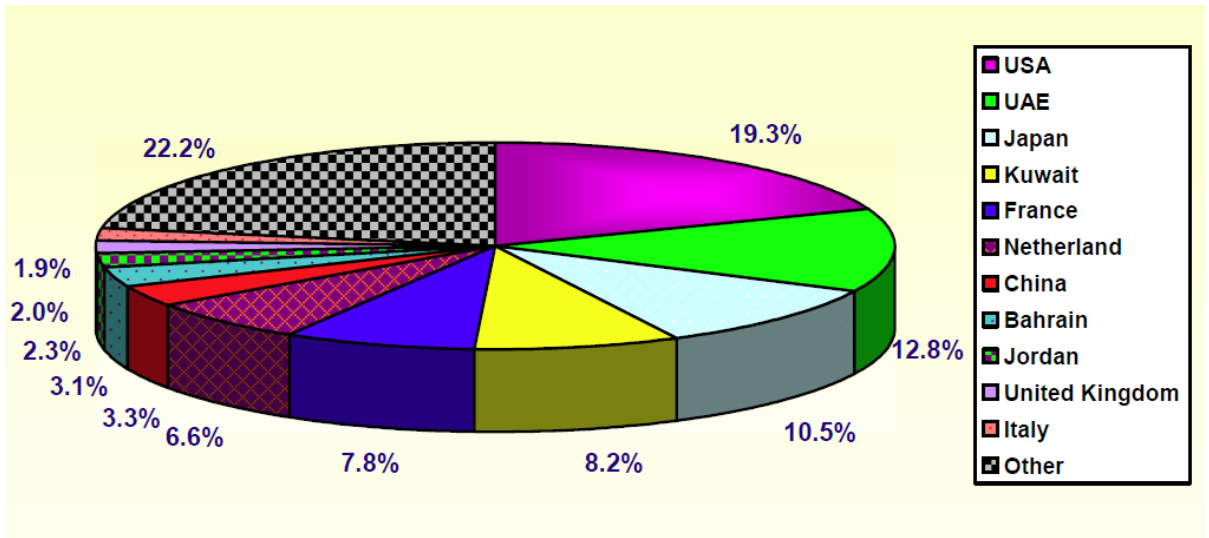
Source: SAGIA (2009)

Table 4.8 Top 30 Countries Investing in Saudi Arabia (Millions of dollars)

	FDI Inflows					Total FDI Stocks 2008
	2005	2006	2007	2008		
<b>Total FDI Inflows to KSA</b>	<b>12,097</b>	<b>18,293</b>	<b>24,318</b>	<b>38,222</b>		<b>114,277</b>
- USA	84	1,594	3,978	5,199		22,028
- UAE	5,015	- 19	2,381	5,873		14,642
- Japan	2,540	3,512	1,068	2,337		12,026
- Kuwait	25	267	2,370	4,461		9,382
- France	2,057	2,053	1,136	3,434		8,927
- Netherlands	49	820	904	3,374		7,544
- China	0	1,100	1,428	1,529		3,752
- Bahrain	445	789	593	1,003		3,548
- Jordan	73	557	384	582		2,673
- United Kingdom	147	636	444	800		2,230
- Italy	3	550	435	687		2,186
- Russia	0	1,099	550	687		2,168
- Malaysia	120	720	954	423		2,109
- Germany	154	2	270	561		1,557
- Lebanon	51	7	189	279		1,249
- Spain	1	558	557	244		1,200
- Switzerland	51	0	102	244		838
- Pakistan	27	52	109	224		723
- Canada	4	2	37	195		615
- Egypt	30	10	80	164		607
- Syria	62	17	95	168		598
- Australia	0	8	21	141		435
- Taiwan	0	0	95	86		428
- Palestine	45	11	69	109		402
- Sweden	0	0	77	88		389
- Turkey	4	1	9	151		336
- Korea	113	0	35	103		334
- Singapore	0	2	6	146		326
- Yemen	26	7	36	66		267
- Finland	0	0	78	70		252

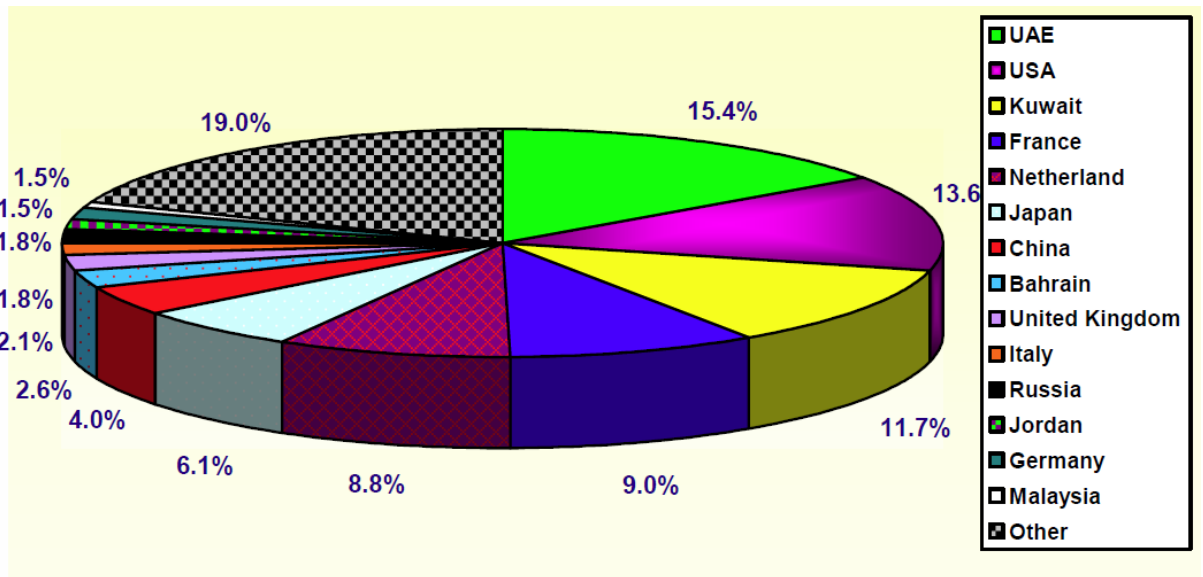
Source: SAGIA (2009)

Figure 4.11 FDI Stock by Source in 2008 ( Total US \$ 114.3 Billion)



Source: SAGIA (2009)

Figure 4.12 FDI Inflows by Source in 2008 (Total US \$ 38.2 Billion)



Source: SAGIA (2009)



### 4.5.3 Regional Distribution of FDI in Saudi Arabia

The regional distribution of FDI inflows into Saudi Arabia has been significantly uneven and highly concentrated in the east and west coastal regions and the central region, although FDI is located in almost every corner of Saudi Arabia (see Table 4.9, Table 4.10 and Figure 4.13). The eastern region attracted 37.5% of total FDI stock while the central region recorded 30% and the western region attracted 23% of total FDI inflow into Saudi Arabia.

**Table 4.9 FDI Inflows by Regions in Saudi Arabia (Millions of dollars)**

	FDI Inflows 2007	FDI Inflows 2008	FDI Stocks 2008
<b>Total FDI Inflows &amp; Stocks</b>	<b>24,318</b>	<b>38,222</b>	<b>114,277</b>
<b><u>FDI by Region :</u></b>			
- Central Region ( Riyadh , Qasim )	6,023	6,965	26,299
- Eastern Region	11,817	15,048	42,816
- Western Region ( Makkah , Madinah )	3,962	11,532	34,229
- Northern Region ( Hail , Tabuk , Jauf , Northern Frontier )	11	214	1,053
- Southern Region ( Asir , Baha , Jazan , Najran )	905	731	946
- Other Projects	1,600	3,733	8,933

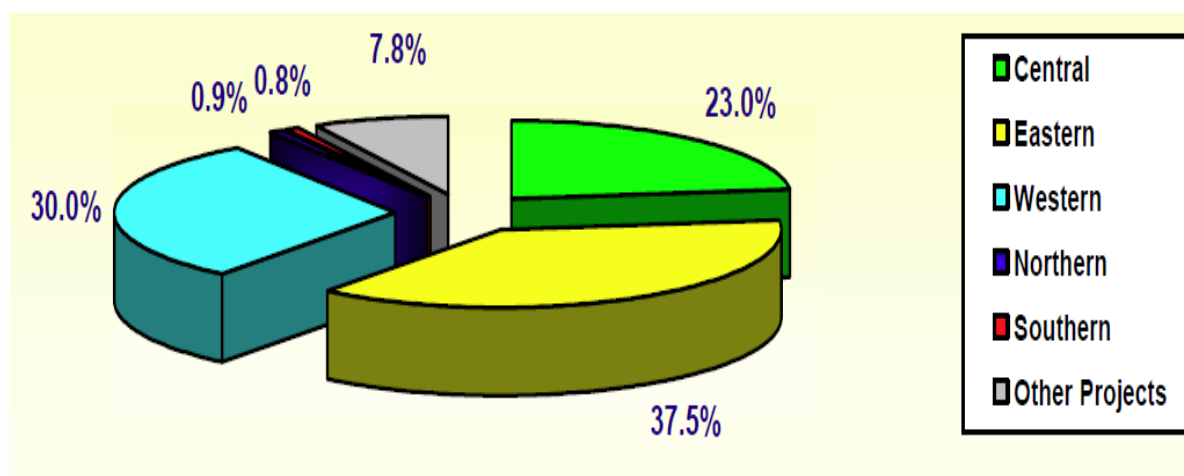
Source: SAGIA (2009)

Table 4.10 FDI Stocks by Regions in Saudi Arabia (Millions of dollars)

	Central Region	Eastern Region	Western Region	Northern Region	Southern Region	Other Projects	TOTAL FDI STOCK
<b>Total FDI Stocks 2008</b>	26,299	42,816	34,229	1,053	946	8,933	114,277
<b>FDI by Sector :</b>							
1 Agriculture and Fishing	49	5	43	1	5		103
2 Mining , Extraction of Oil & Gas	3	9,852	5				9,860
3 Industry	2,560	28,336	15,768	39	918		47,621
4 Electricity, Gas and Water Supply	345	1,543	2,424				4,313
5 Contracting	2,160	1,459	2,539	12	13	2,400	8,583
6 Trade	1,339	386	384		6		2,115
7 Hotels and Restaurants	121	30	109				260
8 Transport and Communications	4,532	54	101			1,067	5,754
9 Finance Services & Insurance	11,866	111	401				12,378
10 Real Estate & Other Activities	3,323	1,040	12,454	1,001	4	5,467	23,288

Source: SAGIA (2009)

Figure 4.13 FDI Stock by Region in 2008: (Total US \$ 114.3 Billion)



Source: SAGIA (2009)

## **4.6 FDI in the Petrochemicals Industry**

### **4.6.1 Petrochemicals Definition**

Petrochemicals are chemical products made from the raw material of petroleum or products of other hydrocarbon origins. Although some of the chemical compounds that originate from petroleum may also be derived from other sources (such as coal or natural gas), petroleum is a major source of many petrochemicals products (Matar and Hatch, 2001).

### **4.6.2 Overview of the Saudi Petrochemicals Industry**

The petrochemicals sector is the largest and most important non-oil industrial sector in Saudi Arabia. Saudi Arabia's current strengths are in the production of basic petrochemical building blocks such as ethylene and methanol; the Kingdom currently ranks second in the world for methanol and ethylene glycol production, and fifth in ethylene production. Overall, Saudi Arabia is the 11th largest supplier of petrochemicals globally, producing 7-8% of the world's supply, and the Kingdom has ambitious plans to increase this to 13-14% by 2010 (SAGIA, 2007). Saudi Arabia is the only country in the Gulf Cooperation Council (GCC) that has opened up its petrochemical sector to private investment, and the private sector has not been slow in mobilising to pursue new opportunities. As a further spur towards increasing competition in the sector, Saudi Aramco is currently planning two integrated petrochemical developments at its Rabigh and in Ras Tanura refineries, which will establish it as a major market player in partnership with international giants Sumitomo Chemical and the Dow Chemical Company (SAGIA, 2007).

### **4.6.3 History and Current Trends With Regard to the Saudi Petrochemicals Industry**

The petrochemicals sector in Saudi Arabia was established in the mid-1970s with the Kingdom's decision to start utilising its vast natural gas resources, 60% of which is ethane-rich gas associated with crude oil production as fuel and feedstock for domestic industries (International Energy Agency (IEA), 2008). Prior to this, all of the associated gas was flared, due to the lack of a developed domestic market and the lack of any gas export infrastructure (SAGIA, 2007). The government realised that establishing a domestic petrochemicals industry would provide the best way to add value to the gas. A number of key events subsequently occurred in 1976 as follows:

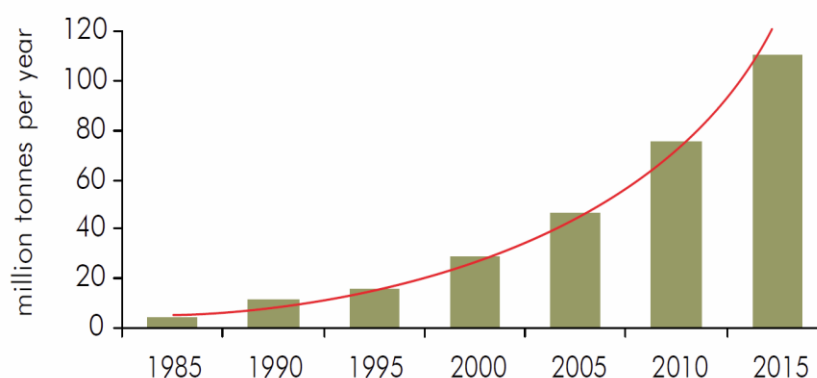
- The government formed the Royal Commission for Jubail and Yanbu (RCJY), which was entrusted with the responsibility of developing and managing the construction of two new

industrial cities. The intention was to develop an excellent infrastructure in order to attract industrial users to locate in the Kingdom.

- The cross-country grid, known as the Master Gas System, was developed by Aramco, and included gas and NGL processing, distribution and storage infrastructures.
- The government created the Saudi Basic Industries Corporation (SABIC), a national champion for domestic petrochemical manufacturing, whose role was to drive the industry forward through a number of key projects in Jubail and Yanbu.

To encourage industrial growth, the government also fixed the price by Royal Decree for its methane-ethane gas fuel and feedstock at a competitive level (originally \$0.50/mmBtu, currently \$0.75/mmBtu) to reduce the volatility for domestic companies. This price was fixed until 2011, at which time it will be reviewed. The government also set up the Saudi Industrial Development Fund (SIDF) to provide soft financing for projects. Since then, the petrochemicals sector has grown exponentially, mainly by focussing on commodity petrochemicals. Production capacity increased from 4 million tonnes per year from the initial investment in 1985 to around 50 million tonnes in 2005, representing a compound annual growth rate of 13.4%. This growth trend is forecast to continue, because of the Kingdom's continuing investment in first-rate infrastructure and the significant number of ongoing petrochemical projects in development. Capacity is forecast to increase to 75 million tonnes by 2010, raising the Kingdom's share of world capacity to 13-14% (see Figure 4.14) (SAGIA, 2007).

**Figure 4.14 Saudi Arabia's Petrochemicals Capacity 1985-2015**



Source: SAGIA, 2007

#### **4.6.4 Petrochemicals Market**

The global petrochemicals market is driven by the ever-increasing appetite for chemicals and plastic, which are part of our everyday lives, from cars to packaging to paints. After some difficult years in what is a highly volatile industry from an earnings point of view, the sustained Asian growth of the past decade has allowed the development of projects to serve those new growth markets, while the previous generation of European and North American producers has struggled to meet the cost-focused needs of the commodity sector. While the industry over time may trend towards GDP level growth, the penetration of commodity petrochemicals and plastics still has a long way to go (SAGIA, 2007).

#### **4.6.5 Basis of Competition in the Petrochemicals Industry**

The industry has changed dramatically over the past 20 years, and the barriers to entry have reduced significantly as technology has become available, mainly off the shelf, for relatively affordable licence fees. In addition, the capability to compete in terms of product differentiation has become more challenging with end-use customers and their retail suppliers demanding greater performance from their chemical suppliers at a lower price. As such, the sector today is driven by either market proximity or large-scale projects leveraging low-cost, secure feedstock. This is amply demonstrated by the level of project activity in East Asia and the Middle East, and most notably in China and Saudi Arabia over the past five years (SAGIA, 2007).

#### **4.6.6 Saudi's Petrochemicals Market Overview**

The Saudi Arabian petrochemicals business environment is by far the most attractive in the Middle East region due to substantial reserves of cheaply extractable feedstock – including the largest oil reserves in the world. The petrochemicals sector accounts for about 7% of the global supply of basic and intermediate petrochemical products. The sector also benefits from a supportive government, plenty of foreign companies willing to invest, an ideal location to export to Europe and Asia, and a rapidly growing capacity that could lead to its becoming the second-largest ethylene producer in the world (behind the US) by the end of the decade (BMI, 2009). From being a net importer, the country has emerged as a leading exporter in the petrochemicals sector, supplying to over 100 countries. The primary drivers for such a turnaround have been strong infrastructure, significant cost advantages due to lower average variable and fixed costs, and competitive and fixed natural gas prices. These factors have also

resulted in substantial investment inflows into the sector (BMI, 2009).

The petrochemicals industry is growing at a consistent and exponential rate, accounting for about 7% of the global supply of basic and intermediate petrochemical products. The country's strong infrastructure, significant cost advantage due to lower average variable and fixed costs, and competitive and fixed natural gas prices make it an attractive destination for investment in crackers of olefins and derivatives. SAGIA energy strategy promotes diversification into the downstream sector and the development of export-oriented plastic conversion industries, resulting in further opportunities. Investor confidence in the industry is evident from the large investment commitments made by global companies over the last few years through joint ventures (JVs) and expansions (BMI, 2009).

The Saudi petrochemicals industry is expected to satisfy 13% of the global demand for basic and intermediate products by the end of the decade. The Kingdom's low production and feedstock costs make it particularly attractive for investments in olefins and derivatives, while the government is also keen to encourage export-oriented plastic conversion projects. As oil prices increase, the relative feedstock cost advantage also increases, thus leading to extremely low feedstock costs in a high oil price scenario in comparison with other nations. The country provides feedstock at a price that provides a petrochemicals producer with an incentive to invest, while offering better value for hydrocarbon producers. This advantage in feedstock cost translates itself into the ability to manufacture and deliver polyolefins from a strong competitive cost position. A Saudi producer utilising ethane/propane as a feedstock and producing low-density polyethylene (LDPE) could deliver material to a Chinese customer at substantial cost savings. The result has been a substantial capacity growth in the Saudi Arabian petrochemicals markets, especially with regard to gas-petrochemicals growth in the region. Many new projects are the result of public private partnerships (PPP) and/or JVs with foreign petrochemical firms. More than US\$70bn of investment is being channelled into the country's petrochemicals sector (BMI, 2009).

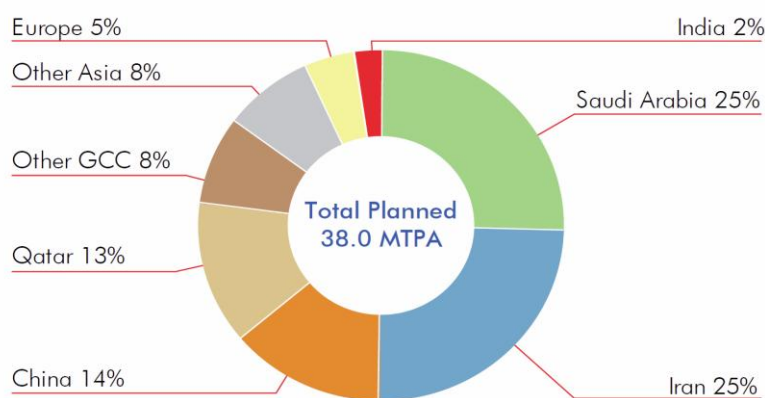
#### **4.6.7 Saudi Arabian Value Proposition**

Saudi Arabia's historic position in the industry is now secure, with a new generation of commodity projects being built to leverage the additional feedstock being made available, as the Kingdom's role in meeting the world's energy needs becomes increasingly important. These projects will follow the pattern that has made the industry successful: secure,

advantaged feedstock being transformed in state-of-the-art, world-scale plants. In addition to the historic model, however, the development of Saudi Arabia's refining sector, with more complex refineries integrated with petrochemical plants, signals a new era in the industry in Saudi Arabia, as new and more complex chemistries are added to existing success stories, adding maximum value to the barrel for the Saudi economy and for the consumer (SAGIA, 2007).

On the supply side, the Middle Eastern petrochemicals industry, and the Saudi Arabian industry in particular, has benefited strongly from demand growth, due to the competitive advantage afforded by the availability of some of the lowest cost natural gas and feedstocks in the world. That historical source of competitive advantage is now likely to be joined by a number of highly integrated refining and petrochemical investments, which will broaden the types of petrochemical building blocks available and will offer new sources of created advantage from the optimisation of the refining/chemicals interface. According to the *Oil and Gas Journal*, 71% of the new ethylene plant capacity coming on stream prior to 2011 will be based in the Middle East, with Saudi Arabia making up 25% (see Figure 4.15) (SAGIA, 2007).

**Figure 4.15 Planned New Global Capacity of Ethylene till 2011 by Region**

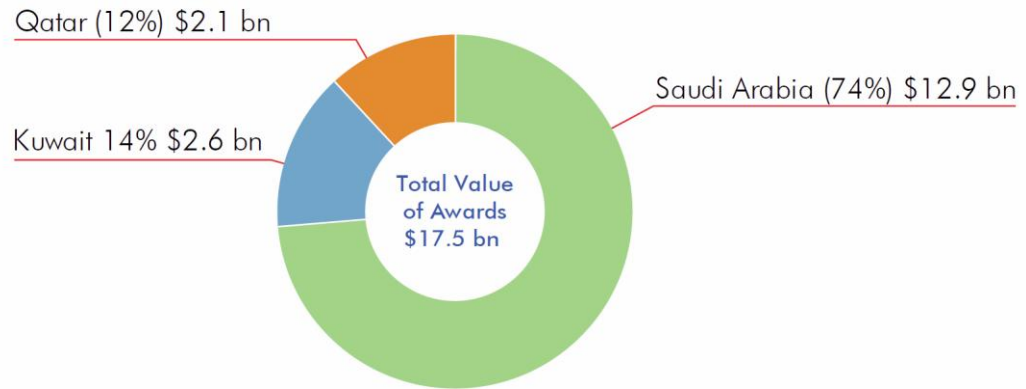


**Source: SAGIA, 2007**

In the Middle East, Saudi Arabia is the focus of most of the region's upcoming petrochemical projects, reflecting the intense level of interest in the Kingdom. For example, MEED suggests that three-quarters of the \$17.5 billion of petrochemical engineering, procurement and construction (EPC) contracts awarded in the GCC in the 12 months leading up to June 2006 were in Saudi Arabia (see Figure 4.16) (SAGIA, 2007). In particular, the Kingdom will be

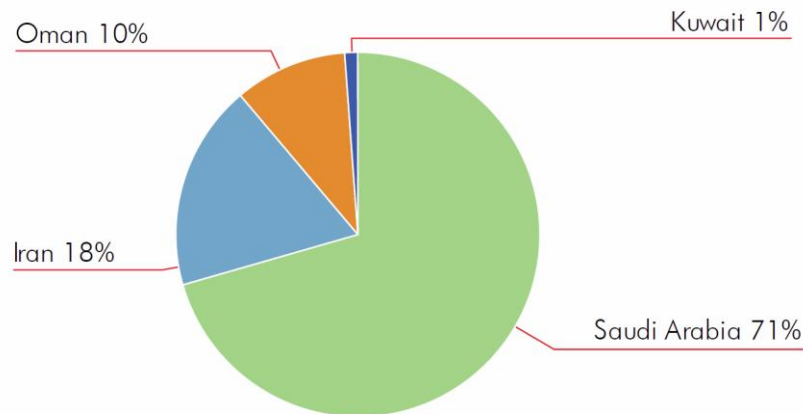
the location of around 70% of the planned propylene capacity expansions over the next five years in the GCC, far more than in any other country (see Figure 4.17).

**Figure 4.16 Major Petrochemical Contracts Awarded in the GCC in 2005-06**



Source: SAGIA, 2007

**Figure 4.17 Planned New Capacity for Propylene till 2010 in the Middle East**



Source: SAGIA, 2007

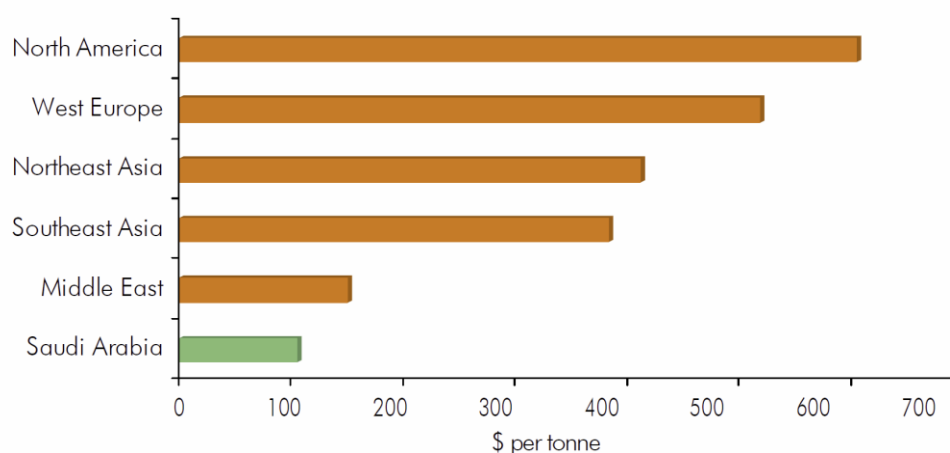
#### 4.6.8 Competitively Priced Feedstock

In addition to increased feedstock volumes, in its recent WTO accession negotiations, Saudi Arabia was successful in agreeing the basis for a continuation of the competitive pricing formulae for methane, ethane and NGL feedstock. The price \$0.75/mmBtu for methane and ethane, and a 30% discount on the prices for propane, butane and natural gasoline provide a significant competitive advantage for any foreign or domestic investor in the petrochemicals



sector. This favourable differential has clear benefits for the petrochemicals industry, where feedstock costs can account for 60% of the cost of production (see Figure 4.18). For example, in 2006, the cash cost of ethane-based ethylene production in the Kingdom was around \$100-110 per tonne, compared to naphtha-based ethylene production in Asia costing four times as much. Relative to Europe and the US, the difference is even greater (see Figure 4.18) (SAGIA, 2007).

**Figure 4.18 Ethylene Cash Cost of Production in 2006**



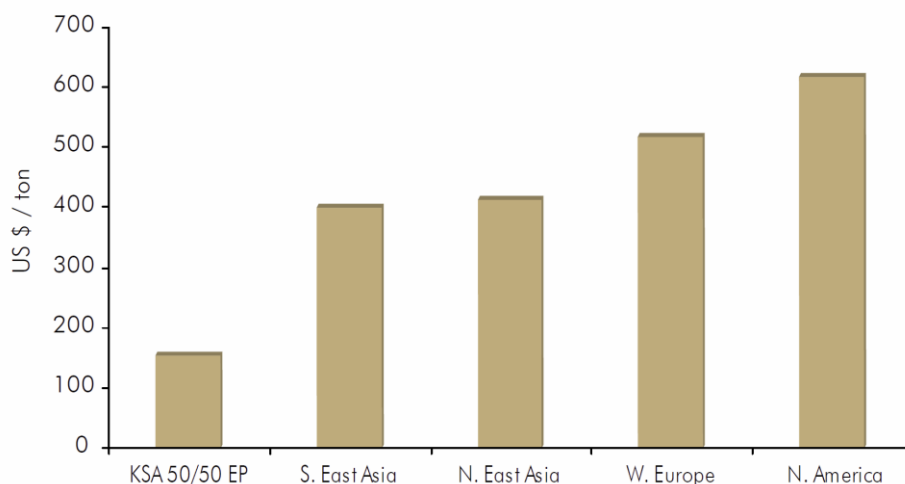
Source: SAGIA, 2007

#### **4.6.9 Implications and Investment Attractiveness of Saudi Arabia**

The Saudi Arabian petrochemicals sector has successfully developed a robust industry in the past 25 years, which has been highlighted by two critical success factors. The first is the feedstock advantage and the second is the non-feedstock operational excellence. In reviewing the operations of the world's leading petrochemical companies over the past several decades, the growth and profit leaders have had an absolute fixation with feedstock. In considering projects, the industry leaders search for two attributes – security and price (SAGIA, 2007). We shall briefly explore each of these. First, given the scale of investment in modern petrochemicals, security is essential to underwrite a project. The growing demand for fuel, as much as for petrochemicals, makes this an increasingly important aspect, as can be seen by the move of companies with traditionally fewer upstream ties, such as Dow Chemical Company and BASF, to invest in projects which reduce their exposure to feedstock security. As the world's number one resource holder, the security of supply in Saudi Arabia is

unparalleled (SAGIA, 2007). Second, the basic price level of feedstock is also critical as it represents the majority of the cost for most of the petrochemicals under consideration in the KSA. In the following figure we look at the cash cost of ethylene in 2005 as analysed by Deutsche Bank/CMAI. The Saudi value proposition needs little explanation in terms of this chart (see Figure 4.19) (SAGIA, 2007).

**Figure 4.19 World Ethylene Cash Costs (USGC Natural Gas \$8.28 per mmbtu, Brent @ \$55 per bbl)**



Source: SAGIA, 2007

The increase in differentiated chemicals, and the wider production base, including new refineries, will transform the Saudi Arabian petrochemicals sector into one featuring a broad range of products, and a new level of operational, commercial and strategic sophistication. This will itself generate more opportunities for new investment in speciality chemicals, and in performance polymers in particular (SAGIA, 2007). WTO accession has also meant increasing opportunities to serve export markets, with Saudi Arabia located close to the fast-growing markets in the GCC, Asia and North Africa. Future projects will present sizeable opportunities, not only for these petrochemical producers and their financial backers, but also for a wide range of supporting service sector companies, such as those operating in the engineering, construction, health and safety, and operations and maintenance sectors. Higher prices are encouraging growth and new entrants to the petrochemical services sector, potentially offering many attractive opportunities (SAGIA, 2007).

#### **4.6.10 Saudi Petrochemicals Industry Key Strengths**

- Saudi Arabia has the largest oil reserves in the world and ample gas reserves, both of which are comparatively easy to extract, providing abundant and extremely inexpensive

feedstock for its growing petrochemicals industry. Long-term feedstock supply security is unparalleled (SAGIA, 2008; BMI, 2009).

- The country is strategically located for export to Europe and Asia – and has a strong relationship with China (SAGIA, 2008; BMI, 2009).
- The sector is now fully open to private local and foreign investors (SAGIA, 2008; BMI, 2009).
- Petrochemical support industries are growing rapidly with the efficiency effects of the cluster being seen in the quality of contracting, and the management, operational and marketing skills of the now experienced Saudi Arabian workforce (SAGIA, 2008; BMI, 2009).
- Excellent infrastructure in Jubail and Yanbu, which is undergoing constant expansion and upgrading (SAGIA, 2008; BMI, 2009).
- The total erected cost of capital projects is now highly competitive due to the scale of the petrochemical clusters on the East and West coasts (SAGIA, 2008; BMI, 2009).
- Extensive and wide-ranging business opportunities for the supply of support services to the petrochemicals sector (SAGIA, 2008; BMI, 2009).
- WTO membership allows free access to new export markets for Saudi petrochemical producers (SAGIA, 2008; BMI, 2009).
- The government has undertaken substantial investments in the sector and is encouraging foreign companies to enter into JVs with Saudi partners with regard to new projects (SAGIA, 2008; BMI, 2009).
- A major increase in refining capacity between now and 2011 will ensure adequate, cost-effective feedstock supplies for new petrochemical projects (SAGIA, 2008; BMI, 2009).
- US\$70bn of investment in the petrochemicals sector by 2011 (SAGIA, 2008; BMI, 2009).
- South East Asia has emerged as a major destination for the country's petrochemicals output, with the Kingdom being well located for trading purposes (SAGIA, 2008; BMI, 2009).
- Business links with China are being actively promoted (SAGIA, 2008; BMI, 2009).
- Large-scale expansions are underway for various petrochemical production facilities (SAGIA, 2008; BMI, 2009).
- Government support for an upward movement in the petrochemicals value chain in the form of incentives (exemptions and grants) to industrialists investing in the plastics industry (SAGIA, 2008; BMI, 2009).

#### **4.6.11 The Future of the Saudi Petrochemicals Industry**

Saudi Arabia's export-oriented petrochemicals industry is likely to be severely affected by the economic downturn, particularly in one of its most lucrative export markets, China. Saudi producers are already facing a highly competitive Chinese market, as China's domestic petrochemicals industry expands and imports diminish. With Chinese economic growth dipping to a seven-year low of 6.8% in Q4/08, dragging full-year growth for 2008 to 9.0% from 13.0% in 2007, the rate of decline in Chinese petrochemicals import demand is set to increase. Imports plummeted by 21.3% year-on-year in December 2008, the GDP growth slowed to 5.6% in 2009. Taking a longer term view, China is set to remain a net ethylene importer over the next five years, despite an additional 11.95mn tpa of new production capacity coming online, but will decline throughout the rest of the forecast period as the rate capacity expansion outstrips the rate of demand, with the deficit falling from an estimated 13.49mn tonnes in 2008 to 8.89mn tonnes by 2013 (BMI, 2009).

Saudi companies are still enjoying profits as they receive ethane feedstock at a very competitive rate of US\$0.75/BTU, compared with US\$8.00/BTU in the US. While the decline in oil prices has narrowed the gap between ethane and naphtha, they are not likely to make much of a difference to the competitiveness of Saudi petrochemicals production (BMI, 2009). The government's strategic plan for investment in the petrochemicals industry will increase investments in the plastics industry, and grant various exemptions to industrialists and business persons who invest in these industries. The country's low production and feedstock costs make it particularly attractive for investments in olefins and derivatives, while the government is keen to encourage export-oriented plastic conversion projects (BMI, 2009).

#### **4.7 Summary**

In this chapter, we discussed the Saudi Arabia background, including the country's background, the economic environment, criteria for Saudi economy openness, and increasing interest regarding investment in Saudi Arabia. In addition, the chapter discussed the FDI in Saudi Arabia, including the history of FDI in Saudi Arabia, forms of FDI in Saudi Arabia, the investment environment in Saudi Arabia, Saudi Arabia's competitive advantages, special economic and industrial zones, Saudi Arabia and the WTO, infrastructure development, transport development, and the investment regulations in Saudi Arabia. Moreover, the chapter

We also discussed the FDI patterns in Saudi Arabia and how Saudi Arabia is benchmarked as a place for business, including the Doing Business report, the Global Competitive report, and the World Investment report. The chapter also offered an overview of the Saudi petrochemical industry, including a history of the industry, the basis for competition in the petrochemical industry, a market overview, competitively priced feedstock, and the investment attractiveness of Saudi Arabia. Finally, the chapter gives a general overview of the FDI with regard to the Saudi petrochemical industry, and shows many advantages of FDI in Saudi Arabia, including the fact that Saudi Arabia feedstock prices are the lowest in the world, the country's strategic location for export to Europe and Asia, very good industrial support to the petrochemical industry, excellent infrastructure in Jubail and Yanbu, the fact that joining the WTO has allowed free access to new markets, and strong government incentives to FDI in the petrochemical industry. The next chapter will present the analysis of the research findings.

## Chapter 5

## **Chapter 5 : Analysis of the Research Findings**

### **5.1 Research Findings**

#### **5.1.1 Introduction**

In this section, we discuss the data used to test for the importance and competitiveness of location factors using frequency tables. A frequency table provides the number of people who participated in the study and the percentage belonging to each of the type for the variable in the survey (Bryman and Bell, 2007).

#### **5.1.2 Location Factors' Importance**

The data for the location factors' importance are analyzed in Table 5.1, including the main location factors and the sub-factors, the responses scale in numbers and percentages for each location factor in the questionnaire, the mean, the standard deviation and the number of responses for each location factor. Figure 5.1 shows the description of the sub- location factors based on the mean for each location factor compared to other factors.

Six major factors were used to constitute the importance of the location factors. They were cost factors, market factors, economic factors, infrastructure and technological factors, political and legal factors, and social and cultural factors. Also, six factors were used to constitute the cost factors. These were factory site costs (land cost), labour costs, transportation/ logistic costs, costs of raw materials, return on investment and energy costs. The market factors consist of the size of the host market, market growth in the host country, level of competition in the host market and market familiarity. The economic factors comprised of four sub-factors which include economic stability, economic growth, exchange rates, and local financial support. Seven sub-factors constitute the infrastructure and technological factors. These include the level of infrastructure (ports, roads, airports, etc.), high industrial concentration (clustering), availability of a well qualified workforce, access to reliable and co-operative suppliers, availability of factory sites (land), availability of raw materials and geographical proximity to the markets. The political and legal factors comprise of the political stability, international trade agreements, tax reductions in the host country,

benign environmental legislation towards FDI, diplomatic ties with the host country and a good legal and regulatory system. Four factors were used to constitute the social and cultural factors. These were cultural distance, attitude of the local community towards the firm, local employees' loyalty to the firm, and language.

The next section, discusses in detail the results of each of these major factors and the sub-factors related to them.

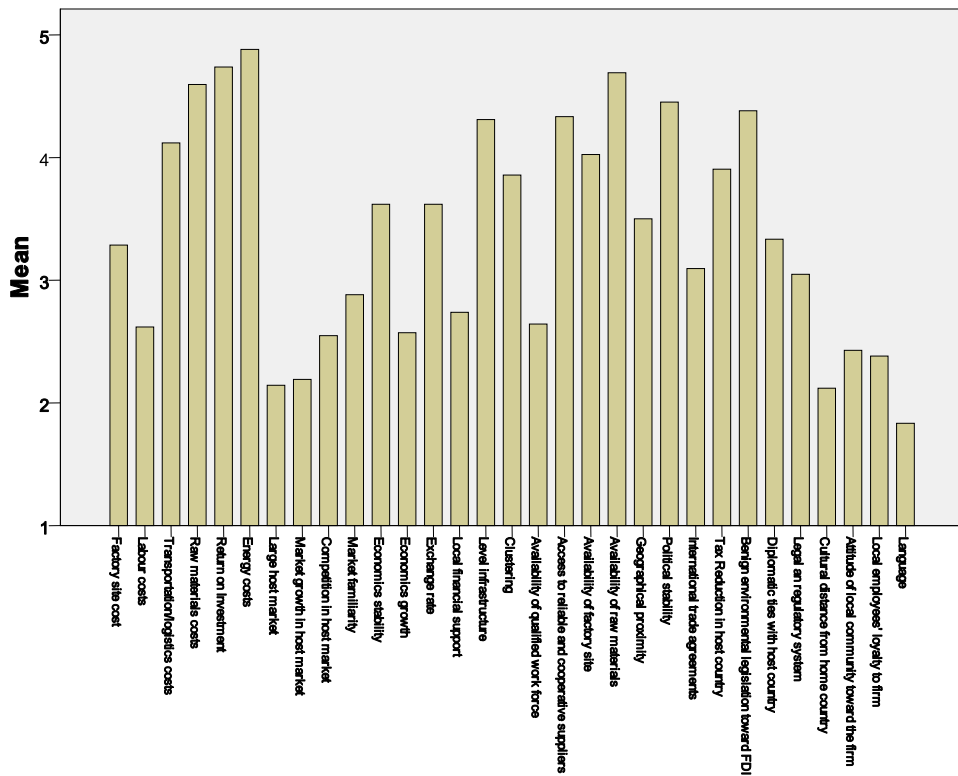


**Table 5.1 Location Factors in the Petrochemicals Industry (Mean)**

Major and Sub-Location Factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
<b>A. Cost factors</b>						<b>4.04</b>	<b>0.46</b>	
1. Factory site cost ( Land cost)	0.0% (0)	26.2% (11)	28.6% (12)	<b>35.7% (15)</b>	9.5% (4)	<b>3.29</b>	<b>0.96</b>	42
2. Labour costs	19.0% (8)	23.8% (10)	<b>35.7% (15)</b>	19.0% (8)	2.4% (1)	<b>2.62</b>	<b>1.08</b>	42
3. Transportation/ logistic costs	0.0% (0)	2.4% (1)	16.7% (7)	<b>47.6% (20)</b>	33.3% (14)	<b>4.12</b>	<b>0.77</b>	42
4. Cost of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	40.5% (17)	<b>59.5% (25)</b>	<b>4.60</b>	<b>0.49</b>	42
5. Return on investment	0.0% (0)	0.0% (0)	2.4% (1)	21.4% (9)	<b>76.2% (32)</b>	<b>4.74</b>	<b>0.49</b>	42
6. Energy costs	0.0% (0)	0.0% (0)	0.0% (0)	11.9% (5)	<b>88.1% (37)</b>	<b>4.88</b>	<b>0.32</b>	42
<b>B. Market factors</b>						<b>2.44</b>	<b>0.69</b>	
7. Size of host markets	26.2% (11)	<b>35.7% (15)</b>	<b>35.7% (15)</b>	2.4% (1)	0.0% (0)	<b>2.14</b>	<b>0.84</b>	42
8. Market growth in the host country	28.6% (12)	<b>38.1% (16)</b>	23.8% (10)	4.8% (2)	4.8% (2)	<b>2.19</b>	<b>1.06</b>	42
9. Level of competition in the host market	4.8% (2)	42.9% (18)	<b>45.2% (19)</b>	7.1% (3)	0.0% (0)	<b>2.55</b>	<b>0.70</b>	42
10. Market familiarity	7.1% (3)	28.6% (12)	<b>38.1% (16)</b>	21.4% (9)	4.8% (2)	<b>2.88</b>	<b>0.99</b>	42
<b>C. Economic factors</b>						<b>3.14</b>	<b>0.76</b>	
11. Economic stability	0.0% (0)	21.4% (9)	23.8% (10)	26.2% (11)	<b>28.6% (12)</b>	<b>3.62</b>	<b>1.12</b>	42
12. Economic growth	7.1% (3)	<b>47.6% (20)</b>	26.2% (11)	19.0% (8)	0.0% (0)	<b>2.57</b>	<b>0.88</b>	42
13. Exchange rates	0.0% (0)	11.9% (5)	33.3% (14)	<b>35.7% (15)</b>	19.0% (8)	<b>3.62</b>	<b>0.93</b>	42
14. Local financial support	9.5% (4)	<b>38.1% (16)</b>	23.8% (10)	26.2% (11)	2.4% (1)	<b>2.74</b>	<b>1.03</b>	42
<b>D. Infrastructure and technological factors</b>						<b>3.91</b>	<b>0.36</b>	
15. Level of infrastructure (ports, roads, airports, etc.)	0.0% (0)	0.0% (0)	0.0% (0)	<b>69.0% (29)</b>	31.0% (13)	<b>4.31</b>	<b>0.46</b>	42
16. High industrial concentration (clustering)	0.0% (0)	0.0% (0)	28.6% (12)	<b>57.1% (24)</b>	14.3% (6)	<b>3.86</b>	<b>0.64</b>	42
17. Availability of well qualified workforce	0.0% (0)	<b>47.6% (20)</b>	40.5% (17)	11.9% (5)	0.0% (0)	<b>2.64</b>	<b>0.69</b>	42
18. Access to reliable and cooperative suppliers	0.0% (0)	2.4% (1)	19.0% (8)	21.4% (9)	<b>57.1% (24)</b>	<b>4.33</b>	<b>0.87</b>	42
19. Availability of factory sites (land)	0.0% (0)	0.0% (0)	16.7% (7)	<b>64.3% (27)</b>	19.0% (8)	<b>4.02</b>	<b>0.60</b>	42
20. Availability of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	31.0% (13)	<b>69.0% (29)</b>	<b>4.69</b>	<b>0.46</b>	42
21. Geographical proximity to markets	0.0% (0)	11.9% (5)	<b>42.9% (18)</b>	28.6% (12)	16.7% (7)	<b>3.50</b>	<b>0.91</b>	42
<b>E. Political and legal factors</b>						<b>3.70</b>	<b>0.42</b>	
22. Political stability	0.0% (0)	0.0% (0)	2.4% (1)	<b>50.0% (21)</b>	47.6% (20)	<b>4.45</b>	<b>0.55</b>	42
23. International trade agreements	0.0% (0)	28.6% (12)	<b>42.9% (18)</b>	19.0% (8)	9.5% (4)	<b>3.10</b>	<b>0.93</b>	42
24. Tax reductions in the host country	0.0% (0)	7.1% (3)	19.0% (8)	<b>50.0% (21)</b>	23.8% (10)	<b>3.90</b>	<b>0.84</b>	42
25. Benign environmental legislation towards FDI	0.0% (0)	0.0% (0)	4.8% (2)	<b>52.4% (22)</b>	42.9% (18)	<b>4.38</b>	<b>0.58</b>	42
26. Diplomatic ties with the host country	0.0% (0)	11.9% (5)	<b>45.2% (19)</b>	40.5% (17)	2.4% (1)	<b>3.33</b>	<b>0.72</b>	42
27. Legal and regulatory system	0.0% (0)	33.3% (14)	<b>35.7% (15)</b>	23.8% (10)	7.1% (3)	<b>3.05</b>	<b>0.93</b>	42
<b>F. Social &amp; Cultural factors</b>						<b>2.19</b>	<b>0.66</b>	
28. Cultural distance	31.0% (13)	<b>33.3% (14)</b>	28.6% (12)	7.1% (3)	0.0% (0)	<b>2.12</b>	<b>0.94</b>	42
29. Attitude of the local community towards the firm	23.8% (10)	26.2% (11)	<b>33.3% (14)</b>	16.7% (7)	0.0% (0)	<b>2.43</b>	<b>1.03</b>	42
30. Local employees' loyalty to the firm	21.4% (9)	<b>38.1% (16)</b>	21.4% (9)	19.0% (8)	0.0% (0)	<b>2.38</b>	<b>1.03</b>	42
31. Language	<b>47.6% (20)</b>	28.6% (12)	19.0% (8)	2.4% (1)	2.4% (1)	<b>1.83</b>	<b>0.98</b>	42

Note: 1: Scale: (1) "Very Unimportant," (2) "Unimportant," (3) "Neutral," (4) "Important," (5) "Very Important"

**Figure 5.1 Importance of Location Factors**



### 5.1.2.1 Major Factors' Importance

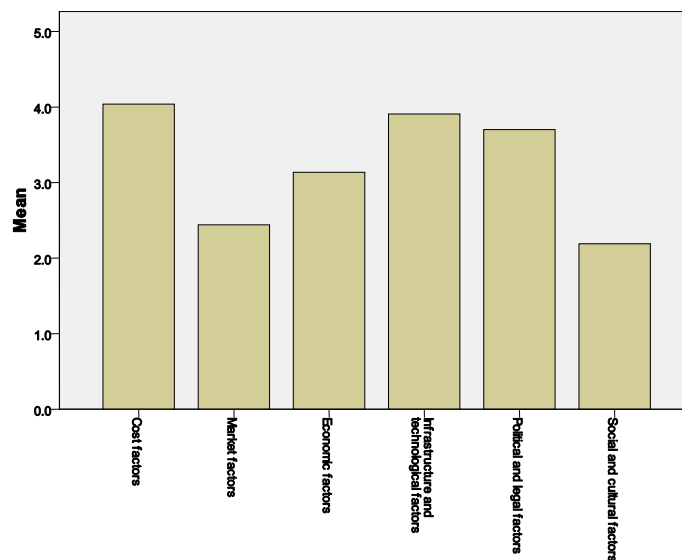
Table 5.2 summarises the importance of the major location factors, including the mean and standard deviation for each factor. Figure 5.2 shows the distributions of each major factor mean relative to other location factors. The major factors are calculated by the total average response rate for the sub-factors for each major location factor. The cost factors have arithmetic mean score of 4.04, and standard deviation (s.d.) of 0.46; market factors have mean score of 2.44, and s.d. of 0.69; economic factors have mean of 3.14, and s.d. of 0.76; infrastructure and technological factors have mean score of 3.91, and s.d. of 0.36; political and legal factors have mean score of 3.70, and s.d. of 0.42; social and cultural factors have

mean score of 2.19, and s.d. of 0.66.

**Table 5.2 Major Factors' Importance**

Major Factors' Importance	Mean	S.D.
Cost factors	4.04	0.46
Market factors	2.44	0.69
Economic factors	3.14	0.76
Infrastructure and technological factors	3.91	0.36
Political and legal factors	3.70	0.42
Social & Cultural factors	2.19	0.66

**Figure 5.2 Major Factors' Importance**



### 5.1.2.2 Cost Factors' Importance

Table 5.3 shows the descriptive data for the importance of the cost factors and the arithmetic mean, standard deviation and number of responses for each sub-location factor related to cost factors. Figure 5.3 shows the distributions of the cost factors' average mean for each sub-factor compared to other cost sub-factors. Evidence in Table 5.3 shows that 35.7 % (15) of respondents rated the site cost as an important factor with a mean of 3.29, and s.d. of 0.96. 35.7 % (15) of respondents rated labour costs as neutral, with a mean score of 2.26, and s.d. of 1.06. Transportation and logistics costs were rated by 47.6% (20) as an important factor with a mean of 4.12, and s.d of 0.77. Low costs of raw materials were rated by 59.5 % (25) as a very important location factor with a mean of 4.60, and s.d. of 0.49. Return on investment was rated by 76.2% (32) of the participants as a very important factor for their location decision with a mean of 4.74, and s.d. of 0.49. Energy costs were rated by 88.1% (37) of the participants as a very important factor for their location decision with a mean of 4.88, and s.d.

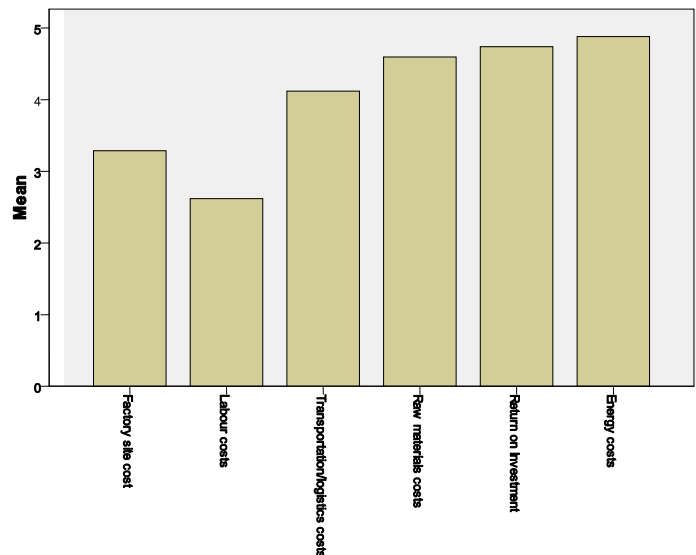
of 0.32.

**Table 5.3 Cost Factors' Importance**

Cost Factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Factory site costs (Land cost)	0.0% (0)	26.2% (11)	28.6% (12)	<b>35.7% (15)</b>	9.5% (4)	3.29	0.96	42
Labour costs	19.0% (8)	23.8% (10)	<b>35.7% (15)</b>	19.0% (8)	2.4% (1)	2.62	1.08	42
Transportation/logistic cost	0.0% (0)	2.4% (1)	16.7% (7)	<b>47.6% (20)</b>	33.3% (14)	4.12	0.77	42
Cost of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	40.5% (17)	<b>59.5% (25)</b>	4.60	0.49	42
Return on investment	0.0% (0)	0.0% (0)	2.4% (1)	21.4% (9)	<b>76.2% (32)</b>	4.74	0.49	42
Energy costs	0.0% (0)	0.0% (0)	0.0% (0)	11.9% (5)	<b>88.1% (37)</b>	4.88	0.32	42

Note: 2: Scale: (1) "Very Unimportant", (2) "Unimportant", (3) "Neutral", (4) "Important", (5) "Very Important"

**Figure 5.3 Cost Factors' Importance**



### 5.1.2.3 Market Factor' Importance

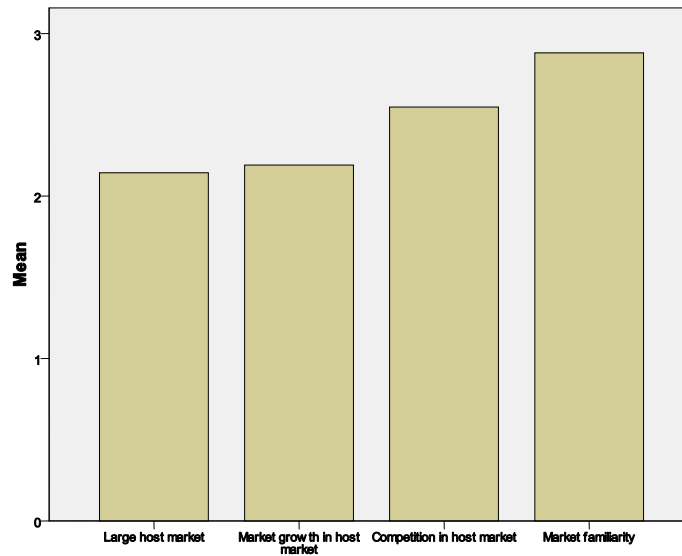
Table 5.4 summarises the descriptive data for the market factors' importance, including the mean, standard deviation and number of responses for each sub-location factor associated with market factors. Figure 5.4 shows the average mean of each location factor under market factors compared to other location factors. The large size of the host market was rated by 35.7% (15) of the participants as unimportant and neutral equally with a mean of 2.14, and s.d. of 0.84. Evidence in Table 5.4 also shows that market growth in the host market was rated by 38.1% (16) as an unimportant location factor with a mean of 2.19, and s.d. of 1.06. The level of competition in the host market was rated by 45.2% (19) of participants as a neutral location factor with a mean of 2.55, and s.d. of 0.70. Market familiarity was rated by 38.1% (16) as neutral in terms of their location decision with a mean of 2.88, and s.d. of 0.99.

**Table 5.4 Market Factors' Importance**

Market factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Size of the host markets	26.2% (11)	<b>35.7% (15)</b>	<b>35.7% (15)</b>	2.4% (1)	0.0% (0)	<b>2.14</b>	<b>0.84</b>	42
Market growth in the host country	28.6% (12)	<b>38.1% (16)</b>	23.8% (10)	4.8% (2)	4.8% (2)	<b>2.19</b>	<b>1.06</b>	42
Level of competition in the host market	4.8% (2)	42.9% (18)	<b>45.2% (19)</b>	7.1% (3)	0.0% (0)	<b>2.55</b>	<b>0.70</b>	42
Market familiarity	7.1% (3)	28.6% (12)	<b>38.1% (16)</b>	21.4% (9)	4.8% (2)	<b>2.88</b>	<b>0.99</b>	42

Note: 3 Scale: (1) "Very Unimportant", (2) "Unimportant", (3) "Neutral", (4) "Important", (5) "Very Important"

**Figure 5.4 Market Factors' Importance**



### 5.1.2.4 Economic Factors' Importance

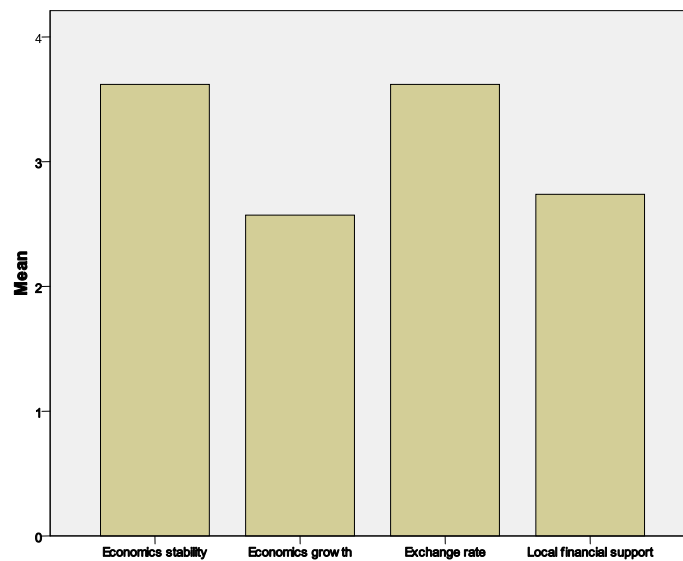
Table 5.5 summarises the descriptive data for the economic factors' importance for each sub-economic location factor including the mean, standard deviation and number of participants. Figure 5.5 shows the average mean of each location factor compared to other location factors related to economic factors. Economic stability was rated by 28.6% (12) of the participants as a very important location factor with a mean of 3.62, and s.d. of 1.12. Economic growth was rated by 47.6% (20) of participants as being an unimportant location factor with a mean score of 2.57, and s.d. of 0.88. Exchange rates were rated by 35.75% (15) of the participants as being an important location factor with a mean of 3.62, and s.d. of 0.93. Local financial support was rated by 38.1% (16) as being an unimportant location factor with a mean of 2.74, and s.d. of 1.03.

**Table 5.5 Economic Factors' Importance**

Economic factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Economic stability	0.0% (0)	21.4% (9)	23.8% (10)	26.2% (11)	<b>28.6% (12)</b>	<b>3.62</b>	<b>1.12</b>	42
Economic growth	7.1% (3)	<b>47.6% (20)</b>	26.2% (11)	19.0% (8)	0.0% (0)	<b>2.57</b>	<b>0.88</b>	42
Exchange rates	0.0% (0)	11.9% (5)	33.3% (14)	<b>35.7% (15)</b>	19.0% (8)	<b>3.62</b>	<b>0.93</b>	42
Local financial support	9.5% (4)	<b>38.1% (16)</b>	23.8% (10)	26.2% (11)	2.4% (1)	<b>2.74</b>	<b>1.03</b>	42

Note: 4 Scale: (1) “Very Unimportant”, (2) “Unimportant”, (3) “Neutral”, (4) “Important”, (5) “Very Important”

Figure 5.5 Economic Factors’ Importance



### 5.1.2.5 Infrastructure and Technological Factors’ Importance

Table 5.6 summarises the descriptive data for each location factor related to infrastructure and technological factors, including the mean, standard deviations and number of participants for each location factor. Figure 5.6 shows the average mean of each sub-location factor compared to other location factors associated with infrastructure and technological factors. The level of infrastructure (ports, roads, airports, etc.) was rated by 69.0% (29) of the participants as being an important location factor with a mean of 4.31, s.d. and of 0.46. Higher industrial concentration was rated by 57.1% (24) of the participants as being an important factor with mean of 3.86, and s.d. of 0.64. The availability of a well-qualified workforce was rated by 47.6% (20) of the participants as being an unimportant factor with a mean of 2.64, and s.d. of 0.69. Access to reliable and cooperative suppliers was rated by 57.1% (24) of participants as being a very important factor with a mean of 4.33, and s.d. of 0.87. The availability of a factory site (land) was rated by 64.3% (27) of participants as being

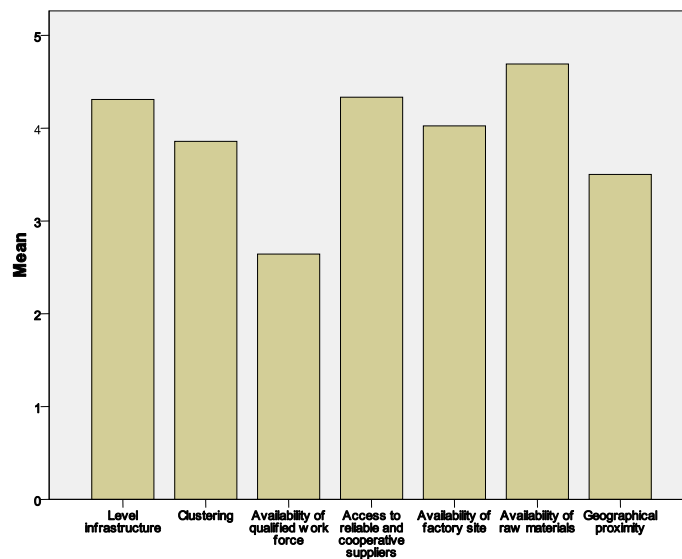
an important factor with a mean of 4.02, and s.d. of 0.60. The availability of raw materials was rated by 69.0% (29) of the participants as being a very important factor with a mean of 4.69, and s.d. of 0.46. Geographical proximity to the markets was rated by 42.9% (18) of the participants as being a neutral factor with a mean of 3.50, and s.d. of 0.91.

**Table 5.6 Infrastructure and Technological Factors' Importance**

Infrastructure and technological factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Level of infrastructure (ports, roads, airports etc.)	0.0% (0)	0.0% (0)	0.0% (0)	<b>69.0% (29)</b>	31.0% (13)	<b>4.31</b>	<b>0.46</b>	42
High industrial concentration (clustering)	0.0% (0)	0.0% (0)	28.6% (12)	<b>57.1% (24)</b>	14.3% (6)	<b>3.86</b>	<b>0.64</b>	42
Availability of well qualified workforce	0.0% (0)	<b>47.6% (20)</b>	40.5% (17)	11.9% (5)	0.0% (0)	<b>2.64</b>	<b>0.69</b>	42
Access to reliable and cooperative suppliers	0.0% (0)	2.4% (1)	19.0% (8)	21.4% (9)	<b>57.1% (24)</b>	<b>4.33</b>	<b>0.87</b>	42
Availability of factory site (land)	0.0% (0)	0.0% (0)	16.7% (7)	<b>64.3% (27)</b>	19.0% (8)	<b>4.02</b>	<b>0.60</b>	42
Availability of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	31.0% (13)	<b>69.0% (29)</b>	<b>4.69</b>	<b>0.46</b>	42
Geographical proximity to the markets	0.0% (0)	11.9% (5)	<b>42.9% (18)</b>	28.6% (12)	16.7% (7)	<b>3.50</b>	<b>0.91</b>	42

Note: 5 Scale: (1) "Very Unimportant", (2) "Unimportant", (3) "Neutral", (4) "Important", (5) "Very Important"

**Figure 5.6 Infrastructure and Technological Factors' Importance**



### 5.1.2.6 Political and Legal Factors' Importance

Table 5.7 summarises the descriptive data for the importance of political and legal factors including the mean, standard deviation and number of participants for each location factor.

Figure 5.7 shows the average rating for each location factor compared to other factors related to the political and legal factors. Political stability was rated by 50.0% (21) of the participants as an important factor with a mean of 4.45, and s.d. of 0.55. International trade agreements

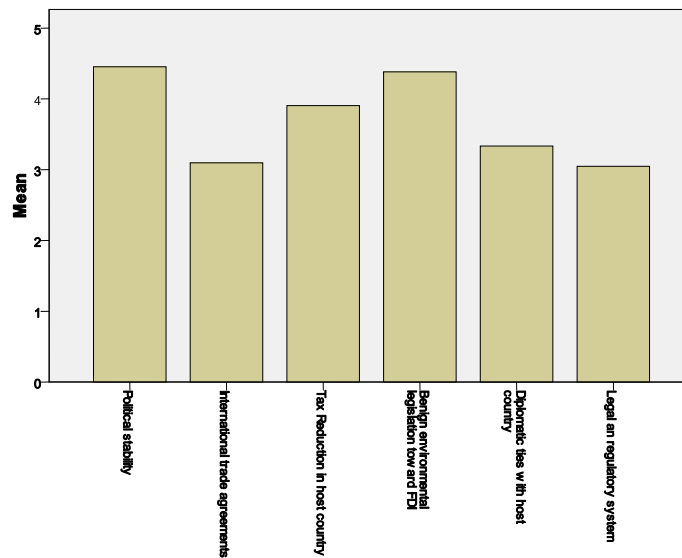
were rated by 42.9 % (18) of the participants as a neutral factor with a mean of 3.10, and s.d. of 0.93. Tax reductions in the host country were rated by 50.0% (21) of the participants as being important with mean of 3.90, and s.d. 0.84. Benign environmental legislation toward FDI was rated by 52.4% (22) of the participants as being important with a mean of 4.38, and s.d. of 0.58. Diplomatic ties with the host market were rated by 45.2% (19) of the participants as a neutral factor with a mean of 3.33, and s.d. of 0.72. The legal and regulatory system was rated by 35.7% (15) of the participants as a neutral factor with a mean of 3.05, and s.d. of 0.93.

**Table 5.7 Political and Legal Factors’ Importance**

Political and legal factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Political stability	0.0% (0)	0.0% (0)	2.4% (1)	<b>50.0% (21)</b>	47.6% (20)	<b>4.45</b>	<b>0.55</b>	42
International trade agreements	0.0% (0)	28.6% (12)	<b>42.9% (18)</b>	19.0% (8)	9.5% (4)	<b>3.10</b>	<b>0.93</b>	42
Tax reductions in the host country	0.0% (0)	7.1% (3)	19.0% (8)	<b>50.0% (21)</b>	23.8% (10)	<b>3.90</b>	<b>0.84</b>	42
Benign environmental legislation towards FDI	0.0% (0)	0.0% (0)	4.8% (2)	<b>52.4% (22)</b>	42.9% (18)	<b>4.38</b>	<b>0.58</b>	42
Diplomatic ties with host country	0.0% (0)	11.9% (5)	<b>45.2% (19)</b>	40.5% (17)	2.4% (1)	<b>3.33</b>	<b>0.72</b>	42
Legal and regulatory system	0.0% (0)	33.3% (14)	<b>35.7% (15)</b>	23.8% (10)	7.1% (3)	<b>3.05</b>	<b>0.93</b>	42

Note: 6 Scale: (1) “Very Unimportant”, (2) “Unimportant”, (3) “Neutral”, (4) “Important”, (5) “Very Important”

**Figure 5.7 Political and Legal Factors’ Importance**



### 5.1.2.7 Social and Cultural Factors’ Importance

Table 5.8 summarises the descriptive data for the location factors in terms of social and cultural factors including the mean, standard deviations and number of participants for each location factor. Figure 5.8 shows the average mean for each location factor compared to other factors associated with social and cultural factors. Cultural distance was rated by 33.3% (14)



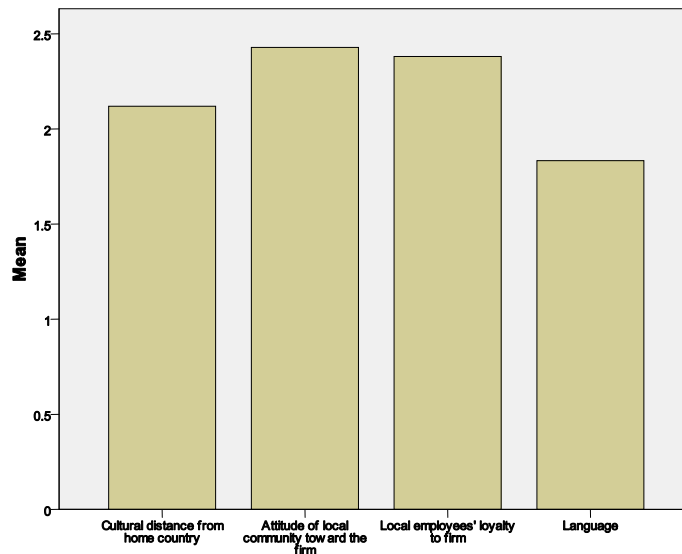
of the participants as being an unimportant factor with a mean of 2.21, and s.d. of 0.94. The attitude of the local community towards the firm was rated by 33.3% (14) of the participants as a neutral factor with a mean of 2.43, and s.d. of 1.03. Local employees' loyalty to the firm was rated by 38.1% (16) of the participants as being an unimportant factor with a mean score of 2.38, and s.d. of 1.03. Language was rated by 47.6% (20) of the participants as being a very unimportant factor with a mean of 1.83, and s.d. of 0.98.

**Table 5.8 Social and Cultural Factors' Importance**

Social & Cultural factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Cultural distance	31.0% (13)	<b>33.3% (14)</b>	28.6% (12)	7.1% (3)	0.0% (0)	<b>2.12</b>	<b>0.94</b>	42
Attitude of the local community toward the firm	23.8% (10)	26.2% (11)	<b>33.3% (14)</b>	16.7% (7)	0.0% (0)	<b>2.43</b>	<b>1.03</b>	42
Local employees loyalty to the firm	21.4% (9)	<b>38.1% (16)</b>	21.4% (9)	19.0% (8)	0.0% (0)	<b>2.38</b>	<b>1.03</b>	42
Language	<b>47.6% (20)</b>	28.6% (12)	19.0% (8)	2.4% (1)	2.4% (1)	<b>1.83</b>	<b>0.98</b>	42

Note: 7 Scale: (1) "Very Unimportant", (2) "Unimportant", (3) "Neutral", (4) "Important", (5) "Very Important"

**Figure 5.8 Social and Cultural Factors' Importance**



### **5.1.3 Location Factors' Competitiveness**

The descriptive data for the location factors' competitiveness are summarised in Table 5.9, which includes the main location factors and the sub-factors. The table also shows the responses scale is represented in numbers and percentages for each location factor in the questionnaire, and the mean, standard deviation and the number of response for each location factor is also presented. Figure 5.9 shows the distribution of the sub-location factors based on the mean for each location factor compared to other factors.

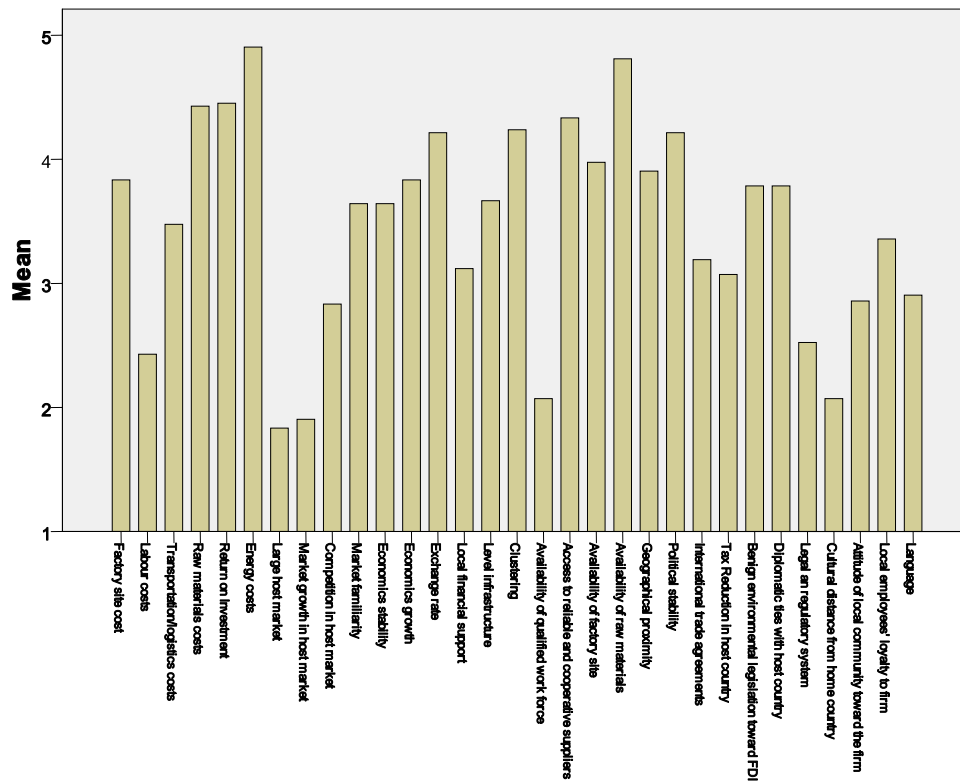
Six major factors were used to constitute the competitiveness of the location factors. They are cost factors, market factors, factors, infrastructure and technological factors, political and legal factors and social and cultural factors. Six factors were used to comprise of the cost factors. These are factory site costs (land cost), labour costs, transportation/logistic costs, cost of raw materials, return on investment and energy costs. Four factors were used to constitute the market factors. These are the size of the host markets, market growth in the host country, the level of competition in the host market and market familiarity. Four factors were used to comprise of the economic factors. These are economic stability, economic growth, exchange rates, and local financial support. Seven factors were used to comprise of the infrastructure and technological factor. These are the levels of infrastructure (ports, roads, airports, etc.), high industrial concentration (clustering), the availability of a well-qualified workforce, access to reliable and cooperative suppliers, the availability of factory sites (land), the availability of raw materials and geographical proximity to the markets. Six factors were used to constitute the political and legal factors. These are political stability, international trade agreements, tax reductions in the host country, benign environmental legislation towards FDI, diplomatic ties with the host country and legal and regulatory systems. Four factors were used to comprise of the social and cultural factors. These are cultural distance, the attitude of the local community toward the firm, local employees' loyalty to the firm and language. In the next section, we discuss in detail each major factor and its sub-factors.

**Table 5.9 Saudi Arabia's Competitiveness Compared to Other Locations in the Petrochemicals Industry (Mean)**

Major and Sub-Location Factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
<b>A. Cost factors</b>						<b>3.92</b>	<b>0.38</b>	
1. Factory site costs (Land cost)	0.0% (0)	16.7% (7)	16.7% (7)	<b>33.3% (14)</b>	<b>33.3% (14)</b>	<b>3.83</b>	<b>1.08</b>	42
2. Labour costs	19.0% (8)	<b>38.1% (16)</b>	23.8% (10)	19.0% (8)	0.0% (0)	<b>2.43</b>	<b>1.01</b>	42
3. Transportation/ logistics costs	0.0% (0)	19.0% (8)	28.6% (12)	<b>38.1% (16)</b>	14.3% (6)	<b>3.48</b>	<b>0.96</b>	42
4. Cost of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	<b>57.1% (24)</b>	42.9% (18)	<b>4.43</b>	<b>0.50</b>	42
5. Return on investment	0.0% (0)	2.4% (1)	0.0% (0)	47.6% (20)	<b>50.0% (21)</b>	<b>4.45</b>	<b>0.63</b>	42
6. Energy costs	0.0% (0)	0.0% (0)	0.0% (0)	9.5% (4)	<b>90.5% (38)</b>	<b>4.90</b>	<b>0.29</b>	42
<b>B. Market factors</b>						<b>2.55</b>	<b>0.53</b>	
7. Size of host markets	35.7% (15)	<b>52.4% (22)</b>	7.1% (3)	2.4% (1)	2.4% (1)	<b>1.83</b>	<b>0.85</b>	42
8. Market growth in the host country	31.0% (13)	<b>54.8% (23)</b>	7.1% (3)	7.1% (3)	0.0% (0)	<b>1.90</b>	<b>0.82</b>	42
9. Level of competition in the host market	2.4% (1)	35.7% (15)	<b>38.1% (16)</b>	23.8% (10)	0.0% (0)	<b>2.83</b>	<b>0.82</b>	42
10. Market familiarity	0.0% (0)	7.1% (3)	35.7% (15)	<b>42.9% (18)</b>	14.3% (6)	<b>3.64</b>	<b>0.82</b>	42
<b>C. Economic factors</b>						<b>3.70</b>	<b>0.55</b>	
11. Economic stability	0.0% (0)	2.4% (1)	<b>42.9% (18)</b>	<b>42.9% (18)</b>	11.9% (5)	<b>3.64</b>	<b>0.72</b>	42
12. Economic growth	0.0% (0)	9.5% (4)	16.7% (7)	<b>54.8% (23)</b>	19.0% (8)	<b>3.83</b>	<b>0.85</b>	42
13. Exchange rates	0.0% (0)	2.4% (1)	7.1% (3)	<b>57.1% (24)</b>	33.3% (14)	<b>4.21</b>	<b>0.68</b>	42
14. Local financial support	4.8% (2)	21.4% (9)	33.3% (14)	<b>38.1% (16)</b>	2.4% (1)	<b>3.12</b>	<b>0.94</b>	42
<b>D. Infrastructure and technological factors</b>						<b>3.86</b>	<b>0.38</b>	
15. Level of infrastructure (ports, roads, airports etc.)	0.0% (0)	7.1% (3)	31.0% (13)	<b>50.0% (21)</b>	11.9% (5)	<b>3.67</b>	<b>0.78</b>	42
16. High industrial concentration (clustering)	0.0% (0)	2.4% (1)	2.4% (1)	<b>64.3% (27)</b>	31.0% (13)	<b>4.24</b>	<b>0.61</b>	42
17. Availability of well qualified workforce	33.3% (14)	<b>40.5% (17)</b>	11.9% (5)	14.3% (6)	0.0% (0)	<b>2.07</b>	<b>1.02</b>	42
18. Access to reliable and cooperative suppliers	0.0% (0)	0.0% (0)	4.8% (2)	<b>57.1% (24)</b>	38.1% (16)	<b>4.33</b>	<b>0.57</b>	42
19. Availability of factory sites (land)	0.0% (0)	2.4% (1)	16.7% (7)	<b>61.9% (26)</b>	19.0% (8)	<b>3.98</b>	<b>0.68</b>	42
20. Availability of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	19.0% (8)	<b>81.0% (34)</b>	<b>4.81</b>	<b>0.39</b>	42
21. Geographical proximity to the markets	0.0% (0)	4.8% (2)	28.6% (12)	<b>38.1% (16)</b>	28.6% (12)	<b>3.90</b>	<b>0.87</b>	42
<b>E. Political and legal factors</b>						<b>3.43</b>	<b>0.52</b>	
22. Political stability	0.0% (0)	0.0% (0)	14.3% (6)	<b>50.0% (21)</b>	35.7% (15)	<b>4.21</b>	<b>0.68</b>	42
23. International trade agreements	0.0% (0)	26.2% (11)	<b>45.2% (19)</b>	11.9% (5)	16.7% (7)	<b>3.19</b>	<b>1.01</b>	42
24. Tax reductions in the host country	7.1% (3)	26.2% (11)	<b>31.0% (13)</b>	23.8% (10)	11.9% (5)	<b>3.07</b>	<b>1.13</b>	42
25. Benign environmental legislation towards FDI	0.0% (0)	4.8% (2)	31.0% (13)	<b>45.2% (19)</b>	19.0% (8)	<b>3.79</b>	<b>0.81</b>	42
26. Diplomatic ties with the host country	0.0% (0)	0.0% (0)	38.1% (16)	<b>45.2% (19)</b>	16.7% (7)	<b>3.79</b>	<b>0.71</b>	42
27. Legal and regulatory system	16.7% (7)	33.3% (14)	<b>35.7% (15)</b>	9.5% (4)	4.8% (2)	<b>2.52</b>	<b>1.04</b>	42
<b>F. Social and cultural factors</b>						<b>2.80</b>	<b>0.54</b>	
28. Cultural distance	<b>35.7% (15)</b>	33.3% (14)	19.0% (8)	11.9% (5)	0.0% (0)	<b>2.07</b>	<b>1.02</b>	42
29. Attitude of the local community toward the firm	9.5% (4)	21.4% (9)	<b>47.6% (20)</b>	16.7% (7)	4.8% (2)	<b>2.86</b>	<b>0.97</b>	42
30. Local employees loyalty to the firm	0.0% (0)	9.5% (4)	<b>50.0% (21)</b>	35.7% (15)	4.8% (2)	<b>3.36</b>	<b>0.72</b>	42
31. Language	2.4% (1)	31.0% (13)	<b>45.2% (19)</b>	16.7% (7)	4.8% (2)	<b>2.90</b>	<b>0.87</b>	42

Note :Scale: (1) "Much Worse," (2) "Worse," (3) "Same", (4) "Better," (5) "Much Better"

**Figure 5.9 Competitiveness of Location Factors**



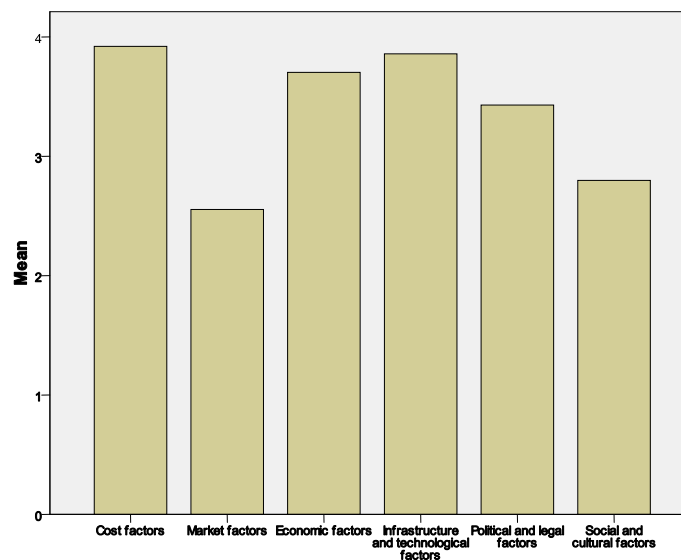
### 5.1.3.1 Major Factors' Competitiveness

Table 5.10 summarises the competitiveness of the major location factors, including the mean and standard deviation for each factor. Figure 5.10 shows the competitiveness of each major factor's mean relative to other location factors. The major factors were calculated by the total average mean for the sub-factors on each major location factor. Cost factors have a mean of 3.92, and s.d. of 0.38; market factors have a mean of 2.55, and s.d. of 0.53; economic factors have a mean of 3.70, and s.d. of 0.55; infrastructure and technological factors have a mean of 3.86, and s.d. of 0.38; political and legal factors have a mean of 3.43, and s.d. of 0.52; finally, social and cultural factors have a mean score of 2.80, and s.d. of 0.54.

**Table 5.10 Major Factors' Competitiveness**

<b>Major Factors and Competitiveness</b>	<b>Mean</b>	<b>S.D.</b>
Cost factors	3.92	0.38
Market factors	2.55	0.53
Economic factors	3.70	0.55
Infrastructure and technological factors	3.86	0.38
Political and legal factors	3.43	0.52
Social and Cultural factors	2.80	0.54

**Figure 5.10 Major Factors' Competitiveness**



### **5.1.3.2 Cost Factors' Competitiveness**

Table 5.11 summarises the descriptive data for the competitiveness of the cost factors including the mean, standard deviation and number of responses for each sub-location factor. Figure 5.11 shows the average mean for each location factor compared to other factors in terms of the cost factors. Factory site costs (land costs) were rated equally by 33.3% (14) of the participants as being better and much better compared to other locations with mean score of 3.83, and s.d. of 1.08. Labour costs were rated by 38.1% (16) of the participants as a worse factor compared to other locations with mean of 2.43, and s.d. of 1.01. Transportation and logistics costs were rated by 38.1% (16) of the respondents as a better factor compared to other locations with mean of 3.48, and s.d. of 0.96. The cost of raw materials were rated by 57.1% (24) as a better location factor compared to other location with mean of 4.43, and s.d. of 0.50. Return on investment was rated by 50.0% (21) of the participants as a much better

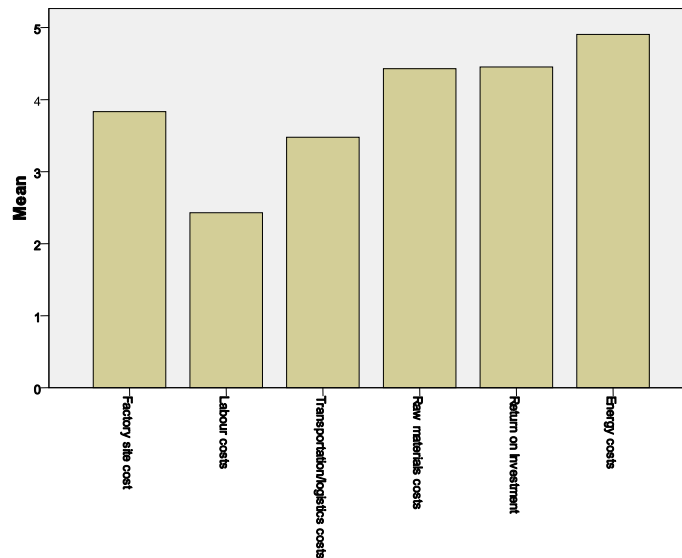
location factor compared to other locations with mean of 4.45, and s.d. of 0.63. Energy costs were rated by 90.5% (38) of the participants as a much better location factor compared to other locations with mean of 4.90, and s.d. of 0.29.

**Table 5.11 Cost Factors' Competitiveness**

Cost Factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Factory site costs (Land cost)	0.0% (0)	16.7% (7)	16.7% (7)	<b>33.3% (14)</b>	<b>33.3% (14)</b>	<b>3.83</b>	<b>1.08</b>	42
Labour costs	19.0% (8)	<b>38.1% (16)</b>	23.8% (10)	19.0% (8)	0.0% (0)	<b>2.43</b>	<b>1.01</b>	42
Transportation/logistic costs	0.0% (0)	19.0% (8)	28.6% (12)	<b>38.1% (16)</b>	14.3% (6)	<b>3.48</b>	<b>0.96</b>	42
Cost of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	<b>57.1% (24)</b>	42.9% (18)	<b>4.43</b>	<b>0.50</b>	42
Return on investment	0.0% (0)	2.4% (1)	0.0% (0)	47.6% (20)	<b>50.0% (21)</b>	<b>4.45</b>	<b>0.63</b>	42
Energy costs	0.0% (0)	0.0% (0)	0.0% (0)	9.5% (4)	<b>90.5% (38)</b>	<b>4.90</b>	<b>0.29</b>	42

Note: 8 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"

**Figure 5.11 Cost Factors' Competitiveness**



### 5.1.3.3 Market Factors' Competitiveness

Table 5.12 summarises the descriptive data for the market factors' competitiveness including the mean, standard deviation, and number of responses for each sub-location factor included under market factors. Figure 5.12 shows the mean score of competitiveness for each location factor under market factors compared to other location factors. The size of the host market was rated by 52.4% (22) of the participants as a worse location factor compared to other locations with a mean of 1.83, and s.d. of 0.85. Market growth in the host market was rated by 54.8% (23) of the participants as a worse location factor compared to other locations with

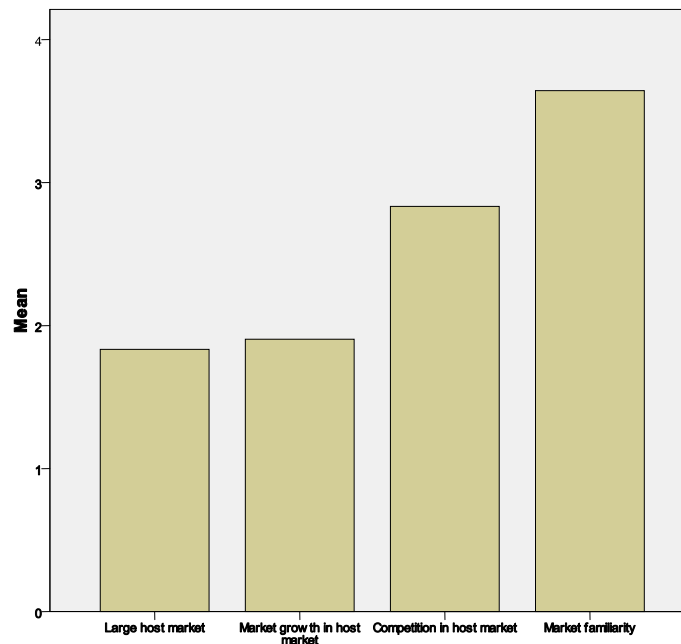
mean of 1.90, and s.d. of 0.82. The level of competition in the host market was rated by 38.1% (16) of the participants as the same compared to other locations with a mean of 2.83, and s.d. of 0.82. Market familiarity was rated by 42.9% (18) of the participants as a better location factor compared to other locations with a mean score of 3.64, and s.d. of 0.82.

**Table 5.12 Market Factors' Competitiveness**

Market factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Size of host market	35.7% (15)	<b>52.4% (22)</b>	7.1% (3)	2.4% (1)	2.4% (1)	<b>1.83</b>	<b>0.85</b>	42
Market growth in the host country	31.0% (13)	<b>54.8% (23)</b>	7.1% (3)	7.1% (3)	0.0% (0)	<b>1.90</b>	<b>0.82</b>	42
Level of competition in the host market	2.4% (1)	35.7% (15)	<b>38.1% (16)</b>	23.8% (10)	0.0% (0)	<b>2.83</b>	<b>0.82</b>	42
Market familiarity	0.0% (0)	7.1% (3)	35.7% (15)	<b>42.9% (18)</b>	14.3% (6)	<b>3.64</b>	<b>0.82</b>	42

Note: 9 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"

**Figure 5.12 Market Factors' Competitiveness**



### 5.1.3.4 Economic Factors' Competitiveness

Table 5.13 summarises the descriptive data for the economic factors' competitiveness for each economic location factor including the mean, standard deviation and number of participants. Figure 5.13 shows the average mean of each location factor compared to other location factors in terms of economic factors. Economic stability was rated equally by 42.9% (18) of the participants as the same and as a better location factor compared to other locations

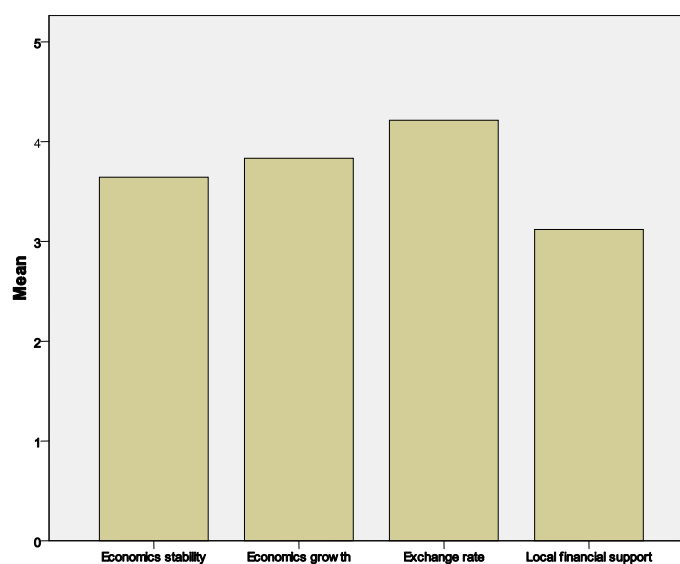
with mean of 3.64, and s.d. of 0.72. Economic growth was rated by 54.8% (23) of the participants as a better location factor compared to other locations with mean of 3.83, and s.d. of 0.85. Exchange rates were rated by 57.1% (24) of participants as a better location factor compared to other locations with mean of 4.21, and s.d. of 0.68. Local financial support was rated by 38.1% (16) as a better location factor compared to other locations with mean of 3.12, and s.d. of 0.94.

**Table 5.13 Economic Factors' Competitiveness**

Economic factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Economic stability	0.0% (0)	2.4% (1)	<b>42.9% (18)</b>	<b>42.9% (18)</b>	11.9% (5)	<b>3.64</b>	<b>0.72</b>	42
Economic growth	0.0% (0)	9.5% (4)	16.7% (7)	<b>54.8% (23)</b>	19.0% (8)	<b>3.83</b>	<b>0.85</b>	42
Exchange rates	0.0% (0)	2.4% (1)	7.1% (3)	<b>57.1% (24)</b>	33.3% (14)	<b>4.21</b>	<b>0.68</b>	42
Local financial support	4.8% (2)	21.4% (9)	33.3% (14)	<b>38.1% (16)</b>	2.4% (1)	<b>3.12</b>	<b>0.94</b>	42

Note: 10 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"

**Figure 5.13 Economic Factors' Competitiveness**



### 5.1.3.5 Infrastructure and Technological Factors' Competitiveness

Table 5.14 summarises the descriptive data for the competitiveness of each location factor in terms of infrastructure and technological factors, including the mean, standard deviations and number of participants. Figure 5.14 shows the average response rate of competitiveness for each location factor compared to other locations in terms of infrastructure and technological factors. Levels of infrastructure (ports, roads, airports, etc.) were rated by 50.0% (21) of



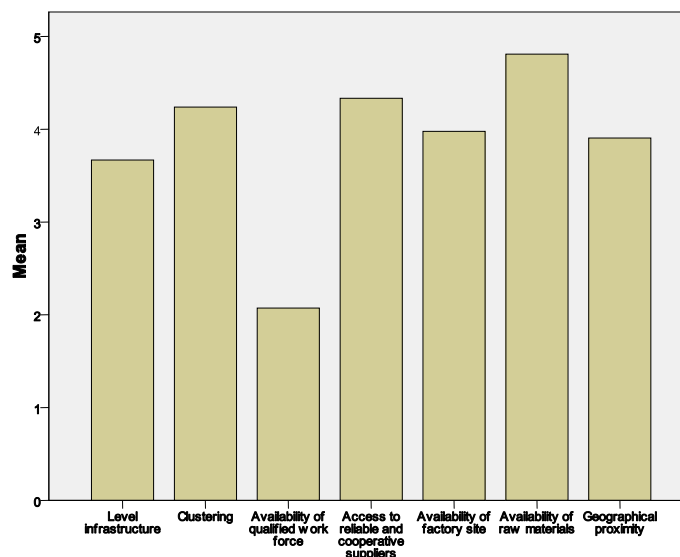
participants as being better location factor compared to other locations with mean of 3.76, s.d. and 0.78. Higher industrial concentration was rated by 64.3% (27) of the participants as being a better location factor compared to other locations with mean of 4.24, s.d. and of 0.61. The availability of a well-qualified workforce was rated by 40.5% (17) of the participants as being a worse location factor compared to other locations with a mean of 2.07, and s.d. of 1.02. Access to reliable and cooperative suppliers was rated by 57.1% (24) of the participants as being a better location factor compared to other locations with mean of 4.33, and s.d. of 0.57. The availability of a factory site (land) was rated by 61.9% (26) of the participants as being a better location factor compared to other locations with mean of 3.98, and s.d. of 0.68. The availability of raw materials was rated by 81.0% (34) of the participants as being a much better location factor compared to other locations with mean of 4.81, and s.d. of 0.39. Geographical proximity to the markets was rated by 38.1% (16) of the participants as being a better location factor compared to other locations with mean of 3.90, and s.d. of 0.87.

**Table 5.14 Infrastructure and Technological Factors' Competitiveness**

Infrastructure and technological factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Level of infrastructure (ports, roads, airports, etc.)	0.0% (0)	7.1% (3)	31.0% (13)	<b>50.0% (21)</b>	11.9% (5)	<b>3.67</b>	<b>0.78</b>	42
High industrial concentration (clustering)	0.0% (0)	2.4% (1)	2.4% (1)	<b>64.3% (27)</b>	31.0% (13)	<b>4.24</b>	<b>0.61</b>	42
Availability of well qualified work force	33.3% (14)	<b>40.5% (17)</b>	11.9% (5)	14.3% (6)	0.0% (0)	<b>2.07</b>	<b>1.02</b>	42
Access to reliable and cooperative suppliers	0.0% (0)	0.0% (0)	4.8% (2)	<b>57.1% (24)</b>	38.1% (16)	<b>4.33</b>	<b>0.57</b>	42
Availability of factory sites (land)	0.0% (0)	2.4% (1)	16.7% (7)	<b>61.9% (26)</b>	19.0% (8)	<b>3.98</b>	<b>0.68</b>	42
Availability of raw materials	0.0% (0)	0.0% (0)	0.0% (0)	19.0% (8)	<b>81.0% (34)</b>	<b>4.81</b>	<b>0.39</b>	42
Geographical proximity to the markets	0.0% (0)	4.8% (2)	28.6% (12)	<b>38.1% (16)</b>	28.6% (12)	<b>3.90</b>	<b>0.87</b>	42

**Note: 11 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"**

**Figure 5.14 Infrastructure and Technological Factors' Competitiveness**



### 5.1.3.6 Political and Legal Factors' Competitiveness

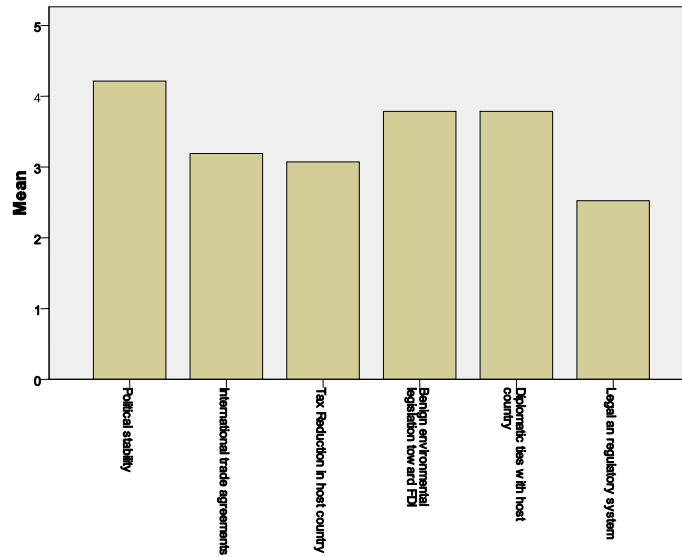
Table 5.15 summarises the descriptive data for the location factors' competitiveness in terms of political and legal factors, including the mean, standard deviation and number of participants for each location factor. Figure 5.15 shows the mean for each location factor compared to other factors related to the political and legal factors. Political stability was rated by 50.0% (21) of the participants as a better location factor compared to other locations with mean of 4.21, and s.d. of 0.68. International trade agreements were rated by 45.2% (19) of participants as the same location factor compared to other locations with mean of 3.19, and s.d. 1.01. Tax reduction in the host market was rated by 31.0% (13) of the participants as the same with mean of 3.07, and s.d. of 1.13. Benign environmental legislation toward FDI was rated by 45.2% (19) of the participants as a better location factor compared to other locations with mean of 3.79, and s.d. of 0.81. Diplomatic ties with the host market were rated by 45.2% (19) of the participants as being a better location factor compared to other locations with mean of 3.79, and s.d. 0.71. Legal and regulatory systems were rated by 35.7% (15) of the participants as the same locations compared to other location factors with mean of 2.52, and s.d. of 1.04.

**Table 5.15 Political and Legal Factors' Competitiveness**

Political and legal factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Political stability	0.0% (0)	0.0% (0)	14.3% (6)	<b>50.0% (21)</b>	35.7% (15)	<b>4.21</b>	<b>0.68</b>	42
International trade agreements	0.0% (0)	26.2% (11)	<b>45.2% (19)</b>	11.9% (5)	16.7% (7)	<b>3.19</b>	<b>1.01</b>	42
Tax reductions in the host country	7.1% (3)	26.2% (11)	<b>31.0% (13)</b>	23.8% (10)	11.9% (5)	<b>3.07</b>	<b>1.13</b>	42
Benign environmental legislation towards FDI	0.0% (0)	4.8% (2)	31.0% (13)	<b>45.2% (19)</b>	19.0% (8)	<b>3.79</b>	<b>0.81</b>	42
Diplomatic ties with the host country	0.0% (0)	0.0% (0)	38.1% (16)	<b>45.2% (19)</b>	16.7% (7)	<b>3.79</b>	<b>0.71</b>	42
Legal and regulatory system	16.7% (7)	33.3% (14)	<b>35.7% (15)</b>	9.5% (4)	4.8% (2)	<b>2.52</b>	<b>1.04</b>	42

Note: 12 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"

**Figure 5.15 Political and Legal Factors' Competitiveness**



### 5.1.3.7 Social and Cultural Factors' Competitiveness

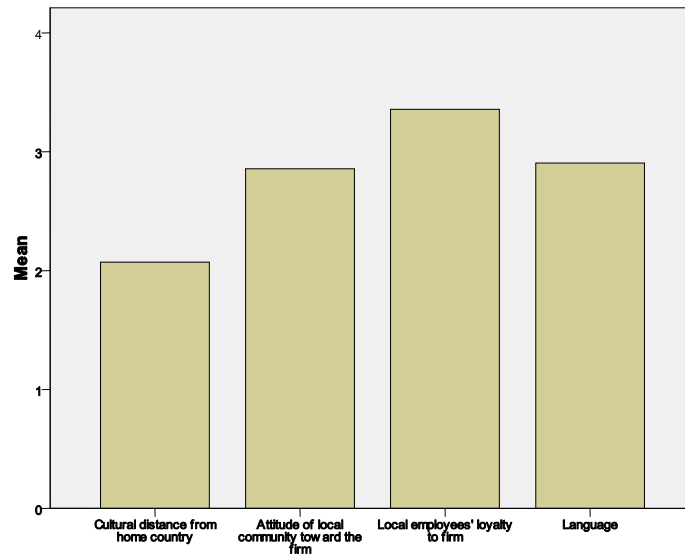
Table 5.16 summarises the descriptive data for the location factors' competitiveness in terms of the social and cultural factors, including the mean, standard deviation and number of participants for each location factor. Figure 5.16 shows the average mean for each location factor compared to other factors related to social and cultural factors. Cultural distance was rated by 35.7% (15) of the participants as a much worse location factor compared to other locations with mean of 2.07, and s.d. of 1.02. The attitude of the local community toward the firm was rated by 47.6% (20) of the participants as the same compared to other locations with mean of 2.86, and s.d. of 0.97. Local employees' loyalty to the firm was rated by 50.0% (21) of the participants as the same compared to other locations with mean of 3.36, and s.d. of 0.72. Language was rated by 45.2% (19) of the participants as the same compared to other locations with mean of 2.90, and s.d. of 0.87.

**Table 5.16 Social and Cultural Factors' Competitiveness**

Social & Cultural factors	Response Scale					Scale Descriptive		
	1	2	3	4	5	Mean	S.D.	n
Cultural distance	35.7% (15)	33.3% (14)	19.0% (8)	11.9% (5)	0.0% (0)	2.07	1.02	42
Attitude of the local community toward the firm	9.5% (4)	21.4% (9)	47.6% (20)	16.7% (7)	4.8% (2)	2.86	0.97	42
Local employees loyalty to the firm	0.0% (0)	9.5% (4)	50.0% (21)	35.7% (15)	4.8% (2)	3.36	0.72	42
Language	2.4% (1)	31.0% (13)	45.2% (19)	16.7% (7)	4.8% (2)	2.90	0.87	42

Note: 13 Scale: (1) "Much Worse", (2) "Worse", (3) "Same", (4) "Better", (5) "Much Better"

**Figure 5.16 Social and Cultural Factors' Competitiveness**



## **5.2 Location Factors' Ranking**

### **5.2.1 Introduction**

In this section, the thesis shows the relative importance and competitiveness of location factors compared to other factors, and how the location factors are rated by FDI flows into the Saudi petrochemicals industry. In the first part of this section, we provide details of the relative importance of all factors, including major factors and sub-factors and the relative importance of sub-factors for each major factor. In the second part of this section, we show the competitiveness of Saudi location factors compared to other locations in the petrochemicals industry, including the competitiveness of the major factors and the sub-factors and the competitiveness of the sub-factors under each major factor.

### **5.2.2 Location Factors' Importance Ranking**

Table 5.17 summarises the relative importance of the major factors and sub-factors for the petrochemicals FDI in terms of their decision to locate their business in Saudi Arabia. In the first part of the questionnaire, the participants were asked to rate the relative importance of the sub-location factors for their decision to locate their business in Saudi Arabia. After calculating the average rating of the sub-factors, the ranking of the major location factors was recorded. We discuss these factors in detail in the following section.

**Table 5.17 The Relative Importance of Location Factors in the Petrochemicals Industry**

<b>Major and Sub-Location Factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
<b>A. Cost factors</b>	<b>1</b>	<b>4.04</b>	<b>0.46</b>
1. Factory site costs (Land cost)	17	3.29	0.96
2. Labour costs	23	2.62	1.08
3. Transportation/logistic costs	9	4.12	0.77
4. Cost of raw materials	4	4.60	0.49
5. Return on investment	2	4.74	0.49
6. Energy costs	1	4.88	0.32
<b>B. Market factors</b>	<b>5</b>	<b>2.44</b>	<b>0.69</b>
7. Size of host markets	29	2.14	0.84
8. Market growth in the host country	28	2.19	1.06
9. Level of competition in the host market	25	2.55	0.70
10. Market familiarity	20	2.88	0.99
<b>C. Economic factors</b>	<b>4</b>	<b>3.14</b>	<b>0.76</b>
11. Economic stability	13	3.62	1.12
12. Economic growth	24	2.57	0.88
13. Exchange rates	14	3.62	0.93
14. Local financial support	21	2.74	1.03
<b>D. Infrastructure and technological factors</b>	<b>2</b>	<b>3.91</b>	<b>0.36</b>
15. Level of infrastructure (ports, roads, airports, etc.)	8	4.31	0.46
16. High industrial concentration (clustering)	12	3.86	0.64
17. Availability of well qualified workforce	22	2.64	0.69
18. Access to reliable and cooperative suppliers	7	4.33	0.87
19. Availability of factory sites (land)	10	4.02	0.60
20. Availability of raw materials	3	4.69	0.46
21. Geographical proximity to the markets	15	3.50	0.91
<b>E. Political and legal factors</b>	<b>3</b>	<b>3.70</b>	<b>0.42</b>
22. Political stability	5	4.45	0.55
23. International trade agreements	18	3.10	0.93
24. Tax reductions in the host country	11	3.90	0.84
25. Benign environmental legislation towards FDI	6	4.38	0.58
26. Diplomatic ties with the host country	16	3.33	0.72
27. Legal and regulatory system	19	3.05	0.93
<b>F. Social and Cultural factors</b>	<b>6</b>	<b>2.19</b>	<b>0.66</b>
28. Cultural distance	30	2.12	0.94
29. Attitude of the local community towards the firm	26	2.43	1.03
30. Local employees' loyalty to the firm	27	2.38	1.03
31. Language	31	1.83	0.98

Table 5.18 summarises the relative importance of all location factors relative to other factors including the mean and standard deviations for each factor. Figure 5.17 shows the relative importance of each location factor compared to all other factors, based on the mean for each factor and listed in decreasing order of importance. All sub-factors identified from the list of each of the major factors are ranked according to their average scores in Table 5.18. From the analysis of the sub-factors, an average rating above 3.0 was considered to indicate an important location factor in the petrochemicals industry. The importance ranking of each location factor identified according to their relative importance with regard to FDI location decisions among other location factors are listed below in decreasing order of importance:

1. Energy costs
2. Return on investment
3. Availability of raw materials
4. Cost of raw materials
5. Political stability
6. Benign environmental legislation for FDI
7. Access to reliable and cooperative suppliers
8. Level of infrastructure
9. Transportation/logistic costs
10. Availability of factory sites (land)
11. Tax reductions in the host country
12. High industrial concentration (clustering)
13. Economic stability
14. Exchange rates
15. Geographical proximity
16. Diplomatic ties with the host country
17. Production site costs (land costs)
18. International trade agreements
19. Legal and regulatory system

The least important location factors among other location factors based on the average means of importance are listed below in decreasing order of importance as:

20. Market familiarity
21. Local financial support
22. Availability of well-qualified workforce

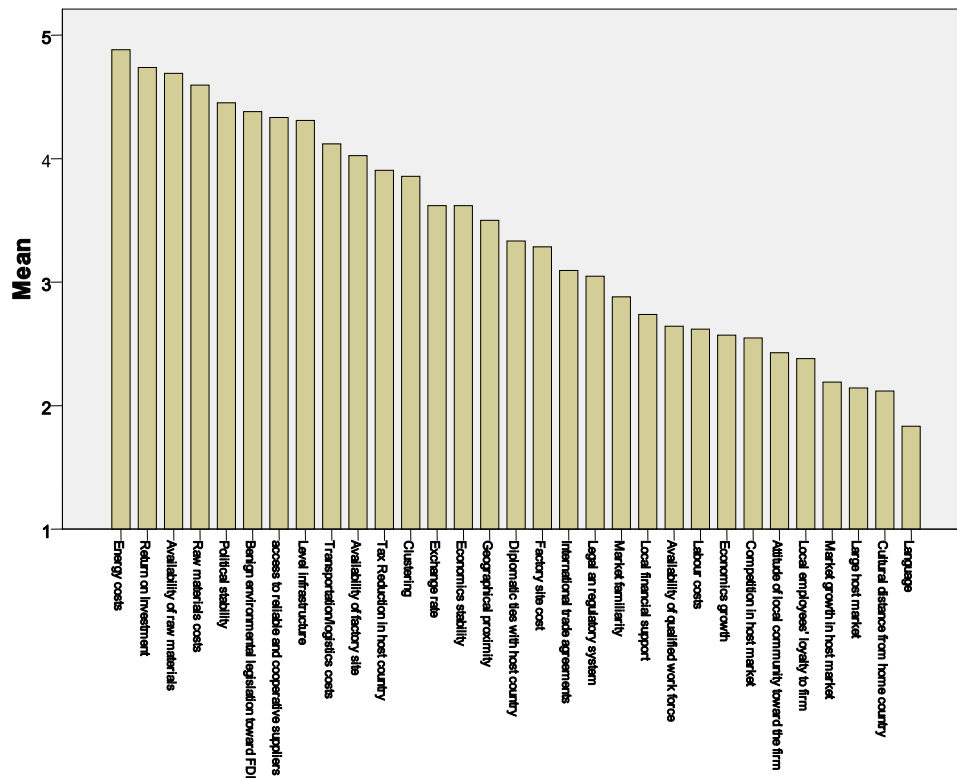
23. Labour costs
24. Economic growth
25. Level of competition in the host market
26. Attitude of the local community towards the firm
27. Local employees' loyalty to the firm
28. Market growth in the host country
29. Size of the host market
30. Cultural distance
31. Language



**Table 5.18 Location Factors' Importance Ranking**

<b>Location Factors Ranking</b>	<b>Mean</b>	<b>S.D.</b>
1. Energy costs	4.88	0.32
2. Return on investment	4.74	0.49
3. Availability of raw materials	4.69	0.46
4. Cost of raw materials	4.60	0.49
5. Political stability	4.45	0.55
6. Benign environmental legislation for FDI	4.38	0.58
7. Access to reliable and cooperative suppliers	4.33	0.87
8. Level of infrastructure	4.31	0.46
9. Transportation/logistic costs	4.12	0.77
10. Availability of factory sites (land)	4.02	0.60
11. Tax reductions in the host country	3.90	0.84
12. High industrial concentration (clustering)	3.86	0.64
13. Economic stability	3.62	1.12
14. Exchange rates	3.62	0.93
15. Geographical proximity	3.50	0.91
16. Diplomatic ties with the host country	3.33	0.72
17. Production site costs (land costs)	3.29	0.96
18. International trade agreements	3.10	0.93
19. Legal and regulatory system	3.05	0.93
20. Market familiarity	2.88	0.99
21. Local financial support	2.74	1.03
22. Availability of well qualified workforce	2.64	0.69
23. Labour costs	2.62	1.08
24. Economic growth	2.57	0.88
25. Level of competition in the host market	2.55	0.70
26. Attitude of the local community towards the firm	2.43	1.03
27. Local employees' loyalty to the firm	2.38	1.03
28. Market growth in the host country	2.19	1.06
29. Large size of host market	2.14	0.84
30. Cultural distance	2.12	0.94
31. Language	1.83	0.98

Figure 5.17 Location Factors' Importance Ranking



### 5.2.2.1 Major Factors' Importance Ranking

Table 5.19 summarises the relative importance of each major location factor compared to all other major factors based on the average mean in terms of their importance. Figure 5.18 shows the relative importance of each major factor compared to other major factors, based on their average mean of importance and listed in decreasing order of importance. After calculating the average rating of the sub-factors associated with each major factor, we have the average mean for each major factor. From the analysis of all the major location factors, an average rating above 3.0 was considered to indicate important location factors in the petrochemicals industry. The relative importance of the major factors are listed below in decreasing order of their importance as:

1. Cost factors
2. Infrastructure and technological factors
3. Political and legal factors
4. Economic factors
5. Market factors

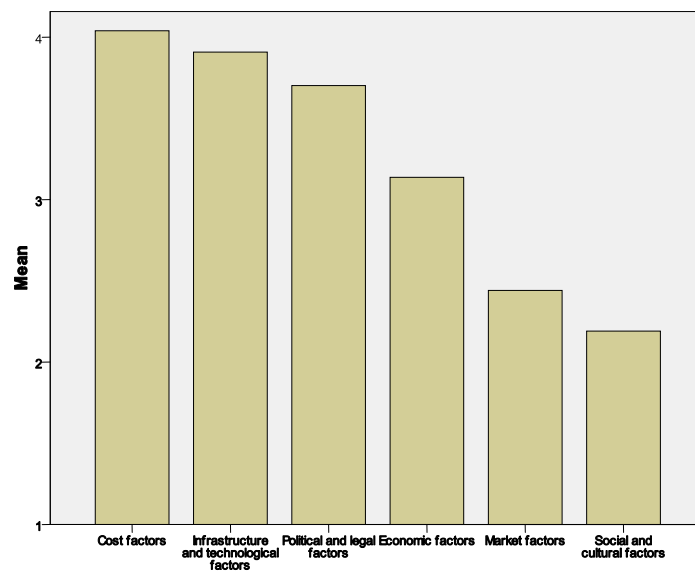
## 6. Social and cultural factors

Cost factors, infrastructure and technological factors, political and legal factors and economic factors are rated relatively high among other major location factors, which indicate that they are considered to be important location factors for FDI when choosing their location in the Saudi petrochemicals industry. Market factors as well as the social and cultural factors are rated relatively low among other major location factors, which indicate that they are considered to be relatively unimportant location factors for FDI location decisions in the Saudi petrochemicals industry.

**Table 5.19 Major Factors' Importance Ranking**

Major Factors Importance Ranking	Rank	Mean	S.D.
Cost factors	1	4.04	0.46
Infrastructure and technological factors	2	3.91	0.36
Political and legal factors	3	3.70	0.42
Economic factors	4	3.14	0.76
Market factors	5	2.44	0.69
Social and Cultural factors	6	2.19	0.66

**Figure 5.18 Major Factors' Importance Ranking**



### 5.2.2.2 Cost Factors' Importance Ranking

Table 5.20 summarises the importance of the cost factors relative to each other, including the mean and standard deviation for each factor. Figure 5.19 shows the ranking of the cost factors based on the average mean of each factor. The relative importance of the cost factors are listed in decreasing order of importance as:

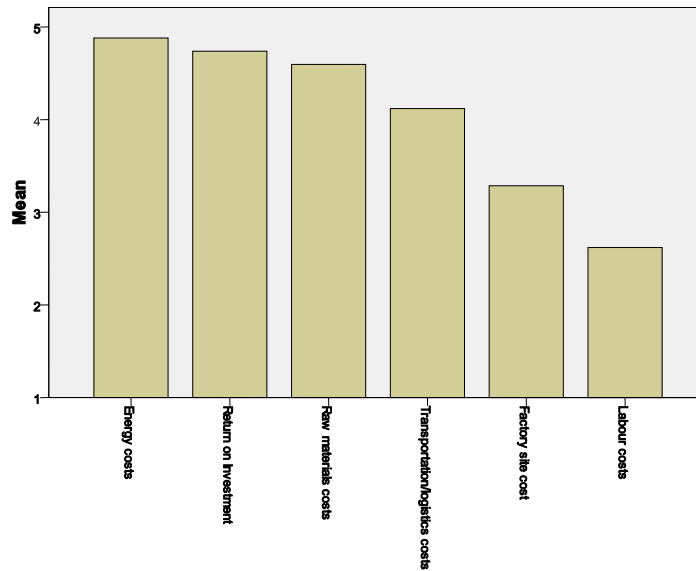
1. Energy costs
2. Return on investment
3. Cost of raw materials
4. Transportation/logistic costs
5. Production site costs (land costs)
6. Labour costs

Most of the cost factors are considered as important factors with an average mean of greater than 3.0 including energy costs, return on investment, cost of raw materials, transportation/logistic costs and production site costs (land costs). However, labour cost received a mean score of less than 3.0, indicating that it is considered to be a relatively unimportant factor among the cost factors for the petrochemicals industry.

**Table 5.20 Priority of Cost Factors**

<b>Cost Factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
Energy costs	1	4.88	0.32
Return on investment	2	4.74	0.49
Low cost of raw materials	3	4.60	0.49
Transportation/ logistic cost	4	4.12	0.77
Production site cost (land cost)	5	3.29	0.96
Labour costs	6	2.62	1.08

**Figure 5.19 Cost Factors' Importance Ranking**



### 5.2.2.3 Market Factors' Importance Ranking

Table 5.21 summarises the relative importance of the market location factors relative to other market factors, including the mean and standard deviation for each factor. Figure 5.20 shows the relative importance of the ranking for each market factor, based on the average mean in terms of their importance. The relative importance of the market factors are listed below, in decreasing order of importance as:

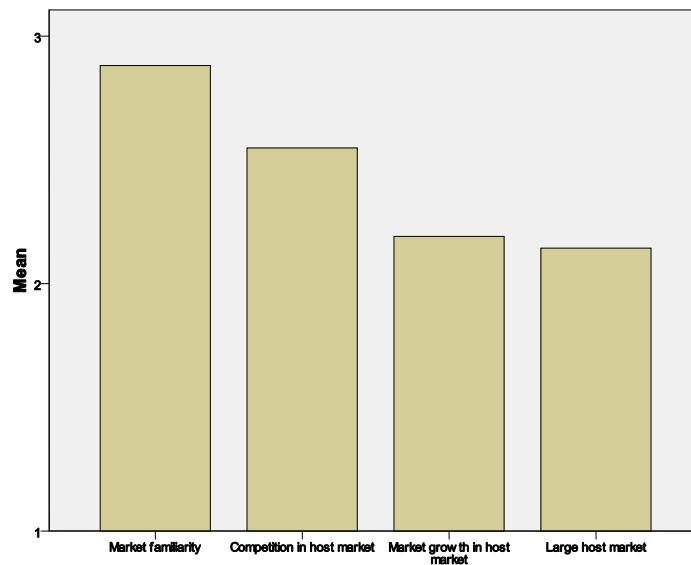
1. Market familiarity
2. Level of competition in the host market
3. Market growth in the host country
4. Size of the host market

All market factors received an average mean scores of less than 3.0, indicating that they are considered to be relatively unimportant factors in terms of location decisions in the Saudi petrochemicals industry.

**Table 5.21 Priority of Market Factors**

Market Factors	Rank	Mean	S.D.
Market familiarity	1	2.88	0.99
Level of competition in the host market	2	2.55	0.70
Market growth in the host country	3	2.19	1.06
Size of the host market	4	2.14	0.84

**Figure 5.20 Market Factors' Importance Ranking**



#### **5.2.2.4 Economic Factors' Importance Ranking**

Table 5.22 summarises the relative importance of economic factors, including the mean and standard deviation for each economic factor. Figure 5.21 shows the relative importance of each economic factor, based on the average mean in terms of importance. The relative importance of economic factors are listed below in decreasing order of importance:

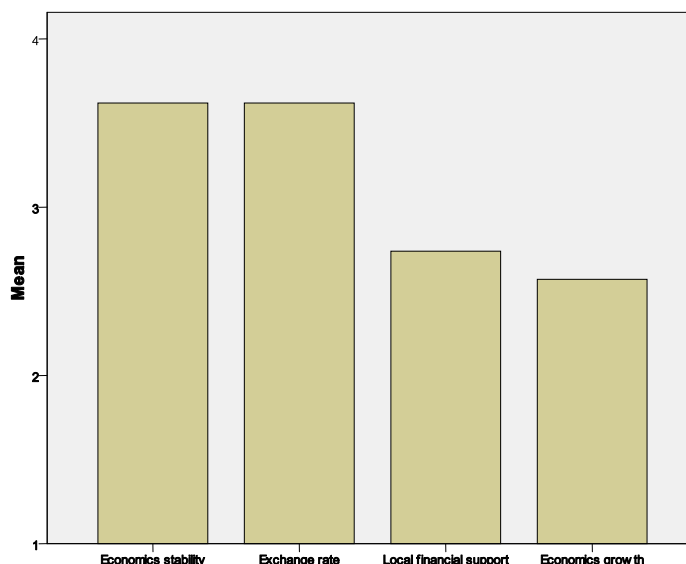
1. Economic stability
2. Exchange rates
3. Local financial support
4. Economic growth

Economic stability and exchange rates are considered as important factors in the location decision in the Saudi petrochemicals industry with a mean of more than 3.0. Financial support and economic growth received a mean of less than 3.0, which suggests that they are relatively unimportant factors in terms of the location for the FDI in the petrochemicals industry.

**Table 5.22 Priority of Economic Factors**

<b>Economic Factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
Economic stability	1	3.62	1.12
Exchange rates	2	3.62	0.93
Local financial support	3	2.74	1.03
Economic growth	4	2.57	0.88

**Figure 5.21 Economic Factors' Importance Ranking**



### **5.2.2.5 Infrastructure and Technological Factors' Ranking**

Table 5.23 summarises the relative importance of infrastructure and technological factors based on the mean of importance including the mean and standard deviation for each factor. Figure 5.22 shows the relative importance of each infrastructure and technological factors based on the average response rate in terms of their importance and listed in decreasing order of importance. The relative importance of infrastructure and technological factors are listed below in decreasing order of importance as:

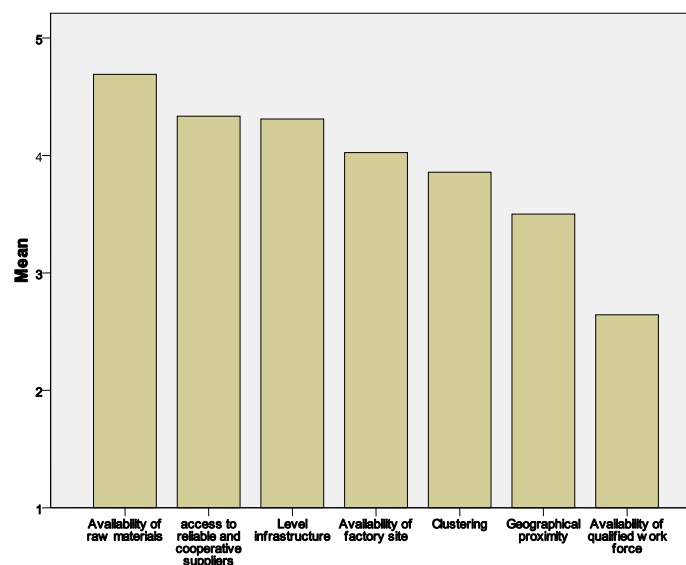
1. Availability of raw materials
2. Access to reliable and cooperative suppliers
3. Level of infrastructure
4. Availability of factory sites (land)
5. High industrial concentration (clustering)
6. Geographical proximity
7. Availability of a well-qualified workforce

Most of the infrastructure and technological factors including the availability of raw materials, access to reliable and cooperative suppliers, the level of infrastructure, the availability of factory sites (land), high industrial concentration (clustering) and geographical proximity are considered to be important factors in terms of location decisions in the petrochemicals industry, in that each received a mean of more than 3.0. However, the availability of a well-qualified workforce has a mean score of less than 3.0 and can therefore be considered to be a relatively unimportant factor in terms of location decisions in the Saudi petrochemicals industry.

**Table 5.23 Priority of Infrastructure and Technological Factors**

Infrastructure and technological factors	Rank	Mean	S.D.
Availability of raw materials	1	4.69	0.46
Access to reliable and cooperative suppliers	2	4.33	0.87
Level of infrastructure	3	4.31	0.46
Availability of factory sites (land)	4	4.02	0.60
High industrial concentration (clustering)	5	3.86	0.64
Geographical proximity	6	3.50	0.91
Availability of a well qualified workforce	7	2.64	0.69

**Figure 5.22 Infrastructure and Technological Factors' Importance Ranking**





### 5.2.2.6 Political and Legal Factors' Importance Ranking

Table 5.24 summarises the relative importance of political and legal factors based on their average response rate of importance, including the mean and standard deviation for each factor. Figure 5.23 shows the relative importance of the political and legal factors based on the average mean of importance and listed in decreasing order of importance. The relative importance of political and legal factors are listed below in decreasing order of importance as:

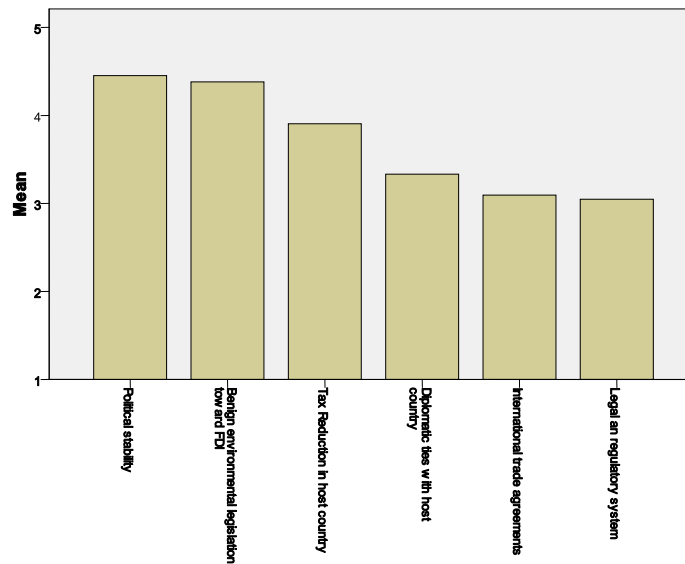
1. Political stability
2. Benign environmental legislation for FDI
3. Tax reductions in the host country
4. Diplomatic ties with the host country
5. International trade agreements
6. Legal and regulatory system

All of the political and legal factors including political stability, benign environmental legislation for FDI, tax reductions in the host country, diplomatic ties with the host country, international trade agreements, and the legal and regulatory systems are rated as over 3.0 and considered to be important location factors in the Saudi petrochemicals industry.

**Table 5.24 Priority of Political and Legal Factors**

<b>Political and legal factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
Political stability	1	4.45	0.55
Benign environmental legislation for FDI	2	4.38	0.58
Tax reductions in the host country	3	3.90	0.84
Diplomatic ties with the host country	4	3.33	0.72
International trade agreements	5	3.10	0.93
Legal and regulatory system	6	3.05	0.93

**Figure 5.23 Political and Legal Factors' Importance Ranking**



#### **5.2.2.7 Social and Cultural Factors' Importance Ranking**

Table 5.25 summarises the relative importance of the social and cultural factors based on the average response rate of importance, including the mean and standard deviations. Figure 5.24 shows the relative importance of the social and cultural factors, based on their mean of importance, and they are listed in decreasing order of importance. The relative importance of the social and cultural factors are listed below in decreasing order of importance as:

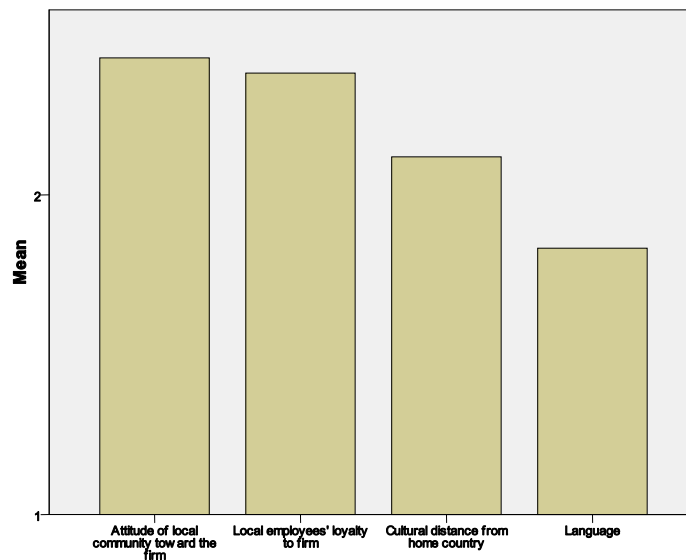
1. Attitude of the local community toward the firm
2. Local employees' loyalty to the firm
3. Cultural distance
4. Language

All of the social and cultural factors including the attitude of the local community towards the firm, local employees' loyalty to the firm, cultural distance and language are rated below 3.0 and are considered to be relatively unimportant factors in terms of the location decisions in the Saudi petrochemicals industry.

**Table 5.25 Priority of Social and Cultural Factors**

Social and Cultural Factors	Rank	Mean	S.D.
Attitude of the local community towards the firm	1.	2.43	1.03
Local employees' loyalty to the firm	2.	2.38	1.03
Cultural distance	3.	2.12	0.94
Language	4.	1.83	0.98

**Figure 5.24 Social and Cultural Factors' Importance Ranking**



### 5.2.3 Location Factors' Competitiveness Ranking

Table 5.26 summarises the competitiveness of major location factors and sub-factors for the Saudi petrochemicals industry when compared to other locations. In the second part of the questionnaire, the participants were asked to rate the competitiveness of all sub-locating factors for the Saudi petrochemicals industry compared to other locations. After calculating the mean of all the sub-factors under each major factor, the mean score of each major factor was recorded. These factors are discussed in detail in the following section.

**Table 5.26 Saudi Arabia Competitiveness Ranking Compared to Other Locations in the Petrochemicals**

<b>Industry</b>			
<b>Major and Sub-Location Factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
<b>A. Cost factors</b>	<b>1</b>	<b>3.92</b>	<b>0.38</b>
1. Factory site costs ( Land cost)	11	3.83	1.08
2. Labour costs	27	2.43	1.01
3. Transportation/logistic costs	18	3.48	0.96
4. Cost of raw materials	4	4.43	0.50
5. Return on investment	3	4.45	0.63
6. Energy costs	1	4.90	0.29
<b>B. Market factors</b>	<b>6</b>	<b>2.55</b>	<b>0.53</b>
7. Large size of the host market	31	1.83	0.85
8. Market growth in the host country	30	1.90	0.82
9. Level of competition in the host market	25	2.83	0.82
10. Market familiarity	16	3.64	0.82
<b>C. Economic factors</b>	<b>3</b>	<b>3.70</b>	<b>0.55</b>
11. Economic stability	17	3.64	0.72
12. Economic growth	12	3.83	0.85
13. Exchange rates	7	4.21	0.68
14. Local financial support	21	3.12	0.94
<b>D. Infrastructure and technological factors</b>	<b>2</b>	<b>3.86</b>	<b>0.38</b>
15. Level of infrastructure (ports, roads, airports, etc.)	15	3.67	0.78
16. High industrial concentration (clustering)	6	4.24	0.61
17. Availability of well qualified workforce	28	2.07	1.02
18. Access to reliable and cooperative suppliers	5	4.33	0.57
19. Availability of factory sites (land)	9	3.98	0.68
20. Availability of raw materials	2	4.81	0.39
21. Geographical proximity	10	3.90	0.87
<b>E. Political and legal factors</b>	<b>4</b>	<b>3.43</b>	<b>0.52</b>
22. Political stability	8	4.21	0.68
23. International trade agreements	20	3.19	1.01
24. Tax reductions in the host country	22	3.07	1.13
25. Benign environmental legislation towards FDI	13	3.79	0.81
26. Diplomatic ties with the host country	14	3.79	0.71
27. Legal and regulatory system	26	2.52	1.04
<b>F. Social and Cultural factors</b>	<b>5</b>	<b>2.80</b>	<b>0.54</b>
28. Cultural distance	29	2.07	1.02
29. Attitude of the local community towards the firm	24	2.86	0.97
30. Local employees' loyalty to the firm	19	3.36	0.72
31. Language	23	2.90	0.87

Table 5.27 summarises the competitiveness of all location factors relative to other factors compared to other locations, including the mean and standard deviations for each factor. Figure 5.25 shows the competitiveness of each location factor compared to all other factors based on the mean score for each factor, and listed in decreasing order of competitiveness.

All of the sub-factors identified from the list of each of the major factors are ranked according to their average scores in Table 5.26. From the analysis of all the sub-factors, an average rating of greater than 3.0 is considered to indicate a competitive location factor in the petrochemicals industry. The competitiveness of location factors are identified below according to their relative competitiveness compared to other location factors, and they are listed in decreasing order of competitiveness as:

1. Energy costs
2. Availability of raw materials
3. Return on investment
4. Cost of raw materials
5. Access to reliable and cooperative suppliers
6. High industrial concentration (clustering)
7. Exchange rates
8. Political stability
9. Availability of factory sites (land)
10. Geographical proximity
11. Production site costs (land costs)
12. Economic growth
13. Benign environmental legislation towards FDI
14. Diplomatic ties with the host country
15. Level of infrastructure
16. Market familiarity
17. Economic stability
18. Transportation/logistic costs
19. Local employees' loyalty to the firm
20. International trade agreements
21. Local financial support
22. Tax reductions in the host country

The least competitive location factors among other location factors based on the average response rates of competitiveness are listed below in decreasing order of competitiveness:

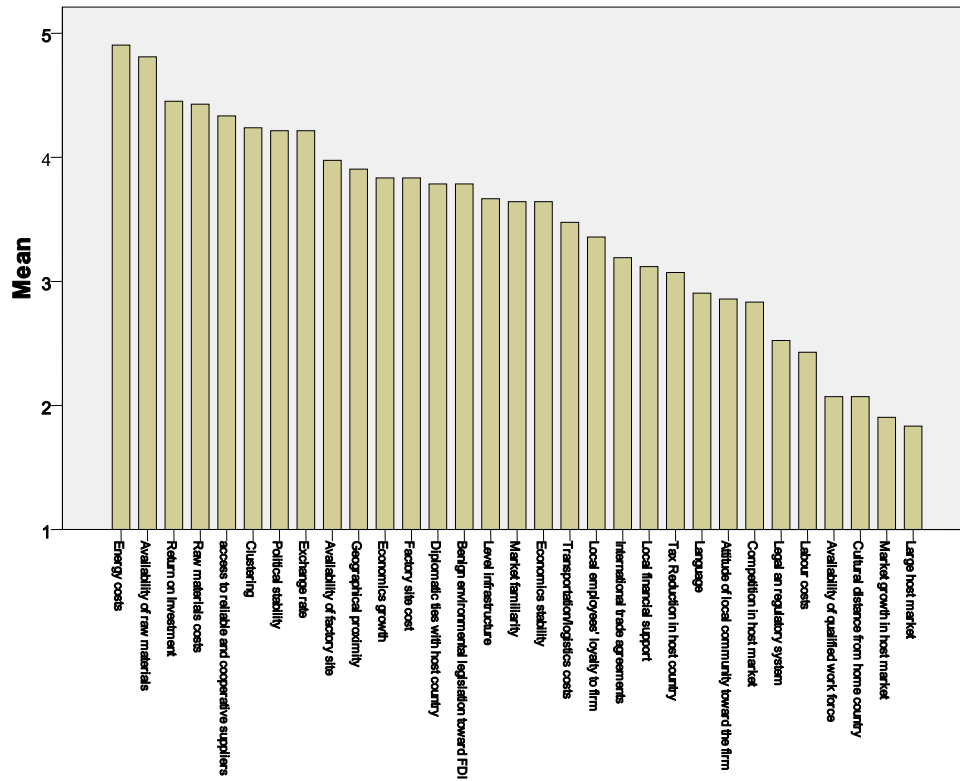
23. Language
24. Attitude of the local community towards the firm
25. Level of competition in the host market

26. Legal and regulatory system
27. Labour costs
28. Availability of well-qualified workforce
29. Cultural distance
30. Market growth in the host country
31. Size of the host market

**Table 5.27 Location Factors Competitiveness Ranking**

<b>Location Factors Ranking</b>	<b>Mean</b>	<b>S.D.</b>
1. Energy costs	4.90	0.29
2. Availability of raw materials	4.81	0.39
3. Return on investment	4.45	0.63
4. Low cost of raw materials	4.43	0.50
5. Access to reliable and cooperative suppliers	4.33	0.57
6. High industrial concentration (Clustering)	4.24	0.61
7. Exchange rate	4.21	0.68
8. Political stability	4.21	0.68
9. Availability of factory site (land)	3.98	0.68
10. Geographical proximity	3.90	0.87
11. Production site cost (land cost)	3.83	1.08
12. Economic growth	3.83	0.85
13. Benign environmental legislation towards FDI	3.79	0.81
14. Diplomatic ties with host country	3.79	0.71
15. Level of infrastructure	3.67	0.78
16. Market familiarity	3.64	0.82
17. Economic stability	3.64	0.72
18. Transportation/ logistic cost	3.48	0.96
19. Local employees loyalty to firm	3.36	0.72
20. International trade agreements	3.19	1.01
21. Local financial support	3.12	0.94
22. Tax reduction in host country	3.07	1.13
23. Language	2.90	0.87
24. Attitude of the local community toward the firm	2.86	0.97
25. Level of competition in host market	2.83	0.82
26. Legal and regularity system	2.52	1.04
27. Labour costs	2.43	1.01
28. Availability of well qualify of work force	2.07	1.02
29. Cultural distance	2.07	1.02
30. Market growth in host country	1.90	0.82
31. Large size of host markets	1.83	0.85

Figure 5.25 Location Factors Competitiveness Ranking



### 5.2.3.1 Major Factors Competitiveness Ranking

Table 5.28 summarises the competitiveness of each major location factor compared to other major factors based on the mean score of their competitiveness. Figure 5.26 shows the competitiveness of each major factor compared to other major factors based on the mean score of competitiveness and listed in decreasing order of competitiveness. After calculating the sum of the average ratings of the sub-factors under each major factor, we have the average mean for each major factor. From the analysis of all the major location factors, an average rating above 3.0 was considered a competitive location factor in the petrochemicals industry. The competitiveness of the major factors is listed below in decreasing order of competitiveness as:

Cost factors, infrastructure and technological factors, economic factors and political and legal factors are rated relatively highly among other major location factors, indicating that they are

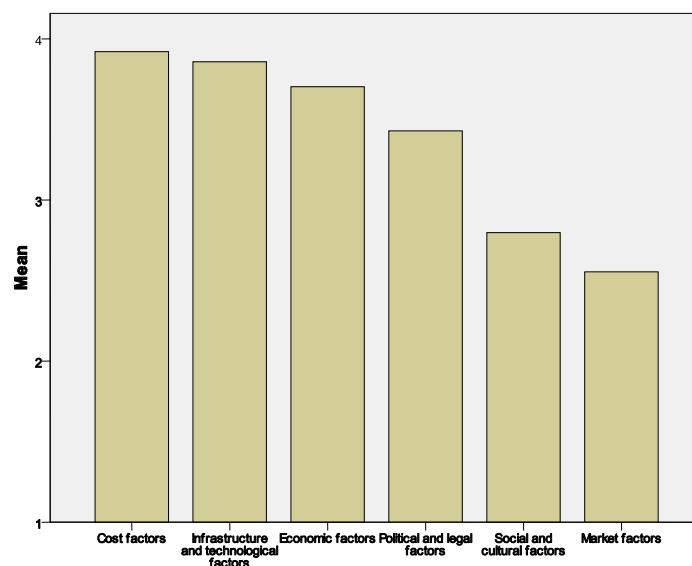
considered to be competitive location factors for FDI compared to other locations in the Saudi petrochemicals industry. The social and cultural factors and the market factors rated relatively low among other major location factors, indicating that they are not considered to be competitive location factors for FDI compared to other locations in the Saudi petrochemicals industry.

1. Cost factors
2. Infrastructure and technological factors
3. Economic factors
4. Political and legal factors
5. Social and cultural factors
6. Market factors

**Table 5.28 Major Factors' Competitiveness Ranking**

Major Factors Competitiveness Ranking	Rank	Mean	S.D.
Cost factors	1	3.92	0.38
Infrastructure and technological factors	2	3.86	0.38
Economic factors	3	3.70	0.55
Political and legal factors	4	3.43	0.52
Social and cultural factors	5	2.80	0.54
Market factors	6	2.55	0.53

**Figure 5.26 Major Factors' Competitiveness Ranking**





### 5.2.3.2 Cost Factors' Competitiveness Ranking

Table 5.29 summarises the competitiveness of each cost factor relative to other cost factors, including the mean and standard deviation for each factor. Figure 5.27 shows the ranking of the competitiveness of the cost factors based on the mean of each factor. The relative competitiveness of each cost factor is listed below in decreasing order of competitiveness:

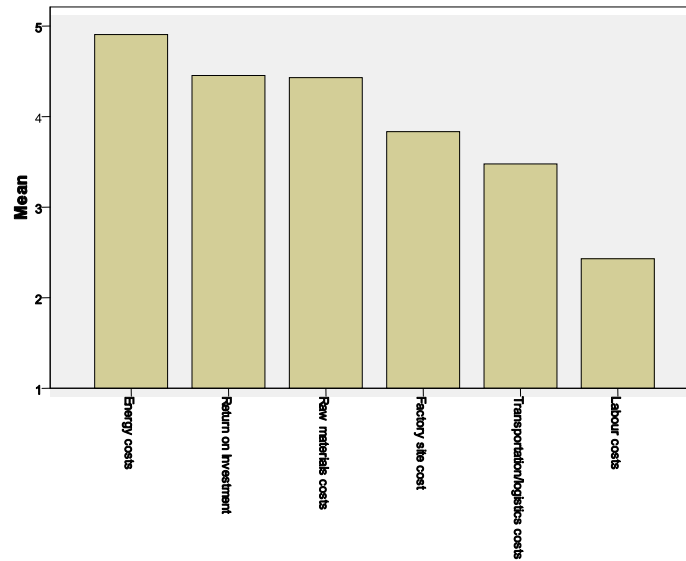
1. Energy costs
2. Return on investment
3. Cost of raw materials
4. Production site costs (land costs)
5. Transportation/ logistic costs
6. Labour costs

Most of the cost factors are considered as competitive factors with a mean of over 3.0 including energy costs, return on investment, cost of raw materials, production site costs (land costs) and transportation/logistics costs. However, labour costs received a mean of less than 3.0, which suggests that it is an uncompetitive factor among cost factors for the petrochemicals industry.

**Table 5.29 Competitiveness of Cost Factors**

<b>Cost Factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
Energy costs	1	4.90	0.29
Return on investment	2	4.45	0.63
Cost of raw materials	3	4.43	0.50
Production site costs (land costs)	4	3.83	1.08
Transportation/logistic costs	5	3.48	0.96
Labour costs	6	2.43	1.01

**Figure 5.27 Cost Factors' Competitiveness Ranking**



### **5.2.3.3 Market Factors' Competitiveness Ranking**

Table 5.30 summarises the competitiveness of market location factors relative to other market factors including the mean and standard deviation for each factor. Figure 5.28 shows the competitiveness ranking for each market factor based on the mean of competitiveness. The competitiveness of market factors are listed below in decreasing order of competitiveness:

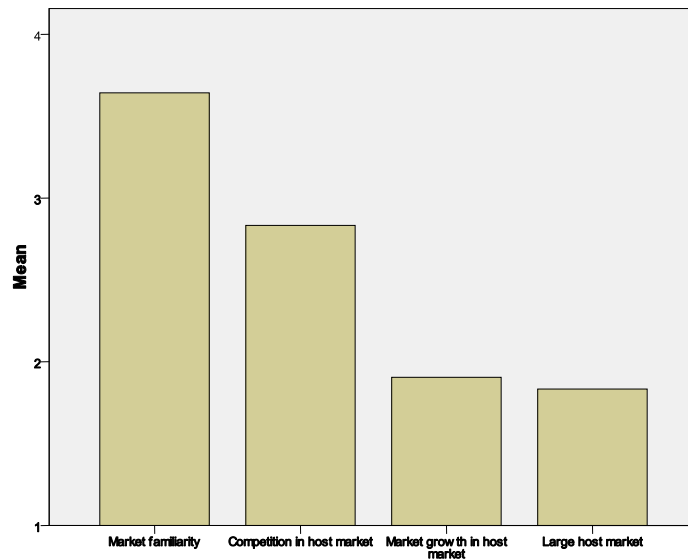
1. Market familiarity
2. Level of competition in the host market
3. Market growth in the host country
4. Size of the host market

Market familiarity is the only competitive factor among market factors with a mean over 3.0. All other market factors received a mean of less than 3.0, which suggests that they are uncompetitive factors in comparison with other location factors in the Saudi petrochemicals industry, including the level of competition in the host market, market growth in the host country and the size of the host market.

**Table 5.30 Competitiveness of Market Factors**

Market Factors	Rank	Mean	S.D.
Market familiarity	1	3.64	0.82
Level of competition in the host market	2	2.83	0.82
Market growth in the host country	3	1.90	0.82
Size of the host market	4	1.83	0.85

**Figure 5.28 Market Factors' Competitiveness Ranking**



#### **5.2.3.4 Economic Factors' Competitiveness Ranking**

Table 5.31 summarises the competitiveness of economic factors compared to other location factors in the Saudi petrochemicals industry, including the mean and standard deviation for each economic factor. Figure 5.29 shows the competitiveness of each economic factor based on the mean of competitiveness and listed in decreasing order of competitiveness. The competitiveness of economic factors are listed below in decreasing order of competitiveness:

1. Exchange rate
2. Economic growth
3. Economic stability
4. Local financial support

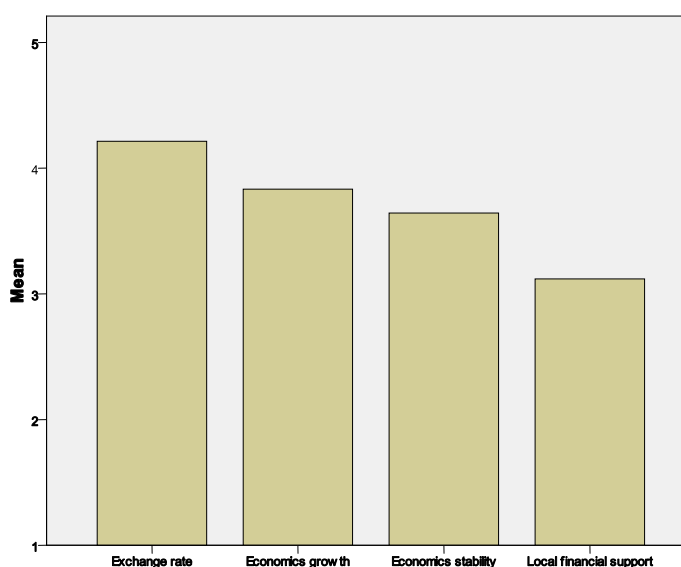
All economic factors including the exchange rate, economic growth, economic stability and

local financial support received an average rating of greater than 3.0 and therefore they are considered as competitive factors compared to other location factors in the Saudi petrochemicals industry.

**Table 5.31 Competitiveness of Economic Factors**

Economic Factors	Rank	Mean	S.D.
Exchange rate	1	4.21	0.68
Economic growth	2	3.83	0.85
Economic stability	3	3.64	0.72
Local financial support	4	3.12	0.94

**Figure 5.29 Economic Factors' Competitiveness Ranking**



### 5.2.3.5 Infrastructure and Technological Factors' Competitiveness Ranking

Table 5.32 summarises the competitiveness of infrastructure and technological factors based on the mean of competitiveness, including the means and standard deviation for each factor. Figure 5.30 shows the competitiveness of each infrastructure and technologic factor based on the mean of competitiveness and listed in decreasing order of competitiveness. The competitiveness of infrastructure and technological factors are listed below in decreasing order of competitiveness:

1. Availability of raw materials
2. Access to reliable and cooperative suppliers
3. High industrial concentration (clustering)

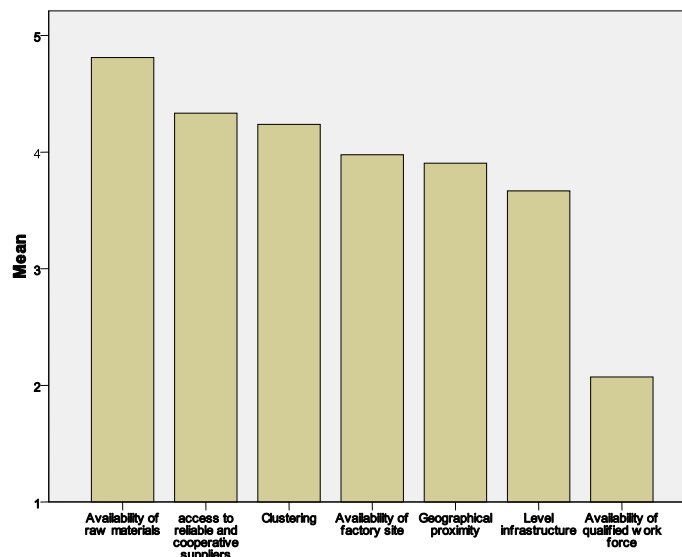
4. Availability of factory sites (land)
5. Geographical proximity
6. Level of infrastructure
7. Availability of a well-qualified workforce

Most of the infrastructure and technological factors received a mean of over 3.0, including the availability of raw materials, access to reliable and cooperative suppliers, high industrial concentration (clustering), the availability of factory sites (land), geographical proximity and the level of infrastructure, and are considered to be competitive factors for FDI compared to other location factors in the Saudi petrochemicals industry. However, the availability of a well-qualified workforce received an average mean of less than 3.0 and it is considered to be an uncompetitive factor for FDI compared to other location factors in the Saudi petrochemicals industry.

**Table 5.32 Competitiveness of Infrastructure and Technological Factors**

Infrastructure and technological factors	Rank	Mean	S.D.
Availability of raw materials	1	4.81	0.39
Access to reliable and cooperative suppliers	2	4.33	0.57
High industrial concentration (clustering)	3	4.24	0.61
Availability of factory sites (land)	4	3.98	0.68
Geographical proximity	5	3.90	0.87
Level of infrastructure	6	3.67	0.78
Availability of well qualified workforce	7	2.07	1.02

**Figure 5.30 Infrastructure and Technological Factors' Competitiveness Ranking**



### 5.2.3.6 Political and Legal Factors' Competitive Ranking

Table 5.33 summarises the competitiveness of political and legal factors based on the average mean of competitiveness, including the mean and standard deviation for each factor. Figure 5.31 shows the competitiveness of the political and legal factors based on the mean for competitiveness for each factor. These are listed in decreasing order of competitiveness. The competitiveness of the political and legal factors are listed below in decreasing order of competitiveness:

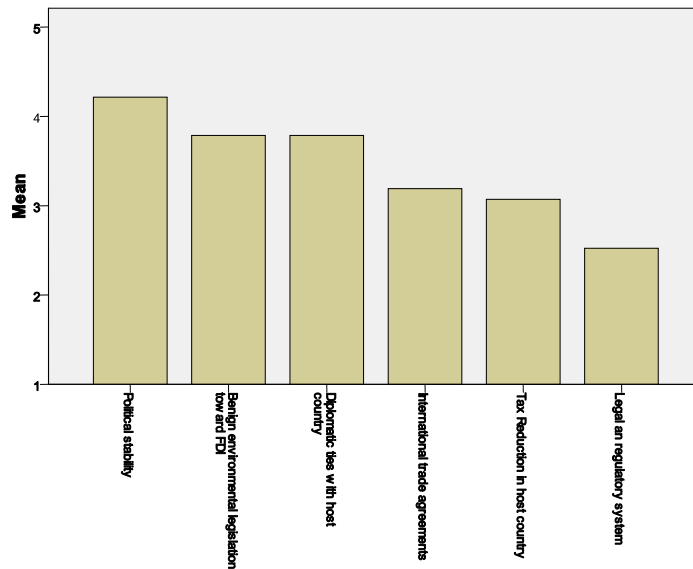
1. Political stability
2. Benign environmental legislation towards FDI
3. Diplomatic ties with the host country
4. International trade agreements
5. Tax reductions in the host country
6. Legal and regulatory system

Most of the political and legal factors received a mean of more than 3.0, including political stability, benign environmental legislation towards FDI, diplomatic ties with the host country, international trade agreements and tax reductions in the host country, and are considered to be competitive location factors compared to other location factors in the Saudi petrochemicals industry. However, legal and regulatory systems received a mean of less than 3.0, and therefore is considered to be an uncompetitive factor compared to other location factors in the Saudi petrochemicals industry.

**Table 5.33 Competitiveness of Political and Legal Factors**

<b>Political and legal factors</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>
Political stability	1	4.21	0.68
Benign environmental legislation towards FDI	2	3.79	0.81
Diplomatic ties with the host country	3	3.79	0.71
International trade agreements	4	3.19	1.01
Tax reductions in the host country	5	3.07	1.13
Legal and regulatory system	6	2.52	1.04

**Figure 5.31 Political and Legal Factors' Competitiveness Ranking**



### **5.2.3.7 Social and Cultural Factors' Competitiveness Ranking**

Table 5.34 summarises the competitiveness of social and cultural factors based on the mean of competitiveness, including the mean and the standard deviation for each factor. Figure 5.32 shows the competitiveness of the social and cultural factors based on the mean of competitiveness and are listed in decreasing order of competitiveness. The competitiveness of each social and cultural factor is listed below in decreasing order of competitiveness:

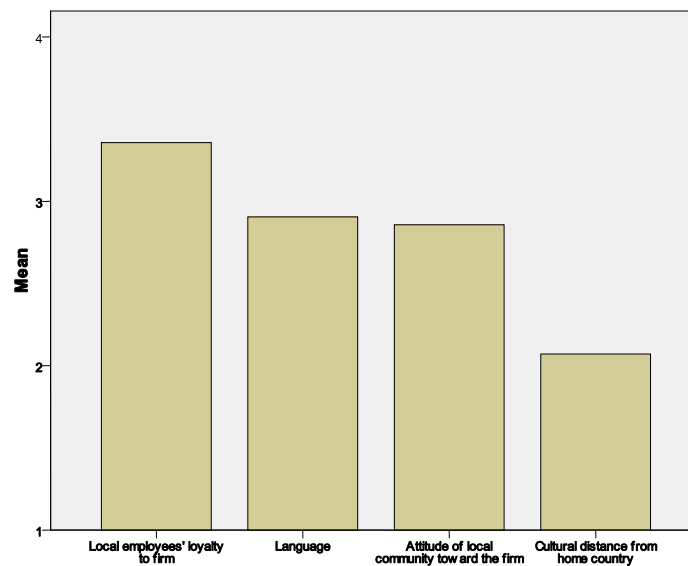
1. Local employees' loyalty to the firm
2. Language
3. Attitude of the local community towards the firm
4. Cultural distance

Local employees' loyalty to the firm is the only factor in the social and cultural factors with a mean of more than 3.0 and it is therefore considered to be a competitive factor compared to other location factors in the Saudi petrochemicals industry. However, all other social and cultural factors received a mean of less than 3.0, including language, the attitude of the local community towards the firm and cultural distance, and are considered as uncompetitive factors compared to other location factors in the Saudi petrochemicals industry.

**Table 5.34 Competitiveness of Social and Cultural Factors**

Social and Cultural Factors	Rank	Mean	S.D.
Local employees loyalty to the firm	1	3.36	0.72
Language	2	2.90	0.87
Attitude of the local community towards the firm	3	2.86	0.97
Cultural distance	4	2.07	1.02

**Figure 5.32 Social and Cultural Factors' Competitiveness Ranking**



### 5.3 Summary

In this chapter, we summarized the findings of the descriptive data obtained from the 42 executives interviewed. The analysis shows a wide range and diversity of responses to the same location factors. The evidence reveals the distribution of responses to each question in the questionnaire, including the percentage rate of response for each of the 31 factors that measure the importance and competitiveness of location factors in the Saudi petrochemical industry. In addition, we showed the details of the ranking of the location factors for FDI in the Saudi petrochemical industry based on the ranking of importance and competitiveness of location factors. In the first part of this section we detail the importance of the ranking of the location factors for FDI location decisions with regard to the Saudi petrochemical industry. In the second part of this section, we detail the FDI location factors' competitiveness ranking in the Saudi petrochemical industry compared to other locations. The next chapter presents the empirical evidence of the importance/competitiveness of the Saudi petrochemicals industry.



## **Chapter 6**

## **Chapter 6 : Empirical Evidence of the Importance/Competitiveness of the Saudi Petrochemicals Industry**

### **6.1 Importance/Competitiveness Analysis of the Saudi Petrochemicals Industry**

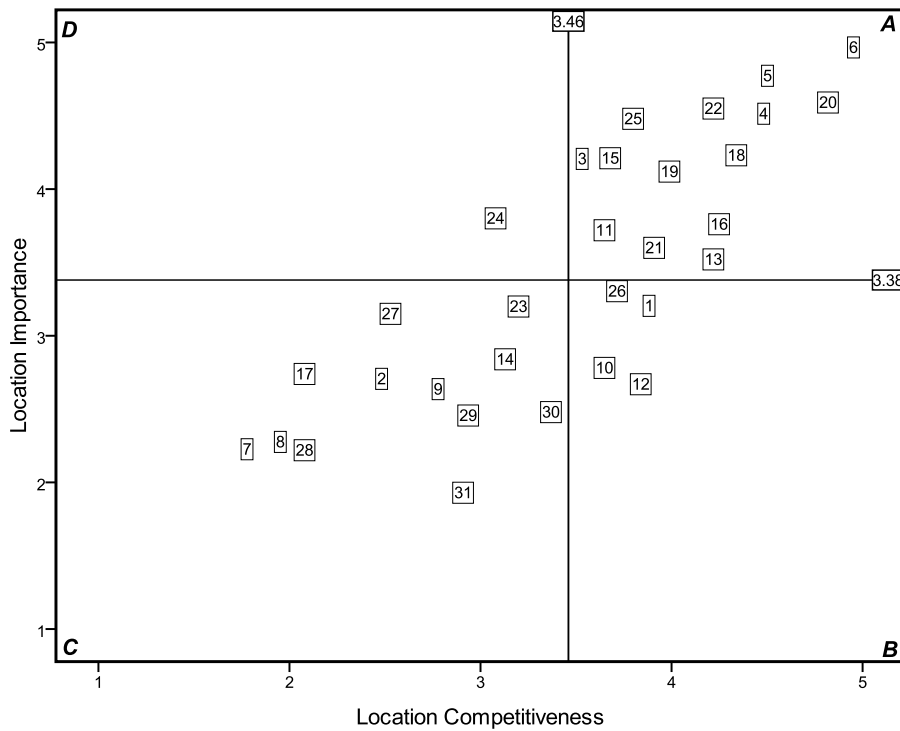
#### **6.1.1 Analysis**

In this study, we have modified the original framework used by Tam, Newton, Strange and Enright (2008) and have applied it to our study. We have done this by plotting the importance measures of the location factors for the petrochemicals industry on the vertical axis against their competitiveness in terms of location or performance measures on the horizontal axis. There are two ways in which the matrix can be constructed. The simplest way is to plot the axes at scores of 2.5: i.e. the mid-points of the five-point Likert scale. However, as Oh (2001) has argued, a more valid and useful construction is to set the axes at the mean scores in respect of its importance of 3.38 and for the competitiveness 3.46. The resulting matrix offers a readily accessible tool for managers and policy makers in both private and public sectors. Table 6.1 shows the mean and standard deviation for the importance and competitiveness of the location factors in the Saudi petrochemicals industry. We placed each factor on the matrix based on the crossing point between the mean of the importance and the mean of the competitiveness of each location factor as it appears in Figure 6.1.

**Table 6.1 the Importance and Competitiveness of Location Factors**

Major and Sub-Location Factors	Importance		Competitiveness	
	Mean	S.D.	Mean	S.D.
<b>A. Cost factors</b>				
1. Factory site costs (Land cost)	3.29	0.96	3.83	1.08
2. Labour costs	2.62	1.08	2.43	1.01
3. Transportation/logistic costs	4.12	0.77	3.48	0.96
4. Cost of raw materials	4.60	0.49	4.43	0.50
5. Return on investment	4.74	0.49	4.45	0.63
6. Energy costs	4.88	0.32	4.90	0.29
<b>B. Market factors</b>				
7. Size of the host market	2.14	0.84	1.83	0.85
8. Market growth in the host country	2.19	1.06	1.90	0.82
9. Level of competition in the host market	2.55	0.70	2.83	0.82
10. Market familiarity	2.88	0.99	3.64	0.82
<b>C. Economic factors</b>				
11. Economic stability	3.62	1.12	3.64	0.72
12. Economic growth	2.57	0.88	3.83	0.85
13. Exchange rates	3.62	0.93	4.21	0.68
14. Local financial support	2.74	1.03	3.12	0.94
<b>D. Infrastructure and technological factors</b>				
15. Level of infrastructure (ports, roads, airports, etc.)	4.31	0.46	3.67	0.78
16. High industrial concentration (clustering)	3.86	0.64	4.24	0.61
17. Availability of well qualified workforce	2.64	0.69	2.07	1.02
18. Access to reliable and cooperative suppliers	4.33	0.87	4.33	0.57
19. Availability of factory sites (land)	4.02	0.60	3.98	0.68
20. Availability of raw materials	4.69	0.46	4.81	0.39
21. Geographical proximity	3.50	0.91	3.90	0.87
<b>E. Political and legal factors</b>				
22. Political stability	4.45	0.55	4.21	0.68
23. International trade agreements	3.10	0.93	3.19	1.01
24. Tax reduction in the host country	3.90	0.84	3.07	1.13
25. Benign environmental legislation towards FDI	4.38	0.58	3.79	0.81
26. Diplomatic ties with the host country	3.33	0.72	3.79	0.71
27. Legal and regulatory system	3.05	0.93	2.52	1.04
<b>F. Social &amp; Cultural factors</b>				
28. Cultural distance	2.12	0.94	2.07	1.02
29. Attitude of the local community towards the firm	2.43	1.03	2.86	0.97
30. Local employees' loyalty to the firm	2.38	1.03	3.36	0.72
31. Language	1.83	0.98	2.90	0.87

**Figure 6.1 The Importance/Competitiveness Matrix for the Petrochemicals Industry**



**Source: Author**

**Note :** 1. Factory site costs (land costs); 2. Labour costs; 3. Transportation/logistics costs; 4. Cost of raw materials; 5. Return on investment; 6. Energy costs; 7. Size of the host market; 8. Market growth in the host country; 9. Level of competition in the host market; 10. Market familiarity; 11. Economic stability; 12. Economic growth; 13. Exchange rates; 14. Local financial support; 15. Level of infrastructure (ports, roads, airports, etc.); 16. High industrial concentration (clustering); 17. Availability of well-qualified workforce; 18. Access to reliable and cooperative suppliers; 19. Availability of factory sites (land); 20. Availability of raw materials; 21. Geographical proximity; 22. Political stability; 23. International trade agreements; 24. Tax reductions in the host country; 25. Benign environmental legislation towards FDI; 26. Diplomatic ties with the host country; 27. Legal and regulatory system; 28. Cultural distance; 29. Attitude of the local community towards the firm; 30. Local employees' loyalty to the firm; 31. Language.

Figure 6.1 shows the resulting matrix for the petrochemical industry in Saudi Arabia. *Cell (A)* captures the factors that are the best fit between the most critical needs of firms and the strongest advantages of the location, showing those factors that were identified both as being high in importance for the petrochemical industry and in which Saudi Arabia possessed marked competitive advantages over other locations. Fourteen factors stand out: energy costs, availability of raw materials, return on investment, cost of raw materials, access to reliable

and cooperative suppliers, political stability, benign environmental legislation towards FDI, high industrial concentration (clustering), availability of factory sites (land), level of infrastructure (ports, roads, airports, etc.), exchange rates, transportation/ logistic costs, geographical proximity and economic stability.

For the petrochemicals industry, 60% of production costs rely on the feedstock and Saudi Arabia, as explained before, provides the lowest energy costs in the world that gives the petrochemicals firms located in Saudi Arabia a competitive edge over other companies located in other countries, and reflects on why this factor received the highest rating compared with other factors, both for importance and for competitiveness. In terms of the availability of raw materials, Saudi Arabia owns 25% of the world's oil reserves and, because petrochemicals rely on oil basic outputs for their raw materials, this factor receives a high priority in terms of importance and competitiveness. The low energy costs and the availability of raw materials, the clustering of the industry, transportation costs and low production costs all help the petrochemicals industry in Saudi Arabia by reducing their production costs sharply, allowing them to reach their markets easily and, in turn, increases the return on investment.

Economic stability is crucial for MNEs as it provides a stable environment in which to work. Saudi Arabia enjoys a very stable economy as it relies on oil exports for its economy and as oil prices are still high, Saudi Arabia provides a very stable economy for MNEs. Saudi Arabia's competitive position and the importance of the exchange rate factor reinforces the view that the long-standing 'hard' peg to the US dollar, which has also withstood the turbulence of the recent world financial crisis, is a location-specific competitive advantage, and a very important factor for petrochemical firms in Saudi Arabia. Infrastructure is a very important factor for a heavy and global industry like petrochemicals as it relies on such infrastructure to transport its products globally. Saudi Arabia, as explained in the previous chapters, has taken very ambitious steps to modernise its infrastructure, which is reflected in the high score for the importance and competitiveness of this factor, and gives petrochemical companies located in Saudi Arabia a competitive advantage over other locations. The Saudi petrochemicals industry enjoys a high degree of concentration (clustering) as the Saudi government has built two cities (Aljubail and Yanbu) that were specifically designed for this heavy industry, with all the supporting industries located close to each other.

Clustering with regard to the petrochemicals industry in Saudi Arabia provides all the necessary supporting industries for the petrochemicals industry, including suppliers and logistic support, and this reflects the importance and competitiveness of this factor. Availability of land is very crucial for a heavy industry like the petrochemicals industry, and the Saudi government has provided land for petrochemical companies in the industrial cities of Aljubail and Yanbu, that have all the infrastructure needed at a competitive price compared to other locations, and this is reflected in the importance and competitiveness of this factor. Because Saudi Arabia is the world's largest oil producer and because petrochemicals rely on oil-related raw materials for their products, Saudi Arabia is the best in terms of the necessary raw materials for the petrochemicals industry with low costs and proximate suppliers, which may reflect why the factors low cost of and availability of raw materials are important and competitive in the petrochemicals industry.

For a heavy industry like petrochemicals, transportation and the location of the product are very important in terms of delivering their products on time at low cost. Saudi Arabia's strategic location between the east and the west and the easy access to it by air and sea makes Saudi Arabia the ideal location for the petrochemicals industry. This is why it received a high importance and competitive ranking with regard to this factor. Political stability plays a very important role for MNEs with regard to their foreign locations, as it provides the ideal environment in which to operate, in a location that enjoys a very stable political environment. Historically, Saudi Arabia enjoys a very stable political environment and this reflects on the importance and competitiveness of these factors. Benign environmental legislation towards FDI is crucial for FDI to operate successfully in an international location. The Saudi government took strategic steps to improve its investment environment for foreign firms, and therefore changed and improved the laws and the environment for foreign investment that, in turn, has increased the FDI inflows to Saudi Arabia dramatically in recent years. This result reflects the importance and competitiveness of this factor.

*Cell (D)* displays those factors that the respondents in the industry perceive as being important, but with regard to which the location is not competitive. Saudi Arabia's most critical competitive disadvantage, therefore, lies in the tax reductions available in Saudi Arabia. Taxes are rated as being very important for petrochemical firms, though Saudi Arabia is marginally below average in this factor compared to other locations in the same industry. Therefore, Saudi policy makers should pay attention to the tax reduction factor as it is an

important factor for petrochemicals FDI, but the country lacks a competitive advantage over other locations. Saudi policy makers should improve the tax rate and tax system in Saudi Arabia to make them more competitive in terms of other locations. However, *Cell (D)*, it should be stressed, shows factors that are above average in industry-specific importance and which are therefore of primary concern to practitioners in both the private sector and the public sector.

The two remaining cells, however, capture factors that are rated as being of below average importance, segmenting them into those in which the location is competitive relative to other regional locations (*Cell B*) and those in which the location is less competitive compared with its rivals (*Cell C*).

*Cell (C)* therefore shows those factors in which Saudi Arabia is relatively uncompetitive, but where the low industry-specific importance lowers the priority that should be accorded to these factors by either public or private decision-makers. These factors are international trade agreements, local financial support, local employees' loyalty to the firm, legal and regulatory systems, the level of competition in the host market, the attitude of the local community towards the firm, labour costs, language, the availability of a well-qualified workforce, cultural distance, market growth in the host country and the size of the host market. Interestingly, the factors large Saudi market and market growth in the Saudi market are captured in this cell, suggesting that these factors may not be as salient as policy-makers may perceive, at least in the petrochemicals industry. Thus, despite Saudi Arabia's relatively low location-specific competitiveness in this factor, it is not significant for the petrochemicals industry, which would appear to lend support to Saudi Arabia's neutral investment policies.

Our study's findings with regard to the market factors are opposite to that of many other scholars who concluded that the market factor is one of the most important location factors. However, as we have revealed, it is not an important factor for petrochemicals FDI in Saudi Arabia. This supports the view that each location and industry has its own factor priorities. The low importance accorded to the factor of support from related industries is interesting in relation to Porter's model, that posits supporting and related industries as one of the four key variables in determining competitiveness. Whilst Saudi Arabia may be less competitive than its regional rivals in terms of this factor, and the other market-related factors, it is again a low priority for the petrochemicals industry. The low importance and competitiveness of the

factor availability of a well-qualified workforce for MNEs in such a key industry as the petrochemicals industry may help inform the debate in Saudi Arabia about the Saudisation of the workforce in MNEs located in Saudi Arabia. The petrochemicals industry is a highly automated industry. Therefore, it does not require a highly intensive labour workforce. For this reason, the labour costs factor is low in terms of importance and competitiveness. Petrochemicals FDI production in Saudi Arabia exceeds the capacity of the local market and therefore petrochemicals FDI export the majority of their production to foreign markets. Therefore, the Saudi market is not a priority for the petrochemicals FDI as their productions exceeds local demand. This is why the size of the host market and its market growth scored low in terms of importance and competitiveness.

Because most of the production of the petrochemicals FDI is exported from Saudi Arabia to foreign markets, local competition factors are also seen to be of low importance and competitiveness. Most local financial firms follow a very conservative and low-risk financial policy, which affects their lending policy for FDI, which, in turn, affects the FDI with regard to securing the financial support they need for their operations in Saudi Arabia. Therefore, most FDI in Saudi Arabia secure their financial needs from global firms outside Saudi Arabia. This is why the local financial support factor scored low in terms of importance and competitiveness.

The availability of a well-qualified workforce is very limited in Saudi Arabia and that makes FDI in the petrochemicals industry in Saudi Arabia import their workforce and rely on expatriates for the skilled labour needed, as there are few highly skilled and well-educated Saudis in the petrochemicals industry. In addition, highly skilled Saudis prefer to work for the government-owned companies such as SABIC and ARAMCO instead of for foreign companies, as the government and the government-owned companies provide a stable and secure job for them, and because there may be cultural conflict within foreign firms. For this reason, the availability of a well-qualified workforce is viewed as being of low importance and competitiveness. As we explained earlier, most petrochemicals FDI rely on expatriates for their workforce, and because Saudis prefer to work for government-related firms, the local employees' loyalty to the firm factor is low in importance and competitiveness for the petrochemicals FDI located in Saudi Arabia.

Since petrochemicals firms are MNEs and they are located globally, trade agreements may



not offer an important or competitive advantage for them, as they export basic products globally. As this industry is a very heavy industry, it needs years of operations before it can enjoy the benefits from technical economies of scale. In addition, since Saudi Arabia joined the WTO in 2005, the benefits that can be gained from such an agreement need some years to take effect, and this inadvertently reflects on the low importance and competitiveness score for this factor.

MNEs working in Saudi Arabia usually rely on arbitration through foreign laws because commercial law in Saudi Arabia is not well accepted by MNEs operating in Saudi Arabia, as the Saudi commercial law has some drawbacks and needs to be improved. In addition, the legal process and execution of the law takes a very long time. This may be reflected in the low importance and competitiveness rating of the legal and regulatory system. However, the Saudi government should take the necessary steps to improve Saudi commercial law in order to make it acceptable to foreign firms, as this factor is very important in any business environment for FDI and would make Saudi Arabia more competitive with regard to this factor.

Petrochemicals FDI in Saudi Arabia are located in remote cities built for this specific industry. In addition, because the petrochemicals FDI rely on exporting their products, any interaction with the local community and cultural distance are minimal; therefore, the cultural distance and the attitude of the local community towards such firms are not important and are not competitive factors in the eyes of foreign firms in Saudi Arabia. The requirement to use the local language is minimal on the part of foreign companies in the Saudi petrochemicals industry, as most firms are MNEs and therefore use the English language or their parent firm's language for their operations. In addition, language is not important because the local market is not a priority for the petrochemicals FDI. Therefore, using the local language is not necessary and this reflects the low importance and competitiveness of the language factor with regard to FDI in the Saudi petrochemicals industry.

*Cell (B)* captures those factors that, again, are of low industry-specific importance. However, it captures factors of high location-specific competitiveness. Four factors stand out: factory site costs (land costs), diplomatic ties with the host country, market familiarity and economic growth factors all of which are clearly located within this cell. The strong location-specific rating given to Saudi Arabia with regard to these factors confirms the perception of Saudi

Arabia's role as a gateway for business in the Middle East. However, its low industry-specific importance may be a cause for some reflection on the part of policy-makers in Saudi Arabia. Factory site cost is very competitive for the petrochemicals industry but it is not an important factor for FDI in the Saudi petrochemicals industry. Therefore, the resources given to the site cost factor should be shifted to more important factors related to the petrochemicals industry in Saudi Arabia. The economic growth factor is a competitive factor for FDI in the Saudi petrochemicals industry. However, economic growth is not an important factor for FDI in Saudi petrochemicals. This may reflect the fact that Saudi Arabia is not the primary market for petrochemicals FDI in Saudi Arabia as they target the global market. Furthermore, Saudi Arabia consumes less than 20 % of the production capacity according to BMI (2009). Therefore, the growth of the economy in Saudi Arabia is not important in terms of their FDI operations. Many petrochemicals FDI in Saudi Arabia have operated for many years in the country and they have built a very good business relationship and have become familiar with the Saudi market. This makes it a familiar market for them and makes it competitive compared with other locations. However, market familiarity is not important for FDI in the Saudi petrochemicals industry. The Saudi government has built a very good diplomatic relationships with other countries over many years. This is reflected in the competitiveness of diplomatic ties with the host country factor, over other locations. However, this factor is not an important factor for the petrochemicals FDI located in Saudi Arabia.

These findings for *Cells (B)* and *(C)* illustrate the value of the location of those factors rated below average in industry-specific importance. *Cell (B)* can identify factors where there may be a risk of wasting resources if the competitiveness of the location is due to resources being committed to those factors. Similarly, *Cell (C)* can identify factors that, despite their lack of competitiveness, have no need of improvement, at least for this industry.

## **6.2 Testing the Location Factors**

### **6.2.1 Introduction**

There are different types of t-test (Pallant, 2007). The first is the Independent-samples t-test, used when we want to compare the mean scores of two different groups of people or conditions. The second is the Paired-samples t-test, used when we want to compare the mean scores for the same group of people on two different occasions or when we have matched pairs. In this section, we tested the importance and competitiveness of location factors for the location decisions for FDI in the Saudi petrochemicals industry. In the first part of this section, we tested the importance of all factors including major factors and sub-factors in the Saudi petrochemicals industry. In the second part of this section, we tested the competitiveness of the location factors compared to other locations in the Saudi petrochemicals industry, including the competitiveness of the major factors and sub-factors and the competitiveness of sub-factors under each major factor.

### **6.2.2 Testing the Location Factors' Importance**

Table 6.2 summarises the importance of major factors and sub-factors in terms of the mean, standard deviation and standard errors for petrochemicals FDI in their decision to locate their business in Saudi Arabia. Table 6.3 summarises the t-test for major factors and sub-factors for location decisions in the Saudi petrochemicals industry. We discuss all these factors in detail in the following section.

**Table 6.2 Location Factors' Importance Means**

<b>One-Sample Statistics</b>				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
<b>Cost factors</b>	<b>42</b>	<b>4.040</b>	<b>.4697</b>	<b>.0725</b>
Factory site costs	42	3.29	.970	.150
Labour costs	42	2.62	1.081	.167
Transportation/logistics costs	42	4.12	.772	.119
Raw material costs	42	4.60	.497	.077
Return on Investment	42	4.74	.497	.077
Energy costs	42	4.88	.328	.051
<b>Market factors</b>	<b>42</b>	<b>2.440</b>	<b>.6914</b>	<b>.1067</b>
Large host market	42	2.14	.843	.130
Market growth in the host market	42	2.19	1.065	.164
Competition in the host market	42	2.55	.705	.109
Market familiarity	42	2.88	.993	.153
<b>Economic factors</b>	<b>42</b>	<b>3.137</b>	<b>.7655</b>	<b>.1181</b>
Economic stability	42	3.62	1.125	.174
Economic growth	42	2.57	.887	.137
Exchange rates	42	3.62	.936	.144
Local financial support	42	2.74	1.037	.160
<b>Infrastructure and technological factors</b>	<b>42</b>	<b>3.908</b>	<b>.3623</b>	<b>.0559</b>
Level of infrastructure	42	4.31	.468	.072
Clustering	42	3.86	.647	.100
Availability of qualified work force	42	2.64	.692	.107
Access to reliable and cooperative suppliers	42	4.33	.874	.135
Availability of factory sites	42	4.02	.604	.093
Availability of raw materials	42	4.69	.468	.072
Geographical proximity	42	3.50	.917	.142
<b>Political and legal factors</b>	<b>42</b>	<b>3.702</b>	<b>.4222</b>	<b>.0651</b>
Political stability	42	4.45	.550	.085
International trade agreements	42	3.10	.932	.144
Tax reductions in the host country	42	3.90	.850	.131
Benign environmental legislation toward FDI	42	4.38	.582	.090
Diplomatic ties with the host country	42	3.33	.721	.111
Legal and regulatory system	42	3.05	.936	.144
<b>Social and cultural factors</b>	<b>42</b>	<b>2.190</b>	<b>.6644</b>	<b>.1025</b>
Cultural distance from home country	42	2.12	.942	.145
Attitude of local community towards the firm	42	2.43	1.039	.160
Local employees' loyalty to the firm	42	2.38	1.035	.160
Language	42	1.83	.986	.152

**Table 6.3 Location Factors' Importance T-Test**

<b>One-Sample Test</b>						
Test Value = 3						
Location Factors					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
<b>Cost factors</b>	<b>14.345</b>	<b>41</b>	<b>.000</b>	<b>1.0397</b>	<b>.893</b>	<b>1.186</b>
Factory site costs	1.909	41	.063	.286	-.02	.59
Labour costs	-2.284	41	.028	-.381	-.72	-.04
Transportation/logistics costs	9.400	41	.000	1.119	.88	1.36
Raw material costs	20.810	41	.000	1.595	1.44	1.75
Return on Investment	22.674	41	.000	1.738	1.58	1.89
Energy costs	37.191	41	.000	1.881	1.78	1.98
<b>Market factors</b>	<b>-5.244</b>	<b>41</b>	<b>.000</b>	<b>-.5595</b>	<b>-.775</b>	<b>-.344</b>
Large host market	-6.589	41	.000	-.857	-1.12	-.59
Market growth in the host market	-4.928	41	.000	-.810	-1.14	-.48
Competition in the host market	-4.156	41	.000	-.452	-.67	-.23
Market familiarity	-.777	41	.442	-.119	-.43	.19
<b>Economic factors</b>	<b>1.159</b>	<b>41</b>	<b>.253</b>	<b>.1369</b>	<b>-.102</b>	<b>.375</b>
Economic stability	3.566	41	.001	.619	.27	.97
Economic growth	-3.130	41	.003	-.429	-.71	-.15
Exchange rates	4.287	41	.000	.619	.33	.91
Local financial support	-1.636	41	.109	-.262	-.59	.06
<b>Infrastructure and technological factors</b>	<b>16.247</b>	<b>41</b>	<b>.000</b>	<b>.9082</b>	<b>.795</b>	<b>1.021</b>
Level of infrastructure	18.138	41	.000	1.310	1.16	1.46
Clustering	8.591	41	.000	.857	.66	1.06
Availability of qualified work force	-3.344	41	.002	-.357	-.57	-.14
Access to reliable and cooperative suppliers	9.884	41	.000	1.333	1.06	1.61
Availability of factory sites	10.978	41	.000	1.024	.84	1.21
Availability of raw materials	23.414	41	.000	1.690	1.54	1.84
Geographical proximity	3.532	41	.001	.500	.21	.79
<b>Political and legal factors</b>	<b>10.782</b>	<b>41</b>	<b>.000</b>	<b>.7024</b>	<b>.571</b>	<b>.834</b>
Political stability	17.112	41	.000	1.452	1.28	1.62
International trade agreements	.662	41	.512	.095	-.20	.39
Tax Reductions in the host country	6.899	41	.000	.905	.64	1.17
Benign environmental legislation toward FDI	15.368	41	.000	1.381	1.20	1.56
Diplomatic ties with the host country	2.995	41	.005	.333	.11	.56
Legal and regulatory system	.330	41	.743	.048	-.24	.34
<b>Social and cultural factors</b>	<b>-7.896</b>	<b>41</b>	<b>.000</b>	<b>-.8095</b>	<b>-1.017</b>	<b>-.602</b>
Cultural distance from home country	-6.059	41	.000	-.881	-1.17	-.59
Attitude of local community towards the firm	-3.563	41	.001	-.571	-.90	-.25
Local employees' loyalty to the firm	-3.877	41	.000	-.619	-.94	-.30
Language	-7.671	41	.000	-1.167	-1.47	-.86

Table 6.4 summarises the importance of the location factor means, standard deviations and standard errors. Table 6.5 shows the t-test for the importance of location factors. From the analysis of all the sub-factors, an average rating test value of above 3.0 was considered as an important location factor in the petrochemicals industry. The most important location factors identified in terms of their relative importance in location decisions for petrochemicals FDI are listed below in decreasing order of importance based on the t-test as:

1. Energy costs
2. Return on investment
3. Availability of raw materials
4. Low cost of raw materials
5. Political stability
6. Benign environmental legislation for FDI
7. Access to reliable and cooperative suppliers
8. Level of infrastructure
9. Transportation/logistic costs
10. Availability of factory sites (land)
11. Tax reductions in the host country
12. High industrial concentration (clustering)
13. Economic stability
14. Exchange rates
15. Geographical proximity

The least important location factors among other location factors are listed below in decreasing order of importance as:

16. Diplomatic ties with the host country
17. Production site costs (land costs)
18. International trade agreements
19. Legal and regulatory system
20. Market familiarity
21. Local financial support
22. Availability of well-qualified workforce
23. Labour costs
24. Economic growth

25. Level of competition in the host market
26. Attitude of the local community towards the firm
27. Local employees' loyalty to the firm
28. Market growth in the host country
29. Size of host market
30. Cultural distance
31. Language

**Table 6.4 Sub-Location Factors' Importance Means**

<b>One-Sample Statistics</b>				
<b>Location Factors</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Factory site costs	42	3.29	.970	.150
Labour costs	42	2.62	1.081	.167
Transportation/logistics costs	42	4.12	.772	.119
Raw material costs	42	4.60	.497	.077
Return on Investment	42	4.74	.497	.077
Energy costs	42	4.88	.328	.051
Large host market	42	2.14	.843	.130
Market growth in the host market	42	2.19	1.065	.164
Competition in the host market	42	2.55	.705	.109
Market familiarity	42	2.88	.993	.153
Economic stability	42	3.62	1.125	.174
Economic growth	42	2.57	.887	.137
Exchange rates	42	3.62	.936	.144
Local financial support	42	2.74	1.037	.160
Level of infrastructure	42	4.31	.468	.072
Clustering	42	3.86	.647	.100
Availability of qualified workforce	42	2.64	.692	.107
Access to reliable and cooperative suppliers	42	4.33	.874	.135
Availability of factory sites	42	4.02	.604	.093
Availability of raw materials	42	4.69	.468	.072
Geographical proximity	42	3.50	.917	.142
Political stability	42	4.45	.550	.085
International trade agreements	42	3.10	.932	.144
Tax reductions in the host country	42	3.90	.850	.131
Benign environmental legislation toward FDI	42	4.38	.582	.090
Diplomatic ties with the host country	42	3.33	.721	.111
Legal and regulatory system	42	3.05	.936	.144
Cultural distance from home country	42	2.12	.942	.145
Attitude of local community towards the firm	42	2.43	1.039	.160
Local employees' loyalty to the firm	42	2.38	1.035	.160
Language	42	1.83	.986	.152

**Table 6.5 Sub-Location Factors' T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Factory site costs	1.909	41	.063	.286	-.02	.59
Labour costs	-2.284	41	.028	-.381	-.72	-.04
Transportation/logistics costs	9.400	41	.000	1.119	.88	1.36
Raw material costs	20.810	41	.000	1.595	1.44	1.75
Return on Investment	22.674	41	.000	1.738	1.58	1.89
Energy costs	37.191	41	.000	1.881	1.78	1.98
Large host market	-6.589	41	.000	-.857	-1.12	-.59
Market growth in the host market	-4.928	41	.000	-.810	-1.14	-.48
Competition in the host market	-4.156	41	.000	-.452	-.67	-.23
Market familiarity	-.777	41	.442	-.119	-.43	.19
Economic stability	3.566	41	.001	.619	.27	.97
Economic growth	-3.130	41	.003	-.429	-.71	-.15
Exchange rates	4.287	41	.000	.619	.33	.91
Local financial support	-1.636	41	.109	-.262	-.59	.06
Level of infrastructure	18.138	41	.000	1.310	1.16	1.46
Clustering	8.591	41	.000	.857	.66	1.06
Availability of qualified workforce	-3.344	41	.002	-.357	-.57	-.14
Access to reliable and cooperative suppliers	9.884	41	.000	1.333	1.06	1.61
Availability of factory sites	10.978	41	.000	1.024	.84	1.21
Availability of raw materials	23.414	41	.000	1.690	1.54	1.84
Geographical proximity	3.532	41	.001	.500	.21	.79
Political stability	17.112	41	.000	1.452	1.28	1.62
International trade agreements	.662	41	.512	.095	-.20	.39
Tax reductions in the host country	6.899	41	.000	.905	.64	1.17
Benign environmental legislation toward FDI	15.368	41	.000	1.381	1.20	1.56
Diplomatic ties with the host country	2.995	41	.005	.333	.11	.56
Legal and regulatory system	.330	41	.743	.048	-.24	.34
Cultural distance from home country	-6.059	41	.000	-.881	-1.17	-.59
Attitude of local community towards the firm	-3.563	41	.001	-.571	-.90	-.25
Local employees' loyalty to the firm	-3.877	41	.000	-.619	-.94	-.30
Language	-7.671	41	.000	-1.167	-1.47	-.86

### 6.2.2.1 Major Factors' Importance

Table 5.40 summarises the importance of major location factors, including the mean, standard deviation and standard error. Table 5.42 shows the t-test for the importance of the major location factors. After calculating the average rating of the sub-factors related to each



major factor, we have the mean for each major factor. From the analysis of all the major location factors, an average rating of above 3.0 was considered in terms of the importance of the location factors in the petrochemical industry.

The important factors are:

1. Cost factors
2. Infrastructure and technological factors
3. Political and legal factors

The unimportant factors are:

4. Economic factors
5. Market factors
6. Social and cultural factors

Cost factors, infrastructure and technological factors, and political and legal factors, received a mean score of greater than 3.0, and the t-test showed that they are significantly above 3.0 with regard to the other major location factors. This indicates that they are considered to be important location factors for FDI when foreign companies are choosing their location in the Saudi petrochemical industry. The economic factors, market factors and social and cultural factors are significantly below 3.0. This indicates that they are considered to be unimportant location factors for FDI location decisions with regard to the Saudi petrochemical industry.

The cost factor has a mean score of 4.039. The t-test shows that this is significantly more than 3.0 ( $t_{41} = 14.345$ ,  $p = 0.000$ ). Hence, cost factors are perceived to play an important role in FDI location decisions. Our results support the findings of Banga (2003) and Campos and Kinoshita (2003) in that cost factors are very important in terms of the location decisions for efficiency seeking and resource seeking FDI, and when the FDI is export-oriented and targets the market outside the host country. Our findings also support the findings of Abdel-Rahman (2002) which indicate that cost factors will influence the location decision in terms of FDI in Saudi Arabia. The results are also in line with those of Buckely, Devenney and Louviere (2007) who concluded that cost factors play an important role in FDI location decision making. In a similar conclusion to our results, Gilmore, O'Donnell, Carson and Cummins (2003) concluded that the motives for the location of FDI have been explained by the concept of cost minimisation, which implies that MNCs will choose the least cost location for their production activities abroad. The results are also in line with those of Kang and Lee (2007) in

that a significant part of multinational activity tends to take the form of firms shifting their production processes to low-cost locations. However, our results are different from the findings of Nunnenkamp, (2002) who concluded that non-traditional location factors such as cost factors have become less important with globalization.

The market factor has a mean score of less than 3.0. The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.244$ ,  $p = 0.000$ ). Thus, the market factors are not perceived to be of importance with regard to FDI location decisions in the Saudi petrochemical industry. Our results support the findings of Mina (2007) who studied the factors that influenced the location decisions for FDI in Gulf State countries including Saudi Arabia, Bahrain, Oman, Kuwait, and the United Arab Emirates. It was found that market factors in these countries was not an important factor in terms of FDI location decisions. He concluded that, due to the small population sizes in the Gulf countries, economies of scale may not be realized, and FDI inflows may be discouraged. Therefore, the influence of market size on FDI inflows may be ambiguous. Our findings are also in line with those of Cleeve (2009) who concluded that the significance of market factors on FDI location decisions is declining, as other variables such as policy variables are becoming more important in terms of FDI location decisions. Our result confirm the findings of Campos and Kinishita (2003) in that efficiency seeking FDI, which target markets, are not interested in the national markets of the host country, and targeting the export markets will be less influenced by the market factors of the host country. This confirms the findings of Nunnenkamp (2002) which suggest that the relative importance of FDI location factors has changed as a result of globalization. Furthermore, the importance of traditional location factors has not diminished as a result of globalization. However, their importance in terms of FDI location decisions has declined. For example, the market size of the host country is one of the most important location factors in the opinion of many scholars. However, this factor has diminished in importance in terms of FDI location decisions. At the same time, new factors have become more important with regard to FDI location decisions - factors such as costs factors, infrastructure factors, and a benign business environment (UNCTAD 1996; Nunnenkamp, 2002). Our results support the findings of Cleeve (2009) who concluded that the significance of market size and growth rates are becoming less important in recent years in terms of FDI location. However, our results are different from a number of empirical studies on FDI location (e.g. Cunningham, 1975; Swedenborg, 1979; Dunning, 1980; Scaperlanda et al., 1983; Papanastassiou and Pearce, 1990; Zitta & Powers, 2003; Head and Mayer, 2004; Tahir & Larimo, 2005) who all

concluded that the market potential of the host countries has a significant and positive effect on attracting FDI, and has a major impact on the FDI decision-making process.

Economic factors have a mean score of 3.1369. However, the t-test shows that this is statistically less than 3.0 ( $p > 0.05$ ) ( $t_{41} = 1.159$ ,  $p = 0.253$ ). Hence, economic factors are not perceived to play an important role in FDI location decisions in the Saudi petrochemical industry. Our result support the findings of Ho & Lau (2007) who concluded that the importance of economic factors in the host country for FDI location decisions will be greater when the investor plans to expand its market share in the host country in which their investment is located. Otherwise, when the target markets are outside the host country where the investment is located, such as is the case with the petrochemical FDI in Saudi Arabia, the economic environment of the host country will have a minimal influence and a low priority in terms of FDI location decisions. Our results also confirm the findings of Abdel-Rahman (2002) who indicated that economic factors influence the location decisions with regard to FDI in Saudi Arabia. However, our results are different from those of Dunning (2004) who pointed out that the location decisions for FDI will be influenced by the host-country's economic situation, and will play a major role on shaping the FDI location motivations.

Infrastructure and technological factors have a mean score of 3.9082. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 16.247$ ,  $p = 0.000$ ). Thus, infrastructures and technological factors play an important role in the location decisions with regard to FDI in the Saudi petrochemical industry. Our results confirm the findings of Ho & Lau (2007) who stressed that the importance of infrastructure and technological factors in terms of FDI location decisions depends on the type of industry under consideration, as each industry has a different priority with regard to infrastructure levels. For example, heavy industry such as the petrochemical industry will require a high level of infrastructure in the host country in order to move its products to the global markets. Consequently, the level of infrastructure in the host country is a very important factor for that industry. Moreover, our result confirm the result of Jones & Wern (2006) who concluded that infrastructure factors is a potential attractor with regard to FDI inflow, as it improves the distribution of goods and services, the ability of the company to recruit labour and their ability to communicate with suppliers and purchasers. Furthermore, our results are in line with those of Mina (2007) who concluded that infrastructure development is expected to facilitate oil exploration and extraction, and therefore to have a positive influence on FDI flows.

Political and legal factors have a mean score of 3.7024. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 10.782$ ,  $p = 0.000$ ). Hence, political and legal factors are perceived to play an important role in FDI location decision in terms of the Saudi petrochemical industry. Our results confirm the studies of researchers such as Basi, 1963; Stevens, 1969; Weigel, 1970; Root and Ahmed, 1979; Levis, 1979; Schneider and Frey, 1985 and Wei, 1997, which have mostly focused on FDI in developing countries. These researchers have found political factors to be critical determinants of FDI location decisions. Our results are in line with the findings of Ho & Lau (2007) who showed that FDI is sensitive to political factors when it comes to choosing the location for investment, and this affects the attractiveness of a host country for FDI. FDI investment in a host country normally involves large obligations in terms of capital that could be recovered if the investment is launched successfully, and the payback period takes many years. A high level of political risk could negatively extend the payback period, or even make the investment critical, as all the invested capital could easily be lost. However our results are different from the findings of many studies (e.g. Green and Cunningham, 1975; Mody and Wheeler, 1992) who concluded that political factors are not important as FDI location factors, and that they rank lower than other location factors.

Social and cultural factors have a mean score of less than 3.0 (mean = 2.190). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -7.896$ ,  $p = 0.000$ ). Thus, social factors are not perceived to be important factors with regard to FDI location decision in the Saudi petrochemical industry. Our results confirm the findings of Johnson and Vahlne (1977) who concluded that firms will not be affected by the cultural factors of the host country and that cultural factors will play a limited role in the location choice for FDI. Moreover, other studies are in line with our results such as those of Levitt (1983) and Sethi, Guisinger, Phelan & Berg (2003) who found that globalization has a minimal effect in terms of social and cultural factors, as consumer tastes in different countries have been unified due to globalization. Moreover, MNEs may be forced to ignore the disadvantages of the cultural factors with regard to the developing country, in favour of the advantages of their cost factors, making them consider these locations to be the best locations for their operations. However our results are different from the findings of Dunning (1998), Leung et al. (2005), Kirkman (2006), Flores & Aguilera (2007), Bahardwaj and Dietz & Beamish (2007), all of whom concluded that social and cultural factors will have a significant impact on FDI

location.

**Table 6.6 Major Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Cost factors	42	4.040	.4697	.0725
Market factors	42	2.440	.6914	.1067
Economic factors	42	3.137	.7655	.1181
Infrastructure and technological factors	42	3.908	.3623	.0559
Political and legal factors	42	3.702	.4222	.0651
Social and cultural factors	42	2.190	.6644	.1025

**Table 6.7 T-Test for Major Factors' Importance**

One-Sample Test						
Location Factors	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Cost factors	14.345	41	.000	1.0397	.893	1.186
Market factors	-5.244	41	.000	-.5595	-.775	-.344
Economic factors	1.159	41	.253	.1369	-.102	.375
Infrastructure and technological factors	16.247	41	.000	.9082	.795	1.021
Political and legal factors	10.782	41	.000	.7024	.571	.834
Social and cultural factors	-7.896	41	.000	-.8095	-1.017	-.602

### 6.2.2.2 Cost Factors' Importance

Table 6.8 summarises the importance of cost factors including the mean, standard deviation and standard error for each factor. Table 6.9 shows the t-test for the importance of the cost factors. The importance of the cost factors based on the t-tests are listed below:

1. Energy costs
2. Return on investment
3. Cost of raw materials
4. Transportation/logistic costs

The unimportant cost factors are:

5. Production site costs (land costs)
6. Labour costs

Most of the cost factors are considered to be important factors with a mean of over 3.0,

including energy costs, return on investment, the cost of raw materials and transportation/logistic costs. However, factory site costs and labour costs received a mean of less than 3.0, which means that they are considered to be unimportant factors with regard to the location decisions for FDI in the Saudi petrochemical industry.

Factory site costs has a mean score above 3.0 (mean = 3.29). However, the t-test shows that this is statistically insignificant ( $p > 0.05$ ) since it is less than 3.0 ( $t_{41} = 1.909$ ,  $p = 0.063$ ). Thus, the factory site cost factor is not perceived to be an important factor for location decision with regards to Saudi petrochemical FDI. Our results support the findings of Deloitte & Touche's (2002) study of 130 companies from around the world which concluded that factory site cost plays a relatively less important role for FDI location decisions. However our results are different from the findings of Dunning (1998) who suggested that the motives for FDI location decisions are influenced by the industry involved in the investment process, therefore manufacturing FDI would give a priority to factory site costs when choosing a host country.

Labour costs have a mean score of less than 3.0 (mean = 2.62). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -2.284$ ,  $p = 0.028$ ). Hence, labour costs are not perceived as being an important factor for the location decision with regards to the Saudi petrochemical FDI. Our results confirm the findings of Wheeler and Mody (1992) and Hill and Munday (1994) who concluded that labour cost will play an unimportant role in terms of FDI location, and found no connection between the cost of labour and FDI location decisions. Our result also confirm the study by Gilmore, O'Donnell, Carson & Cummins (2003) who studied the FDI location motivations in two countries - Northern Ireland and Bahrain - in that they share comparable economic and political features. The study compared the views of executives in foreign companies who had invested in the two countries. The findings revealed that the respondents in the two countries were relatively different. However, in both countries, low labour costs were not considered as important factors for FDI location. Our results are different from the findings of Ho & Lau (2007) who concluded that labour costs are a variable that could influence FDI location, and that low wage rates could be an attractive labour force factor, especially for labour-intensive investment. Moreover there are Kang and Lee's results (2007) which suggest that a significant part of multinational activity tends to take the form of firms shifting a part of their production process to low-cost labour locations. Our results are opposite to the findings of Banga (2003)

who concluded that labour costs may significantly influence the choice of an investment location for the resource-seeking and efficiency-seeking companies, by lowering the labour costs of their operations in the host country. Our results are different from the findings of many scholars eg. Servan-Schriber (1986), Austin (1990), Rolfe & White (1992), Miller (1993), Zitta & Powers (2003), MacCarthy & Atthirawong (2003), Campos & Kinoshita (2003) and Flores & Aguilera (2007), all of whom concluded that labour costs in the host country will play an important role in terms of FDI location decisions, especially with regard to developing countries.

The transportation and logistics cost factor has a mean score above 3.0 (mean = 4.12). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 9.400$ ,  $p = 0.000$ ). Hence, the transportation and logistics cost factor is perceived to play an important role on FDI location decisions in the Saudi petrochemical industry. Our results are in line with the findings of many scholars such as Root and Ahmed (1978), Loree and Guisinger (1995) and Cheng and Kwan (2000), who concluded that transportation costs influence FDI location decisions through the expected cost of operation in a particular host country. That is, the cost of moving raw and finished materials to and from the MNE operative centres and their target markets. If the products are targeted for export, the costs of producing the product and the costs and reliability of transporting them to the world market are highly crucial. Our results confirm the findings of Gilmore, O'Donnell, Carson and Cummins (2003) who concluded that transportation and logistics costs are considered to be key cost factors for MNCs when they choose their investment location. Our results confirm the findings of Dunning (2004) who concluded that MNEs in developing countries are attracted to infrastructures that will support their investments and would help improve the FDI operations. The results also confirm the findings of Nunnenkamp (2002) who claimed that, as a result of the globalization, new factors have become particularly important with regard to FDI location decisions, such as infrastructure costs in the host country.

The raw material costs factor has a mean score above 3.0 (mean = 4.60). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 20.810$ ,  $p = 0.000$ ). Hence, the raw material costs factor is perceived to play an important role in terms of FDI location decisions in terms of the Saudi petrochemical industry. Our results confirm the findings of Dunning (1988) and Cleeve (1997; 2009) who concluded that the costs of raw materials in the host country have a strong effect on the location of FDI. Our results are also in line with the

UNCTAD results (2006) in that the pull factors in the host country such as the costs of raw materials play an important role in the location of FDI. The results also confirm the results of Deloitte & Touche (2002) who studied 130 companies from around the world on the relative importance of location factors from the point of view of executives. Here, the cost of raw materials was the one of the most highly rated factors among the twenty factors in the survey. However, our results are in contrast to those of Mellahi, Gurmat, Frynas & Al-Bortmani (2003), who studied FDI in Oman and found that low-cost inputs are not important location factors for FDI in Oman.

The return on investment factor has a mean score above 3.0 (mean = 4.74). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 22.674$ ,  $p = 0.000$ ). Hence, the return on investment factor is also perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results are line with a study by Cheng and Kwan (2000) and by Campos and Kinoshita (2003) who believe that the expected return on investment of a location will affect the location decision of the foreign investor. The profitability of the investment would be influenced by the target location, the industry, and the investment motives. Our results also confirm the study by Ng & Tuan (2003) who concluded that FDI will identify the most profitable investment location for their foreign investment by choosing from a variety of potential investment locations, and they would choose the location that give them the highest return on investment. Our results confirm the findings of Kang & Lee (2007) in that MNEs consider the return on investment factor as one the most important location factors when choosing a location for their investment. MNEs have shifted from direct export to local production in order to lower costs. Local production will bring down production costs, thereby increasing profit margins and return on investment by lowering transport and other related production costs, and avoiding trade barriers and non-trade barriers. Our results are also in line with Horstman and Markusen (1987) and Markusen and Venables (1999) who pointed out that in large markets there would be many local firms that would increase the level of competition by lowering the prices which, in turn, would affect profit margins. Therefore, MNEs start to locate their operations in local markets instead of exporting, in order to lower production costs and therefore increase their profit margins. Our results confirm the results of Cohen (2007) who concluded that the critical objective for firms when expanding overseas is to find a location that gives them the highest return on investment with the least risk, and that firms focus on the return on investment in the foreign market, and what the profit margin will be compared to other locations. However,



our results are different from the findings of Asiedu (2001) who concluded that return on investment is not considered to be an important factor when it comes to attracting FDI in Sub-Saharan Africa.

The energy costs factor has a mean score above 3.0 (mean = 4.88). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 37.191$ ,  $p = 0.000$ ). Hence, the energy costs factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. As the energy price is rising and there is a rash a historically high prices, the energy costs will be a critical and major factor for a heavy industry like petrochemical, and it will play a major factor in terms of FDI location decisions. Our results confirm the findings of the results of Deloitte & Touche (2002) and Banga (2003) who concluded that energy costs play an important role for FDI when choosing a new location for their investment. This result is in line with that of Cleeve (2009) who concluded that a firm's decision to invest abroad will be affected by certain natural resources factors, among them the energy costs in the host country.

**Table 6.8 Cost Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Factory site costs	42	3.29	.970	.150
Labour costs	42	2.62	1.081	.167
Transportation/logistics costs	42	4.12	.772	.119
Raw material costs	42	4.60	.497	.077
Return on Investment	42	4.74	.497	.077
Energy costs	42	4.88	.328	.051

**Table 6.9 Cost Factors' Importance T-Test**

One-Sample Test							
Location Factors	Test Value = 3					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper	
	Factory site costs	1.909	41	.063	.286	-.02	.59
Labour costs	-2.284	41	.028	-.381	-.72	-.04	
Transportation/logistics costs	9.400	41	.000	1.119	.88	1.36	
Raw material costs	20.810	41	.000	1.595	1.44	1.75	
Return on Investment	22.674	41	.000	1.738	1.58	1.89	
Energy costs	37.191	41	.000	1.881	1.78	1.98	

### 6.2.2.3 Market Factors' Importance

Table 6.10 summarises the importance of market factors, including the mean, standard deviation and standard error for each factor. Table 6.11 shows the t-test for the importance of the market factors. All market factors were perceived to be unimportant. They are:

1. Large host market
2. Market growth in the host market
3. Competition in the host market
4. Market familiarity

All market factors received an average response rate of less than 3.0, which indicates that they are considered to be unimportant factors in terms of FDI location decisions in the Saudi petrochemical industry. These factors included market familiarity, the level of competition in the host market, market growth in the host country and the size of the host market.

The size of the host market factor has a mean score below 3.0 (mean = 2.14). The t-test shows that the mean score was significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -6.589$ ,  $p = 0.000$ ). Hence, a large host market is not perceived to be an important factor in the location decision for FDI in the Saudi petrochemical industry. Our result support the findings of Mina (2007) who studied the factors that influenced the location decisions for FDI in Gulf State countries including Saudi Arabia, Bahrain, Oman, Kuwait, and the United Arab Emirates. He found that market size in these countries was not an important factor in terms of FDI location decisions. He concluded that, due to the small population sizes of the Gulf countries, economies of scale may not be realized, and FDI inflows may be discouraged. Therefore, the influence of market size on FDI inflows may be ambiguous. Similarly to our findings, Cleeve (2009) has shown that market size has been a critical deterrent of FDI location in Sub-Saharan Africa. However, our results are in contrast with those of Zhou, Delios & Yang (2002) who showed that the market-related factors on FDI location decisions are that large markets grant benefits such as scale economies and high revenue generation. Our results are different from those of Chakrabarti (2001), Blonigen (2005) and Flores & Aguilera (2007), all of whom support the influence of market size on FDI location choice. Similarly, in contrast to our results, Moosa and Cardak (2006), using cross-section data on 138 countries over the period 1998–2000, found evidence that supports the importance of market size for FDI location decisions. Our result is different from the finding of Frenkel et al. (2004) who

used data for the period 1992–2000 on bilateral FDI flows from G5 countries to 22 emerging markets, including Asian, Central European, and Latin American countries, and found that host country market size is an important factor in terms of FDI location. However, when separating the emerging markets into regions in the form of Latin America, Asia, and Central Europe, they found that market size matters only in Latin America and Central Europe. In addition, Carstensen and Toubal (2004), using panel data on FDI flows from 10 OECD home countries into 7 host CEECs in the period 1993–1999, found different result to our study in terms of supportive evidence of the importance of market size on FDI location decisions. Our results are different from that of Head and Mayer (2004), who found that those regions surrounded by large markets tend to attract more FDI.

The market growth factor in the host market has a mean score of less than 3.0 (mean = 2.19). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -4.928$ ,  $p = 0.000$ ). Hence, the market growth in terms of host market factors is not perceived to be an important factor in location decisions with regard to FDI in the Saudi petrochemical industry. Our result confirms the findings of Scaperlanda and Mauer (1969) who found that the growth rate of the market in a hot country did not affect the FDI location decision. However, our results are in contrast to those of Billington, (1999), Gilmore, O'Donnel, Carson & Cummins (2003) and Jones & Wern (2006) who concluded that market growth has a positive effect on FDI location, and that the expansion pressures into other markets to gain greater sales or market share have influenced MNEs when it comes to entering new large markets to overcome the maturity of home markets. Therefore, market growth may influence FDI location, as firms will enter markets in which they can grow.

The factor of competition in terms of the host market has a mean score of less than 3.0 (mean = 2.55). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -4.156$ ,  $p = 0.000$ ). Hence, a large degree of competition in terms of the host market is not perceived to be an important factor in the location decision for FDI in the Saudi petrochemical industry. Our results confirm the findings of Buckley, Devinney & Louvriere (2007) who concluded that competition in the host market is among the least important factors for FDI location decision making. However, our results are different from the findings of Caves (1996) and Dunning (1998) who concluded that competition in the host market will play an important role on FDI location decisions. Our results are in contrast with those of The Economist Intelligence Unit (2002) who studied the most important factors that affect MNE's

executives location decisions for FDI, and found that competition in the host country is one of the most important location factors that will influence the future location of FDI in the coming years.

The market familiarity factor has a mean score of less than 3.0 (mean = 2.88). The t-test shows that statistically this is not significantly ( $p > 0.05$ ) less than 3.0 ( $t_{41} = -0.777$ ,  $p = 0.442$ ). Hence, the market familiarity factor is not perceived to be an important factor in terms of the location decision for FDI in the Saudi petrochemical industry. Our results confirm the findings of Buckley, Devinney & Louvriere (2007) who found that establishing a relationship and market familiarity in the host country are among the least important factors for FDI when choosing an investment location. However our results are different from the findings of Ramady & Saeed (2007) who studied FDI inflows to Saudi Arabia between 1984 and 1997, and found that the fear of foreign companies with regard to entering the Saudi market alone or on the part of those who are unfamiliar with the Saudi market, negatively affected FDI inflows and played an important role on FDI location in Saudi Arabia. Similarly, our results are in contrast with those of Cleeve (2004; 2009) who found that familiarity and knowledge of the host country are important factors in terms of location decisions for FDI. Our results are different from those of Randoy & Dibrell (2002) who concluded that location familiarity and market attractiveness would play an important role in the location choice for MNEs, and if managers recognize that a particular location is unfamiliar, they may not choose that location for their investment.

**Table 6.10 Market Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Large host market	42	2.14	.843	.130
Market growth in the host market	42	2.19	1.065	.164
Competition in the host market	42	2.55	.705	.109
Market familiarity	42	2.88	.993	.153

**Table 6.11 Market Factors' Importance T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Large host market	-6.589	41	.000	-.857	-1.12	-.59
Market growth in the host market	-4.928	41	.000	-.810	-1.14	-.48
Competition in the host market	-4.156	41	.000	-.452	-.67	-.23
Market familiarity	-.777	41	.442	-.119	-.43	.19

### 6.2.2.4 Economic Factors' Importance

Table 6.12 summarises the importance of economic factors, including the mean, standard deviation, and standard error for each factor. Table 6.13 shows the t-test for the economic factors' importance. The importance of economic factors based on the t-test are listed below:

1. Economic stability
2. Exchange rates

The unimportant factors are:

3. Economic growth
4. Local financial support

Economic stability and exchange rates are considered as important factors in terms of location decisions related to the Saudi petrochemical industry, with a mean of more than 3.0. Economic growth and local financial support revealed a mean of less than 3.0, which means that they are considered to be unimportant factors in terms of the location of FDI in the petrochemical industry.

The economic stability factor has a mean score greater than 3.0 (mean = 3.62). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 3.566$ ,  $p = 0.001$ ). Hence, the economic stability factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results support the findings of Schneider and Frey (1985), Wheeler and Mody (1992), Tsai (1994), Jackson and Markowski (1995), Taylor (2000) and more recently, Banga (2003), who all support the positive effect of

economic stability on the location choice with regard to FDI. Our results are also in line with UNCTAD (1998) which shows that monetary and fiscal policies, which reflect economic stability, will influence the location destinations for FDI. Our results confirm the results of Tahir and Larimo (2005) who concluded that, in order to attract FDI, economic stability is an important factor. Our results also confirm the findings of Mellahi, Gurmat, Frynas & Al-Bortmani (2003) who studied FDI in Oman, and found that economic stability is one of the most important FDI location factors.

The economic growth factor has a mean score of less than 3.0 (mean = 2.57). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -3.130$ ,  $p = 0.003$ ). Hence, the economic growth factor is not perceived to be an important factor in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Ho & Lau (2007) who believed that the importance of economic growth in the host countries for FDI location decisions will be greater when the investor plans to expand his market share in the host country in which their investment is located. Otherwise, when the target markets are outside the host country where the investment is located, the economic growth of the host country will have a minimal influence and will have low priority in terms of FDI location decisions. Our results also confirm the findings of Abdel-Rahman (2002) who indicated that the economic growth factor is not a significant factor for FDI inflows into Saudi Arabia. However, our results are different from those of Lim (2001), who argued that FDI location decisions are positively affected by the economic growth of the host country. Our results are also in contrast with the findings of Wheeler & Mody (1992) and Aliber (1993) who argued that a strong macroeconomic policy is a key factor that would affect FDI location decisions, and they believed that there is positive relationship between the rate of growth of the host country and the FDI inflow.

The exchange rates factor has a mean score greater than 3.0 (mean = 3.62). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 4.287$ ,  $p = 0.000$ ). Hence, the exchange rates factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Aliber (1970), Zitta & Powers (2003) and Gilmore, O'Donnell, Carson & Cummins (2003) who concluded that FDI location decisions are affected by the interest rates in the host country. Our results also support the results of Froot & Stein (1989) who believed that a devaluation of the host country's currency will have a positive impact on FDI profitability, and may influence the

FDI inflow. However, our results are in contrast with those of UNCTAD (1998) which concluded that the effects of interest rates on FDI location destinations is not important.

The local financial support factor has a mean score of less than 3.0 (mean = 2.74). The t-test shows that statistically this is not significantly ( $p > 0.05$ ) less than 3.0 ( $t_{41} = -1.636$ ,  $p = 0.109$ ). Hence, the local financial support factor is not perceived to be an important factor in terms of the FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of UNCTAD (1998) which concluded that the effects of local financial support on FDI location destinations are less than that those on domestic investment, because MNEs in general have a better choice of sources of financing for their international operations, and they are not limited to the local market. Our results support the findings of Abdel-Rahman (2002) who indicated that the local financial support factor in Saudi Arabia is not an important factor for FDI location. However, our results are in contrast with Zitta & Powers (2003) who showed the need for capital support from the local market was considered to be an important location factor for FDI in the United States.

**Table 6.12 Economic Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Economic stability	42	3.62	1.125	.174
Economic growth	42	2.57	.887	.137
Exchange rates	42	3.62	.936	.144
Local financial support	42	2.74	1.037	.160

**Table 6.13 Economic Factors' Importance T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Economic stability	3.566	41	.001	.619	.27	.97
Economic growth	-3.130	41	.003	-.429	-.71	-.15
Exchange rates	4.287	41	.000	.619	.33	.91
Local financial support	-1.636	41	.109	-.262	-.59	.06

### 6.2.2.5 Infrastructure and Technological Factors

Table 6.14 summarises the importance of infrastructure and technological factors, including the mean, standard deviation and standard error for each factor. Table 6.15 shows the

importance of the infrastructure and technological factors. Most of the infrastructure and technological factors, including the availability of raw materials, access to reliable and cooperative suppliers, the level of infrastructure, the availability of factory sites (land), high industrial concentration (clustering) and geographical proximity, are considered to be important factors in terms of location decisions in the petrochemical industry, in that each factor has a mean of over 3.0. However, the availability of a well-qualified workforce received an average response rate of less than 3.0 and it is considered to be an unimportant factor in terms of FDI location decisions in the Saudi petrochemical industry.

The level of infrastructure factor has a mean score of more than 3.0 (mean = 4.31). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 18.138$ ,  $p = 0.000$ ). Hence, the level of infrastructure factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Jones & Wern (2006) and Ho & Lau (2007) who concluded that the level of infrastructure in the host country plays an important role on FDI location decisions. Our results are in line with Biswas (2002) who studied FDI in the US from 44 countries during the period 1983 to 1990, and concluded that the level of infrastructure in the host country is one of the most important factors in attracting FDI. Our results confirm the findings of Caves (1996), Dunning (1998) and Cleeve (2009) who concluded that resources-seeking and efficiency-seeking FDI will be influenced by the level of infrastructure in the host country. Our results also support the findings of the Economist Intelligence Unit (2002) which studied the most important factors that affect the location decision for FDI, and indicated that the level of infrastructure in the host country is one of the most important location factors that will influence the location of FDI in the coming years. Our results support the findings of UNCTAD (1996) and Nunnenkamp (2002) who concluded that new factors have become more important with regard to FDI location, among them the level of infrastructure in the host country. Our results are in line with those of Mina (2007) who studied the FDI inflow to the GCC countries, and how the location factors help attract FDI inflows, and found that the quality of the infrastructure attracts FDI inflows. However, our results are different from those of Asiedu (2001), who found that infrastructure quality in Africa is not considered to be important enough to attract FDI.

The high industrial concentration (clustering) factor has a mean score of more than 3.0 (mean = 3.86). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 8.591$ ,  $p =$



0.000). Hence, the high industrial concentration (clustering) factor is perceived to play an important role in FDI location decisions in terms of the Saudi petrochemical industry. Our results confirm the findings of Jones & Wern (2006) who believed that a high industrial concentration in the host country is an important factor when it comes to attracting FDI, as the level of industrialisation is expected to be associated with a high level of FDI, since a country or region that is highly industrialised will have a large number of firms and a clustering of specific industries, which potentially increases the possibility of beneficial spillover. Similarly to our results, Wheeler and Mody (1992), Billington (1999), Wei et al. (1999) and Campos and Kinoshita (2003) all found a significant positive effect between high industrial concentration (clustering) and FDI location, which they attribute to agglomeration economies. Our results confirm the study by Ng & Tuan (2003), Devereux (2003) and Jones & Wern (2006) who also suggested that firms tend to locate near to other firms in the same industry to benefit from the spillover of the agglomerations effect, and showed in their study that agglomeration economies will significantly affect the FDI location decision. Our results confirm the findings of Bensebaa (2005) who examined the determinants of FDI at a regional level in Hungary. More particularly, he assessed the importance of agglomeration effects among them, and found that countries with higher labour availability, market demand and clustering of industry, tended to attract more FDI.

The availability of a well-qualified workforce factor has a mean score of less than 3.0 (mean = 2.64). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -3.344$ ,  $p = 0.002$ ). Hence, the availability of a well-qualified workforce factor is not perceived to be an important factor in terms of the location decisions for FDI in the Saudi petrochemical industry. Our results support the findings of Achoui (2009) who believed that most of the Gulf countries including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates are very rich in natural resources such as oil and gas. However, surprisingly, all these countries experience a shortage of skilled and unskilled workers, which has led to a high dependence on foreign labour due to the low population size, and an insufficient educational system in these countries. Therefore, the availability of a well-qualified workforce in these countries is not an important factor for FDI as MNEs rely on expatriates for their operations. Our results also support the result obtained by SAGIA (2008) which concluded that most of the employees in the private sector in Saudi Arabia are expatriates since they make up 88.4% of the labour force in this sector. Therefore, FDI considers the availability of a well-qualified workforce to be not important in Saudi Arabia. Our results

also confirm those of Ramadi (2005), who concluded that the private sector in Saudi Arabia prefers to employ expatriates to Saudis nationals, and normally FDI satisfy their needs for workers from specialists from outside the host country. However, our results are different from those of Mina (2007) who studied the FDI location motivation in the GCC countries, and showed that the availability and quality of labour are important with regard to FDI location decisions. Our results are also different from those of Jones & Wern (2006) who stated that the availability of a well-qualified work force in a host country is expected to have a positive effect on FDI location decisions, because a host country with a higher availability of a skilled workforce will provide foreign investors with a group of workers to choose from. Our results are in contrast to those of Haaland & Wooton (2003) who examined the availability of a well-qualified workforce effect on FDI location decisions and revealed that the availability of a well-qualified workforce is a strong positive determinant of FDI locations.

The access to reliable and cooperative suppliers factor has a mean score greater than 3.0 (mean = 4.33). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 9.884$ ,  $p = 0.000$ ). Hence, the access to reliable and cooperative suppliers' factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings Deloitte & Touche (2002) who concluded that access to reliable and cooperative suppliers is one of the most important FDI location factors. Our results also support those of Hong & Chen (2001) who concluded that access to reliable and cooperative suppliers is one of the major FDI location factors in China. Our results confirm the findings of Narula and Dunning, (2000), Zaheer and Manrakhan (2001), Makino et al. (2002) and Galan, Benito & Vincente (2007) who suggested that MNEs expand into new cross-border markets for several reasons, all of which are related to the intense competitive global market, and that access to new suppliers is one of the most important location factors.

The availability of factory sites (land) factor has a mean score greater than 3.0 (mean = 4.02). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 10.978$ ,  $p = 0.000$ ). Hence, the availability of the factory sites (land) factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Dunning (1998) who suggested that the motives for FDI location decisions are influenced by the industry involved in the investment process, and therefore manufacturing FDI would need large investments in fixed assets. Consequently, the availability of factory

sites (land) would an important location factor for FDI in the manufacturing industry. Our results also confirm the findings of Deloitte & Touche (2002) who studied 130 companies from around the world and found that the availability of factory sites (land) factor is considered to be one of the most important location factors for FDI.

The availability of raw materials factor has a mean score greater than 3.0 (mean= 4.69). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 23.414$ ,  $p = 0.000$ ). Hence, the availability of raw materials factor is perceived to play an important role with regard to FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Mmieh and Owusu-Frimpong (2004) who showed that vertical FDI or 'raw material-seeking' FDI, will locate their operations near supplies of raw materials. Our results also confirm the findings of Gilmore et al. (2003) who stressed the importance of the availability of resources, in particular raw materials, as these are generally recognised as being very important location factors that strongly affect FDI location decisions. Our results are in line with those of Cleeve (2009) who also believed that FDI location decisions in developing countries is motivated by the availability of natural resources. Our results are similar to those of Deloitte & Touche (2002) who found that the availability of raw materials in the host country is one of the most important location factors in terms of FDI. However, our results are in contrast with those of Batchler and Clement (1990) who showed different findings, in that they believed that the availability of raw materials has had a relatively lesser impact on FDI location decisions, because raw materials now are affected by globalisation and therefore are widely sourced on a global basis. Our results are different from those of Mellahi et al. (2003) who studied FDI in Oman, and found that the availability of raw materials is not an important location factor for FDI in Oman.

The geographical proximity factor has a mean score above 3.0 (mean = 3.50). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 3.532$ ,  $p = 0.001$ ). Hence, the geographical proximity factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Campos and Kinoshita (2003) who believed that proximity to the home country is an important factor in explaining the volume of trade flows between countries. Our results also support those of Kravis & Lipsey (1982) and Ng & Tuan (2003) who showed that geographical proximity and the strategic location of the host country is considered to be a key factor for FDI location decisions. Our results are in line with those of Hong & Chen (2001) who concluded that

geographical location is one of the major FDI location factors in China.

**Table 6.14 Infrastructure and Technological Factors' Importance T-Test**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Level of infrastructure	42	4.31	.468	.072
Clustering	42	3.86	.647	.100
Availability of qualified work force	42	2.64	.692	.107
Access to reliable and cooperative suppliers	42	4.33	.874	.135
Availability of factory sites	42	4.02	.604	.093
Availability of raw materials	42	4.69	.468	.072
Geographical proximity	42	3.50	.917	.142

**Table 6.15 Infrastructure and Technological Importance T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Level of infrastructure	18.138	41	.000	1.310	1.16	1.46
Clustering	8.591	41	.000	.857	.66	1.06
Availability of qualified work force	-3.344	41	.002	-.357	-.57	-.14
Access to reliable and cooperative suppliers	9.884	41	.000	1.333	1.06	1.61
Availability of factory sites	10.978	41	.000	1.024	.84	1.21
Availability of raw materials	23.414	41	.000	1.690	1.54	1.84
Geographical proximity	3.532	41	.001	.500	.21	.79

### 6.2.2.6 Political and Legal Factors' Importance

Table 6.16 summarises the importance of political and legal factors, including the mean, standard deviation and standard error for each factor. Table 6.17 shows the importance of these factors. Political and legal factors including political stability, tax reductions in the host country and benign environmental legislation for FDI and are considered to be important factors in terms of FDI location decisions in the petrochemical industry, in that they received a mean of more than 3.0. However, despite the fact that location factors including international trade agreements, diplomatic ties with the host country and legal and regulatory system received an average response rate of more than 3.0, the t-test shows that they are considered to be unimportant factors in terms of FDI location decisions in the Saudi petrochemical industry.

The political stability factor has a mean score above 3.0 (mean = 4.45). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 17.112$ ,  $p = 0.000$ ). Hence, the political stability factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of many studies which have mostly focused on FDI in developing countries, which have found political stability to be a critical determinant of FDI (e.g., Basi, 1963; Stevens, 1969; Weigel, 1970; Root and Ahmed, 1979; Levis, 1979; Schneider and Frey, 1985; Wei, 1997). Our results are also in line with those of Dunning (1996) who concluded that risks in host markets, especially political stability, is commonly cited as a cause for the restriction of FDI inflows. Our results are also in line with those of Schneider and Frey (1985), Bollen et al. (1982) and Mellahi et al. (2003) who noted that political instability significantly affects location decisions negatively, and reduces the inflow of FDI. Our results also confirm the findings of Mossa (2002) who indicated that a lack of political stability in the host country discourages inflows of FDI. However, our results are different from those of Green and Cunningham (1975) and Mody and Wheeler (1992) who found that political stability, which is among political factors, is not an important FDI location factor, and they rank it lower than other location factors. Our results are also different from those of UNCTAD (1998) which concluded that political stability is a requirement for FDI, but is not a strong motive for inward FDI.

The international trade agreements factor has a mean score above 3.0 (mean = 3.10). However, the t-test shows that this is statistically not significantly ( $p > 0.05$ ) greater than 3.0 ( $t_{41} = 0.662$ ,  $p = 0.512$ ). Hence, the international trade agreements factor is not perceived to be an important factor in terms of the FDI location decisions in the Saudi petrochemical industry. However, our results are different from a number of studies (e.g. Gastanaga, Nugent and Pashmova, 1998; Taylor, 2000; Chakrabarti, 2001 and Asiedu, 2002) who have tested the impact of trade agreements on FDI inflows and location decisions. All confirm that trade agreements are an important factor for FDI inflows, and will affect FDI location decisions positively. Our results are also in contrast with those of Globerman and Shapiro (1999) who found that the Canada-U.S. Free Trade Agreement (CUFTA) and the North American Free Trade Agreement (NAFTA) increased both inward and outward FDI, and improved the attractiveness of these countries. Our results are in contrast with those of Bloomstrom & Koko (2003) who concluded that global trade liberalization through the the WTO, or regionally, through organisations such as the EU and NAFTA and other international trade

agreements, has led to an increase in market integration which makes international trade agreements an important factor in terms of FDI location.

The tax reductions in the host country factor has a mean score greater than 3.0 (mean = 3.90). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 6.899$ ,  $p = 0.000$ ). Hence, tax reductions in the host country factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of many scholars such as Coughlin (1991), Hines (1996), Cassou (1997), Billington (1999), Mossa (2002) and Jones & Wern (2006), who studies examined the effect of taxes on FDI location decisions, and have found that high tax rates can have a negative influence on FDI location, as they reduce the profits that can be made. Our results are also in line with those of Cheng & Kwan (2000) who claimed that export-oriented FDI will be affected by the taxes in the host country, but FDI targeting local market taxes will have a low effect, and other location factors such as market policies that affect local market demand will be more important than taxes. Our results support the findings of UNCTAD (1998) which argued that corporate and personal tax rates will have an effect on FDI location decisions, and a location with lower corporate tax rates will be more attractive than a location with higher rates. Our results also confirm the findings of Tahir & Larimo (2005) who concluded the need to locate manufacturing facilities in countries with relatively low tax rates. This serves the purpose of the market, as well as efficiency-seeking FDI, and will play an important role in terms of FDI location. However our results contrast with those of Ho & Lau (2007) who concluded that while there is some agreement among scholars about the impact of non-tax factors on FDI location decisions, the results with regard to the influence of tax factors on FDI location decisions are contradictory and questionable. Our results are also different from those of Cleeve (2004) who suggested that fiscal incentives such as tax incentives provided by the host government may not be effective tools when it comes to attracting FDI inflows, and some governments which provide tax incentives to attract FDI, especially in developing countries, may lose tax revenue as a result of FDI when in reality the fiscal incentives do not influence FDI inflow. Our results are also in contrast with those of Blonigen (2005) who believe that MNEs face tax rates at a variety of levels in both the host and the parent countries, and policies to deal with double taxation can substantially alter the effects of these taxes on a MNE's incentive to invest. Therefore, a credit system to deal with foreign taxes by an MNE makes taxation in the host country relatively unimportant.

The benign environmental legislation for FDI factor has a mean score above 3.0 (mean = 3.90). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 15.368$ ,  $p = 0.000$ ). Hence, the benign environmental legislation for FDI factor is perceived to play an important role in terms of FDI location decisions in the Saudi petrochemical industry. Our results confirm the findings of Jones & Wern (2006) and Kang & Lee (2007) who argue that host government policies toward foreign investment play an important role in terms of FDI inflow. Our results are also in line with those of Cheng & Kwan (2000) who showed that government policies with regard to such processes as getting government approvals, the environment for doing business, etc., would have a positive effect on FDI location. Our results confirm the findings of Grubert and Mutti (1991), Loree and Guisinger (1995), Taylor (2000) and Kumar (2002) who found a positive effect in terms of benign environmental legislation for FDI on the part of the host governments, on inward FDI flows. Similarly, Devereux and Griffith (1998), Hines (1996) and Banga (2003) have found that fiscal incentives do affect location decisions, especially for export-oriented FDI, and that government policies to attract FDI have increased in importance in the new globalized markets. Our results are in line with those of Zhou, Delios & Yang (2002) who examined 2,933 cases of Japanese investment in China to identify the role that policy factors play on the location decisions of Japanese FDI in China, and found that government incentives on the part of the host country, such as the setting up of special economic zones and opening coastal cities, were very important factors in terms of FDI inflow. Our result also supports UNCTAD (1998) which concluded that restrictive policies on the part of host governments, such as the widespread nationalization of foreign partners, can negatively affect FDI inflow. Our results are in line with those of Cohen (2007) who concluded that the collective results of attitudes, actions, and inactions by a national government, is the most decisive determinant with regard to whether or not an investment climate attracts or repels non-extractive MNEs.

However, our results are in contrast with those of Contractor (1991), Caves (1996), and Villela and Barreix (2002), who found that policy changes have a weak influence on location decisions and that inflow incentives on the part of the host country are generally unimportant compared to other classical location factors when it comes to FDI. Our results are different from those of Hoekman and Saggi (2000) who believed that incentives may attract some types of FDI, but it will not be an important factor when generalized to the whole economy. Our results are different from those of Bloomstrom & Koko (2003) who concluded that investment incentives on the part of the host government are seen as relatively minor

determinants of FDI decisions, and while they might tilt the investment decision in favour of one of several otherwise similar investment locations, the effects were considered to be only marginal. Our results are in contrast with those of Blonigen and Feenstra (1996) and Mossa (2002) who believed that protectionism on the part of the host government may lead to an increased FDI inflow, and may encourage FDI inflow, and that FDI might increase the investment level in the host country to minimize the effect of protectionism on its investment.

The diplomatic ties with the host country factor has a mean score above 3.0 (mean = 3.33). However, the t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = 2.995$ ,  $p = 0.005$ ). Hence, the diplomatic ties with the host country factor is not perceived to be an important factor in terms of the FDI location decisions in the Saudi petrochemical industry.

The legal and regulatory system factor has a mean score greater than 3.0 (mean = 3.05). However, the t-test shows that this is not statistically greater than 3.0 ( $t_{41} = 0.330$ ,  $p = 0.743$ ). Hence, the legal and regulatory system factor is not perceived to be an important factor in terms of the location decisions for FDI in the Saudi petrochemical industry. Our results contrast with those of the World Bank (2005) which concluded that low confidence in the legal system of the host country is a key factor for MNCs, especially in a country with few political and economic reforms. As a result, the legal system in the host country will play a major role in FDI location decisions. Our results are different from those of Altomonte and Guagliano (2003), Globerman and Shapiro (2003), and Kahai (2004) who concluded that a transparent and enforceable legal and institutional framework is a crucial determinant of FDI location. Our results are also in contrast with those of Flores & Aguilera (2007) who indicated that country-level political and legal institutions influence cross-national business practices, and when MNEs expand around the world, the host country's legal system plays an important role in their operations abroad. Our results are also different from those of Mina (2007) who concluded that the rule of law, contract enforcement and protection of property rights play an important role in attracting FDI in GCC countries.



**Table 6.16 Political and Legal Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Political stability	42	4.45	.550	.085
International trade agreements	42	3.10	.932	.144
Tax reductions in the host country	42	3.90	.850	.131
Benign environmental legislation toward FDI	42	4.38	.582	.090
Diplomatic ties with the host country	42	3.33	.721	.111
Legal and regulatory system	42	3.05	.936	.144

**Table 6.17 Political and Legal Importance T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Political stability	17.112	41	.000	1.452	1.28	1.62
International trade agreements	.662	41	.512	.095	-.20	.39
Tax reductions in the host country	6.899	41	.000	.905	.64	1.17
Benign environmental legislation toward FDI	15.368	41	.000	1.381	1.20	1.56
Diplomatic ties with the host country	2.995	41	.005	.333	.11	.56
Legal and regulatory system	.330	41	.743	.048	-.24	.34

### 6.2.2.7 Social and Cultural Factors' Importance

Table 6.18 summarises the importance of social and cultural factors, including the mean, standard deviation and standard error for each factor. Table 6.19 shows the importance of social and cultural factors. All such factors, including the attitude of the local community towards the firm, local employees' loyalty to the firm, cultural distance and language, are rated below 3.0 and are considered as unimportant factors in terms of location decisions in the Saudi petrochemical industry.

The cultural distance from the home country factor has a mean score of less than 3.0 (mean = 2.12). The t-test found that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -6.059$ ,  $p = 0.000$ ). Hence, the cultural distance from the home country factor is not perceived to be an important factor in terms of location decisions for FDI in the Saudi petrochemical industry. Our results support the findings of Johnson and Vahlne (1977) who concluded that firms will not be affected by the cultural distance between the host and the home country, and

that cultural distance will play a limited factor on the location choice for FDI. Our results are also in line with those of Guisinger, Phelan & Berg (2003) who found that globalization has a minimal effect in terms of cultural factors, as consumer tastes in different countries have been unified globally due to globalization. Moreover, MNEs may be forced to ignore the disadvantages of the cultural distance from the developing country, in favour of the advantages of their low cost labour, making them consider these locations to be the best locations for their operations. However our results are different from those of Loree and Guisinger (1995) who studied US FDI between 1977 and 1982, and found that FDI was negatively affected by the cultural distance between the host countries. Our results are also in contrast with those of Buckley and Mathew (1979) who found that British firms were significantly affected by the expected cultural differences between the host country and Britain. Our results are different from those of Globerman and Shapiro (2002; 2003) and Bahardwaj, Dietz & Beamish (2007) who concluded that cultural distance from the home country is very important for FDI, as the companies involved will deal with foreigners in the host countries that will affect the business relationships and operations. Our result are also different from those of Bahardwaj, Dietz & Beamish (2007) who found that cultural similarity between the host and the home country will enable companies to establish relationships, even with unfamiliar partners, and will enhance the speed of the establishment of relationships between new partners in the host country.

The attitude of the local community towards the firm factor has a mean score of less than 3.0 (mean = 2.43). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -3.563$ ,  $p = 0.001$ ). Hence, the attitude of the local community towards the firm factor is not perceived to be an important factor in terms of the location decisions for FDI in the Saudi petrochemical industry. However, our results are in contrast with those of Jones and Teegen (2001) who indicated that the attitude of the local community toward the foreign firm may negatively affect the investment operation in the host country, and companies consider it as an important factor in terms of their location decisions. Our results are also different from those of Porter et al. (2000) who suggested that Japan's lower attraction for FDI, at least to some extent resulted from the assumption that Japanese negatively welcome foreign firms that may often deter foreign competition. Our results are also in contrast with those of Bahardwaj, Dietz & Beamish (2007) who found that local negative attitudes toward foreign firms may negatively affect the FDI inflow, especially in high uncertainty markets, due to the discomfort that locals feel when dealing with foreign firms.

The local employees' loyalty to the firm factor has a mean score of less than 3.0 (mean = 2.38). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -3.877$ ,  $p = 0.000$ ). Hence, the local employees' loyalty to the firm factor is not perceived to be an important factor in terms of the location decisions for FDI in the Saudi petrochemical industry. Our results confirm the findings of Ramadi (2005) and Achoui (2009) who concluded that the private sector in Saudi Arabia prefers to employ expatriates to Saudis nationals as Saudis have high labour costs, have negative social and cultural views and attitudes towards manual and low status jobs. At the same time, expatriates are more disciplined than Saudis because Saudis will have job tenure compared to expatriates in terms of job contracts. Also, Saudis are less qualified in the English language and have lower technical skills, and are more reluctant to change job locations. As a result, the local employees' loyalty to the firm is considered unimportant to investing companies as they rely on expatriates for their operations. However, our results are in contrast to those of Deloitte & Touche (2002) who studied the relative importance of location factors from the point of view of executives, and found that the local employees' loyalty to the firm is one of the important location factors that affect FDI location.

The language factor has a mean score of less than 3.0 (mean = 1.83). The t-test shows that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -7.671$ ,  $p = 0.000$ ). Hence, the language factor is not perceived to be an important factor in terms of the location decisions for FDI in the Saudi petrochemical industry. Our results are different from those of Fenwick, Edwards & Buckley (2003) who concluded that psychic distance such as language between the FDI and the host country will increase the cost of obtaining relevant information with regard to the business environment and the conditions in the host country, and it will play an important role in FDI location. Our results are also in contrast to those of Zhang (2001) who studied investment patterns in Taiwan on the part of firms from Hong Kong, and found that FDI location will be positively influenced by the language between the host country and the home country of the foreign investor. Our results are different from those of Edwards and Buckley (1998) who found that cultural factors with regard to investments from Australia to Britain, such as the use of a similar language, were significant in the location decision for FDI. Our results are different from those of Cleeve (2009) who concluded that a firm's decision to invest abroad will be affected by certain geographical factors such as language and cultural differences between home and host country.

**Table 6.18 Social and Cultural Factors' Importance Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Cultural distance from home country	42	2.12	.942	.145
Attitude of local community toward the firm	42	2.43	1.039	.160
Local employees' loyalty to firm	42	2.38	1.035	.160
Language	42	1.83	.986	.152

**Table 6.19 Social and Cultural Factors' Importance T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Cultural distance from home country	-6.059	41	.000	-.881	-1.17	-.59
Attitude of local community towards the firm	-3.563	41	.001	-.571	-.90	-.25
Local employees' loyalty to the firm	-3.877	41	.000	-.619	-.94	-.30
Language	-7.671	41	.000	-1.167	-1.47	-.86

### 6.2.3 Testing Location Factors' Competitiveness

Table 6.20 summarises the competitiveness of the major location factors and sub-factors with regard to the Saudi petrochemical industry compared to other locations. Table 6.21 summarises the t-test for the competitiveness of the major and sub-location factors in the second part of the questionnaire in which the participants were asked to rate the competitiveness of all sub-locating factors for the Saudi petrochemical industry compared to other locations. After calculating the mean of all sub-factors related to each major factor, the mean of each major factor was recorded. The mean scores of these factors are discussed in detail in the following section.

**Table 6.20 Location Factors' Competitiveness Means**

<b>One-Sample Statistics</b>				
<b>Location Factors</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
<b>Cost factors</b>	<b>42</b>	<b>3.921</b>	<b>.3882</b>	<b>.0599</b>
Factory site costs	42	3.83	1.080	.167
Labour costs	42	2.43	1.016	.157
Transportation/logistics costs	42	3.48	.969	.149
Raw materials costs	42	4.43	.501	.077
Return on Investment	42	4.45	.633	.098
Energy costs	42	4.90	.297	.046
<b>Market factors</b>	<b>42</b>	<b>2.554</b>	<b>.5397</b>	<b>.0833</b>
Large host market	42	1.83	.853	.132
Market growth in the host market	42	1.90	.821	.127
Competition in the host market	42	2.83	.824	.127
Market familiarity	42	3.64	.821	.127
<b>Economic factors</b>	<b>42</b>	<b>3.702</b>	<b>.5556</b>	<b>.0857</b>
Economic stability	42	3.64	.727	.112
Economic growth	42	3.83	.853	.132
Exchange rates	42	4.21	.682	.105
Local financial support	42	3.12	.942	.145
<b>Infrastructure and technological factors</b>	<b>42</b>	<b>3.857</b>	<b>.3812</b>	<b>.0588</b>
Level of infrastructure	42	3.67	.786	.121
Clustering	42	4.24	.617	.095
Availability of qualified work force	42	2.07	1.022	.158
Access to reliable and cooperative suppliers	42	4.33	.570	.088
Availability of factory sites	42	3.98	.680	.105
Availability of raw materials	42	4.81	.397	.061
Geographical proximity	42	3.90	.878	.136
<b>Political and legal factors</b>	<b>42</b>	<b>3.429</b>	<b>.5272</b>	<b>.0814</b>
Political stability	42	4.21	.682	.105
International trade agreements	42	3.19	1.018	.157
Tax reductions in the host country	42	3.07	1.135	.175
Benign environmental legislation toward FDI	42	3.79	.813	.125
Diplomatic ties with the host country	42	3.79	.717	.111
Legal and regulatory system	42	2.52	1.042	.161
<b>Social and cultural factors</b>	<b>42</b>	<b>2.7976</b>	<b>.54167</b>	<b>.08358</b>
Cultural distance from home country	42	2.07	1.022	.158
Attitude of local community towards the firm	42	2.86	.977	.151
Local employees' loyalty to the firm	42	3.36	.727	.112
Language	42	2.90	.878	.136

**Table 6.21 Location Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
<b>Cost factors</b>	<b>15.368</b>	<b>41</b>	<b>.000</b>	<b>.9206</b>	<b>.800</b>	<b>1.042</b>
Factory site costs	5.000	41	.000	.833	.50	1.17
Labour costs	-3.647	41	.001	-.571	-.89	-.25
Transportation/logistics costs	3.186	41	.003	.476	.17	.78
Raw material costs	18.484	41	.000	1.429	1.27	1.58
Return on Investment	14.880	41	.000	1.452	1.26	1.65
Energy costs	41.549	41	.000	1.905	1.81	2.00
<b>Market factors</b>	<b>-5.361</b>	<b>41</b>	<b>.000</b>	<b>-.4464</b>	<b>-.615</b>	<b>-.278</b>
Large host market	-8.864	41	.000	-1.167	-1.43	-.90
Market growth in the host market	-8.648	41	.000	-1.095	-1.35	-.84
Competition in the host market	-1.311	41	.197	-.167	-.42	.09
Market familiarity	5.074	41	.000	.643	.39	.90
<b>Economic factors</b>	<b>8.193</b>	<b>41</b>	<b>.000</b>	<b>.7024</b>	<b>.529</b>	<b>.876</b>
Economic stability	5.734	41	.000	.643	.42	.87
Economic growth	6.331	41	.000	.833	.57	1.10
Exchange rates	11.538	41	.000	1.214	1.00	1.43
Local financial support	.819	41	.418	.119	-.17	.41
<b>Infrastructure and technological factors</b>	<b>14.571</b>	<b>41</b>	<b>.000</b>	<b>.8571</b>	<b>.738</b>	<b>.976</b>
Level of infrastructure	5.496	41	.000	.667	.42	.91
Clustering	13.000	41	.000	1.238	1.05	1.43
Availability of qualified work force	-5.891	41	.000	-.929	-1.25	-.61
Access to reliable and cooperative suppliers	15.153	41	.000	1.333	1.16	1.51
Availability of factory sites	9.299	41	.000	.976	.76	1.19
Availability of raw materials	29.507	41	.000	1.810	1.69	1.93
Geographical proximity	6.677	41	.000	.905	.63	1.18
<b>Political and legal factors</b>	<b>5.268</b>	<b>41</b>	<b>.000</b>	<b>.4286</b>	<b>.264</b>	<b>.593</b>
Political stability	11.538	41	.000	1.214	1.00	1.43
International trade agreements	1.213	41	.232	.190	-.13	.51
Tax reduction in the host country	.408	41	.685	.071	-.28	.43
Benign environmental legislation toward FDI	6.267	41	.000	.786	.53	1.04
Diplomatic ties with the host country	7.103	41	.000	.786	.56	1.01
Legal and regulatory system	-2.963	41	.005	-.476	-.80	-.15
<b>Social and cultural factors</b>	<b>-2.421</b>	<b>41</b>	<b>.020</b>	<b>-.20238</b>	<b>-.3712</b>	<b>-.0336</b>
Cultural distance from home country	-5.891	41	.000	-.929	-1.25	-.61
Attitude of local community towards the firm	-.948	41	.349	-.143	-.45	.16
Local employees' loyalty to the firm	3.186	41	.003	.357	.13	.58
Language	-.703	41	.486	-.095	-.37	.18

Table 6.22 summarises the competitiveness of the location factors' means, standard deviation, and standard errors. Table 6.23 shows the t-test for the location factors' competitiveness. From the analysis of all the sub-factors, an average response rating value above 3.0 was considered to be a competitive location factor in the petrochemical industry. The most competitive location factors were identified according to their relative competitiveness in location decisions for petrochemical FDI. These are listed below in decreasing order of competitiveness, based on the t-test:

1. Energy costs
2. Availability of raw materials
3. Return on investment
4. Cost of raw materials
5. Access to reliable and cooperative suppliers
6. High industrial concentration (clustering)
7. Exchange rates
8. Political stability
9. Availability of factory sites (land)
10. Geographical proximity
11. Production site costs (land costs)
12. Economic growth
13. Benign environmental legislation towards FDI
14. Diplomatic ties with the host country
15. Level of infrastructure
16. Market familiarity
17. Economic stability
18. Transportation/logistic costs
19. Local employees' loyalty to the firm

The least competitive location factors among other location factors based on the mean of competitiveness are listed below in terms of their decreasing order of competitiveness:

20. International trade agreements
21. Local financial support
22. Tax reductions in the host country
23. Language

24. Attitude of the local community towards the firm
25. Level of competition in the host market
26. Legal and regulatory system
27. Labour costs
28. Availability of well-qualified workforce
29. Cultural distance
30. Market growth in the host country
31. Size of the host market

**Table 6.22 Sub-Location Factors' Competitiveness Means**

<b>One-Sample Statistics</b>				
<b>Location Factors</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Factory site costs	42	3.83	1.080	.167
Labour costs	42	2.43	1.016	.157
Transportation/logistics costs	42	3.48	.969	.149
Raw materials costs	42	4.43	.501	.077
Return on Investment	42	4.45	.633	.098
Energy costs	42	4.90	.297	.046
Large host market	42	1.83	.853	.132
Market growth in the host market	42	1.90	.821	.127
Competition in the host market	42	2.83	.824	.127
Market familiarity	42	3.64	.821	.127
Economic stability	42	3.64	.727	.112
Economic growth	42	3.83	.853	.132
Exchange rates	42	4.21	.682	.105
Local financial support	42	3.12	.942	.145
Level of infrastructure	42	3.67	.786	.121
Clustering	42	4.24	.617	.095
Availability of qualified work force	42	2.07	1.022	.158
Access to reliable and cooperative suppliers	42	4.33	.570	.088
Availability of factory sites	42	3.98	.680	.105
Availability of raw materials	42	4.81	.397	.061
Geographical proximity	42	3.90	.878	.136
Political stability	42	4.21	.682	.105
International trade agreements	42	3.19	1.018	.157
Tax reduction in the host country	42	3.07	1.135	.175
Benign environmental legislation toward FDI	42	3.79	.813	.125
Diplomatic ties with the host country	42	3.79	.717	.111
Legal and regulatory system	42	2.52	1.042	.161
Cultural distance from home country	42	2.07	1.022	.158
Attitude of local community towards the firm	42	2.86	.977	.151
Local employees' loyalty to the firm	42	3.36	.727	.112
Language	42	2.90	.878	.136



**Table 6.23 Sub-Location Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Factory site costs	5.000	41	.000	.833	.50	1.17
Labour costs	-3.647	41	.001	-.571	-.89	-.25
Transportation/logistics costs	3.186	41	.003	.476	.17	.78
Raw materials costs	18.484	41	.000	1.429	1.27	1.58
Return on Investment	14.880	41	.000	1.452	1.26	1.65
Energy costs	41.549	41	.000	1.905	1.81	2.00
Large host market	-8.864	41	.000	-1.167	-1.43	-.90
Market growth in the host market	-8.648	41	.000	-1.095	-1.35	-.84
Competition in the host market	-1.311	41	.197	-.167	-.42	.09
Market familiarity	5.074	41	.000	.643	.39	.90
Economic stability	5.734	41	.000	.643	.42	.87
Economic growth	6.331	41	.000	.833	.57	1.10
Exchange rates	11.538	41	.000	1.214	1.00	1.43
Local financial support	.819	41	.418	.119	-.17	.41
Level of infrastructure	5.496	41	.000	.667	.42	.91
Clustering	13.000	41	.000	1.238	1.05	1.43
Availability of qualified work force	-5.891	41	.000	-.929	-1.25	-.61
Access to reliable and cooperative suppliers	15.153	41	.000	1.333	1.16	1.51
Availability of factory sites	9.299	41	.000	.976	.76	1.19
Availability of raw materials	29.507	41	.000	1.810	1.69	1.93
Geographical proximity	6.677	41	.000	.905	.63	1.18
Political stability	11.538	41	.000	1.214	1.00	1.43
International trade agreements	1.213	41	.232	.190	-.13	.51
Tax reductions in the host country	.408	41	.685	.071	-.28	.43
Benign environmental legislation toward FDI	6.267	41	.000	.786	.53	1.04
Diplomatic ties with the host country	7.103	41	.000	.786	.56	1.01
Legal and regulatory system	-2.963	41	.005	-.476	-.80	-.15
Cultural distance from home country	-5.891	41	.000	-.929	-1.25	-.61
Attitude of local community towards the firm	-.948	41	.349	-.143	-.45	.16
Local employees' loyalty to the firm	3.186	41	.003	.357	.13	.58
Language	-.703	41	.486	-.095	-.37	.18

### 6.2.3.1 Major Factors' Competitiveness

Table 6.24 summarises the competitiveness of each major location factor, including the mean, standard deviation and standard error. Table 6.25 shows the competitiveness of each major factor based on the t-test in relation to its mean in terms of competitiveness. After calculating the sum of the average rating of the sub-factors under each major factor, we have the mean for each major factor. From the analysis of all the major location factors, an average response rating above 3.0 was considered to indicate a competitive location factor in the petrochemical industry.

Cost factors, infrastructure and technological factors, political and legal factors and economic factors are rated relatively highly among other major location factors, with a mean above 3.0, indicating that they are considered to be competitive location factors for FDI compared to other locations with regard to the Saudi petrochemical industry. The social and cultural factors and market factors were rated relatively low among other major location factors, with mean scores below 3.0, which indicate that they are not considered to be competitive location factors for FDI compared to other locations with regard to the Saudi petrochemical industry.

Cost factors have a mean score above 3.0 (mean= 3.9206) in relation to its competitiveness. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.345$ ,  $p = 0.000$ ). Hence, cost factors are perceived to be significantly more competitive factors for FDI in the Saudi petrochemical industry compared to other locations. Because of the ready availability of natural gas associated with the production of crude oil, and the Government's desire to encourage the industrialization drive, Saudi Arabia has among the lowest natural gas prices in the world. This favourable differential has clear benefits for domestic consumers of natural gas feedstock such as the petrochemical industry, where about 60% of the integrated cash costs are hydrocarbon-based. This compares with figures of between 30% and 40% with regard to power generation and water desalination, and in excess of 30% for metals processing (SAGIA, 2007). The country's strong infrastructure, its significant cost advantage due to lower average variable and fixed costs, and its competitive and fixed natural gas prices make it an attractive destination for investment in the petrochemical industry.

Market factors have a mean competitiveness score of less than 3.0 (mean = 2.5536). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.361$ ,  $p = 0.000$ ). Hence,

the market factor is perceived to be significantly less competitive in terms of factors for FDI in the Saudi petrochemical industry compared to other locations. From being a net importer, the country has emerged as a leading exporter in the petrochemical sector, supplying to over 100 countries. Primary drivers for such a turnaround have been a strong infrastructure, significant cost advantages due to lower average variable and fixed costs, competitive and fixed natural gas prices, and market proximity, especially for East Asia. These factors have also resulted in substantial investment inflows into the sector with large scale projects targeting export markets such as China, America and Europe (BMI, 2009). Therefore, the Saudi market is not the prime market for petrochemical FDI in Saudi Arabia as most of production is for export, and the Saudi market is considered by many to be a less competitive market compared to other large markets such as East Asia and Europe.

The economic factors have a mean competitiveness score above 3.0 (mean = 3.7024). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 8.193$ ,  $p = 0.000$ ). Hence, economic factors are perceived to be significantly more competitive in Saudi Arabia than are the other locations. Saudi Arabia is the largest economy in the Middle East, with a GDP in excess of US\$300 billion. This constitutes almost one third of the regional GDP. Saudi Arabia's economy has experienced a boom over the last few years, driven primarily by the strength of the demand for oil on the international oil markets, and increasing domestic oil production capacity. The Saudi economy has maintained its achievements in terms of high growth rates in recent years. The Saudi economy benefits from strong support from the government, and a free market policy, both of which have contributed to the growth of the economy (SAGIA, 2008). All of this has contributed to making the Saudi economic factors competitive for the petrochemical industry in Saudi Arabia compared to other locations.

The infrastructure and technological factors have a mean competitiveness score of above 3.0 (mean = 3.8571). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.571$ ,  $p = 0.000$ ). Hence, this factor is perceived to be significantly more competitive in the country than are other locations. There have also been a number of significant infrastructure developments in the Kingdom, which are set to improve the project enabler and logistics facilities for investors in the energy sector. These include an expansion of the existing industrial cities of Jubail and Yanbu, the creation of new economic cities around the Kingdom, and the development of a number of standalone projects to improve the Kingdom's transport and logistics network. SAGIA has had great success in attracting new industries to

the industrial cities of Jubail on the Arabian Gulf and Yanbu on the Red Sea. Over 200 companies have invested more than \$60bn in these cities, providing employment for over 85,000 workers. They also host some of the world's largest petrochemical facilities, and both cities are currently being expanded to cater for increased demand (SAGIA, 2007). All of this contributes to making Saudi Arabia infrastructure factors more competitive for petrochemical FDI in Saudi Arabia compared to other locations.

The political and legal factors have a mean competitiveness score above 3.0 (mean = 3.4286). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.268$ ,  $p = 0.000$ ). Hence, these factors are perceived to be significantly more competitive for FDI in the Saudi petrochemical industry compared to other locations. The huge effort on the part of the Saudi government, encompassing economic reform, improvements designed to transform the investment environment and the opening up of more sectors to investment opportunities all contributed to make Saudi Arabia more attractive compare to other locations. .These efforts have been streamlined through the activities of the Saudi Arabian General Investment Authority (SAGIA), which works in conjunction with all government agencies and institutions to improve the investment environment (SAGIA, 2008). With a stable political system, benign environmental legislation towards FDI and good diplomatic relations with other countries, Saudi Arabia's political and legal factors are consider competitive factors for FDI in the Saudi petrochemical industry compared to other locations.

The social and cultural factors have a mean competitiveness score below 3.0 (mean = 2.7976). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -2.421$ ,  $p = 0.020$ ). Hence, these factors are perceived to be significantly less competitive for FDI in the Saudi petrochemical industry compared to other locations. Due to the fact that Saudi society is very conservative and not open to other cultural inputs, a low work ethic on the part of Saudi citizens, and fewer educated people compared to other countries, the social and cultural factors in Saudi Arabia are considered to be less competitive compared to other locations for FDI in terms of the Saudi petrochemical industry.

**Table 6.24 Major Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Cost factors	42	3.921	.3882	.0599
Market factors	42	2.554	.5397	.0833
Economic factors	42	3.702	.5556	.0857
Infrastructure and technological factors	42	3.857	.3812	.0588
Political and legal factors	42	3.429	.5272	.0814
Social and cultural factors	42	2.7976	.54167	.08358

**Table 6.25 Location Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Cost factors	15.368	41	.000	.9206	.800	1.042
Market factors	-5.361	41	.000	-.4464	-.615	-.278
Economic factors	8.193	41	.000	.7024	.529	.876
Infrastructure and technological factors	14.571	41	.000	.8571	.738	.976
Political and legal factors	5.268	41	.000	.4286	.264	.593
Social and cultural factors	-2.421	41	.020	-.20238	-.3712	-.0336

### 6.2.3.2 Cost Factors' Competitiveness

Table 6.26 summarises the competitiveness of each cost factor, including the mean, standard deviation and standard error for each factor. Table 6.27 shows the competitiveness of each cost factor based on the t-test for the mean of competitiveness. Most cost factors are considered competitive factors with an average response rate of over 3.0, including energy costs, return on investment, cost of raw materials, production site costs (land costs) and transportation/logistic costs. However, labour costs received a mean score of less than 3.0, which indicates that they are considered to be an uncompetitive factor among cost factors for FDI decisions in the petrochemical industry.

The production site costs (land costs) factor has a mean competitiveness score above 3.0 (mean = 3.83). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.000$ ,  $p = 0.000$ ). Hence, the production site costs (land costs) factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia provides land for new development at very low rents

compared to the rest of the world. For example, in the industrial cities of Jubail and Yanbu, land is being offered to new investors at an annual rate of \$.266/m<sup>2</sup>, compared to international rentals of around \$13/m<sup>2</sup> in Rotterdam, and \$8-21/m<sup>2</sup> in Jurong Island, Singapore (SAGIA, 2007). All of this makes land costs more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The labour costs factor has a mean competitiveness score below 3.0 (mean = 2.43). The t-test shows that this is significantly less than 3.0 ( $t_{41} = -3647$ ,  $p = 0.001$ ). Hence, the labour costs factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Manufacturing labour costs in Saudi Arabia are low and are typically less than one quarter of comparable labour costs in Europe and the USA. However, labour costs in developing Asian countries such as China and India are likely to be even lower, although these costs have been escalating as these economies have begun to suffer competitive pressure from the labour market (SAGIA, 2007). All of this attributes to the fact that the labour costs factor is less competitive for FDI in Saudi petrochemical industry compared to other locations.

The transportation/logistic costs factor has a mean competitiveness score above 3.0 (mean = 3.48). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 3.186$ ,  $p = 0.003$ ). Hence, the transportation/logistic costs factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other location locations. There are a number of transport projects in development which will significantly improve the logistics networks in the Kingdom. This is a key sector for the Government, and is one of core areas for development outside of the Energy Sector (SAGIA, 2007). Therefore, this reflects the competitiveness of the transportation/logistic costs factor for FDI in the Saudi petrochemical industry compared to other locations.

The raw materials factor has a mean competitiveness score above 3.0 (mean = 4.43). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 18.484$ ,  $p = 0.000$ ). Hence, the raw materials factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is the 11th largest supplier of petrochemical globally, producing 7-8% of the world supply, and the Kingdom has ambitious plans to increase this to 13-14% by 2010 and the country enjoys the lowest energy costs globally (SAGIA, 2007). For these reasons the raw materials for

petrochemical are available at low prices compared to other countries. This gives the raw materials cost factor a competitive edge over other locations for FDI in the Saudi petrochemical industry.

The return on investment factor has a mean competitiveness score above 3.0 (mean = 4.45). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.880$ ,  $p = 0.000$ ). Hence, the return on investment factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia's low production and feedstock costs make it particularly attractive for investment in petrochemical, where feedstock costs can account for 60% of the cost of production. As oil prices increase, the relative feedstock cost advantage also increases, thus leading to extremely low feedstock costs in a high oil price scenario in comparison with other nations. The country provides feedstock at a price that provides a petrochemical producer with an incentive to invest, while offering better value for hydrocarbon producers. This advantage in feedstock costs translates itself into the ability to manufacture and deliver petrochemical products from a strong competitive cost position and with high profit margin (BMI, 2009). All of these advantages are reflected in the high competitiveness of the return on investment factor for FDI in the Saudi petrochemical industry compared to other locations.

The energy costs factor has a mean competitiveness score above 3.0 (mean = 4.90). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 41.459$ ,  $p = 0.000$ ). Hence, the energy costs factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Prices for gas are currently fixed by the Government at \$0.75/mmBtu. This is significantly lower than prices elsewhere in the world, where typical gas prices are above \$6/mmBtu (SAGIA, 2007). This attractive pricing for gas is available for any foreign or domestic investor willing to invest in the Kingdom. During its WTO accession discussions, Saudi Arabia was successful in arguing for a continuation of its competitive pricing formula, based on the additional costs of the alternative of exporting the gas. Saudi Arabia has therefore secured a continued and significant competitive advantage for any foreign or domestic investor willing to invest in the Saudi petrochemical industry. Saudi Arabian electricity prices are structurally lower than those in the USA, Europe and China and, critically, are stable and not open to global markets fluctuations, and such tariffs are a reflection of the competitively priced feedstock available to the Saudi's power generators. This is reflected in the competitiveness of energy costs factor

for FDI in the Saudi petrochemical industry.

**Table 6.26 Cost Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Factory site cost	42	3.83	1.080	.167
Labour costs	42	2.43	1.016	.157
Transportation/logistics costs	42	3.48	.969	.149
Raw material costs	42	4.43	.501	.077
Return on Investment	42	4.45	.633	.098
Energy costs	42	4.90	.297	.046

**Table 6.27 Cost Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Factory site costs	5.000	41	.000	.833	.50	1.17
Labour costs	-3.647	41	.001	-.571	-.89	-.25
Transportation/logistics costs	3.186	41	.003	.476	.17	.78
Raw material costs	18.484	41	.000	1.429	1.27	1.58
Return on Investment	14.880	41	.000	1.452	1.26	1.65
Energy costs	41.549	41	.000	1.905	1.81	2.00

### 6.2.3.3 Market Factors' Competitiveness

Table 6.28 summarises the competitiveness of each market factor, including the mean, standard deviation, and standard error for each market factor. Table 73 shows the competitiveness of each market factor based on the t-test for the mean of competitiveness. Market familiarity is the only factor among the market factors with a mean greater than 3.0, and is considered to be a competitive factor. All other market factors have a mean of less than 3.0, indicating that these factors are uncompetitive in comparison to other locations in the Saudi petrochemical industry, including the level of competition in the host market, market growth in the host country, and the size of the host market.

The size of the host market factor has a mean competitiveness score below 3.0 (mean = 1.83). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -8.864$ ,  $p = 0.000$ ).



Hence, the size of the host market factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Most of the of the petrochemical projects in Saudi Arabia are mega projects and Saudi Arabia is considered by many companies in the industry to be a small sized market compared, for example, to China and America. Therefore, the Saudi market is not a prime market for petrochemical FDI in Saudi Arabia, as most production is for export and the Saudi market size factor is considered less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The market growth in the host country factor has a mean competitiveness score below 3.0 (mean = 1.90). The t-test shows that this is significantly less than 3.0 ( $t_{41} = -8.648$ ,  $p = 0.000$ ). Hence, the market growth in the host country factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. The petrochemical' FDI in Saudi Arabia are targeting large markets such as China and India. Saudi Arabia market growth and size are limited compared to other markets such as China. For this reason the market size factor is consider to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The level of competition in the host market factor has a mean competitiveness score below 3.0 (mean = 2.83). The t-test shows that this is statistically not significantly ( $p > 0.05$ ) less than 3.0 ( $t_{41} = -1.311$ ,  $p = 0.197$ ). Hence, the level of competition in the host market factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. As the attractiveness of the business environment in Saudi Arabia grows and is reflected in the large number of foreign firms willing to invest in the country, and as the market size is limited in Saudi Arabia, the competition in the Saudi petrochemical industry is high and driven by large supply, low prices, and low demand. All of these factors have contributed to the lower degree of competitiveness in the Saudi Arabia for FDI in the petrochemical industry compared to other locations.

The market familiarity factor has a mean competitiveness score above 3.0 (mean = 3.64). The t-test shows that this is significantly more than 3.0 ( $t_{41} = 5.074$ ,  $p = 0.000$ ). Hence, the market familiarity factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. The petrochemical sector in Saudi Arabia was established in the mid-1970s (International Energy Agency (IEA), (2008). Since

the establishment of the petrochemical industry, many foreign firms have become involved in joint ventures with the Saudi government or with Saudi firms, and today the Saudi petrochemical industry is familiar to many MNCs in the industry. For this reason the market familiarity factor is considered to be a competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

**Table 6.28 Market Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Large host market	42	1.83	.853	.132
Market growth in the host market	42	1.90	.821	.127
Competition in them host market	42	2.83	.824	.127
Market familiarity	42	3.64	.821	.127

**Table 6.29 Market Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Large host market	-8.864	41	.000	-1.167	-1.43	-.90
Market growth in the host market	-8.648	41	.000	-1.095	-1.35	-.84
Competition in the host market	-1.311	41	.197	-.167	-.42	.09
Market familiarity	5.074	41	.000	.643	.39	.90

#### 6.2.3.4 Economic Factors' Competitiveness

Table 6.30 summarises the competitiveness of each economic factor, including the mean, standard deviation, and standard error for each cost factor. Table 6.31 shows the competitiveness of each economic factor based on the t-test for the mean of competitiveness. Most economic factors, including economic stability, economic growth, and exchange rates received an average response rating of over 3.0 and therefore are considered to be competitive factors compared to other locations in terms of the Saudi petrochemical industry. Local financial support received a mean greater than 3.0. However, the t-test shows that local financial support is significantly below the mean of 3.0, which indicates that this factor is not a competitive factor compared to other locations for FDI in the Saudi petrochemical industry.

The economic stability factor has a mean competitiveness score above 3.0 (mean = 3.64). The

t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.734$ ,  $p = 0.000$ ). Hence, the economic stability factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Sound macroeconomic management and an inflection point in the world energy markets have made the Saudi's economy stable, despite the global financial crisis. Saudi Arabia's economy ranks 3rd in the world for macroeconomic stability as a result of a healthy fiscal environment, relatively low interest rates, and inflation that has been kept under control (SAGIA, 2009). As result, the economic stability factor is considered to be a competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The economic growth factor has a mean competitiveness score above 3.0 (mean = 3.83). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 6.331$ ,  $p = 0.000$ ). Hence, the economic growth factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is one of the world's 25 largest economies (24th), and No.1 in the Middle Eastern region. Saudi Arabia is one of the fastest-growing countries in the world and is expected to continue growing as the global financial markets turmoil has had little direct effect on the Middle East. Saudi Arabia's economy has experienced a boom over the last five years, driven primarily by the strength of the demand for oil in the international oil markets, and increasing domestic oil production capacity (SAGIA, 2008). All of this has contributed to the economic growth factor as a competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The exchange rate factor has a mean competitiveness score above 3.0 (mean = 4.21). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 11.538$ ,  $p = 0.000$ ). Hence, the exchange rates factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. The Saudi Riyal is pegged to the US Dollar, and is based on a fixed exchange-rate policy (SAGIA, 2009). Therefore, the exchange rate in Saudi Arabia is less volatile and more stable than other locations, as the US Dollar is used for international trade. As a result, the exchange rate factor is considered to be a competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The local financial support factor has a mean competitiveness score above 3.0 (mean = 3.12). However, the t-test shows that statistically this is not significantly ( $p > 0.05$ ) greater than 3.0 ( $t_{41} = 0.819$ ,  $p = 0.418$ ). Hence, the local financial support factor is perceived to be a

significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia has advanced banking services which actively support economic growth by financing development projects. However, Saudi financial firms are very conservative, and lending normally takes a long time to be approved. It is also hard to get and this may reflect the minor effect of the recent global financial crises on the Saudi financial system. Moreover, Doing Business 2008-2009 did an overall ranking for Saudi Arabia and its competitiveness, and found that Saudi Arabia is hindered by lower rankings in areas such as getting credit from local financial firms (Doing Business, 2009). In addition, Saudi Arabia's financial sector ranked 73rd in the Global Competitiveness Report, 2008-2009, and continues to receive low marks for sophistication, transparency and investor protection (Global Competitiveness Report, 2008-2009). As a result, the local financial support is considered to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

**Table 6.30 Economic Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Economic stability	42	3.64	.727	.112
Economic growth	42	3.83	.853	.132
Exchange rates	42	4.21	.682	.105
Local financial support	42	3.12	.942	.145

**Table 6.31 Economic Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Economic stability	5.734	41	.000	.643	.42	.87
Economic growth	6.331	41	.000	.833	.57	1.10
Exchange rates	11.538	41	.000	1.214	1.00	1.43
Local financial support	.819	41	.418	.119	-.17	.41

### 6.2.3.5 Infrastructure and Technological Factors' Competitiveness

Table 6.32 summarises the competitiveness of each kind of infrastructure and technological factor including the mean, standard deviation and standard error for each cost factor. Table 6.33 shows the competitiveness of each kind of infrastructure and technological factor based

on the t-test for the average mean of competitiveness. Most of the infrastructure and technological factors received a mean greater than 3.0, including the level of infrastructure, high industrial concentration (clustering), access to reliable and cooperative suppliers, the availability of factory sites (land), the availability of raw materials and geographical proximity, and are considered to be competitive factors for FDI compared to other locations in the Saudi petrochemical industry. However, the availability of a well-qualified workforce received an average mean above 3.0, but the t-test shows that it was not significantly above the mean of 3.0, and therefore this factor is considered to be an uncompetitive factor for FDI compared to other locations in the Saudi petrochemical industry.

The level of the infrastructure factor has a mean competitiveness score above 3.0 (mean = 3.67). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.496$ ,  $p = 0.000$ ). Hence, the level of infrastructure factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia has modern airports, ports, and roads that support the transfer of products globally for heavy industries such as the petrochemical industry, and some of the infrastructure in the special economic cities are designed specifically for the petrochemical industry. There are a number of significant infrastructure developments in Saudi Arabia which are set to improve the project enabler and logistics facilities for investors in the petrochemical industry. These include expansions of the existing industrial cities of Jubail and Yanbu, the creation of new economic cities around Saudi Arabia, and the development of a number of standalone projects to improve Saudi Arabia's transport and logistics network (SAGIA, 2008). As a result, the level of infrastructure factor is considered to be a competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The high industrial concentration (clustering) factor has a mean competitiveness score greater than 3.0 (mean = 4.24). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 13.000$ ,  $p = 0.000$ ). Hence, the high industrial concentration (clustering) factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia has had great success in attracting new industries to the industrial cities of Jubail on the Arabian Gulf and Yanbu on the Red Sea. Over 200 companies have invested more than \$60bn in these cities, providing employment for over 85,000 workers. They also host some of the world's largest petrochemical facilities, and both cities are currently being expanded to cater for increased demand (SAGIA, 2007). So far,

Jubail has attracted over half of the Kingdom's total foreign direct investment, mainly in the petrochemical sector. It is home to 77% of Saudi Arabia's petrochemical production which makes up 6-7% of the world's supply. In total, Jubail produces around 70% of the Kingdom's non-oil exports, with 181 industries already present, and another 95 in design or construction. In February 2005, the Financial Times Foreign Direct Investment magazine named Jubail as the city with the best economic potential in the Middle East, reflecting its future growth prospects. Saudi Arabia is also currently planning several new economic industrial cities and is hoping that these will replicate the success of Jubail and Yanbu in attracting new investment and job creation to the Kingdom. All of the economic cities will involve the development of an excellent infrastructure and supporting facilities for industrial users (SAGIA, 2007). As a result the high industrial concentration (clustering) factor is considered to be more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The availability of a well-qualified workforce factor has a mean competitiveness score of less than 3.0 (mean = 2.07). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.891$ ,  $p = 0.000$ ). Hence, the availability of a well-qualified workforce factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. In the Doing Business report, 2008-2009, Saudi Arabia's overall ranking and its competitiveness is hindered by lower rankings in areas such as employment and especially the availability of a well-qualified workforce (Doing Business, 2009). Furthermore, The Global Competitiveness Report, 2008-2009, undertook an executive opinion survey in which respondents were asked to select the most problematic areas for doing business in Saudi Arabia. The results indicate the significance of the challenges posed by Saudi Arabia's labour market which ranked 63rd in the world (Global Competitiveness Report, 2008-2009). Mina's (2007) study revealed that the GCC countries lag behind in terms of human capital as far as availability and quality are concerned, which are disadvantages for FDI location attractiveness, and which makes these countries less attractive compared to other locations, especially for labour-intensive and efficiency-seeking FDI. According to Achoui (2009), most of the Gulf countries experience a shortage of skilled and unskilled workers which has led to a high dependence on foreign labour. This is due to low population size, insufficient educational systems in these countries, and culturally related issues such as traditions and values. These have all conspired to add to the shortage of skilled labour in the Gulf countries. Moreover, Saudi nationals prefer to work in the government sector rather than

in the private sector, because the government sector is more stable, offers higher prestige and higher salaries (Achoui, 2009). As result, the availability of a well-qualified workforce factor is less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The access to reliable and cooperative suppliers factor has a mean competitiveness score greater than 3.0 (mean = 4.33). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 15.153$ ,  $p = 0.000$ ). Hence, the access to reliable and cooperative suppliers' factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is the 11th largest supplier of petrochemical globally, producing 7-8% of the world supply, and the Kingdom has ambitious plans to increase this to 13-14% by 2010 (SAGIA, 2007). As result, there are extensive and wide-ranging aspects of the supplier and support services to the petrochemical sector. Therefore, the access to reliable and cooperative suppliers' factor is more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The availability of factory sites (land) factor has a mean competitiveness score above 3.0 (mean=3.98). The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 9.299$ ,  $p = 0.000$ ). Hence, the availability of factory sites (land) factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia provides land for new projects at a low competitive price. There are also new industrial cities under development that will provide new land for new investment. As a result, the availability of factory sites (land) factor is considered to be a more competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The availability of raw materials factor has a mean competitiveness score above 3.0 (mean=4.81). The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 29.507$ ,  $p = 0.000$ ). Hence, the availability of raw materials factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is the 11th largest supplier of petrochemical globally, producing 7-8% of the world's supply at low competitive prices (SAGIA, 2007). As a result, the raw materials for the petrochemical industry are available to all domestic and foreign investors in Saudi Arabia more than at any other locations. Therefore, the availability of raw materials factor is a more competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The geographical proximity factor has a mean competitiveness score above 3.0 (mean=3.90). The “t” test shows that this is significantly ( $p<0.05$ ) more than 3.0 ( $t_{41}= 6.677$ ,  $p=.000$ ). Hence, the geographical proximity factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Location-wise, Saudi sits at the hub of the world’s most dynamic economies. Straddling the Red Sea and the Arabian Gulf, Saudi Arabia offers unparalleled access to a diverse portfolio of markets. Saudi Arabia's strategic geographic location offers access to the advanced markets of the European Union and the fast-emerging transition economies of Eastern Europe, South Asia, and Africa. The country is strategically located for exports to Europe and Asia, and with South East Asia having emerged as a major destination for the country’s petrochemical output, Saudi Arabia is well located for trading purposes (SAGIA, 2009). As a result, the geographical proximity factor is a more competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

**Table 6.32 Infrastructure and Technological Factors’ Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Level of infrastructure	42	3.67	.786	.121
Clustering	42	4.24	.617	.095
Availability of qualified work force	42	2.07	1.022	.158
Access to reliable and cooperative suppliers	42	4.33	.570	.088
Availability of factory sites	42	3.98	.680	.105
Availability of raw materials	42	4.81	.397	.061
Geographical proximity	42	3.90	.878	.136

**Table 6.33 Infrastructure and Technological Factors’ Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
	Level of infrastructure	5.496	41	.000	.667	.42
Clustering	13.000	41	.000	1.238	1.05	1.43
Availability of qualified work force	-5.891	41	.000	-.929	-1.25	-.61
Access to reliable and cooperative suppliers	15.153	41	.000	1.333	1.16	1.51
Availability of factory sites	9.299	41	.000	.976	.76	1.19
Availability of raw materials	29.507	41	.000	1.810	1.69	1.93
Geographical proximity	6.677	41	.000	.905	.63	1.18



### 6.2.3.6 Political and Legal Factors' Competitiveness

Table 6.34 summarises the competitiveness of each political and legal factor, including the mean, standard deviation, and standard error for each cost factor. Table 6.35 shows the competitiveness of each of these factors based on the t-test for the average mean of competitiveness. Some political and legal factors received a mean greater than 3.0, including political stability, benign environmental legislation towards FDI, and diplomatic ties with the host country. These factors are considered to be competitive location factors compared to other locations in the Saudi petrochemical industry. Other factors received a mean score of above 3.0, including international trade agreements and tax reductions in the host country. The t-test reveals that these factors are significantly below the mean, and they are considered to be less competitive factors compared to other location factors in the Saudi petrochemical industry. The legal and regulatory system factor received an average response rate of below 3.0 and therefore it is considered to be an uncompetitive factor compared to locations in Saudi petrochemical industry.

The political stability factor has a mean competitiveness score greater than 3.0 (mean = 4.21). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 11.538$ ,  $p = 0.000$ ). Hence, the political stability factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is considered by many MNCs to be one of the most stable country in the region (SAGIA, 2009). As a result, the political stability factor is considered to be a more competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

The international trade agreements factor has a mean competitiveness score above 3.0 (mean = 3.19). However, the t-test shows that statistically this is not significantly ( $p > 0.05$ ) greater than 3.0 ( $t_{41} = 1.213$ ,  $p = 0.232$ ). Hence, the international trade agreements factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia is a main player in commercial life around the world. By signing agreements with many countries as part of the GCC and the WTO, Saudi Arabia has developed powerful cooperation within the world economy. It is clear that WTO membership will create sustainable macroeconomic benefits for Saudi Arabia, and will create substantial opportunities for producers in the Kingdom to exploit growing export markets. The petrochemical industry will be a major beneficiary of WTO accession, as Saudi Arabia

has managed to negotiate a continuation of competitively priced natural gas liquid feedstock (SAGIA, 2007). The Saudi petrochemical industry stands to gain from the WTO provisions, including its extension to services, particularly relating to finance, insurance, and transportation, the prices of which could now decrease (BMI, 2009). However, the benefits of trade agreements such as those associated with the WTO may need some years to take effect, as Saudi Arabia joined the WTO in 2005. Therefore, the international trade agreements factor is considered to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The tax reduction in the host country factor has a mean competitiveness score above 3.0 (mean = 3.07). However, the t-test shows that statistically this is not significantly ( $p > 0.05$ ) greater than 3.0 ( $t_{41} = 0.408$ ,  $p = 0.685$ ). Hence, the tax reduction in the host country factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. A new tax code was introduced in Saudi Arabia in 2004. This reduced the tax payable by foreign investors to 20%, a level significantly below comparable rates in the USA and in most of Europe. The tax code also contains a provision to allow losses to be carried forward to following years, along with allowable deductions for R&D expenditure (SAGIA, 2007). However, FDI in Saudi Arabia may be looking for better tax incentives, and the current tax rate does not satisfy them as other locations in the region offer better tax rates. An example is Qatar with a 10% corporate-tax rate for foreign investors. Therefore, the tax reduction in the host country factor is considered to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The benign environmental legislation towards FDI factor has a mean competitiveness score above 3.0 (mean = 3.79). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 6.267$ ,  $p = 0.000$ ). Hence, the benign environmental legislation towards FDI factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. World attention is increasingly being drawn to the unique investment opportunities in Saudi Arabia. There are a variety of reasons for this situation. Amongst the most significant is the huge effort on the part of the Saudi government, encompassing economic reform, improvements designed to transform the investment environment and the opening up of more sectors to investment opportunities. These efforts have been streamlined through the activities of SAGIA, which works in conjunction with all governmental agencies and institutions, to improve the investment

environment. The significant investment interest in Saudi Arabia as demonstrated by increased FDI and the large number of on-going major capital projects, shows the success of the Kingdom in reforming its investment environment, and in attracting new investors (SAGIA, 2008). In the Doing Business report from the World Bank and the IFC (Doing Business, 2009) Saudi Arabia was ranked 16th in 2008, up from 23rd in the preceding year. The most significant improvements were in protecting investors and closing a business. The former success was due to new rules on the disclosure and approval of related-party transactions, as well as stronger liabilities for directors. The Kingdom's ranking improvement to 16th is a strong sign of progress, and places Saudi Arabia ahead of such advanced economies as Sweden, Germany, and Switzerland (Doing Business, 2009). Therefore, the benign environmental legislation towards FDI factor is considered to be more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The diplomatic ties with the host country factor has a mean competitiveness score above 3.0 (mean = 3.79). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 7.103$ ,  $p = 0.000$ ). Hence, the diplomatic ties with the host country factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. For many years, Saudi Arabia has built good and balanced diplomatic relationships with many countries that is reflected in the wide range of countries investing in the country. In addition, normally the Saudi government remains neutral with regard to any conflicts in the world. Therefore, the diplomatic ties with the host country factor is considered more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The legal and regulatory system factor has a mean competitiveness score below 3.0 (mean = 2.52). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -2.963$ ,  $p = 0.005$ ). Hence, the legal and regulatory system factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. In April 2000, a new Foreign Investment Law was introduced which served to kick-start the liberalization process to make Saudi Arabia more business friendly and receptive to FDI. The provisions of the new law included allowing full foreign ownership of companies and property, eliminating the requirement for joint ventures with local partners, strengthening foreign investor rights and giving foreign investors equal treatment as domestic companies (Al Mofleh, 2002; Ramady and Saeed, 2007). However, dispute settlement in Saudi Arabia continues to be a time-consuming and uncertain process. Even after a decision is reached in a

dispute, effective enforcement of the judgment can still take years. Because of this, many foreign firms investing in Saudi Arabia include in contracts a foreign arbitration clause (PRS, 2008). Moreover, Saudi Arabia's ranking in the World Bank/IFC's Doing Business report (Doing Business, 2009) and its competitiveness, is hindered by lower rankings in areas such as contract enforcement, where further reform is required to reflect international best practices. Therefore, the legal and regulatory system factor is considered to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

**Table 6.34 Political and Legal Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Political stability	42	4.21	.682	.105
International trade agreements	42	3.19	1.018	.157
Tax reductions in the host country	42	3.07	1.135	.175
Benign environmental legislation toward FDI	42	3.79	.813	.125
Diplomatic ties with the host country	42	3.79	.717	.111
Legal and regulatory system	42	2.52	1.042	.161

**Table 6.35 Political and Legal Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Political stability	11.538	41	.000	1.214	1.00	1.43
International trade agreements	1.213	41	.232	.190	-.13	.51
Tax reductions in the host country	.408	41	.685	.071	-.28	.43
Benign environmental legislation toward FDI	6.267	41	.000	.786	.53	1.04
Diplomatic ties with the host country	7.103	41	.000	.786	.56	1.01
Legal and regulatory system	-2.963	41	.005	-.476	-.80	-.15

### 6.2.3.7 Social and Cultural Factors' Competitiveness

Table 6.36 summarises the competitiveness of each social and cultural factor, including the mean, standard deviation, and standard error for each cost factor. Table 6.37 shows the competitiveness of each social and cultural factor based on the t-test for the mean of competitiveness. The local employees' loyalty to the firm is the only factor in the social and cultural factors with a significant mean above 3.0 and therefore it is considered to be a competitive factor compared to other locations in the Saudi petrochemical industry. However,

all other factors related to the social and cultural factors had a mean significantly below 3.0, including cultural distance from the home country, attitude of the local community towards the firm and language, all of which are considered to be less competitive factors compared to other locations in the Saudi petrochemical industry.

The cultural distance from the home country factor has a mean competitiveness score of less than 3.0 (mean = 2.07). The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.891$ ,  $p = 0.000$ ). Hence, the cultural distance from the home country factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia's culture is very unique, and some foreign investors who are unfamiliar with it may find it difficult to understand it and deal with. According to Fenwick, Edwards & Buckley (2003), cultural distance between the host and home country will increase the cost of obtaining the relevant information with regard to the business environment and the conditions in the host country such as language, education, business practices, culture, and industrial relations environment. Therefore, the cultural distance from the home country factor is considered to be less competitive for FDI in the Saudi petrochemical industry compared to other locations.

The attitude of the local community towards the firm factor has a mean competitiveness score of less than 3.0 (mean = 2.86). The t-test shows that statistically this is not significantly less ( $p > 0.05$ ) than 3.0 ( $t_{41} = -0.948$ ,  $p = 0.349$ ). Hence, the attitude of the local community towards the firm factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. Saudi Arabia people are very conservative in their dealings with foreigners and this may negatively affect the competitiveness of the country resulting from the discomfort that locals feel when dealing with foreign firms. Therefore, the attitude of the local community towards the firm is considered to be a less competitive factor for FDI in the Saudi petrochemical industry compared to other location

The local employees' loyalty to the firm factor has a mean competitiveness score above 3.0 (mean = 3.36). The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 3.186$ ,  $p = 0.003$ ). Hence, the local employees' loyalty to the firm factor is perceived to be a significantly more competitive factor for FDI in the Saudi petrochemical industry compared to other locations. The limited number of Saudi nationals in the private sector is due to the

preference on the part of Saudis to work for the government sector because there is more stability, prestige, and higher salaries than in the private sector (Achoui, 2009). However, now better educated Saudis are entering the private sector and gained higher positions in many MNCs working in Saudi Arabia. As a result, Saudi loyalty to foreign firms has increased. Therefore, the local employees' loyalty to the firm factor is considered to be more competitive for FDI in the Saudi petrochemical industry compared to other locations.

The language factor has a mean competitiveness score below 3.0 (mean = 2.90). The t-test shows that statistically this is not significantly ( $p > 0.05$ ) less than 3.0 ( $t_{41} = -0.703$ ,  $p = 0.486$ ). Hence, the language factor is perceived to be a significantly less competitive factor for FDI in the Saudi petrochemical industry compared to other locations. The Arabic language is the dominant language in Saudi Arabia with only small numbers of the population speaking more than their native language. MNCs may find it difficult to communicate with some Saudi firms and with the community in a language other than Arabic, even though the English language is widely accepted in the Saudi business community. Therefore, the language factor is considered to be a less competitive factor for FDI in the Saudi petrochemical industry compared to other locations.

**Table 6.36 Social and Cultural Factors' Competitiveness Means**

One-Sample Statistics				
Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Cultural distance from home country	42	2.07	1.022	.158
Attitude of local community towards the firm	42	2.86	.977	.151
Local employees' loyalty to the firm	42	3.36	.727	.112
Language	42	2.90	.878	.136

**Table 6.37 Social and Cultural Factors' Competitiveness T-Test**

One-Sample Test						
Location Factors	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
	Cultural distance from home country	-5.891	41	.000	-.929	-1.25
Attitude of local community towards the firm	-.948	41	.349	-.143	-.45	.16
Local employees' loyalty to the firm	3.186	41	.003	.357	.13	.58
Language	-.703	41	.486	-.095	-.37	.18

## **6.3 Location Factors Correlations**

### **6.3.1 Introduction**

Correlation analysis is used to describe the strength and direction of the linear relationship between two variables (Field, 2005; Pallant, 2007). The Pearson product-moment coefficient is designed for interval level (continuous) variables. It can also be used if we have one continuous variable (e.g. scores on a measure of self-esteem) and one dichotomous variable (e.g. sex: M/F) (Pallant, 2007). The coefficient will almost certainly lie between 0 (zero or no relationship between the two variables) and 1 (a perfect relationship) – this indicates the strength of a relationship (Field, 2005). The closer the coefficient is to 1, the stronger the relationship; the closer it is to 0, the weaker the relationship; the coefficient will be either positive or negative – this indicates the direction of a relationship (Bryman and Bell, 2007). The Spearman rank correlation is designed for use with ordinal level or ranked data and is particularly useful when the data do not meet the criteria for Pearson's correlation (Pallant, 2007). It is the same as Pearson's  $r$  in terms of its outcome, in that the computed value of rho will be either positive or negative and will vary between 0 and 1 (Bryman and Bell, 2007).

The size of the absolute value (ignoring the sign) provides an indication of the strength of the relationship. The size of the value of correlation can range from -1 to 1 and this value indicates the strength of the relationship between the two variables. When we have a correlation value of 0, this indicates no relationship at all between the variables, while when we have a correlation value of 1, this indicates a perfect positive correlation between the variables, and when we have a correlation value of -1, this indicates a perfect negative correlation between the variables. The sign at the front indicates whether there is a positive correlation (as one variable increases, so too does the other) or a negative correlation (as one variable increases, the other decreases) (Field, 2005; Bryman and Bell, 2007; Pallant, 2007). For example, the strength of  $r = 0.3$  and  $r = -0.3$  is the same correlation strength, but in different directions. Different authors have suggested different interpretations of correlation strength (Bryman and Bell, 2007). However, Cohen (1988) and Pallant (2007) suggest the following guidelines for correlation strength. Small:  $r = 0.10$  to  $0.29$ , Medium:  $r = 0.30$  to  $0.49$  and Large:  $r = 0.50$  to  $1.0$ .

### 6.3.2 Correlation Analysis

Correlation is often used to explore the relationship between groups of variables instead of two variables. Because of that, it would be inconvenient and awkward to report all the correlation coefficients in a paragraph for each relationship between the variables; the best way is to present them in a table (Pallant, 2007). In the preceding discussion, no consideration was given to *relationships* between the various factor scores. To examine these relationships, Table 6.38 shows the matrix of Pearson correlations between the 12 factor scores. Pearson correlations are based on the assumption that the relationship between the variables being correlated is a bivariate normal relationship (Sheskin, 2007, p. 1353). Because it is possible that the relationships between the variables in Table 6.38 are not bivariate normal, Table 6.39 shows the matrix of Spearman rank correlations, which are appropriate for any pair of variables if the variable values reflect a meaningful ordering (Sheskin, 2007, p. 1353). In both the Pearson matrix and the Spearman matrix, a C in front of a variable name implies that the variable is a competitiveness score. As seen from Table 6.38 and Table 6.39, the following analysis is a selected interpretation of some factors.

The relationship between cost factors' importance and cost factors' competitiveness was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a medium, positive correlation between the two variables, where  $r = 0.434$ ,  $n = 42$ , and  $p < 0.0005$ , with high importance of cost factors associated with high competitiveness of cost factors.

The relationship between cost factors' importance and social and cultural factors' competitiveness was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The test result shows that there is a weak, negative correlation between the two variables, where  $r = -0.028$ ,  $n = 42$ , and  $p > 0.0005$ , with the high importance of cost factors associated with the low competitiveness of social and cultural factors.

The relationship between cost factors' importance and infrastructure and technological factors' importance was investigated using the Pearson product-moment correlation



coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The test result shows that there is a strong, positive correlation between the two variables, where  $r = 0.548$ ,  $n = 42$ , and  $p < 0.0005$ , with high importance of cost factors associated with high importance of infrastructures and technological factors.

The relationship between cost factors' competitiveness and social and cultural factors' competitiveness was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The test shows that there is a weak, negative correlation between the two variables, where  $r = -0.25$ ,  $n = 42$ , and  $p > 0.0005$ , with the high competitiveness of cost factors associated with the low competitiveness of social and cultural factors.

The relationship between market factors' competitiveness and cost factors' importance was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a weak positive correlation between the two variables, where  $r = 0.156$ ,  $n = 42$ , and  $p > 0.0005$ .

The relationship between economic factors' importance and market factors' importance was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a strong, positive correlation between the two variables,  $r = 0.560$ ,  $n = 42$ ,  $p < 0.0005$ , with the low importance of market factors associated with the low importance of economic factors.

The relationship between infrastructure and technological factors' importance and cost factors' competitiveness was investigated using the Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a strong, positive correlation between the two variables, where  $r = 0.504$ ,  $n = 42$ , and  $p < 0.0005$ , with the high importance of infrastructure and technological factors associated with the high competitiveness of cost factors.

The relationship between political and legal factors' importance and infrastructure and technological factors' importance was investigated using Spearman's rank correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a strong, positive correlation between the two variables, where  $\rho = 0.524$ ,  $n = 42$ , and  $p < 0.0005$ , with the high importance of political and legal factors associated with the high importance of infrastructure and technological factors.

The relationship between economic factors' competitiveness and political and legal factors' competitiveness was investigated using Spearman's rank correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. The result shows that there is a strong, positive correlation between the two variables, where  $\rho = 0.511$ ,  $n = 42$ , and  $p < 0.0005$ , with the high competitiveness of economic factors associated with the high competitiveness of political and legal factors.

Table 6.38 Pearson Correlations between the 12 Factors' Scores

		CostMean	MktMean	EconMean	InfraMean	PolMean	SocMean	CCostMean	CMktMean	CEconMean	CInfraMean	CPolMean	CSocMean
CostMean	Correlation	1	.427**	.488**	.548**	.396**	.232	.434**	.156	.346*	.295	.381*	-.028
	Sig. (2-tailed)		.005	.001	.000	.009	.139	.004	.325	.025	.058	.013	.862
	N	42	42	42	42	42	42	42	42	42	42	42	42
MktMean	Correlation	.427**	1	.560**	.531**	.404**	.304	.266	.144	.195	.314*	.403**	.175
	Sig. (2-tailed)	.005		.000	.000	.008	.050	.089	.364	.216	.043	.008	.269
	N	42	42	42	42	42	42	42	42	42	42	42	42
EconMean	Correlation	.488**	.560**	1	.499**	.478**	.364*	.366*	.163	.349*	.119	.397**	.370*
	Sig. (2-tailed)	.001	.000		.001	.001	.018	.017	.304	.023	.451	.009	.016
	N	42	42	42	42	42	42	42	42	42	42	42	42
InfraMean	Correlation	.548**	.531**	.499**	1	.550**	.310*	.504**	.298	.190	.461**	.409**	.014
	Sig. (2-tailed)	.000	.000	.001		.000	.046	.001	.056	.229	.002	.007	.930
	N	42	42	42	42	42	42	42	42	42	42	42	42
PolMean	Correlation	.396**	.404**	.478**	.550**	1	.439**	.460**	.393*	.172	.433**	.496**	.317*
	Sig. (2-tailed)	.009	.008	.001	.000		.004	.002	.010	.276	.004	.001	.041
	N	42	42	42	42	42	42	42	42	42	42	42	42
SocMean	Correlation	.232	.304	.364*	.310*	.439**	1	.383*	.311*	.021	.107	.257	.453**
	Sig. (2-tailed)	.139	.050	.018	.046	.004		.012	.045	.895	.502	.100	.003
	N	42	42	42	42	42	42	42	42	42	42	42	42
CCostMean	Correlation	.434**	.266	.366*	.504**	.460**	.383*	1	.360*	.251	.475**	.415**	-.025
	Sig. (2-tailed)	.004	.089	.017	.001	.002	.012		.019	.109	.001	.006	.875
	N	42	42	42	42	42	42	42	42	42	42	42	42
CMktMean	Correlation	.156	.144	.163	.298	.393*	.311*	.360*	1	.217	.267	.271	.236
	Sig. (2-tailed)	.325	.364	.304	.056	.010	.045	.019		.167	.088	.083	.132
	N	42	42	42	42	42	42	42	42	42	42	42	42
CEconMean	Correlation	.346*	.195	.349*	.190	.172	.021	.251	.217	1	.366*	.495**	.008
	Sig. (2-tailed)	.025	.216	.023	.229	.276	.895	.109	.167		.017	.001	.961
	N	42	42	42	42	42	42	42	42	42	42	42	42
CInfraMean	Correlation	.295	.314*	.119	.461**	.433**	.107	.475**	.267	.366*	1	.370*	-.139
	Sig. (2-tailed)	.058	.043	.451	.002	.004	.502	.001	.088	.017		.016	.379
	N	42	42	42	42	42	42	42	42	42	42	42	42
CPolMean	Correlation	.381*	.403**	.397**	.409**	.496**	.257	.415**	.271	.495**	.370*	1	.147
	Sig. (2-tailed)	.013	.008	.009	.007	.001	.100	.006	.083	.001	.016		.351
	N	42	42	42	42	42	42	42	42	42	42	42	42
CSocMean	Correlation	-.028	.175	.370*	.014	.317*	.453**	-.025	.236	.008	-.139	.147	1
	Sig. (2-tailed)	.862	.269	.016	.930	.041	.003	.875	.132	.961	.379	.351	
	N	42	42	42	42	42	42	42	42	42	42	42	42

Table 6.39 Spearman Rank Correlations between the 12 Factors' Scores

		CostMean	MktMean	EconMean	InfraMean	PolMean	SocMean	CCostMean	CMktMean	CEconMean	CInfraMean	CPolMean	CSocMean
CostMean	Correlation	1.000	.418**	.499**	.498**	.374*	.208	.427**	.146	.349*	.210	.395**	-.037
	Sig. (2-tailed)	.	.006	.001	.001	.015	.187	.005	.356	.023	.182	.010	.818
	N	42	42	42	42	42	42	42	42	42	42	42	42
MktMean	Correlation	.418**	1.000	.588**	.569**	.393*	.328*	.242	.111	.177	.278	.372*	.192
	Sig. (2-tailed)	.006	.	.000	.000	.010	.034	.123	.483	.262	.075	.015	.222
	N	42	42	42	42	42	42	42	42	42	42	42	42
EconMean	Correlation	.499**	.588**	1.000	.505**	.428**	.283	.348*	.131	.396**	.099	.390*	.330*
	Sig. (2-tailed)	.001	.000	.	.001	.005	.069	.024	.407	.009	.531	.011	.033
	N	42	42	42	42	42	42	42	42	42	42	42	42
InfraMean	Correlation	.498**	.569**	.505**	1.000	.524**	.269	.439**	.294	.292	.403**	.423**	.028
	Sig. (2-tailed)	.001	.000	.001	.	.000	.084	.004	.059	.060	.008	.005	.860
	N	42	42	42	42	42	42	42	42	42	42	42	42
PolMean	Correlation	.374*	.393*	.428**	.524**	1.000	.400**	.462**	.426**	.247	.394**	.458**	.279
	Sig. (2-tailed)	.015	.010	.005	.000	.	.009	.002	.005	.115	.010	.002	.074
	N	42	42	42	42	42	42	42	42	42	42	42	42
SocMean	Correlation	.208	.328*	.283	.269	.400**	1.000	.360*	.281	.067	.073	.256	.452**
	Sig. (2-tailed)	.187	.034	.069	.084	.009	.	.019	.072	.673	.646	.102	.003
	N	42	42	42	42	42	42	42	42	42	42	42	42
CCostMean	Correlation	.427**	.242	.348*	.439**	.462**	.360*	1.000	.347*	.346*	.453**	.384*	-.020
	Sig. (2-tailed)	.005	.123	.024	.004	.002	.019	.	.024	.025	.003	.012	.898
	N	42	42	42	42	42	42	42	42	42	42	42	42
CMktMean	Correlation	.146	.111	.131	.294	.426**	.281	.347*	1.000	.303	.281	.268	.214
	Sig. (2-tailed)	.356	.483	.407	.059	.005	.072	.024	.	.051	.072	.086	.173
	N	42	42	42	42	42	42	42	42	42	42	42	42
CEconMean	Correlation	.349*	.177	.396**	.292	.247	.067	.346*	.303	1.000	.400**	.511**	.056
	Sig. (2-tailed)	.023	.262	.009	.060	.115	.673	.025	.051	.	.009	.001	.726
	N	42	42	42	42	42	42	42	42	42	42	42	42
CInfraMean	Correlation	.210	.278	.099	.403**	.394**	.073	.453**	.281	.400**	1.000	.344*	-.145
	Sig. (2-tailed)	.182	.075	.531	.008	.010	.646	.003	.072	.009	.	.026	.361
	N	42	42	42	42	42	42	42	42	42	42	42	42
CPolMean	Correlation	.395**	.372*	.390*	.423**	.458**	.256	.384*	.268	.511**	.344*	1.000	.171
	Sig. (2-tailed)	.010	.015	.011	.005	.002	.102	.012	.086	.001	.026	.	.279
	N	42	42	42	42	42	42	42	42	42	42	42	42
CSocMean	Correlation	-.037	.192	.330*	.028	.279	.452**	-.020	.214	.056	-.145	.171	1.000
	Sig. (2-tailed)	.818	.222	.033	.860	.074	.003	.898	.173	.726	.361	.279	.
	N	42	42	42	42	42	42	42	42	42	42	42	42

## **6.4 Hypotheses Analysis**

### **5.4.1 Introduction**

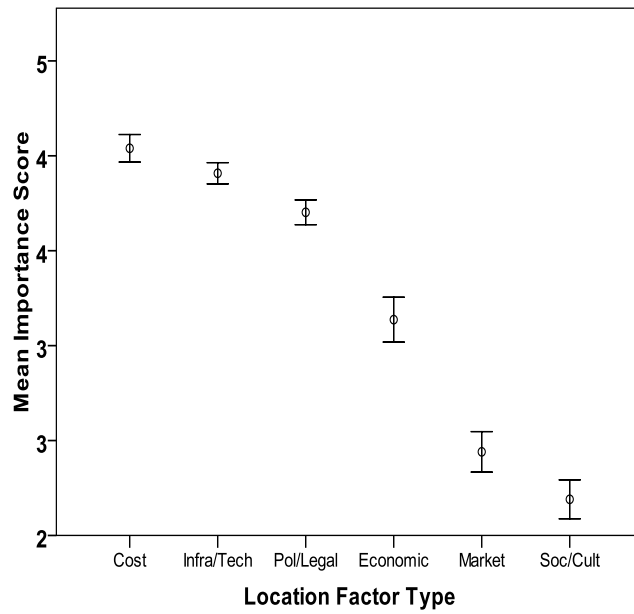
In this section, we critically assess the validity of the main research question by testing the hypotheses in terms of the importance and competitiveness of the FDI location factors for FDI in the Saudi petrochemicals industry.

### **6.4.2 Analysis**

The first research question asks about the relative importance of the six location factors (costs, markets, economics, infrastructure and technology, political and legal, and social and cultural) from the point of view of the senior executives. To address this question a repeated measurements analysis of variance was performed with regard to the average responses to the items on the questionnaire for the six location factors (Sheskin 2007, p.1021). The six response variables were the average scores on the part of the executives for the items pertaining to each of the six factors. The single predictor variable was the variable reflecting the identities of the six categories.

Mauchly's test of sphericity revealed that the covariance matrix of the scores was not spherical ( $\chi^2 = 36.6$ ,  $df = 14$ ,  $p = .001$ ). Therefore, the Greenhouse-Geisser approach was used to adjust the degrees of freedom, which led to a  $p$ -value that was less than .0005. ( $F[3.89, 159.6]=124.6$ ). Thus, there is strong evidence that the executives rated the different factors as having significantly different levels of importance in terms of choosing to locate in Saudi Arabia. Figure 6.3 shows the relative ratings in terms of the importance of the six factors. Figure 6.3 shows the mean importance scores as a function of factor type for each of the six factors. The upper and lower bars attached to each score indicate the standard error of the mean. Table 6.40 summarizes the results of within-subject contrast tests to determine which pairs of adjacent factors in Figure 6.3 are significantly different from one another.

**Figure 6.3 The Relative Ratings of Importance of the Six Factors**



**Table 6.40 Within-Subjects Contrasts of Mean Location Factors' Scores**

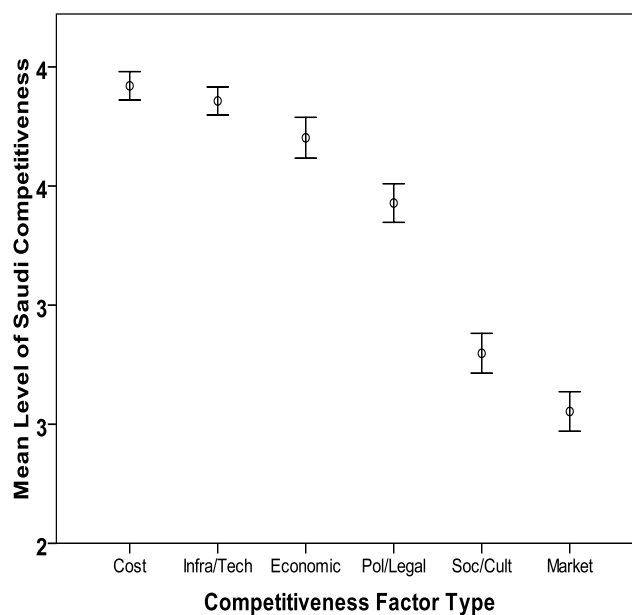
Source	FactorType	Type III Sum of Squares	df	Mean Square	F	<i>p</i>
FactorType	Cost vs. Infra/Tech	.726	1	.726	4.389	.042
	Infra/Tech vs. PolLegal	1.779	1	1.779	12.587	.001
	PolLegal vs. Econ	13.430	1	13.430	29.508	.000
	Econ vs. Mkt	20.371	1	20.371	43.236	.000
	Mkt vs. Soc/Cult	2.625	1	2.625	4.100	.049
Error (FactorType)	Cost vs. Infra/Tech	6.786	41	.166		
	Infra/Tech vs. PolLegal	5.793	41	.141		
	PolLegal vs. Econ	18.660	41	.455		
	Econ vs. Mkt	19.317	41	.471		
	Mkt vs. Soc/Cult	26.250	41	.640		

Since the *p*-values in the last column of Table 6.40 are all less than .05, this implies that each of the cost factors has a significantly different mean score from the similar-mean-score cost factor it is compared with. Note that two of the *p*-values are only slightly less than .05, so the evidence in these cases is weaker.

The second research question asks about the relative competitiveness of Saudi Arabia with regard to the six factors (costs, markets, economics, infrastructure and technology, political and legal, and social and cultural) from the point of view of the senior executives. To address this question, the preceding analyses were repeated, except that the six competitiveness scores were analyzed in place of the importance.

Mauchly's test of sphericity revealed weak evidence that the covariance matrix was not spherical ( $\chi^2 = 24.93$ ,  $df = 14$ ,  $p = .04$ ). Therefore, the Greenhouse-Geisser approach was used to adjust the degrees of freedom, which led to a  $p$ -value that was less than .0005. ( $F[4.04,165.4]=73.9$ ). Thus, there is strong evidence that the executives rated the different factors as having significantly different levels of the competitiveness compared to other locations. Figure 6.4 shows the mean competitiveness scores as a function of factor type for each of the six factors. The upper and lower bars attached to each score indicate the standard error of the mean. Table 6.41 summarizes the results of within-subject contrast tests to determine which pairs of adjacent factors in Figure 6.4 are significantly different from each other. The result presented in Table 6.41 shows that there of strong evidence that the executives rated the different factors in terms of competitiveness as having significant different levels of Saudi location factors competitiveness compared to other locations

**Figure 6.4 The Relative Ratings of the Competitiveness of Saudi Arabia on the Six Factors**



**Table 6.41 Within-Subjects Contrasts of Mean Competitiveness Factors' Scores**

Source	FactorType	Type III Sum of Squares	df	Mean Square	F	<i>p</i>
FactorType	Cost vs. Infra/Tech	.169	1	.169	1.089	.303
	Infra/Tech vs. Econ	1.006	1	1.006	3.365	.074
	Econ vs. Pol/Legal	3.149	1	3.149	10.608	.002
	Pol/Legal vs. Soc/Cult	16.720	1	16.720	34.321	.000
	Soc/Cult vs. Mkt	2.501	1	2.501	5.601	.023
Error (FactorType)	Cost vs. Infra/Tech	6.377	41	.156		
	Infra/Tech vs. Econ	12.257	41	.299		
	Econ vs. Pol/Legal	12.171	41	.297		
	Pol/Legal vs. Soc/Cult	19.974	41	.487		
	Soc/Cult vs. Mkt	18.311	41	.447		

The first two *p*-values in the last column of the table are not less than .05, and therefore, in these cases, we have no evidence of a significant difference between the associated factors in terms of competitiveness. For example, the *p*-value of .303 in the first row in the table implies that we have no evidence of a significant difference between cost considerations and considerations of infrastructure/technology. However, we can see significant differences in the last three rows of the table.

The preceding two analyses made comparisons between the six factors for both importance and competitiveness. Exactly the same statistical comparisons were performed except that, instead of comparing *between* the six factors, a separate comparison was done *within* each of the factors. This led to  $6 \times 2 = 12$  different analyses similar to the two analyses (for location and competitiveness) discussed above. For example, the first of the 12 analyses was performed using the executives' responses to the first six items in the questionnaire—the items reporting the respondents' opinions about specific cost categories pertaining to location. The results of these analyses are summarized in Table 6.42.



**Table 6.42 Analyses of the Relative Significance of Location Item Scores within Each Major Factor**

<b>Major Factors and Sub-Factors</b>	<b>Mean</b>	<b>Standard Error</b>
<b><i>Cost factors</i></b>	<b>4.04</b>	<b>.07</b>
Energy costs	4.88	.05
Return on investment	4.74	.08
Cost of raw materials	4.60	.08
Transportation/logistics costs	4.12**	.12
Factory site costs ( land costs)	3.29**	.15
Labour costs	2.62**	.17
<b><i>Infrastructure and technological factors</i></b>	<b>3.91*</b>	<b>.06</b>
Availability of raw materials	4.69	.07
Access to reliable and cooperative suppliers	4.33*	.14
Level of infrastructure (ports, roads, airports, etc.)	4.31	.07
Availability of factory sites (land)	4.02*	.09
High industrial concentration (clustering)	3.86	.10
Geographical proximity	3.50*	.14
Availability of well qualified workforce	2.64**	.11
<b><i>Political and legal factors</i></b>	<b>3.70**</b>	<b>.07</b>
Political stability	4.45	.09
Benign environmental legislation towards FDI	4.38	.09
Tax reductions in the host country	3.90**	.13
Diplomatic ties with the host country	3.33**	.11
International trade agreements	3.10	.14
Legal and regulatory system	3.05	.14
<b><i>Economic factors</i></b>	<b>3.14**</b>	<b>.12</b>
Economic stability	3.62	.17
Exchange rates	3.62	.14
Local financial support	2.74**	.16
Economic growth	2.57	.14
<b><i>Market factors</i></b>	<b>2.44**</b>	<b>.11</b>
Market familiarity	2.88	.15
Level of competition in the host market	2.55	.11
Market growth in the host country	2.19**	.16
Size of host markets	2.14	.13
<b><i>Social and Cultural factors</i></b>	<b>2.19*</b>	<b>.10</b>
Attitude of the local community towards the firm	2.43	.16
Local employees' loyalty to the firm	2.38	.16
Cultural distance	2.12	.15
Language	1.83	.15

Note: The main factors are ordered in decreasing importance in terms of scores. In addition, the sub-factors within the main factors are ordered in decreasing importance in terms of scores.

\*  $p < 0.05$  in comparison with the immediately preceding mean on the same level (main or sub).

\*\*  $p < 0.01$  in comparison with the immediately preceding sub-factor mean on the same level.

We can see in Table 6.42 that among the cost factors there is no significant difference between ratings of energy costs and return on investment. Similarly, there is no significant difference between return on investment and the low cost of raw materials. However, the rating for transportation and logistics costs is significantly lower than the rating for the low

cost of raw materials ( $p < .01$ ). Table 6.43 shows an analysis similar to the analysis in Table 6.42, but using the competitiveness ratings instead of the location ratings.

**Table 6.43 Analyses of the Relative Significance of Competitiveness Item Scores within Each Major Factor**

Major Factors and Sub-Factors	Mean	Standard Error
<b><i>Cost factors</i></b>	<b>3.92</b>	<b>.06</b>
Energy costs	4.90	.05
Return on investment	4.45**	.10
Low cost of raw materials	4.43	.08
Factory site costs (land costs)	3.83**	.17
Transportation/logistics costs	3.48	.15
Labour costs	2.43**	.16
<b><i>Infrastructure and technological factors</i></b>	<b>3.86</b>	<b>.06</b>
Availability of raw materials	4.81	.06
Access to reliable and cooperative suppliers	4.33**	.09
High industrial concentration (clustering)	4.24	.10
Availability of factory sites (land)	3.98	.11
Geographical proximity	3.90	.14
Level of infrastructure (ports, roads, airports, etc.)	3.67	.12
Availability of well qualified workforce	2.07**	.16
<b><i>Economic factors</i></b>	<b>3.70</b>	<b>.09</b>
Exchange rates	4.21	.11
Economic growth	3.83**	.13
Economic stability	3.64	.11
Local financial support	3.12**	.15
<b><i>Political and legal factors</i></b>	<b>3.43**</b>	<b>.08</b>
Political stability	4.21	.11
Benign environmental legislation towards FDI	3.79**	.13
Diplomatic ties with the host country	3.79	.11
International trade agreements	3.19**	.16
Tax reductions in the host country	3.07	.18
Legal and regulatory system	2.52*	.16
<b><i>Social and cultural factors</i></b>	<b>2.80**</b>	<b>.08</b>
Local employees' loyalty to the firm	3.36	.11
Language	2.90**	.14
Attitude of the local community towards the firm	2.86	.15
Cultural distance	2.07**	.16
<b><i>Market factors</i></b>	<b>2.55*</b>	<b>.08</b>
Market familiarity	3.64	.13
Level of competition in the host market	2.83**	.13
Market growth in the host country	1.90**	.13
Size of host markets	1.83	.13

Note: The main factors are ordered in terms of decreasing attractiveness scores. In addition, the sub-factors within the main factors are ordered in terms of decreasing attractiveness scores.

\*  $p < 0.05$  in comparison with the immediately preceding mean on the same level (main or sub).

\*\*  $p < 0.01$  in comparison with the immediately preceding sub-factor mean on the same level.

Another question of interest about the location and competitiveness factors is whether executives rate each factor significantly above or below the “neutral” or “same” score on a

factor of 3. To address this question, each of the 12 high-level factor scores was analyzed in a one-sample *t*-test to determine whether it was significantly different from 3, as recommended by Sheskin (2007, p.157). Table 6.44 shows the descriptive statistics for the six location scores.

**Table 6.44 Descriptive Statistics for the Six Location Scores**

Location Factor	N	Mean	Std. Deviation	Std. Error of Mean
Mean of Cost Factors Scores	42	4.040	.4697	.0725
Mean of Infrastructure/Technological Factors Scores	42	3.908	.3623	.0559
Mean of Political and Legal Factors Scores	42	3.702	.4222	.0651
Mean of Economic Factors Scores	42	3.137	.7655	.1181
Mean of Market Factors Scores	42	2.440	.6914	.1067
Mean of Social and Cultural Factors Scores	42	2.190	.6644	.1025

We can see that four of the mean factor scores are above the value of 3 and two of the mean factor scores are below this value. Table 6.45 shows the results of one-sample *t*-tests to determine whether the means are significantly different from the value 3.

**Table 6.45 Results of One-Sample T-Tests for Location Factors**

Location Factors	Test Value = 3					
	<i>t</i>	df	<i>p</i> (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Cost Factors	14.345	41	<.001	1.0397	.893	1.186
Infrastructure/Technological Factors	16.247	41	<.001	.9082	.795	1.021
Political and Legal Factors	10.782	41	<.001	.7024	.571	.834
Economic Factors	1.159	41	.253	.1369	-.102	.375
Market Factors	-5.244	41	<.001	-.5595	-.775	-.344
Social and Cultural Factors	-7.896	41	<.001	-.8095	-1.017	-.602

We can see that the upper three factors in the table are significantly greater than the neutral value of 3, each with a *p*-value of less than .001. Similarly, the lower two factors in the table are significantly less than the neutral value of 3, again each with a *p*-value that is less than .001. The rating for the Economic factors was not significantly different from the neutral value of 3. Table 6.46 shows the descriptive statistics for the six competitiveness scores.

**Table 6.46 Descriptive Statistics for the Six Competitiveness Scores**

Location Factors	N	Mean	Std. Deviation	Std. Error Mean
Mean of Cost Factors Scores	42	3.921	.3882	.0599
Mean of Infrastructure/Technological Factors Scores	42	3.857	.3812	.0588
Mean of Economic Factors Scores	42	3.702	.5556	.0857
Mean of Political and Legal Factors Scores	42	3.429	.5272	.0814
Mean of Social and Cultural Factors Scores	42	2.798	.54167	.08358
Mean of Market Factors Scores	42	2.554	.5397	.0833

We can see that four of the mean factor scores are above the value of 3 while two of the mean factor scores are below this value. Table 6.47 shows the results of one-sample *t*-tests to determine whether the means are significantly different from the value 3. From the fact that all the *p*-values are less than .05 we can see that all of the mean factor scores are significantly different from the value 3.

**Table 6.47 Results of One-Sample T-Tests for Competitiveness Factors**

Location Factor	Test Value = 3					
	<i>t</i>	df	<i>p</i> (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Cost Factors	15.368	41	<.001	.9206	.800	1.042
Infrastructure/Technological Factors	14.571	41	<.001	.8571	.738	.976
Economic Factors	8.193	41	<.001	.7024	.529	.876
Political and Legal Factors	5.268	41	<.001	.4286	.264	.593
Social and Cultural Factors	-2.421	41	.020	-.20238	-.3712	-.0336
Market Factors	-5.361	41	<.001	-.4464	-.615	-.278

### 6.4.3 One-Way Between-Groups ANOVA

One-way between-groups ANOVA is used when we have one independent (grouping) variable with three or more levels (groups) and one dependent continuous variable. The 'one-way' part of the title indicates there is only one independent variable, and 'between-groups' means that we have different subjects or cases in each of the groups (Pallant, 2007).

## 6.4.4 Statistical Significance

A test of statistical significance allows the analyst to estimate how confident he or she can be that the results deriving from a study based on a randomly selected sample is generalizable to the population from which the sample is drawn (Bryman & Bell, 2007).

## 6.4.5 Testing the Hypotheses

### 6.4.5.1 Testing the Hypothesis for Location Factors' Importance

One of the main hypotheses of the study is:

- *H1: The relative importance of FDI location factors will vary in the Saudi petrochemicals industry.*

To test this hypothesis, we use the repeated measures ANOVA procedure. The summary of the results for this ANOVA model is given in Table 6.48, Table 6.49 and Table 6.50.

**Table 6.48 Multivariate Tests for Different Factors for Importance**

Effect		Value	F	Sig.	Eta Squared
factor1	Pillai's Trace	0.929	96.716 <sup>a</sup>	0.000	0.929
	Wilks' Lambda	0.071	96.716 <sup>a</sup>	0.000	0.929
	Hotelling's Trace	13.070	96.716 <sup>a</sup>	0.000	0.929
	Roy's Largest Root	13.070	96.716 <sup>a</sup>	0.000	0.929

**Table 6.49 Tests of Within-Subjects Effects for the Importance of the Factors**

Measure: Factors							
Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
factor1	Sphericity Assumed	128.143	5	25.629	124.648	0.000	0.752
	Greenhouse-Geisser	128.143	3.894	32.911	124.648	0.000	0.752
	Huynh-Feldt	128.143	4.353	29.437	124.648	0.000	0.752
	Lower-bound	128.143	1.000	128.143	124.648	0.000	0.752
error(factor1)	Sphericity Assumed	42.150	205	.206			
	Greenhouse-Geisser	42.150	159.637	.264			
	Huynh-Feldt	42.150	178.479	.236			
	Lower-bound	42.150	41.000	1.028			

**Table 6.50 Tests of Between-Subjects Effects for the Importance of the Factors**

Measure: Factors Transformed Variable: Average						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	2639.434	1	2639.434	2619.558	0.000	0.985
Error	41.311	41	1.008			

To validate this procedure, we need to test the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix. This is called the Mauchly's test of sphericity. The analysis shows that the covariance matrix is not proportional to the identity matrix and we reject the null hypothesis (Mauchly's  $W = 0.392$ , Chi-Square = 36.623 p value < 0.05).

The results of the repeated measures ANOVA clearly indicate that the mean importance score for different factors vary (Wilk's lambda = 0.071,  $F = 96.716$  p value < 0.05). The result does not change for alternative measures (Pillai's Trace, Hotelling's Trace and Roy's Largest Root) of this multivariate test statistic. Our results confirm the findings of UNCTAD (1998) which concluded that the relative importance of location factors will change over time in particular countries, as the economic environment in the host country, and globally, changes. At the same time, the importance of some location factors remains stable. Similarly, our results are in line with those of Cohen (2007) who argues that the decision to choose a cross-border location on the part of a firm is a case-by-case decision, and cannot be generalised to other location decisions, because the same location factors may be viewed differently by different corporate executives, and the relative importance of these factors will vary according to the type of investment and the objectives of the firm. Moreover, our finding confirms the study by Mellahi, Gurmat, Frynas and Al-Bortmani (2003) who suggested that the relative importance of location factors would be affected by the sector to which the FDI relates.

Furthermore, our results are similar to those of UNCTAD (1996) which concluded that globalisation would have two effects on FDI location factors. First, MNEs use a wide range of policies when evaluating the host country with regard to potential investment. Second, the relative importance of FDI location factors has changed as a result of globalisation.

Moreover, the importance of traditional location factors has not diminished as a result of globalisation, but their importance in terms of FDI location decisions has declined. For example, the market size of the host country is one of the most important location factors in the opinion of many scholars. However, this factor has diminished in importance in terms of FDI location decisions. At the same time, new factors have become more important with regard to FDI location decisions – factors such as low costs, infrastructure quality, a benign business environment and the availability of highly skilled workers in the host country. Furthermore, Banga (2003) confirmed our result which showed that the effect of the location factors will vary significantly from one nation to another, especially from developed nations to developing nations. For example, low tax incentives is a significant factor for the attraction of FDI in developing countries, but this is not an important factor in terms of attracting FDI to developed countries. Many studies provide vast variations in terms of the factors that influence FDI inflow, or, as Dunning (2008) suggested, a shopping list of factors that fail to give the policy makers the correct and specific recommendations that identify the most important related factors that influence FDI inflow for a specific location. In addition, Flores and Aguilera (2007) believe that the assumptions underpinning FDI location choices have shifted in the last 20 years, and that the change in the factors associated with choosing one location over other locations in terms of FDI, remain uncertain and needs more study.

However, our results are in contrast with those of Nunnenkamp (2002) who made the point that there is no strong evidence in recent empirical studies to support the view of the influence of globalisation on competition for FDI between countries, and of the changes in the relative importance of traditional and non-traditional location factors for FDI in developing countries. He also concluded that there has been a surprisingly slight change in the relative importance of location factors until now. According to Nunnenkamp (2002), traditional market factors are still some of the most important factors for FDI location decisions, and the large size of the host market has become more important rather than weaker. On the other hand, non-traditional location factors such as cost factors and the business environment have become less important with globalisation.

The sub-hypotheses formulated are as follows:

- ***H1a: Cost factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

- *H1b: Market factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1c: Economic factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1d: Infrastructure and technological factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1e: Political and legal factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*
- *H1f: Social and cultural factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*

Here we test the null hypothesis that the mean importance score is actually above 3. The t-test results are summarised in Table 6.51.

**Table 6.51 One-Sample Test for the Importance of Different Factors**

Location Factor	Test Value = 3				95% Confidence Interval of the Difference	
	t	df	P value	Mean Difference	Lower	Upper
	Cost	14.345	41	0.000	1.03968	.8933
Market	-5.244	41	0.000	-0.55952	-.7750	-.3441
Economy	1.159	41	0.253	0.13690	-.1016	.3754
Infrastructure and Technology	16.247	41	0.000	0.90816	.7953	1.0211
Political & Legal	10.782	41	0.000	0.70238	.5708	.8339
Social	-7.896	41	0.000	-0.80952	-1.0166	-.6025

- *H1a: Cost factors play an important role in FDI location decisions in the Saudi petrochemicals industry.*

Hypothesis H1a predicts that cost factors play an important role for petrochemical FDI when a company chooses Saudi Arabia for its business. The cost factor has a mean score of 4.039. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.345$ ,  $p = .000$ ). Hence, cost factors are perceived to play an important role in FDI location decisions. Therefore, hypothesis H1a is confirmed by the analysis. Our result support the findings of Banga (2003) and Campos and Kinoshita (2003) in that cost factors are very important in terms of the location decisions with regard to efficiency-seeking and resources-seeking FDI,



and when the FDI is export-oriented and targets markets outside the host country. Our findings also support the findings of Abdel-Rahman (2002) which indicate that cost factors will influence the location decision for FDI in Saudi Arabia. The results are also in line with those of Buckley, Devenney and Louvriere (2007) who conclude that cost factors play an important role in FDI location decision making. Similarly, to our results, Gilmore et al. (2003) conclude that the motives for the location of FDI have been explained by the concept of cost minimisation, which implies that MNCs will choose the least cost location for its production activities abroad. The results are also in line with those of Kang and Lee (2007) in that a significant part of multinational activity tends to take the form of firms shifting their production processes to low-cost locations. However, our result is different from the findings of Nunnenkamp (2002) who concluded that non-traditional location factors such as cost factors have become less important with globalization.

- ***H1b: Market factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis H1b predicts that market factors are an important factor in terms of the location decisions for petrochemical FDI when a company chooses Saudi Arabia as the location for its business. Market factors have a mean score of less than 3.0. The “t” test found that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.244$ ,  $p = .000$ ). Thus, market factors are not perceived to be important. Therefore, hypothesis H1b is not supported by the results and the analysis. Our results support the findings of Mina (2007) who studied the factors that influenced the location decisions for FDI in Gulf States countries including Saudi Arabia, Bahrain, Oman, Kuwait, and the United Arab Emirates. He found that market factors in these countries were not important in terms of FDI location decisions. He concluded that, due to the small population sizes in the Gulf countries, economies of scale may not be realized, and FDI inflows may be discouraged. Therefore, the influence of market size on FDI inflows may be ambiguous. Our findings are also in line with those of Cleeve (2009) who concluded that the significance of market factors on FDI location decision making is declining as other variables such as policy variables are becoming more important in terms of FDI location. Our results confirm the findings of Campos and Kinoshita (2003) in that efficiency-seeking FDI which target markets, are not interested in the national market of the host country and instead target the export markets. Hence, the market factors of the host country will be of less influence. This confirms the finding of Nunnenkamp (2002) that the relative importance of

FDI location factors has changed as a result of globalization. Furthermore, the importance of traditional location factors has not diminished as a result of globalization, but their importance in terms of FDI location decisions has declined. For example, the market size of the host country is one of the most important location factors in the opinion of many scholars. However, this factor has diminished in importance in terms of FDI location decisions. At the same time, new factors have become more important with regard to FDI location decision factors, such as costs factors, infrastructure factors, and a benign business environment (UNCTAD 1996; Nunnenkamp, 2002). Our result supports the findings of Cleeve (2009) who conclude that the significance of market size and growth rate has become less important in recent years with regard to FDI location. However, our results are different from those of a number of empirical studies on FDI location (e.g. Cunningham, 1975; Swedenborg, 1979; Dunning, 1980; Scaperlanda et al., 1983; Papanastassiou and Pearce, 1990; Zitta & Powers, 2003; Head and Mayer, 2004; Tahir & Larimo, 2005) who all conclude that the market potential of the host country has a significant and positive effect on attracting FDI, and has a major impact on the FDI decision-making process.

- ***H1c: Economic factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis H1c predicts that economic factors are important factors for petrochemical FDI when a company chooses Saudi Arabia for its business location. Economic factors have a mean score of 3.1369. The “t” test shows that statistically this is not significantly ( $p > 0.05$ ) more than 3.0 ( $t_{41} = 1.159$ ,  $p = .253$ ). Hence, the economic factors are not perceived to play an important role in FDI location decisions. Therefore, hypothesis H1c is not supported by the analysis. Our result support the findings of Ho & Lau (2007) who conclude that the importance of economic factors in the host countries for FDI location decisions will be greater when investors plans to expand their market share in the host country in which their investment is located. Otherwise, when the target markets are outside the host country where the investment is located, such as is the case with the petrochemical FDI in Saudi Arabia, the economic environment of the host country will have a minimal influence and low priority in terms of FDI location decisions. Our results also confirm the findings of Abdel-Rahman (2002) who indicated that economic factors influence the location decisions for FDI in Saudi Arabia. However, our results are different from those of Dunning (2004) who pointed out that

the location decisions for FDI will be influenced by the host-country's economic conditions, and that these will play a major role on shaping the FDI location motivations.

- ***H1d: Infrastructure and technological factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis H1d predicts that infrastructure and technological factors are important factors for petrochemical FDI when a company chooses Saudi Arabia for its business location. Infrastructure and technological factors have a mean score of 3.9082. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 16.247$ ,  $p = .000$ ). Hence, infrastructure and technological factors are perceived to play an important role in FDI location decisions. Therefore, hypothesis H1d is confirmed by the analysis. Our results confirm the findings of Ho & Lau (2007) who stressed that the importance of infrastructure and technological factors in terms of FDI location decisions depends on the type of industry under consideration, as each industry has a different priority with regard to infrastructure levels. For example, heavy industries such as the petrochemical industry will require a high level of infrastructure in the host country in order to move their products to the global markets. Consequently, the level of infrastructure in the host country is a very important factor for that industry. Moreover, our results confirm the result of Jones & Wern (2006) who concluded that infrastructure factors is a potential attractor with regard to FDI inflow as it improves the distribution of goods and services and the ability of the company to recruit labour and to communicate with suppliers and purchasers. Furthermore, our results are in line with those of Mina (2007) who concluded that infrastructure development is expected to facilitate oil exploration and extraction, and therefore will have a positive influence on FDI flows.

- ***H1e: Political and legal factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis H1e predicts that political & legal factors are important factors for petrochemical FDI when a company chooses Saudi Arabia for its business location. Political & legal factors have a mean score of 3.7024. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 10.782$ ,  $p = .000$ ). Hence, political and legal factors are perceived to play an important role on FDI location decisions. Therefore, hypothesis H1e is confirmed by the

analysis. Our results confirm the studies of researchers such as Basi (1963), Stevens (1969), Weigel (1970), Root and Ahmed (1979), Levis (1979), Schneider and Frey (1985) and Wei (1997) which have mostly focused on FDI to developing countries. These have found political factors to be critical determinants of FDI location decisions. Our results are in line with the findings of Ho & Lau (2007) who showed that FDI is sensitive to political factors when companies choose the location for investment, and this affects the attractiveness of a host country for FDI. FDI investment in a host country normally involves large obligations in terms of capital that could be recovered if the investment had been launched successfully, and the payback period takes many years. A high level of political risk could negatively extend the payback period, or even make the investment critical, as all the invested capital could easily be lost. However our results are different from the findings of a number of studies (e.g., Green and Cunningham, 1975; Mody and Wheeler, 1992) who concluded that political factors not to be important as an FDI location factor, and that they rank lower than other location factors.

- ***H1f: Social and cultural factors play an important role in FDI location decisions in the Saudi petrochemicals industry.***

Hypothesis H1f predicts that social and cultural factors are important factors for petrochemical FDI when a company chooses Saudi Arabia for its business location. Social and cultural factors have a mean score of less than 3.0. The “t” test found that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -7.896$ ,  $p = .000$ ). Thus social factors are not perceived to be important factors. Therefore, hypotheses H1f is not supported by the results and the analysis. Our results confirm the findings of Johnson and Vahlne (1977) who concluded that firms will not be affected by the cultural factors of the host country and that cultural factors will play a limited factor on the location choice for FDI. Moreover, other studies are in line with our results such as those of Levitt (1983) and Sethi, Guisinger, Phelan & Berg (2003) who found that globalization has a minimal effect in terms of social and cultural factors, as consumer tastes in different countries have been unified globally due to globalization. Moreover, MNEs may be forced to ignore the disadvantages of the cultural factors related to developing countries, in favour of the advantages associated with their cost factors, making them consider these locations to be the best locations for their operations. However our results are different from the findings of Dunning (1998), Leung et al. (2005),

Kirkman (2006), Flores & Aguilera (2007) and Bahardwaj, Dietz & Beamish (2007) who all concluded that social and cultural factors will have a significant impact on FDI location.

#### **6.4.5.2 Testing the Hypothesis for Location Factors' Competitiveness**

According to the second main research question, the following main hypothesis was tested. The second main hypothesis of the study is:

- ***H2: The relative competitiveness of FDI location factors will vary in the Saudi petrochemicals industry compared to other locations.***

To test this hypothesis we use the repeated measures ANOVA procedure. The summary of the results for this ANOVA model is given in Table 6.52, Table 6.53, and Table 6.54. To validate this procedure, we first needed to test the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix. This is called the Mauchly test of sphericity. The analysis shows that the covariance matrix is not proportional to the identity matrix, and consequently we reject the null hypothesis (Mauchly's  $W = 0.529$ , Chi-Square = 24.934  $p$  value  $< 0.05$ ).

The results of the repeated measures ANOVA clearly indicate that the mean competitiveness score for different factors vary (Wilk's lambda = 0.887,  $F = 57.851$   $p$  value  $< 0.05$ ). The results do not change for alternative measures (Pillai's Trace, Hotelling's Trace and Roy's Largest Root) of this multivariate test statistic. Our results are in line with those of Porter (1990) who suggested that a firm will gain a competitive advantage based on the location they choose, and that the firm must evaluate the advantages and restrictions of potential locations before they make the final location decision. The restrictions include the host country's investment policies toward foreign investment, technology limitations and transportation costs. Our findings confirm the result of Banga (2003) who argued that economic factors alone may not be sufficient to induce FDI inflows due to globalisation and the integration of global markets. Therefore, there is an urgent need for international scholars to investigate the new factors that affect FDI location in the new global market. Moreover, our results support those of Dunning (2004) who asserted that increased intensive competition in the global markets has forced MNEs to re-evaluate their international location strategies, and has also forced host governments to reconfigure their investment policies to

attract new FDI, and to protect current FDI from going to more competitive countries. Dunning (2004) also pointed out that host governments who want to attract more FDI should understand that the location factors that FDI seek in a new location have changed in recent years. For example, MNEs thinking of setting up in developing countries are attracted by traditional economic factors such as cost factors and natural resources factors, while MNEs thinking of setting up in developed countries seek a good business environment, good legal setup, infrastructures to support the investment, supportive industries and services, and a range of institutions and government policies that would help improve the FDI operations and global competitiveness in the host country (Dunning, 2004). Moreover, our result confirm those of Nunnenkamp (2002) who believed that the movement of MNEs in the direction of globalising the marketing and production of their operations, has affected the developing countries' attractiveness in terms of FDI.

Our results confirm the Doing Business report from the World Bank and the International Finance Cooperation (IFC) (Doing Business, 2009), in that Saudi Arabia was ranked 16th in 2008, up from 23rd in the preceding year, and is the top-ranked country in the Middle East and North Africa. Moreover, the Doing Business report was also in line with our results in that Saudi Arabia's overall ranking and its competitiveness is hindered by lower rankings in areas such as contract enforcement, getting credit, closing a business, construction permits and employment, where further reform is required to reflect international best practices. Our results also confirm the Global Competitiveness Report (2008-2009) in that Saudi Arabia ranks 27th in the World Economic Forum's 2008 Global Competitiveness Index, where Saudi Arabia's competitiveness score now exceeds that of Kuwait and Tunisia, making Saudi Arabia the highest-ranked country in the region after Qatar. The report also confirms our study with regard to the fact that Saudi Arabia has been particularly successful in reforming the institutional framework for doing business, creating favourable economic conditions, and upgrading the efficiency of its goods markets. Moreover, the report concluded that Saudi Arabia faces continuing challenges with regard to its education sector, labour market, and additional opportunities for upgrading institutions and the financial sector.

**Table 6.52 Multivariate Tests for Different Factors for Competitiveness**

Effect		Value	F	Hypothesis df	Error df	Sig.
factor1	Pillai's Trace	0.887	57.851 <sup>a</sup>	5.000	37.000	.000
	Wilks' Lambda	0.113	57.851 <sup>a</sup>	5.000	37.000	.000
	Hotelling's Trace	7.818	57.851 <sup>a</sup>	5.000	37.000	.000
	Roy's Largest Root	7.818	57.851 <sup>a</sup>	5.000	37.000	.000

**Table 6.53 Tests of Within-Subjects Effects for the Competitiveness of the Factors**

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Sphericity Assumed	69.230	5	13.846	73.901	.000
	Greenhouse-Geisser	69.230	4.035	17.159	73.901	.000
	Huynh-Feldt	69.230	4.530	15.283	73.901	.000
	Lower-bound	69.230	1.000	69.230	73.901	.000
Error(factor1)	Sphericity Assumed	38.408	205	.187		
	Greenhouse-Geisser	38.408	165.418	.232		
	Huynh-Feldt	38.408	185.729	.207		
	Lower-bound	38.408	41.000	.937		

**Table 6.54 Tests of Between-Subjects Effects for the Competitiveness of the Factors**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	2873.251	1	2873.251	5415.267	.000
Error	21.754	41	.531		

The main hypothesis is divided into sub-hypothesis as follows:

- *H2a: Cost factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2b: Market factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2c: Economic factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2d: Infrastructure and technological factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*
- *H2e: Political and legal factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*

- *H2f: Social and cultural factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*

The summary of the results of the t-test for testing whether the competitiveness of a factor is significantly better than in other countries in the region is presented in Table 6.55.

**Table 6.55 One-Sample Test for the Competitiveness of Different Factors**

Location Factor	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Cost	15.368	41	0.000	0.92063	0.7997	1.0416
Market	-5.361	41	0.000	-0.44643	-0.6146	-0.2782
Economy	8.193	41	0.000	0.70238	0.5293	0.8755
Infrastructure and Technology	14.571	41	0.000	0.85714	0.7383	0.9759
Political & Legal	5.268	41	0.000	0.42857	0.2643	0.5929
Social	-2.421	41	0.020	-0.20238	-0.3712	-0.0336

- *H2a: Cost factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.*

Hypothesis H2a predicts that cost factors are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Cost factors have a mean competitiveness score of 3.9206. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.345$ ,  $p = .000$ ). Hence, cost factors are perceived to be significantly more competitive in the country than in other countries. Therefore, hypothesis H2a is confirmed by the analysis.

Because of the ready availability of natural gas associated with the production of crude oil, and the Government’s desire to encourage the industrialization drive, Saudi Arabia has among the lowest natural gas prices in the world. This favourable differential has clear benefits for domestic consumers of natural gas feedstock such as the petrochemical industry, where about 60% of the integrated cash costs are hydrocarbon-based. This compares with figures of between 30% and 40% with regard to power generation and water desalination, and in excess of 30% for metals processing (SAGIA, 2007). The country’s strong infrastructure, significant cost advantages due to lower average variable and fixed costs, and competitive and fixed natural gas prices, make it an attractive destination for investment in the petrochemical industry.



- ***H2b: Market factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis H2b predicts that market factors are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Market factors have a mean competitiveness score of 2.5536. The “t” test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.361$ ,  $p = .000$ ). Hence, the market factor is perceived to be significantly less competitive in the country than in other countries. Therefore, hypothesis H2b is not supported by the analysis. From being a net importer, the country has emerged as a leading exporter in the petrochemical sector, supplying to over 100 countries. Primary drivers for such a turnaround have been strong infrastructure, significant cost advantages due to lower average variable and fixed costs, competitive and fixed natural gas prices, and market proximity, especially for East Asia. These factors have also resulted in substantial investment inflows into the sector, with large scale projects targeting export markets such as China, America and Europe (BMI, 2009). Therefore, the Saudi market is not the prime market for petrochemical FDI in Saudi Arabia as most production is for export, and the Saudi market are considered by many to be a less competitive market compared to other large markets such as East Asia and Europe.

- ***H2c: Economic factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis H2c predicts that economic factors in Saudi Arabia are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Economic factors have a mean competitiveness score of 3.7024. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 8.193$ ,  $p = .000$ ). Hence, economic factors are perceived to be significantly more competitive in the country than in other countries. Therefore, hypothesis H2c is supported by the analysis. Saudi Arabia is the largest economy in the Middle East, with a GDP in excess of US\$300 billion. This constitutes almost one third of regional GDP. Saudi Arabia’s economy has experienced a boom over the last few years, driven primarily by the strength of the demand for oil in the international oil markets, and increasing domestic oil production capacity. The Saudi economy has maintained its achievements in terms of high growth rates in recent years. The Saudi economy benefits from strong support from the

government, and a free market policy, both of which have contributed to the growth of the economy (SAGIA, 2008). All of this has contributed to making the Saudi economic factors competitive for the petrochemical industry in Saudi Arabia compared to other locations.

- ***H2d: Infrastructure and technological factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis H2d predicts that infrastructure and technology factors in Saudi Arabia are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Infrastructure and technology factors have a mean competitiveness score of 3.8571. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.571$ ,  $p = .000$ ). Hence, this factor is perceived to be significantly more competitive in Saudi Arabia than in other countries. Therefore, hypothesis H2d is confirmed by the analysis. There are a number of significant infrastructure developments in the Kingdom, which are set to improve the project enabler and logistics facilities for investors in the energy sector. These include expansion of the existing industrial cities of Jubail and Yanbu, the creation of new economic cities around the Kingdom, and the development of a number of standalone projects to improve the Kingdom’s transport and logistics network. SAGIA has had great success in attracting new industries to the industrial cities of Jubail on the Arabian Gulf and Yanbu on the Red Sea. Over 200 companies have invested more than \$60bn in the cities, providing employment for over 85,000 workers. They also host some of the world’s largest petrochemical facilities, and both cities are currently being expanded to cater for increased demand (SAGIA, 2007). All of this has contributed to making infrastructure factors more competitive for petrochemical FDI in Saudi Arabia compared to other locations.

- ***H2e: Political and legal factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis H2e predicts that political and legal factors in Saudi Arabia are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Political and legal factors have a mean competitiveness score of 3.4286. The “t” test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.268$ ,  $p = .000$ ). Hence, this factor is perceived to be significantly more competitive in Saudi Arabia than in other countries. Therefore, hypothesis

H2e is confirmed by the analysis. A huge effort has been made on the part of the Saudi government encompassing economic reform, improvements designed to transform the investment environment and the opening up of more sectors to investment opportunities. These efforts have been streamlined through the Saudi Arabian General Investment Authority (SAGIA), which works in conjunction with all government agencies and institutions to improve the investment environment (SAGIA, 2008). With a stable political system, a benign environmental legislation towards FDI and good diplomatic relations with other countries, Saudi Arabian political and legal factors are considered competitive factors for FDI in the Saudi petrochemical industry compared to other locations.

- ***H2f: Social and cultural factors are competitive for FDI in the Saudi petrochemicals industry compared to other locations.***

Hypothesis H2f predicts that social and cultural factors in Saudi Arabia are more competitive for petrochemical FDI in Saudi Arabia compared to other locations. Social and cultural factors have a mean competitiveness score of 2.7976. The “t” test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -2.421$ ,  $p = .020$ ). Hence, this factor is perceived to be significantly less competitive in the country than in other countries. Therefore, hypothesis H2f is not supported by the analysis. Due to the fact that the Saudi society is very conservative and not open to other cultural values, a low work ethics on the part of Saudis, and less educated people compared to other countries, the social and cultural factors in Saudi Arabia are considered to be less competitive compared to other locations for FDI in the Saudi petrochemical industry.

#### **6.4.6 Testing the Significance of the Differences between the Mean Scores of Importance and Competitiveness**

The different factors affecting the FDI location decisions and the corresponding competitiveness of the country were compared. Using the testing of hypotheses procedure, significant f, the difference between the importance and the competitiveness score was tested. This is essentially a test procedure involving testing the null hypothesis that there is no significant difference between mean scores with regard to importance and competitiveness for each of the factors. This is tested against the alternate hypothesis that there *is* a significant difference between importance and competitiveness scores. The appropriate test procedure

for testing the same is a t-test for equality of two population means. Since the same set of respondents gave both the scores, this becomes a t-test for the significance of differences in dependent samples. The summary of the mean scores for different factors is presented in Table 6.56. The corresponding results of the t-test for dependent samples (paired samples) is presented in Table 6.57. Differences in mean scores were statistically significant ( $p < 0.05$ ) with regard to economic, political and legal and social factors. For costs, markets, infrastructure and technology factors, the mean score differences in terms of importance and competitiveness is statistically not significant.

**Table 6.56 Paired Samples Statistics**

Factor pair	Category	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Cost (Importance)	4.0397	42	0.4697	0.0725
	Cost (Competitiveness)	3.9206	42	0.3882	0.0599
Pair 2	Market (Importance)	2.4405	42	0.6914	0.1067
	Market (Competitiveness)	2.5536	42	0.539	0.083
Pair 3	Economy (Importance)	3.1369	42	0.7655	0.1181
	Economy (Competitiveness)	3.7024	42	0.555	0.0857
Pair 4	Infrastructure & Technology (Importance)	3.9082	42	0.3622	0.0559
	Infrastructure & Technology (Competitiveness)	3.8571	42	0.381	0.058
Pair 5	Political & Legal (Importance)	3.7024	42	0.4221	0.0651
	Political & Legal (Competitiveness)	3.4286	42	0.527	0.081
Pair 6	Social (Importance)	2.1905	42	0.6644	0.1025
	Social (Competitiveness)	2.7976	42	0.541	0.083

**Table 6.57 Paired T-Test for Different Factors**

Pair	t	df	P value
Pair 1 (Cost)	1.671	41	0.102
Pair 2 (Market)	-0.901	41	0.373
Pair 35 (Economy)	-4.740	41	0.000
Pair 4 (Infrastructure & Technology)	-0.856	41	0.397
Pair 5 (Political & Legal)	3.656	41	0.001
Pair 6 (Social)	-6.153	41	0.000

## 6.5 Summary

In this chapter, we analyzed the results of this research. We used the importance/competitiveness and analysis of the 31 location factors in the Saudi petrochemical industry. We discussed the range of correlations and relationships between factors and the explanations behind these relationships, as well as the policy implications for each relationship. This section also makes recommendations for policy makers in Saudi Arabia, especially in the petrochemical industry, to identify the factors that need improvement and, at the same time, considering the factors which are most important in terms of FDI, and other factors which are not considered to be competitive compared to other locations. Moreover, these findings help policy makers in Saudi Arabia to identify the factors that may be considered risk factors (wasting resources), and also factors that are unimportant to FDI location decisions.

In addition, we used the t-test to identify the importance and competitiveness of location factors in the Saudi petrochemical industry. First, we identified the importance of location factors in the industry. Second, we identified the competitiveness of the location factors in the Saudi petrochemical industry compared to other locations. We found that the most important location factors are cost factors, infrastructure and technological factors, and political and legal factors. The market factors, economic factors, and social and cultural factors all are considered to be unimportant factors for FDI location decision making in the Saudi petrochemical industry. We also found that the competitive factors compared to other locations are cost factors, economic factors, political and legal factors, and infrastructure and technological factors. Market factors and social and cultural factors are all considered to be

uncompetitive compared to other locations for FDI in the Saudi petrochemical industry.

Furthermore, we used Pearson correlation coefficients and Spearman's rank correlation analysis to estimate the relationships between the importance and competitiveness of location factors. We gave a brief interpretation of some of the important relationships found in the correlation analysis. Finally, we tested the research hypotheses using different techniques. First, we tested the importance of location factors for FDI in the Saudi petrochemical industry. We found that the relative importance of the location factors do vary for different factors. Furthermore, cost factors, infrastructures and technological factors, and political and legal factors, were all perceived to be important factors for FDI location decisions in the Saudi petrochemical industry. However, market factors, economic factors, and social and cultural factors were all perceived to be unimportant in relation to FDI location decisions in the Saudi petrochemical industry. Second, we tested the competitiveness of the location factors for FDI in the Saudi petrochemical industry. We found that the competitiveness of the location factors for FDI in the Saudi petrochemical industry does vary compared to other locations. Furthermore, cost factors, economic factors, infrastructure and technological factors, and political and legal factors were all perceived to be competitive factors for FDI in the Saudi petrochemical industry compared to other locations. However, market factors, and social and cultural factors were perceived to be less competitive for FDI in the Saudi petrochemical industry compared to other locations. The next chapter presents the research conclusions and implications.

## **Chapter 7**

## **Chapter 7 : Conclusions and Implications**

### **7.1 Introduction**

This study explored the possibility of indentifying the relative importance of the location factors in relation to a specific industry (Petrochemicals) and a specific country (Saudi Arabia) and the competitive drivers that determine the location decision of FDI inflows compared to other locations. This research has found that the most important location factors that affect the location decisions for FDI in the Saudi Petrochemicals industry are cost factors, followed by political and legal factors and infrastructure and technological factors. An interesting finding of this research is that economic factors, followed by market factors and social and cultural factors which in previous studies in the literature have been found to be important factors for multinational enterprises' (MNEs) location decisions for FDI have not been found in this study to be important for FDI location decisions in the Saudi petrochemicals industry. Another finding of this study is that the most competitive location factors for FDI inflows in Saudi petrochemicals industry are cost factors, political and legal factors, followed by infrastructure and technological factors, and economic factors. This study found that market factors and social and cultural factors are not the key competitive drivers in attracting FDI inflows into the Saudi petrochemicals industry.

The chapter summarises the key empirical findings of this research in respect of FDI location decision in the Saudi petrochemicals industry reported in chapter 5 and discusses the implications of these findings below. The implications of the methodology used in this research are also discussed. This chapter also presents the conclusion of this research including the research problems and questions on FDI location decision in the Saudi petrochemicals industry. Research limitations and future research implications are also discussed in this chapter.

### **7.2 Conclusions of the Study**

This section is organized into sub-sections based on the research results analysis presented in chapter 6 including section 7.2.1 which deals with testing of the location factors importance and competitiveness, and finally section 7.2.2 answers the research questions and hypotheses.



### **7.2.1 Testing the Location Factors**

In this section, we tested the importance and competitiveness of location factors in the location decisions for FDI in the Saudi petrochemicals industry using the t-test. In the first part of this section, we present the test of the importance of all factors including major factors and sub-factors in the Saudi petrochemicals industry. In the second part of this section, we present the test for the competitiveness of the location factors compared to other locations in the Saudi petrochemicals industry, including the competitiveness of the major factors and sub-factors and the competitiveness of sub-factors under each major factor. The most important location factors identified in terms of their relative importance on location decisions for petrochemicals FDI are listed below in decreasing order of importance based on the t-test:

1. Energy costs
2. Return on investment
3. Availability of raw materials
4. Low cost of raw materials
5. Political stability
6. Benign environmental legislation for FDI
7. Access to reliable and cooperative suppliers
8. Level of infrastructure
9. Transportation/logistic costs
10. Availability of factory sites (land)
11. Tax reductions in the host country
12. High industrial concentration (clustering)
13. Economic stability
14. Exchange rates
15. Geographical proximity

The least important location factors among other location factors are listed below in decreasing order of importance:

16. Diplomatic ties with the host country
17. Production site costs (land costs)
18. International trade agreements
19. Legal and regulatory system

20. Market familiarity
21. Local financial support
22. Availability of a well-qualified workforce
23. Labour costs
24. Economic growth
25. Level of competition in the host market
26. Attitude of the local community towards the firm
27. Local employees' loyalty to the firm
28. Market growth in the host country
29. Size of the host market
30. Cultural distance
31. Language

Cost factors, infrastructure and technological factors, and political and legal factors received a mean greater than 3.0, and the t-test showed that they are significantly above 3.0 with regard to other major location factors, which indicates that they are considered to be important location factors for FDI when choosing their location in the Saudi petrochemicals industry. The economic factors, market factors, and social and cultural factors are significantly below 3.0. This indicates that they are considered to be unimportant location factors for FDI location decisions in the Saudi petrochemicals industry.

Most of the cost factors are considered as important factors with a mean of over 3.0, including energy costs, return on investment, the cost of raw materials and transportation/logistic costs. However, factory site costs and labour costs received a mean of less than 3.0, which means that they are considered to be unimportant factors with regard to the location decisions for FDI in the Saudi petrochemicals industry.

All market factors received an average mean of less than 3.0, which indicates that they are considered to be unimportant factors in terms of location decisions in the Saudi petrochemicals industry. These factors included market familiarity, the level of competition in the host market, market growth in the host country and the size of the host market.

Economic stability and exchange rates are considered as important factors in the location decision related to the Saudi petrochemicals industry with a mean of more than 3.0. However,

economic growth and local financial support received a mean of less than 3.0, which means that they are considered to be unimportant factors in terms of location decision for FDI in the petrochemicals industry.

Most of the infrastructure and technological factors, including the availability of raw materials, access to reliable and cooperative suppliers, the level of infrastructure, the availability of factory sites (land), high industrial concentration (clustering) and geographical proximity, are considered to be important factors for the location decision in the petrochemicals industry in that each received a mean of over 3.0. However, the availability of a well-qualified workforce received an average mean of less than 3.0 and is considered unimportant factor in terms of location decisions in the Saudi petrochemicals industry.

Political and legal factors including political stability, tax reductions in the host country and benign environmental legislation for FDI are considered to be important factors for location decisions in the petrochemicals industry, in that they received a mean of more than 3.0. However, despite the location factors, including international trade agreements, diplomatic ties with the host country, and legal and regulatory systems, receiving an average mean of more than 3.0, the t-test shows that they are considered to be unimportant factors in terms of FDI location decisions in the Saudi petrochemicals industry.

All social and cultural factors, including the attitude of the local community towards the firm, local employees' loyalty to the firm, cultural distance and language, are rated below 3.0 and are considered to be unimportant factors in terms of the location decisions in the Saudi petrochemicals industry.

The most competitive location factors were identified according to their relative competitiveness in location decisions for petrochemicals FDI. These are listed below in decreasing order of competitiveness based on the t-test:

1. Energy costs
2. Availability of raw materials
3. Return on investment
4. Cost of raw materials
5. Access to reliable and cooperative suppliers
6. High industrial concentration (clustering)

7. Exchange rates
8. Political stability
9. Availability of factory sites (land)
10. Geographical proximity
11. Production site costs (land costs)
12. Economic growth
13. Benign environmental legislation towards FDI
14. Diplomatic ties with the host country
15. Level of infrastructure
16. Market familiarity
17. Economic stability
18. Transportation/logistic costs
19. Local employees' loyalty to the firm

The least competitive location factors among other location factors based on the mean of competitiveness are listed below in terms of the decreasing order of competitiveness:

20. International trade agreements
21. Local financial support
22. Tax reductions in the host country
23. Language
24. Attitude of the local community towards the firm
25. Level of competition in the host market
26. Legal and regulatory system
27. Labour costs
28. Availability of a well-qualified workforce
29. Cultural distance
30. Market growth in the host country
31. Size of the host market

Cost factors, infrastructure and technological factors, political and legal factors, and economic factors are rated relatively highly among other major location factors with a mean above 3.0, which indicates that they are considered to be competitive location factors for FDI compared to other location factors in the Saudi petrochemicals industry. The social and cultural factors, and market factors were rated relatively low among other major location

factors with mean scores below 3.0, which indicates that they are not considered to be competitive location factors for FDI compared to other location factors in the Saudi petrochemicals industry.

Most of the cost factors are considered to be competitive factors with an average mean of over 3.0, including energy costs, return on investment, the cost of raw materials, production site costs (land costs) and transportation/ costs. However, labour costs received a mean of below 3.0, which indicates that it is considered to be an uncompetitive factor among cost factors for the petrochemicals industry.

Market familiarity is the only factor among the market factors with a mean greater than 3.0 and is considered to be a competitive factor. All other market factors received a mean of less than 3.0, which are considered to be uncompetitive factors in comparison to other location factors in the Saudi petrochemicals industry, including the level of competition in the host market, market growth in the host country and the size of the host market.

Most of the economic factors, including economic stability, economic growth and exchange rates, received an average rating over 3.0 and therefore are considered to be competitive factors compared to other locations in the Saudi petrochemicals industry. Local financial support received a mean greater than 3.0. However, the t-test shows that local financial support is significantly below the mean of 3.0, which indicates that this factor is not a competitive factor compared to other location factors for FDI in the Saudi petrochemicals industry.

Most of the infrastructure and technological factors received a mean greater than 3.0, including the level of infrastructure, high industrial concentration (clustering), access to reliable and cooperative suppliers, the availability of factory sites (land), the availability of raw materials and geographical proximity, which are considered to be competitive factors for FDI compared to other locations in the Saudi petrochemicals industry. However, the availability of a well-qualified workforce received an average mean above 3.0, but the t-test shows that it was not significantly above the mean of 3.0 and therefore is considered to be an uncompetitive factor for FDI compared to other location factors in the Saudi petrochemicals industry.

Some political and legal factors received an a mean greater than 3.0, including political stability, benign environmental legislation towards FDI and diplomatic ties with the host country, and are considered to be competitive location factors compared to other locations in the Saudi petrochemicals industry. Other factors received a score mean above 3.0, including international trade agreements and tax reductions in the host country, but the t-test revealed that they are significantly below the average mean and they are considered to be less competitive factors compared to other location factors in the Saudi petrochemicals industry. The legal and regulatory system factor received an average mean below 3.0 and therefore it is considered to be an uncompetitive factor compared to other location factors in the Saudi petrochemicals industry.

Local employees' loyalty to the firm is the only factor in the social and cultural factors with a significant average mean over 3.0 and therefore it is considered to be a competitive factor compared to location factors in the Saudi petrochemicals industry. However, all other factors related to the social and cultural factors received an average mean significantly below 3.0, including cultural distance from the home country, the attitude of the local community towards the firm and language, all of which are considered to be less competitive factors compared to other location factors in the Saudi petrochemicals industry.

### **7.2.2 The Research Questions and Hypothesis Analysis**

The first research question asks about the relative importance of the six location factors (costs, markets, economics, infrastructure and technology, political and legal, and social and cultural) in the view of the senior executives. To address this question a repeated measurements analysis of variance was performed with regard to the average responses to the items on the questionnaire for the six location factors. Thus, there is a strong evidence that the executives rated the different factors as having significantly different levels of importance in terms of choosing to locate in Saudi Arabia.

The second research question asks about the relative competitiveness of Saudi Arabia with regard to the six factors (costs, markets, economics, infrastructure and technology, political and legal, and social and cultural) in the view of the senior executives. Thus, there is strong evidence that the executives rated the different factors as having significantly different levels of importance in terms of the competitiveness of Saudi Arabia.

The results of the repeated measures ANOVA clearly indicate that the mean importance score for different factors varies (Wilks' lambda = 0.071,  $F = 96.716$  p value < 0.05). The result does not change for alternative measures (Pillai's Trace, Hotelling's Trace and Roy's Largest Root) of this multivariate test statistic.

The results of the repeated measures ANOVA clearly indicate that the mean competitiveness score for different factors varies (Wilks' lambda = 0.887,  $F = 57.851$  p value < 0.05). The result does not change for alternative measures (Pillai's Trace, Hotelling's Trace and Roy's Largest Root) of this multivariate test statistic.

We tested the null hypothesis and found that the mean importance score is actually above 3. Hypothesis H1a predicts that cost factors play an important role for petrochemicals FDI when a company chooses Saudi Arabia for its business. The cost factors have a mean score of 4.039. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.345$ ,  $p = 0.000$ ). Hence, cost factors are perceived to play an important role in FDI location decisions. Therefore, hypothesis H1a is confirmed by the analysis.

Hypothesis H1b posits that market factors are important factors for the location decision for petrochemicals FDI when a company chooses Saudi Arabia as the location for its business. The test shows that market factors have a mean score of less than 3.0. The t-test found that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.244$ ,  $p = 0.000$ ). Thus, market factors are not perceived to be important. Therefore, hypothesis H1b is not supported by the results and the analysis.

Hypothesis H1c posits that economic factors are important factors for petrochemicals FDI when a company chooses Saudi Arabia for its business location. Economic factors have a mean score of 3.1369. The t-test shows that this is statistically not significantly ( $p > 0.05$ ) more than 3.0 ( $t_{41} = 1.159$ ,  $p = 0.253$ ). Hence, the economic factors are not perceived to play an important role in FDI location decisions. Therefore, hypothesis H1c is not supported by the analysis.

Hypothesis H1d hypothesizes that infrastructure and technological factors are important factors for petrochemicals FDI when a company chooses Saudi Arabia for its business

location. Infrastructure and technological factors have a mean score of 3.9082. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 16.247$ ,  $p = 0.000$ ). Hence, infrastructure and technological factors are perceived to play an important role in FDI location decisions. Therefore, hypothesis H1d is confirmed by the analysis.

Hypothesis H1e hypothesizes that political and legal factors are important factors for petrochemicals FDI when a company chooses Saudi Arabia for its business location. Political and legal factors have a mean score of 3.7024. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 10.782$ ,  $p = 0.000$ ). Hence, political and legal factors are perceived to play an important role in FDI location decisions. Therefore, hypothesis H1e is confirmed by the result.

Hypothesis H1f posits that social and cultural factors are important factors for petrochemicals FDI when a company chooses Saudi Arabia for its business location. Social and cultural factors have a mean score of less than 3.0. The t-test found that the mean score is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -7.896$ ,  $p = 0.000$ ). Thus, social factors are not perceived to be important factors. Therefore, hypothesis H1f is not supported by the result.

The second part of the results of the t-test is for testing whether the competitiveness of FDI location factors is significantly better than other countries.

Hypothesis H2a hypothesizes that cost factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Cost factors have a mean competitiveness score of 3.9206. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.345$ ,  $p = 0.000$ ). Hence, cost factors are perceived to be significantly more competitive in the country than in other countries in the region. Therefore, hypothesis H2a is confirmed by the result.

Hypothesis H2b posits that market factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Market factors have a mean competitiveness score of 2.5536. The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -5.361$ ,  $p = 0.000$ ). Hence, the market factors are perceived to be significantly less competitive in the country than in other countries in the region. Therefore, hypothesis H2b is not supported by the analysis.



Hypothesis H2c posits that economic factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Economic factors have a mean competitiveness score of 3.7024. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 8.193$ ,  $p = 0.000$ ). Hence, economic factors are perceived to be significantly more competitive in the country than in other countries in the region. Therefore, hypothesis H2c is supported by the analysis.

Hypothesis H2d hypothesizes that infrastructure and technological factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Infrastructure and technological factors have a mean competitiveness score of 3.8571. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 14.571$ ,  $p = 0.000$ ). Hence, these factors are perceived to be significantly more competitive in the country than in other countries in the region. Therefore, hypothesis H2d is confirmed by the analysis.

Hypothesis H2e posits that political and legal factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Political and legal factors have a mean competitiveness score of 3.4286. The t-test shows that this is significantly ( $p < 0.05$ ) more than 3.0 ( $t_{41} = 5.268$ ,  $p = 0.000$ ). Hence, these factors are perceived to be significantly more competitive in the country than in other countries in the region. Therefore, hypothesis H2e is confirmed by the analysis.

Hypothesis H2f hypothesizes that social and cultural factors in Saudi Arabia are more competitive for petrochemicals FDI in Saudi Arabia compared to other locations. Social and cultural factors have a mean competitiveness score of 2.7976. The t-test shows that this is significantly ( $p < 0.05$ ) less than 3.0 ( $t_{41} = -2.421$ ,  $p = 0.020$ ). Hence, these factors are perceived to be significantly less competitive in the country than in other countries in the region. Therefore, hypothesis H2f is not supported by the findings of this study.

Finally, this research identified the importance of location factors on FDI location decision in the Saudi petrochemicals industry. The result shows that cost factors, infrastructures and technological factors, and political and legal factors all play an important role in relation to FDI location decision in the Saudi petrochemicals industry. However, market factors, economic factors, and social and cultural factors are all considered unimportant factors for

FDI location decision in the Saudi petrochemicals industry. The results of this research also identified the competitiveness of location factors for FDI in the Saudi petrochemicals industry. The results show that the cost factors, economic factors, infrastructures and technological factors, and political and legal factors are competitive factors for FDI compared to other location in the Saudi petrochemicals industry. However, market factors, and social and cultural factors are all considered as uncompetitive factors for FDI in the Saudi petrochemicals industry.

### **7.3 Research Limitations**

The research has identified some important findings of the importance and competitiveness of FDI location factors in the Saudi petrochemicals industry. However, there are some limitations of this research. First, the Saudi government has very recently embarked on investment reforms in different sectors of the economy in order to attract significant FDI inflows into the country. Thus, this research should have looked at other sectors of the economy instead of heavily concentrating only on FDI flows to the Saudi Petrochemicals industry. Second, this study was based on a specific period of time and only gives critical perspective of FDI flows into the Saudi petrochemicals industry. Therefore, to enhance the robustness of this work and to validate it, it would be appropriate that a future research of FDI location factors in Saudi Arabia should take into consideration the changing environment and location factors that best fit the situation at the time. Third, the research variables for this study are too large in number and the sample size is relatively small in size. Therefore, it was difficult to apply a more sophisticated conventional statistical analysis. Fourth, the research has limited geographical focus as it focuses only on FDI located in Saudi Arabia. Thus, the generalisation of these results to other countries remains to be established. Finally, the research has a limited sectoral focus as the population of this research is only from the petrochemicals industry. Therefore, the findings of this research can only be used to explain the location factors' importance and competitiveness for FDI in the petrochemicals industry and may not be representative of other sectors in Saudi Arabia, as well as other sectors in other countries.

### **7.4 Future Research Implications**

Given that this research area has not been covered extensively in the past, the results and conclusions of this study therefore constitute a significant platform for future work in this area. It thus gives the opportunity for scholars to further extend this work by examining the

relative importance of the location factors and the competitive drivers that determine FDI location decisions in other industries and in other countries. Hence, this research opens up several avenues for future research on FDI location decisions as follows. First, a comparison between the findings of this research on FDI location factors' importance and competitiveness for FDI in the Saudi petrochemicals industry to other sectors in Saudi Arabia as well as petrochemicals industry and other sectors in other countries would be useful and significant. Second, a future research study could extend this study to other industries rather than only the petrochemicals industry in Saudi Arabia. However, the researcher should take into account the need for modifying and adding some location factors to fit a specific industry. Third, it would be interesting to study the same location factors in terms of their importance and competitiveness from a dynamic perspective in order to verify the degree to which the location factors vary over time. Finally, it would be useful if future research and analysis of FDI location factors is done utilizing the same framework used in this study but with a much larger sample size and apply a more sophisticated statistical analysis to validate the findings of this research.

### **7.5 Research Contributions**

The study derives its importance from its coverage of an area in which there are relatively few studies in the context of developing countries. We notice that developing countries in general, and Saudi Arabia in particular, have a great need for this kind of study. As far as the researcher is aware, this study is the first of its kind in Saudi Arabia. We therefore hope that it will be the starting point for subsequent studies and will provide some useful insights, policy implications and recommendations for the Saudi Arabian government, international firms and the international business community.

Reviewing the Kingdom of Saudi Arabia's economic reform policies and private sector-led investment initiatives, its legal, monetary, political and social issues and business procedures that enhance or delay FDI inflows, this study has found that there are important steps for local and foreign investors, as well as for the Saudi government to understand in terms of the major obstacles that investors face in Saudi Arabia. It also provides the Saudi government with a clear picture of the strategic steps that should be taken to attract more FDI into the country.

As the global demand for FDI grows, and the supply of FDI contracts, there is an

overwhelming need to understand better the effect of location factors in respect of FDI location decisions and how these factors shape the final location destination for FDI. The findings of this study are critical to the international development community and the business community alike, in order to understand better the complexity of MNEs' location decisions.

This research builds on the existing literature and makes the following contributions in understanding FDI location factors in the Saudi petrochemicals industry. This study contributes to the literature on FDI location decisions by advancing a new methodology that gives an in-depth analysis and a clear approach to overcome the general classifications of Dunning's OLI paradigm and Porter's determinants of competitive advantages. This research also overcomes general approaches used in literature when analysing the competitiveness of a location without paying attention to the different needs of different industries. This research helps to develop and improve the understanding of why Saudi Arabia attracts significant FDI in the petrochemicals industry, what location factors are important to the industry and in which Saudi Arabia is competitive. The findings of this study are important not only to the policy makers in Saudi Arabia, but also to the policy makers in other locations wishing to attract FDI in this industry.

Finally, this study has advanced the knowledge of the character and variety of FDI location factors, their role in FDI location decisions and their function in developing the competitiveness of locations. It has refined a robust method for the measurement of location factors for a specific industry that can be easily applied to other locations and industries. It has provided a quantitative, theoretical, informed empirical analysis that offers a basis for strategy development and policy formulations.

## **7.6 Summary**

In this chapter, we introduced the conclusions of the study, the results of the descriptive research, the ranking of the location factors, the importance/competitiveness analysis of the Saudi petrochemical industry, the testing of the location factors, the correlation analysis of the research questions, and hypothesis analysis, research limitations and future research implications. We found that the most important factors that affect the location decisions for FDI in the Saudi petrochemical industry are cost factors, followed by political and legal factors and infrastructure and technological factors. An interesting finding of this research is

that economic factors, followed by market factors and social and cultural factors, which in previous studies in the literature have been found to be important factors for multinational enterprises' (MNEs) location decisions for FDI, have not been found in this study to be important for FDI location decisions with regard to the Saudi petrochemical industry. Another finding of this study is that the most competitive location factors for FDI inflows in terms of the Saudi petrochemical industry are cost factors, political and legal factors, followed by infrastructure and technological factors, and economic factors. This study found that market factors and social and cultural factors are not the key competitive drivers in attracting FDI inflows into the Saudi petrochemical industry. Our results conclude that the relative importance of location factors will change over time in particular countries, as the economic environment in the host country, and globally, changes. Finally, our result also conclude that globalization would have effects on FDI location factors, as MNEs tend to use a wide range of policies when evaluating the host country with regard to potential investment, and the relative importance of FDI location factors has changed as a result of globalization. Moreover, the importance of traditional location factors has not diminished due to globalization, but their importance in terms of FDI location decisions has declined. For example, the market size of the host country is one of the most important location factors in the opinion of many scholars. However, this factor has diminished in importance in terms of FDI location decisions, and new factors such as cost factors have become more important as a result of globalization.

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## Appendices

### The survey

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#### *Survey*

### **Location Motivations for Foreign Direct Investments**

#### **The Saudi's Petrochemicals Industry**

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Dear Sirs/Madam,

I am PhD student at Brunel University, Business School, U.K., currently writing my thesis in International Business Administration with SAGIA Corporation. The purpose of this study is to identify the location motivations for foreign direct investments in the Saudi's Petrochemicals industry and the competitiveness of Saudi Arabia compare to other markets in the region.

I would be most grateful if you give me your precious time and answer a number of questions in this survey. Given the amount of foreign firms present in Saudi Arabia and the important of your view, your replay is of great importance to me, your firm, and to the policy makers in Saudi Arabia. After completing the study, we will send you a summary of the findings and recommendations. I insured you that your name and your firm information are anonymous as it not been asked for in the survey for your privacy and all the information you provided will be confidential.

I am grateful for your assistance. Please do not hesitate to ask me in case of any questions.

Thank you in advance!

Fawaz Binsaeed

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UNIVERSITY  
WEST LONDON



Please mark the appropriate answers in the boxes below. Please choose only one answer for each question.

**Part 1: the Relative of Importance of Location Factors**

Please rate the following location factors based on its importance on your decision to locate your business in Saudi Arabia

With 1 =Very Unimportant, 2 = Unimportant, 3= Neutral, 4 = Important, 5= Very Important

**A. Cost Factors**

**1: Factory site costs (land costs)**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**2: Labour costs**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**3: Transportation/ logistic cost**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**4: Low cost of raw materials**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**5: Return on investment**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**6: Energy costs**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**B. Market factors**

**7: Large size of host markets**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important



**8: Market growth in host market**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**9: Level of competition in host market**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**10: Market familiarity**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**C. Economic factors****11: Economic stability**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**12: Economic growth**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**13: Exchange rate**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**14: Local financial support**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**D. Infrastructure and technological factor****15: Level of infrastructure (ports, roads, airports est.)**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**16: High industrial concentration (Clustering)**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**17: Availability of well quality of work force**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**18: Access to reliable and corporative suppliers**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**19: Availability of factory site( land)**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**20: Availability of raw materials**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**21: Geographical approximately**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**E. Political and legal factors****22: Political stability**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**23: International trade agreements**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**24: Tax reduction in host country**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**25: Benign environmental legislation towards FDI**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**26: Diplomatic tie with host country**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

**27: Legal and regularity system**

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

### F. Social & Cultural factors

#### 28: Cultural distance from home country

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

#### 29: Attitude of the local community toward the firm (Saudi Arabia)

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

#### 30: Local employees' loyalty to firm

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

#### 31: Language

1:Very Unimportant	2:Unimportant	3:Neutral	4:Important	5:Very Important

### *Part 2: The competitiveness (attractiveness) of Saudi Arabia as place for investment compare to other locations in the region.*

Please rate the competitiveness (attractiveness) of Saudi Arabia on each location factors as a place for investment compare to other markets in the region.

With 1= Much Worse, 2= Worse, 3 = Same, 4 = Better, 5= Much Better

#### A. Cost factors

##### 1: Factory site costs (land costs)

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

##### 2: Labour costs

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

##### 3: Transportation/ logistic costs

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

##### 4: Low cost of raw materials

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

##### 5: Return on investment

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**6: Energy costs**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**B. Market factors****7: Large size of host markets**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**8: Market growth in host market**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**9: Level of competition in host market**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**10: Market familiarity**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**C. Economic factors****11: Economic stability**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**12: Economic growth**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**13: Exchange rate**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**14: Local financial support**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**D. Infrastructure and technological factors****15: Level of infrastructure (ports, roads, airports est.)**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**16: High industrial concentration (Clustering)**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**17: Availability of well qualify of work force**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**18: Access to reliable and corporative suppliers**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**19: Availability of factory site (land)**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**20: Availability of raw materials**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**21: Geographical approximately**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**E. Political and legal factors****22: Political stability**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**23: International trade agreements**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**24: Tax reduction in host country**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**25: Benign environmental legislation towards FDI**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**26: Diplomatic tie with host country**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

**27: Legal and regularity system**

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

## F. Social & Cultural factors

### 28: Cultural distance from home country

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

### 29: Attitude of the local community toward the firm (Saudi Arabia)

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

### 30: Local employees' loyalty to firm

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

### 31: Language

1: Much Worse	2: Worse	3: Same	4: Better	5: Much Better

Thank you for your time and support and hope you and your firm a great investment future in Saudi Arabia!

Best regards,

Fawaz Binsaeed

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## Saudi General Investment Authority (SAGIA) Letter



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April 19, 2006

TO WHOM IT MAY CONCERN

### Letter Under Reference

Dear Madam/ Sirs,

At the outset we would like to introduce ourselves the Saudi Arabian General Investment Authority (SAGIA) are the government official IPA and acting as gate way to investment in Saudi Arabia.

One student named Mr. Fawaz Bin Saeed approaches us for assisting him towards completion of his Doctor of Philosophy degree. His research title is: "Location Motivations for Foreign Direct Investment in Saudi Arabia". This research is close to SAGIA modus operandi and related to FDI derivatives. We have carefully examined his formal Research Proposal and found it very interesting and promising to SAGIA's balance business strategy.

We do hereby reaffirm that we will provide him with all types' of assistance from SAGIA including primary sources of data that derived from direct SAGIA research and the other national and international secondary data.

Best regards,

Dr. Awwad S. Al Awwad  
Deputy Governor for Investment Affairs