Brunel University

Headquarter-Subsidiary Relationship: An Empirical Study in the Country of Kingdom of Saudi Arabia

A thesis submitted for the degree of Doctor of Philosophy

By

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ABSTRACT

This thesis is an empirical investigation into the control mechanisms of headquarters (HQ) exercised over their subsidiaries and is conducted with the help of primary data collected from 147 Multinational Enterprises (MNEs) operating in the kingdom of Saudi Arabia (KSA). Following on from the literature review, this study proposed that the headquarters–subsidiary mechanisms could be linked to agency theory (with the 'classical' principal–agent relationship as its core) and to resource dependency theory (implying relations between the subsidiary and other partners based on interdependence). Our results show that the agency and resource dependency mechanisms are indeed used side by side and complementary to each other to exercise control.

The Headquarters–subsidiary model used in this study has four components of control in it: personal centralised control (PCC), bureaucratic formalised control (BFC), output control (OUT) and informal control (INFO). These controls (as an agency mechanism) provide a solid platform on which other mechanisms can be built. The complementarities of these control mechanisms may be linked to earlier studies that show that successful organisations combine tight control with more open, informal and flexible information and communication exchanges. A focus that bends too much towards formal control or too much towards informal control may threaten a company's existence. Our research provides an empirical explanation on this premise.

The study found that Anglo-Saxon countries heavily use impersonal types of control mechanisms, specifically bureaucratic formalised control and output control. Compared to the US, the level of control in Oriental subsidiaries is less; or, put differently, the latter enjoy a greater degree of autonomy than US subsidiaries. Once a unit is operational, Oriental parent companies grant many more degrees of freedom than US parent companies. When we deconstructed the results for Europe, comparing German and British MNEs as a group to Oriental MNEs, we found that the latter exercised greater overall control. With regard to output and bureaucratic control, we found that both US MNEs and those from the Middle East exercised greater control than Oriental MNEs.

The study drew the aspect of international transfers into the picture and investigated the role of expatriates in controlling subsidiaries. It has been recognised that expatriates can form both direct and indirect means of control. In executing direct types of control, expatriates directly supervised decisions taken at subsidiaries. The study found that this role is particularly strong in MNEs from Asia-Pacific countries and German MNEs, and is much less important in subsidiaries of Anglo-Saxon MNEs.

We found that subsidiaries of German MNEs experienced a very high level of control; indeed, the only control mechanism that German MNEs did not implement among subsidiaries was control by socialisation and networks. German and Japanese MNEs are perhaps more rooted in business systems concerned with the management of issues internationally than American or British companies. The second group reflected that Anglo-Saxon countries heavily used impersonal types of control mechanisms, specifically bureaucratic formalised control and output control. When we deconstructed the results for Europe, comparing German and British as a group to Oriental MNEs, reveals the latter as possessing greater overall control. With regard to output and bureaucratic control, we found that both US MNEs and those from the Middle East exercised greater control than Oriental MNEs.

Headquarters can strategize to implement control by the informal and social means method by positioning a sizeable number of managers from the home country within the subsidiary. Indeed, our results revealed this as true. It seems that their presence has positive and significant effects on most levels of control: personal, output, bureaucratic and informal. Contrary to this, however, we found that the presence of a sizeable number of expatriates (as opposed to headquarters managers) leaded to greater autonomy in subsidiaries.

In terms of strategy and structure, we indicated that the three distinct organisational models identified for MNEs could be recognised in our study. Control INFO was significantly, positively related to global strategy, multi-domestic and transnational strategy compared with PCC, BFC, and OUT control mechanism. Conversely, BFC had a significant, negative and weak relationship with global strategy and transnational strategy, and no relationship with multi-domestic strategy. In general,

however, we can deduce the existence of a tendency for global, transnational and multi-domestic MNEs to use indirect control mechanisms and informal control suited to their integrated organisational models to a larger extent.

Our results confirmed previous studies in the field of organisation theory, in the sense that size is an important explanatory factor for differences in control mechanisms. In contrast to these studies, however, a dominant effect was found only for the indirect control mechanisms. Few detailed studies that have investigated the effect of size on the two indirect control mechanisms; in actuality, most previous studies have focused on the direct control mechanisms (personal centralised control and bureaucratic formalised control) only. As such, our study reconfirmed the importance of the variable size, but concluded that it is mainly associated with higher levels of indirect control. The age of the subsidiary does not seem to have a significant influence on the type of control mechanism that is exercised by headquarters towards a particular subsidiary.

Our study investigated the importance of various MNE characteristics in an attempt to explain performance differences between MNEs. The advantage of this study is that many of the characteristics that have been identified in previous literature as being important factors influencing performance were included in our research design, in order for us to be able to answer the other research questions. This therefore allowed us to assess the relative importance levels of different variables in explaining performance differences between companies, such as: country of origin, industry, size, interdependence, local responsiveness, knowledge flows, and the strategy and structure of the MNEs.

DEDICATION

This doctoral research effort is dedicated to my small family: Najla, Abdullah, Semsem and Rayanah.

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DECLARATIONS

I declare that, to the best of my knowledge, no portion of the work referred to in this thesis has been submitted in support of an application for another degree, or qualification, to any other university, or institute of learning. Some of the material contained here has been presented in the form of the following:

Papers published

1- Alharbi, J., & Singh, S. (2013). Knowledge transfer, controls, and performance of MNE subsidiaries in the Kingdom of Saudi Arabia. Foresight Journal, 15(4), 294-306.

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2- "Control Mechanisms of Multinational Enterprises (MNEs) over their Subsidiaries: An analysis for the country of Saudi Arabia'', paper submitted and presented at Brunel Business School, PhD Doctoral Symposium, 2012, Brunel University.

3- " Control Mechanisms of Multinational Enterprises (MNEs) over their foreign Subsidiaries'', Paper submitted and presented at Brunel Business School, PhD Doctoral Symposium, 2013, Brunel University.

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Paper under preparation

1- "MNEs and their Control Mechanisms: A study in the country of Saudi Arabia'' paper under review to be submitted to a journal.

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LIST OF ABBREVIATIONS

KSA	Kingdom of Saudi Arabia
MOHE	Ministry of Higher Education
MNEs	Multinational Enterprises
HQ	Headquarters
PCC	Personal Centralized Control
BFC	Bureaucratic Formalized Control
OUT	Output Control
INFO	Informal Control
PER	Perceived Performance
INTRA	Intra Company Purchase and Sale
INTER	Local presence and Responsiveness
INSS	International Strategy and Structure
PCN	Parent Country National
HCN	Host Country National
TCN	Third Country National
SPSS	Statistical Package for Social Science
M	Mean
Sig	Significant
PCA	Principal Component Analysis
ANOVA	Analysis of Variance
VIF	Variance Inflation Factor
α	Cronbach's alpha
x^2	Chi Square
DF	Degree of Freedom

CHAPTER ONE INTRODUCTION

1.1 Introduction

This research investigates control mechanisms in multinational enterprises (MNEs). The current study is a logical consequence of extant empirical research carried out in the field of international management (O'Donnell, 2000; Gupta & Govindarjan, 2000; Chang & Taylor, 1999; Nohria & Ghoshal, 2006; Birkinshaw & Hood, 1998; Birkinshaw, Hood & Young, 2005; Yamin & Andersson, 2011). It focuses on the Kingdom of Saudi Arabia (KSA) not only due to the growing role played by KSA (as an attractive and emerging market) but also due to the fact that previous, large-scale empirical studies have mainly studied Anglo-American, Japanese, Korean or Malaysian headquarters' perspectives (see, for example, Edwards, Ahmad & Moss, 2002; Gammeltoft, Barnard & Madhok, 2010; Park, Mitsuhashi & Fey, 2003; Rugman & Oh, 2008).

The researcher is enthused by the work of Edstrom and Galbraith (1977b), who analysed the international transfer of managers in four MNEs. One of these MNEs transferred a far greater number of managers than its direct competitors, despite the organisations being approximately the same size, operating in the same industry and having nearly identical organisational charts. The authors hypothesised that this company used the international transfer of managers to develop a process of control based on socialisation and informal communication[1].

Since the publication of their research, and especially during the last decade, the number of studies on both control mechanisms and international transfers within MNEs has increased considerably (Persson, 2006). Concurrent with developments in general management theory (the learning organisation, the network organisation, the 'end of bureaucracy' and the firm as a brain), the general idea is that more and more MNEs are (or should be) moving towards becoming loosely coupled network organisations (Doz & Prahalad, 2007; Pérez-Nordtvedt et al., 2010). In such organisations, the management of human resources is of paramount

[1] Wiechmann (1974) mentions that people transfers (including for long-term assignments) enhance corporate acculturation, which is seen as an alternative to centralisation in integrating multinational marketing activities. The work of Edstrom and Galbraith (1977b) is the main source that is consistently cited in publications on control/coordination in MNEs.

importance (Wang et al., 2009), and the emphasis on coordination is said to shift from formal to more informal and subtle mechanisms (Harzing & Noorderhaven, 2009).

Within this informal or subtle type of coordination, the international transfer of managers is often claimed to play a key role (Bartlett & Ghoshal, 2002; Roth, & O'Donnell, 1996). However, the role of international transfers in this type of coordination has little empirical evidence. Most authors simply refer to Edstrom and Galbraith (1977b) to substantiate their arguments. Therefore, it appears to be a worthy subject for further empirical investigation, especially in an area such as the Middle East (Mellahi, Demirbag & Riddle, 2011; Soltani & Wilkinson, 2011).

It is important to note that the use of international transfers should not be considered in isolation: in spite of its acclaimed importance, it is only one of the many ways to control MNEs. This thesis provides a broader picture by considering a variety of control mechanisms, exploring their application in various circumstances and relating them to other MNE characteristics in configuration analysis.

1.2 Aim and objectives of the study

As stated, the purpose of this study is to carry out an empirical examination of the types and degrees of control exerted by MNEs on their foreign subsidiaries located in KSA. Applying agency theory[2] and organisational theory, the study conceptualises and tests the types and degrees of control imposed by headquarters (HQs) that are located in a relatively stable environment on their affiliated entities in KSA. A thorough review of the literature, as well as analyses of similar conceptual setups in different empirical contexts, will help in developing an adequate framework and subsequently deriving hypotheses. It should also help to reveal, through empirical testing, whether and to what extent certain structural and environmental properties moderate the types and degrees of control that are exercised by important organisations to coordinate their actions, interests and goals with their affiliated entities abroad. The main objective of the present work, therefore, is to apply a theoretical set of propositional arguments to a new empirical context in order to examine and contrast these arguments' predictive ability and limitations. The study aims to contribute not only to the process of theory development through theory testing but also to our understanding of the

[2] For an overview, see Jensen and Meckling (1976), Kim and Kim (2005) and Mudambi and Pedersen (2007).

control that MNEs use to monitor their affiliated entities, as well as the circumstances that influence the usage of control and to what extent the subsidiary will have more power. The contribution of this study is based on the development of a comprehensive theoretical framework that examines the factors that focus on HQ–subsidiary relations in MNEs operating in KSA. To the best knowledge of the researcher, this is the first time such a theoretical framework has been tested empirically and theoretically in the context of KSA. Many previous studies have focused on MNEs from one country of origin (usually the US). The present study explicitly addresses this limitation by including MNE HQs in a range of different countries.

1.3 Research questions

When considering the research opportunities related to control mechanisms in MNEs, several questions come to mind. First, is the informal and subtle type of control described above the control mechanism of the future, as it might be thought of as a rather expensive and indirect way to coordinate a company? Are there certain companies or parts of companies (subsidiaries) that would be better managed with more direct and possibly less expensive control mechanisms? More specifically, is it possible to distinguish the characteristics of both HQs and subsidiaries of MNEs that might explain the differences in the application of control mechanisms between and within MNEs? This leads to the first research question:

Which characteristics of the HQs and subsidiaries of MNEs could explain the differences in the types of control mechanisms that are used by HQs towards their subsidiaries?

In the international management literature, the topic of control has been a source of considerable discussion, which has resulted in a large number of publications on HQ–subsidiary relationships. Most of these studies have been limited in the sense that they have considered only one or two control mechanisms and/or a limited number of predictor variables (HQs and subsidiary characteristics). Further, many previous studies have focused on MNEs from one country of origin (usually the US). The present study explicitly addresses these limitations by identifying and including a full range of control mechanisms and predictor variables. In addition, MNE HQs in a range of different countries and subsidiaries located in one country are included in the empirical part of this study. Finally, some variables that have previously been overlooked in previous research (like the industry in which the

MNE operates) are used as predictor variables. As indicated above, the study focuses on international transfers as an informal and indirect type of control mechanism.

The second research question is related to the specific way that MNE subsidiaries are controlled. The contrast between the general acceptance of the role of expatriation, as an informal control mechanism, and the lack of solid empirical confirmation of this relationship requires further quantitative measurement. However, expatriates could very well play a role in directly controlling subsidiaries, and there might be alternatives to international transfers in achieving a high level of informal control in MNE subsidiaries. Therefore, the second research question is formulated as follows:

What role do international transfers play in controlling MNE subsidiaries? Are there alternative ways to achieve a high level of informal control in MNE subsidiaries?

To date, very few studies in the international management literature have tried to derive and test the configurations of MNEs. These studies (e.g. Nohria & Ghoshal, 2006; Roth & O'Donnell, 1996) have focused on a limited number of variables. Bartlett and Ghoshal (2002) performed the most extensive configuration-type analysis. Their study, however, was based on case studies of only nine MNEs. The present study provides a valuable extension in this respect. An important assumption of configuration analysis is that companies that show higher levels of internal consistency (that is, they conform to the ideal-type configurations more closely) should outperform companies with lower levels of consistency. In addition, performance implications (however they are measured) are the essence of most, if not all, research in the field of management studies. Since a company's performance is influenced by a multitude of different factors, the final research question is formulated in a rather general way:

Which of the MNE characteristics included in this study could be used to explain differences in performance between MNEs?

Many of the characteristics identified in previous literature as being important factors influencing performance are included in the present study's research design. This, therefore, allows the study to assess the relative importance of variables such as country of origin, industry, size, strategy of the firm and knowledge flows in explaining performance differences between MNEs.

1.4 The context of the study

The Middle East has garnered its fair share of coverage in academic literature and current news. However, there has been a focus on political chaos and conflicts in the region (Kamalipour, 1997). Judging by the negative news coverage showing the Middle East as a region in continuous turmoil, one would expect it to be an inconsequential market for MNEs; regardless, the Middle East is home to many of the world's largest MNEs – most of which enjoy sustained profitability from their operations in the region (Kavoossi, 2000). In actual fact, the list of MNEs operating in the region resembles a roster of the Fortune 500. In many sectors, MNEs have succeeded in establishing themselves as the dominant players, thereby controlling a significant share of the market in almost all Middle Eastern countries (Mellahi, Demirbag & Riddle, 2011). Over the past two decades, in their quest to join the World Trade Organization, generate jobs and upgrade their technological capabilities, the Middle Eastern governments have found themselves with few alternatives but to open their doors further to MNEs (Dasgupta, Keller & Srinivasam, 2002; Mellahi, Demirbag & Riddle, 2011). In the case of KSA, this is particularly relevant.

The Saudi Arabian state was first established in the central region of the Arabian Peninsula in the early 18th century. Modern Saudi Arabia was founded in 1932 by King Abdul Aziz Bin Abdul Rahman Al-Saud. On 23 September 1932, the country was named the Kingdom of Saudi Arabia (KSA). The nation experienced remarkable growth over a short period, spurred by the discovery of oil in the 1930s.

KSA covers four-fifths of the Arabian Peninsula, approximately 865,000 square miles; this is nearly six times the area of the British Isles, four times the area of France and about one-third of the area of the US. It is situated in close proximity to three continents (Asia, Africa and Europe), as it covers part of West Asia and is parallel to East Africa. It is bounded to the north by Jordan, Iraq and Kuwait; to the east by the Gulf, Bahrain, Qatar and the United Arab Emirates; to the south by Oman and Yemen; and to the west by the Red Sea (Ministry of Information, 2009).

Globally, KSA is ranked fourth for fiscal freedom, has the seventh most rewarding tax system and has the seventh freest labour market, according to the World Economic Forum (2008). Furthermore, KSA is one of the world's 25 largest economies and is the largest economy in

the Middle Eastern region (UNCTAD, 2011). It is one of the world's fastest growing countries: per capita income was forecast to rise from $20,700 in 2007 to $33,500 by 2020 (Ibid). In addition, KSA is the world's fastest reforming business climate (Ibid). As the largest free market in the Middle East, KSA represents 25% of total Arab GDP, has 25% of the world's oil reserves, is ranked thirteenth out of 181 countries for the overall ease of doing business, is ranked seventh in terms of the ease of paying taxes and is the largest recipient of foreign direct investment in the Arab world (World Bank, 2011). Owing to the increasing foreign investment in KSA, the study of foreign subsidiaries in KSA is important both in its own right and because of the possible generalisations that could be made for other foreign subsidiaries located in the Gulf or Middle Eastern region.

1.5 Structure of the thesis

It is difficult to compare many of the studies on control mechanisms in MNEs and the role of international transfers as a control mechanism, as the researchers use very different definitions, concepts, classifications and operationalisations. In order to benefit from previous research and to be able to extend previous studies, the thesis first provides an extensive literature review of the different kinds of organisational control mechanisms; of the environment, strategy and structure of MNEs; and, finally, of the subject of international transfers within MNEs. These three building blocks have largely developed as separate fields of research, usually broadly referred to as organisation studies, international management and expatriate management, respectively. Various authors have urged international management scholars to pay more attention to available organisation theory[3], and research in the field of expatriate management is often claimed to lack an integrative and strategic perspective[4] (see, for example, Spencer & Gomez, 2010; Adler & Hashai, 2007). This thesis, therefore, also plays an integral role in combining these different fields of research. As discussed above, the empirical part of the study investigates the application of control mechanisms by HQs from 22 different countries with subsidiaries located in KSA.

- Chapter 1 presents the literature review of the three building blocks of this study: control mechanisms, MNEs and international transfers.

[3] See, for example, Scott (1961) for an overview.
[4] Later, the thesis will discuss the limitations of most research in the field of international transfers.

- Chapter 2 combines these three building blocks into the three research questions identified previously. It focuses on control mechanisms in MNEs and puts special emphasis on the role of the subsidiary and its performance in this respect.
- Chapter 3 gives the background of the theories that are implemented in the study, develops a framework for the research using the most appropriate model, reviews the variables in the HQ–subsidiary relationship and develops the hypotheses of the study.
- Chapter 4 details the research design and methodology. It discusses the research procedures and describes the selection of the research method and the operationalisation of variables.
- Chapter 5 explains the data management, data screening prior to analysis, demographic characteristics, factor loading and descriptive analysis.
- This is followed by data analysis and results in chapter 6.
- The literature review and the results obtained from this study are linked in chapter 7.
- In chapter 8, the thesis concludes by explaining the study's contributions, implications and limitations. It also offers future research recommendations and directions.

1.6 Chapter Summary

This chapter provides the background of this study and details of the motivation for conducting the research, as well as the aim and objectives of the thesis. Also, it presents a brief overview of the research methodology applied in this study in order to meet the research aim and objectives. Although the types and degrees of control exerted by MNEs on their foreign subsidiaries have been investigated by many researchers worldwide, there was a gap in the research.

This thesis makes a contribution to the international business literature by developing an integrative framework that examines the different types of factors affecting headquarters–subsidiary relationships. The study would be a valuable contribution to our understanding of the different mechanisms of headquarters–subsidiary relationships, with particular reference to the culturally rich Middle Eastern region. Thus, the main aim of this research is to assess the different types of control that headquarters can have over subsidiaries in MNEs and how these can affect the headquarters–subsidiary relationship, as well as the subsidiary's performance. The empirical study has been carried out in a new cultural context of KSA.

CHAPTER TWO LITERATURE REVIEW

As indicated in the introduction, this study focuses on control mechanisms in MNEs and puts special emphasis on the role of the subsidiary and its performance in this respect. This first section, therefore, reviews the literature about control mechanisms, MNEs and international transfers.

2.1 Control mechanisms in organisations

In the discussion on the control mechanisms in MNEs, there are some fundamental questions that need answering, including: what is control? What is an organisation? What forms of control can be distinguished within organisations? To answer these questions, the differences between control and coordination are first examined. Subsequently, it is found that coordination is one of the major foundations of economic (organisation) theory. In relation to this, this section discusses different theories that claim that coordination can occur through either markets or organisations. Organisational theorists (e.g. Nohria & Ghoshal, 2006; Martinez & Jarillo, 2005), however, point out that different coordination or control mechanisms can be used within an organisation. Unfortunately, virtually every scholar has his or her own classification of control mechanisms. Therefore, these different approaches are discussed and synthesised into a coherent classification of control mechanisms based on the related literature.

2.1.1 Control and coordination definitions

In this section, we try to give a definition of control and coordination and if possible make a distinction between these two concepts. In order to do this, we include citations of a number of authors who tried to define control or coordination, and their relation to one another;

2.1.2 Control

> "All formal organisations are concerned with how to channel human efforts towards the attainment of organisational objectives. The organisation employs a set of instruments and processes designed to influence the behaviour and performance of organisational members, groups, sub-units and/or the organisation as a whole towards goal congruence and goal achievement. The sets of instruments and processes are designated herein as either control systems or control instruments." (leksell and Lindgren 1982).

> "Control within organisations is a process whereby management and other groups are able to initiate and regulate the conduct of activities so that their results accord with the goals and expectations held by those groups." (Child, 1984:136).

> "Control is seen as having one basic function: to help ensure the proper behaviours of people in the organisation. These behaviours should be consistent with the organisation strategy, if one exists, which, in turn, should have been selected as the best path toward achievement of the organisation objectives. "(Merchant, 1985:4).

> "The term control refers to the mechanisms used to assure the execution of organisational goals and plans." (Youssef, 1975:136).

> "According to Child (1984:117) control is essentially concerned with regulating the activities within an organisation so that they are in accord with the expectations established in policies, plans and targets. This is consistent with Baliga & Jaeger's definition (1968) which states that the importance of control is to ensure"achievement of the ultimate purposes of the organisation" (Baliga & Jaeger, 1984:25).

Two important elements stand out in these definitions of control. First, management can use it to direct behaviour of individuals in an organisation towards the goals of this organisation. Second, there is an element of power in this relationship.(see Bouquet & Birkinshaw 2008).

2.1.3 Coordination

> "Coordination means integrating or linking together different parts of an organisation to accomplish a collective set of tasks."(Van de Ven, Delbecq & Koenig, 1976: 322).

> "Coordination of sub-units may be defined as the function of insuring that sub-units behaviours are properly interwoven, sequenced and timed so as to accomplish some joint activity or task completion."(Merchant, 1984:94).

> A mechanism of coordination is any administrative tool for achieving integration among different units within an organisation. Therefore, the terms mechanisms of coordination or mechanisms of integration can be used as synonyms." (Martinez & Jarillo, 2005:490)

The fundamental theme in the definition of coordination appears to be the integration, harmonisation or linkage of different parts of an organisation towards a common goal. In contrast to the definitions concerning control, the power element is much more implicit. The final aim, however, appears to be the same as in the definitions of control, namely the direction towards common organisational goals.

So what is the difference between coordination and control?

2.1.4 Control and coordination

> "Organisational control systems represent mechanisms that convey information to initiate and regulate individual activities. They are needed to integrate individual goals and organisational diversity to create order and coordination out of potentially diffuse individual behaviours and diverse interest" (Pucik & Katz 1986:122).

On the relationship between coordination and control, coordination involves various means. These can be referred to as coordinating mechanisms, although it should be noted that they are as much concerned with control and communication. Mintzberg (1994) quotes Utterer (1965, p. 233): "recent developments in the area of control, or cybernetics, have shown control and coordination to be the same in principle". Theoretically, however, we would argue that coordination refers to the tuning of different tasks or activities. Control refers to the ways and means by which coordination is monitored and preserved. In this view, control is instrumental in achieving coordination in organisations. "(Björkman & Li , 2004).
These three citations point in the same direction: control is a means to achieve an end called coordination, which in turn leads towards the achievement of common organisational goals. Most of the definitions of control as reproduced above skip the coordination step and assume control to lead directly to the achievement of common organisational goals. In the remainder of this thesis, we use the term 'control mechanisms' as a means to achieve coordination. Numerous authors, who use the terms of control and coordination interchangeably (see among others Hennart 1991 ,2011 ; Martinez & Jarillo, 2005), consistently speak of "coordination and control mechanisms" (see for instance Andersson 1996; Spencer & Gomez 2010) or use yet other terms to denote the same idea: governance mechanisms or integrative mechanisms (Ghoshal & Nohria, 1993, Collis et al. 2007). We will, therefore, under the heading of control mechanisms, discuss a selection of all the classifications that bear any relationship with the assurance that common organisational goals or objectives are met.

First, we start with the history. Why do we need coordination? In the next section, we see that the need for coordination is a relatively recent phenomenon, coming forth out of specialisation and the division of labour, maybe the most fundamental cornerstones of the modern economy. (Harzing, 2001).

2.2 Different types of Control Mechanism

In this section, we review the different control mechanisms that are distinguished by a variety of authors. As discussed before, we deal with both classifications that use the term "control" and "coordination" as long as the mechanisms have a bearing on the assurance that common organisational goals or objectives are met. Table 2-1 summarises the control/coordination mechanisms distinguished by various authors in both organisational theory and international management literature[5]. The different classifications have been fitted into four distinct categories that have been constructed heuristically in the process of comparing the various classifications. A full explanation of the various categories is given below. Of course, fitting all these classification into just four categories meant some stretching of definitions and it does not always do full justice to the contributions of different authors. However, in order to come to an effective classification and use all the different previous studies, we had to make some generalisations. The authors have been classified in historical order. Sometimes, authors use equivalent terms to characterise the same mechanism, or give further specification on rather general terms. The classification is shown in the next table.

[5] In addition, there are a large number of studies in the field of accounting (e.g.; Chow, Shields and Chan, 1991; Chow, Kato and Shields, 1994; Merchant, Chow & Wu, 1995; O'Connor, 1995) that discuss various classifications of control mechanisms or management control systems (as they are usually called in this field). Their perspective on control mechanisms is, however, fundamentally different from that used by the various authors in organisation and international management theory.

Table 2.1 Control mechanisms distinguished by various authors

Author	Different types of control			
March/Simon (1958)	coordination by feedback	programs (activity coordination)	programs (output coordination)	coordination by feedback
Blau/Scott (1963)	control through personal supervision	rules and regulations	performance records (results achieved)	recruitment and training
Thompson (1967)	coordination by mutual adjustment	standardisation (routines or rules)	coordination by plan (schedules)	coordination by mutual adjustment
Lawrence/Lorsch (1967)	managerial hierarchy	paper system		direct managerial contact; individual/ team/depart-mental integrative devices
Child (1973)	centralisation	bureaucratic (formalisation, standardisation)		
Galbraith (1973)	hierarchy	rules and programs	planned targets goal setting	creating lateral relationships (direct contact, task forces)
Edstrom/Galbraith (1976, 1977b)	centralising control strategy (personal/direct)	bureaucratic strategy (impersonal/indirect)		control by socialisation
Ouchi(1979)	behaviour control (direct personal surveillance)	behaviour control (rules and procedures)	output control	clan control (indoctrination, socialisation

Baliga/Jaeger (1984)	cultural (personal)	bureaucratic (behaviour)	bureaucratic (output) result	cultural (socialisation)
MerChant (1985/1996)	action (centralisation)	action (bureaucratic)		personnel (a.o. selection, training, cultural control)
Kenter (1985)	personal control mechanisms (personal instructions	technocratic control mechanisms (formalisation)	technocratic control mechanisms (planning)	personal control mechanisms (socialisation
PucikKatz (1986)	centralisation (direct Intervention)	bureaucratic (behaviour)	bureaucratic (output)	cultural (socialisation)
Bartlett/Ghoshal (1989)	structural and formal (behaviour)	formalisation (formal systems, policies & standards)		socialisation (recruitment, development, acculturation)
Martinez/Jarillo (1989)	control/direct supervision; centralisation	structural and formal (formalisation/ standardisation	structural and formal (output; planning)	Informal (and subtle (lateral relations; informal communication; socialisation)
Hennart (1991)	hierarchy (personal)	hierarchy (Impersonal through rules and regulations)	bureaucratic (behaviour)	Selection/ socialisation
Mintzberg (1994)	direct supervision	standardisation of work processes	standardisation of output	mutual adjustment; socialisation; standardisation of skills

Source: different authors for the purpose of this study

2.2.1 Personal centralized control

The first control mechanisms that are used in the first category, all denote the idea of some kind of hierarchy, of decisions being taken at the top level of the organisation and personal surveillance of their execution. Of the seventeen authors reviewed in Table 2.1, five scholars mention a control mechanism called centralisation, three mention hierarchies and eight authors refer to a direct personal kind of control (several authors use more than one term and three authors use other terms). We would use the term *personal centralized control* used by Martinez & Jarillo (2005) and Harzing *et al* (2006) as it captures most of the variety in this category.

2.2.2 Bureaucratic formalized control

The control mechanisms used in the second category are related in as much as they are impersonal (also called bureaucratic) and indirect. They aim at pre-specifying, mostly in a written form, the behaviour that is expected from employees. In this way, control can be impersonal because employees can and should refer to the "manual" instead of directly being told what to do. Of the seventeen authors, twelve refer in one way or another to this "written manual". The terms used are formalisation, rules, regulations, paper system and programs (Buckley & Carter 2004). A number of authors also use the term standardisation in this respect. In fact, standardisation can be seen as a prerequisite for formalisation. It is nearly impossible to formalise work processes that are not standardised. Six authors mainly refer to the impersonal aspect of this kind of control and use the term bureaucratic. Later the study will, therefore, use the term *bureaucratic formalised control* to describe this category.

2.2.3 Output control

This category bears the greatest resemblance to the market aspect of coordination. Perhaps organisational theorists are more likely to neglect this category than the other ones. Of the thirteen authors that do define a control mechanism in this category, seven use the term output. Basically, as we have noticed before, the main characteristic of this category is that it focuses on the outputs realised instead of on behaviour (as the other three control mechanisms do). These outputs are usually generated by the use of reporting or monitoring systems, taking any form from rather general aggregated financial data to detailed figures

regarding sales, production levels, productivity, investments, etc. Hennart use the terms result and price, which can be regarded as equivalents of output, although in the case of price there are subtle differences (see e.g Hennart 2011). Four authors refer to plans (Martinez & Jarillo distinguish both planning and output). As all of these are defined by the authors as setting goals that the employee can achieve with a considerable amount of freedom of action.. The key element that distinguishes this control mechanism from the two previous ones is that, instead of particular courses of action, certain goals/results/outputs are specified and monitored by reporting systems[6]. Because of the relatively high consistency in terms used, we use the term *output control* for this category later in our study.

2.2.4 Control by socialisation and networks

The fourth category combines a lot of relatively diverse mechanisms. It is mainly defined by what it is not: it is not hierarchical, it is not bureaucratic, there are no fixed targets, it is usually not very formal, etc. Compared to the other categories this control mechanism is rather informal, subtle and sophisticated (Martinez & Jarillo, 2005) In spite of this diversity, we can distinguish three main sub-categories in this broad category:

Socialisation – which can be defined as ensuring that employees share organisational values and goals; i.e. they are socialised into a common organisation culture. It is identified by ten authors, several of whom point to the importance of selection in this respect.

Informal, lateral or horizontal exchange of information – some authors point to the importance of non-hierarchical communication as a control mechanism, using terms such as mutual adjustment, direct (managerial) contract, informal communication and coordination by feedback.

*Formalised lateral or cross-departmental relatio*n – this category has the same objectives as the second one, increasing the amount of (non-hierarchical) information processing, with the difference being that in this case the relationships are (temporarily) formalised within the organisational structure. Examples are task forces, cross-functional teams and integrative departments (Lee & Macmillan 2008; Martinez & Jarillo, 2005). As a common denominator for this category, we use the term: *control by socialisation and networks.*

[6] Until, of course, the reporting system reveals failure to achieve goals/budgets. In that case, companies are likely to resort to either personal centralised control or bureaucratic formalised control for correction.

Networks comprise both the second and third sub-category, as the aim of both mechanisms is to create a network of communication channels that supplements the formal hierarchy. The term network is chosen because in organisation theory it is frequently used to denote non-hierarchical relations.

2.2.5 Integration between various control mechanisms

Table 2.2 summarises this classification and includes labels used for these categories. A further explanation of these labels can be found below.

Table 2.2 Classification of control in two dimensions

	Personal/Cultural	Impersonal/Bureaucratic/Technocratic
Direct/explicit Indirect/implicit	Centralization, direct supervision socialization, informal, communication, training and task forces	Standardization, formalization, output control, planning

Source: Adapted from Ann-Wil Harzing (2001)

As a final remark, we would like to stress that the different control mechanisms that are distinguished should be regarded as complements rather than substitutes. One company can use different control mechanisms for different employees, different sections of the organisation, different subsidiaries, etc. It can even use more than one control mechanism in the same situation. Some authors (Martinez & Jarillo, 2005, Spencer & Gomez 2010) even see the different control mechanisms as cumulative.

Concerning complementarities, some combinations are more likely to occur than others. Personal centralised control and bureaucratic formalised control are likely to be used together – with an emphasis on the first in smaller organisations and the second in larger ones – in situations with a low environmental variability, a simple technology and a good knowledge of the transformation process (Child, 1997). As indicated in Table 2.2, both control mechanisms aim at directly controlling employee behaviour. Some authors (Wilkinson et al. 2008; Andersson , Bjorkman, & Forsgren, 2005) do not have different names for these two control mechanisms. Output control and control by socialisation and networks are likely to be used together – with an emphasis on the first if outputs are measurable, and on the second if they

are not – in situations with high environmental variability, complex technology and limited knowledge of the transformation process (Child, 1997). Both control mechanisms direct behaviour in an implicit way and leave the employee a considerable amount of freedom.

Although as discussed above some combinations of control mechanisms are more likely than others, in principle any combination is possible and control mechanisms are regarded as additive instead of substitutive (Birkinshaw et al. 1998). This means that some firms might have a high level of application of all types of control mechanisms, and thus have a relatively high overall level of control, while other firms rely on a heavy application of just one or two control mechanisms, thus displaying a lower overall level of control. (Birkinshaw et al. 1998).

In chapter four, we will discuss the applicability of different control mechanisms in different circumstances in much more detail. Now, we would like to discuss MNEs and the "country-of-origin" influence of control mechanisms used in them. Section 2.4 will be devoted to this purpose.

2.3 Multinational Enterprises (MNEs)

In this section, the relevant issues concerning MNEs will be discussed. We will pay attention to the changing international environment, the industry, and MNE's strategy and structure. This description will serve to substantiate our reasoning in a subsequent chapter that changing environments are not only accompanied by changing strategies and structures, but also by different processes; i.e. control mechanisms. Table 2-3 summarises these ideas. It is based on the environment-strategy-structure paradigm, which assumes that superior performance comes from a good fit between strategy and environmental demands, and between organisational structure (and processes) and strategy.(Harzing , 2001).

In contrast to earlier work on MNE strategy and structure (1988; Galbraith & Kazanjian, 1986; Daniels, Pitts & Tretter, 1984, 1985)[7], we do not pre-suppose a one-way deterministic relationship between any of these various variables. Especially as the link between strategy and structure has been discussed extensively since Chandler's (1962) seminal work and various authors (see, for instance, Hedlund 2006) have argued that strategy might be just as

[7] These seminal work discuss the relationship between two strategy variables; foreign product diversity and the percentage of foreign sales - Egelhoff (1988) added a third percentage of foreign manufacturing - and the type of organisational structure a MNE chooses (international division, area division, product division or global matrix)

dependent on structure as structure is on strategy. Further, changes also do not necessarily result from the environment alone.

Most of the authors discussing these issues belong to the process school of international management (Doz & Prahalad, 2007), that had its origins in the dissertations of Prahalad (1975) and Doz (1976), and adhere to a more flexible and less deterministic relationship between environment, strategy, structure and process.(Doz & Prahalad 2007).

Table 2.3 Environment, strategy, structure, systems and processes in MNEs

Environment history	Environment industry	Strategy	Structural configuration	System & process
Changes in the international environment	Pattern of international completion	Company's strategic response	Company's organizational structure	Company's control mechanisms

Source: Adapted from Ann-Wil Harzing (2001)

This section on multinational companies (MNEs) will be structured as follows. First, we will discuss the range of classifications –as we did in the first section with the control mechanisms- that are available in this field and try to bring some clarification of terms in use. Then, we will discuss the elements of structures and strategy, based on previous researches such as Bartlett & Ghoshal (2002) and Doz & Prahalad (2007). Subsequently, we will discuss a number of "traditional" organisation theories. We will try to discover whether there are some famous similarities or differences between international management literature and "traditional" management literature.

Before discussing this, we would like to stress that there is one very important dominant variable in the development plans – the managers themselves. Changes in the environment will not influence strategy unless they are enacted (Child, 1997) and managers do have some choice of action (Child, 1997). An important influential factor in this process is the societal/cultural effect (see, for example, Harzing & Hofstede, 1995). Society/culture can form a constraint on certain choices (e.g. democratic leadership will not work in countries where people favour hierarchical decision processes) and influences the values of managers so that certain environmental changes are not enacted and certain options are not considered (see Harzing, 2000; Harzing and Noorderhaven 2009; Yaprak & Karademir, 2011). We will,

therefore, discuss whether a country-of-origin effect is present in the application of the various organisational strategies and structures.

2.3.1 Industry, Strategy and Structure

In the analysis of the industry, strategy and structure, we use the four familiar terms identified in the literature: multidomestic, international, global and transnational (see e.g Harzing, 1995 and Bartlett & Ghoshal 1987). In a multidomestic industry, international strategy consists in fact of a series of domestic strategies. Competition in each country is essentially independent of competition in other countries. Typical industry characteristics are determined by cultural, social and political differences between countries. A classic example of a multidomestic industry is the branded packaged products industry (e.g. food and laundry detergents). (Harzig, 2001).

Companies in these industries preferably follow a multidomestic strategy, which gives primary importance to national responsiveness. Products or services are differentiated to meet differing local demands. Policies are differentiated to conform to differing governmental and market demands. The competitive advantage of multidomestic companies often lies in downstream value chain activities, such as sales and marketing or service (Otalora & Casanova 2012).

These activities are closely related to the buyer and are usually tied to the buyer's location. Responsiveness to the differences that distinguished national markets led multidomestic companies to decentralise organisational assets and decision making. This resulted in a configuration that can be described as a decentralised federation, which is organised by area; i.e. geographical region (Leonidou, 2011).

In the International industry, the adjective "international" refers to the international product life cycle, which describes the internationalisation process in this type of industry. The critical success factor in these industries is the ability to transfer knowledge (particularly technology) to units abroad. It involves sequential diffusion of innovations that were originally developed in the home market. A classic example of an international industry is telecommunications industry. (See e.g Rugman and Verbeke 2003 ;Björkman, Barner-Rasmussen. & Li, L., 2004).

The international strategy is the preferred strategy in this industry, giving primary importance to the development and diffusion of worldwide innovations internationally. The competitive advantage of international companies often lies in research and development. New technologies are developed in the home country and transferred and adapted to foreign countries, following the product life cycle as discussed by Vernon (1966). They do not strive for the efficiency of global companies or the complete national responsiveness of multidomestic companies, but they do pay some attention to both of these goals. This is the strategy traditionally followed by American multinationals. (Harzing & Noorderhaven, 2006).

In the international organisational structure, transfer of knowledge and expertise to countries that were less advanced in technology or market development is the essential task. Local subsidiaries do still have some freedom to adopt new products or strategies, but coordination and control by headquarters is more important than in the multidomestic type. Subsidiaries are dependent on the parent company for new products, processes or ideas.
In a global industry, standardised consumer needs and scale efficiencies make centralisation and integration profitable. In this kind of industry, a firm's competitive position in one country is significantly influenced by its position in other countries. The global industry is not just a collection of domestic industries but a series of linked domestic industries in which the rivals compete against each other on a truly worldwide basis. An example of a global industry is consumer electronics industry.

The preferred strategy in these industries is the global strategy that gives primary importance to efficiency. Global companies integrate and rationalise their production to produce standardised products in a very cost-efficient manner[8]. The competitive advantage of global companies often lies in upstream chain activities such as procurement, inbound logistics (warehousing, inventory control, material handling etc.) and operations (machining, assembly, testing, etc.). These activities are optimised on a worldwide scale. This is the strategy traditionally followed by Japanese multinationals. (Schmid & Kretschmer 2010)

In a global organisational configuration, assets, resources and responsibilities are centralised and the role of subsidiaries is often limited to sales and service (Yamao et al., 2009). Compared with subsidiaries in multidomestic or international organisations, they have much

[8] See Cremer et al. (2009) for a fervent argumentation of the benefits of product standardisation.

less freedom of action. The structural configuration can be described as a centralised hub and is usually based on a product structure. Within each product division, activities are centralised, and there is link between the world product groups.(Yamao et al., 2009)

Transnational industries are characterised by a complex set of environmental demands. Companies in these industries must respond to the diverse and often conflicting strategic needs of global efficiency (as a characteristic of global industries), national responsiveness (as a characteristic of multidomestic industries) and transfer of knowledge (as a characteristic of international industries).

Companies following the transnational strategy that fits the industry, recognise that they should pay attention to global efficiency, national responsiveness and worldwide learning at the same time. In order to do this, their strategy must be very flexible. The strategy (literally) is to have no set strategy (Scherer et al. 2012), but to let each strategic decision depend on specific developments. Strategy becomes unclear and it may become dissolved into a set of incremental decisions with a pattern that may only make sense later. Issues are shaped, defined, attended to, and resolved one at a time in a "mixed" process. A transnational strategy would be a deliberately planned strategy to have an "adaptive" ,"incremental", "muddling through" or "emergent" strategy. (Mintzberg, 1994).

The type of organisation structure that fits a transnational industry and strategy is very flexible. Bartlett & Ghoshal refer to an integrated network structure that links major sub-units of the company together. Assets, resources and capabilities are neither centralised nor completely decentralised. Expertise is spread throughout the organisation and subsidiaries can serve as a strategic centre for a particular product-market combination (Dörrenbächer et al 2011). To use a popular term, companies are creating "centres of excellence" for each activity. The company becomes a kind of network with different centres for different activities. Each centre can have a strategic role for a particular area.[9]

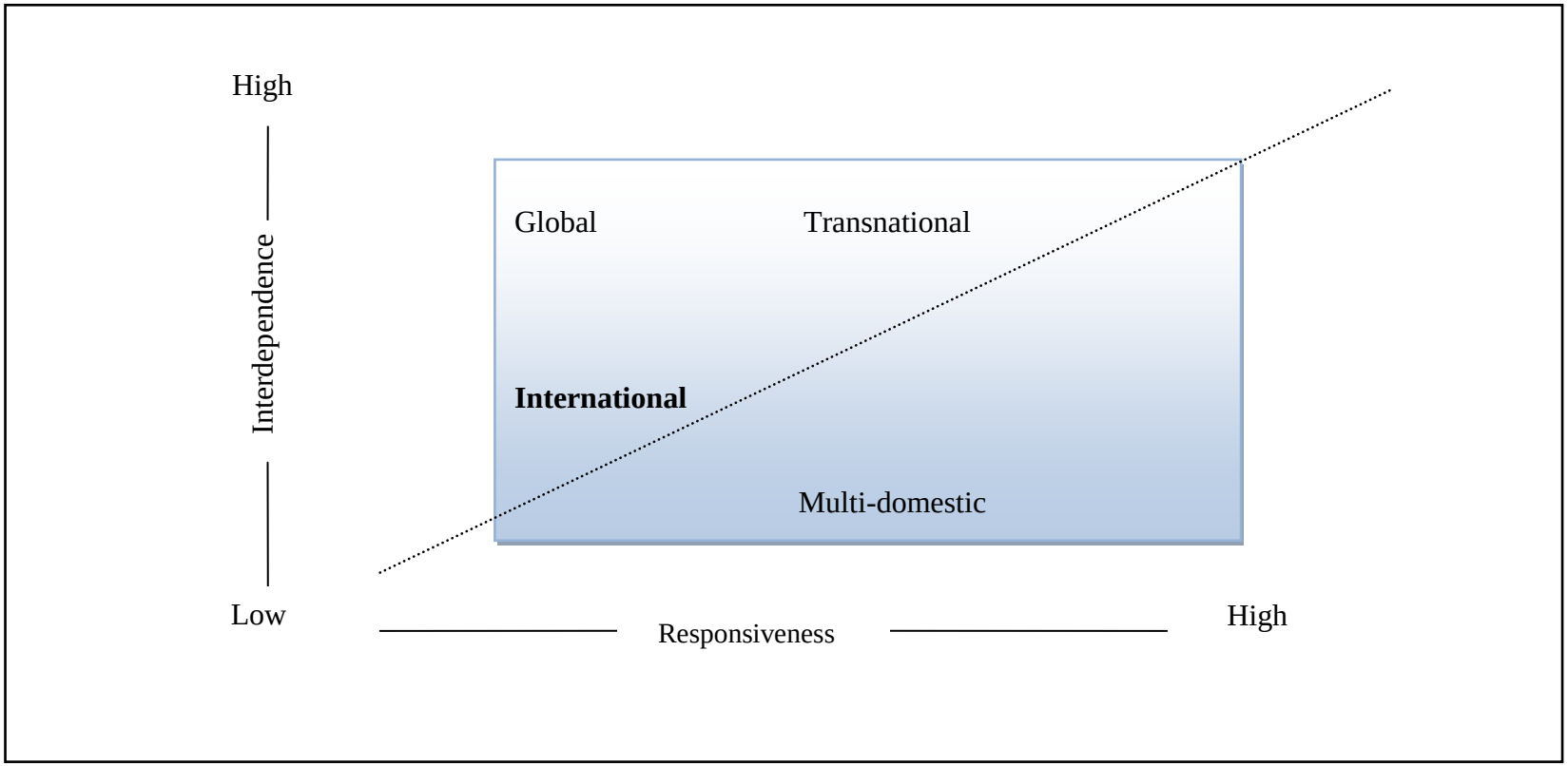
2.3.2 Integration

The four configurations – combinations of industry, strategy and structure (described above) – can be visually summarised in the integration/responsiveness framework which is explained

[9] More extensive descriptions of the transnational organisational model can be found in Hedlund (2006). Longitudinal study of a company moving from a multidomestic to a transnational type of structure can be found in Malnight (1996).

in Figure 2.1 (see Taggart below (1997) for a broad description). The vertical axis represents the level of global integration and, hence, of central coordination by headquarters; the horizontal axis represents the extent of national responsiveness or differentiation and, consequently, of the desired influence of subsidiaries in strategic and operational decisions.

Figure 2.1 The integration-responsiveness framework.



Source: Adapted from Taggart (1997) for the purpose of this study

2.3.3 Empirical studies of the configurations

Although Bartlett & Ghoshal's typology has received a lot of attention, by both academics and professionals, it is based on in depth case studies of nine MNEs only. In this section we will, therefore, explain some of the empirical support for their typology. First, we will discuss a number of replications of the typology as such and, second, we will investigate the occurrence of the transnational organisational model in practice.

Empirical tests of the typology found a reasonable amount of support for the organisational models described by Bartlett & Ghoshal. Leong & Tan (1993) had senior executives of MNEs from all around the world classify their organisations as being multinational, global, international or transnational in nature. They further asked them to evaluate their organisation's configuration of assets and capabilities, roles of overseas operations and development, and diffusion of knowledge. The global and multinational organisation types scored as hypothesised, but the international and transnational type did not differ significantly from each other or from the other types.

Moenaart *et al* (1994) describe the organisational structural properties of 87 MNEs from the US, East Asia and Western Europe. The scales they used to measure multinational, global and transnational structures had reasonably high significance values. Transnational structural properties correlated positively with the level of multinational orientation and negatively with the global orientation of a company. A strong correlation was found between the global and multinational structural properties. The findings of these correlations support the models described by Bartlett & Ghoshal.

In a survey of business units competing in global industries, Roth & O'Donnell (1996) found three clearly distinguishable clusters of firms following global integration, locally responsive and multifocal strategies, respectively. Johnson Jr. (1995) performed a similar study in one industry – the US construction equipment industry – and found the same generic strategies. Although these results conflict with Bartlett & Ghoshal's typology in the sense that not all companies are following the strategies best suited to the particular industry[10], they do provide support for the classification as such. Considering the various empirical tests of the Bartlett &

[10] In Bartlett and Ghoshal's (1987) own study, only one in three firms had the ideal configuration.

Ghoshal typology, we see that the global and multidomestic strategies emerge clearly and that all studies find a kind of "in-between" strategy that combines elements of global and multidomestic strategies. This strategy is usually called transnational or multifocal. In combination with the lack of an international strategy in many of the conceptual classifications as discussed previously, this leads us to limit our discussion to three international configurations: global, multidomestic and transnational.

Thus, we can say that at present probably very few firms can be considered transnational in every sense of the word. The transnational model as an ideal-type, however, has taken a strong foothold in the world of academics, consultants and MNEs' top executives alike. Later, we will discuss the implications of this movement for control mechanisms in MNEs. In the next section, we will see the country of origin effect on the strategy based on the international management and "traditional" management literature.

2.4 Country of origin effect on strategy and structure

Bartlett & Ghoshal indicated that the international organisational model was the dominant model for American MNEs, the global model for Japanese MNEs, and the multidomestic model for European MNEs. The adoption of these models would be mainly based on the era in which most of the American, Japanese and European firms internationalised. Their study was based on nine MNEs in three industries only. Furthermore, although most European firms, for instance, might have started with multidomestic models, they may have adjusted their strategies and structures in the course of time. As Ghauri (1995) comments, this classification is an oversimplification of a complex issue. According to him, we can find firms from Europe following the international and global model, and many Japanese firms following the international or multinational model. To the best of our knowledge, few detailed studies have empirically investigated the application of different organisational models as defined by Bartlett & Ghoshal. Legewie (2002) state that "awareness of local differences and a marketing focus oriented towards diversity in customer needs and profiles is at the core of quality and process management methods which are widespread in Japanese companies" (Legewie 2002:912). They therefore hypothesise that Japanese MNEs will pursue locally oriented strategies and simultaneous local (differentiation) and global (integration) strategies to a larger extent than American MNEs. No difference was hypothesised concerning global strategies. Strategies were measured at both HQ and subsidiary level, and all three hypotheses were confirmed at both levels.

Doyle et al. (1992) investigated American and Japanese strategies in the British market and found, among others, that Japanese firms were more locally responsive in terms of adapting their promotion, pricing, distribution and overall strategies to the British market. It could, therefore, be concluded that Japanese firms would be more likely to follow multidomestic strategies than American firms[11].

In general, though, we would not expect to find many differences between countries in the application of the various international strategies and structures. The industry effect, discussed in the next section, is likely to have a strong effect as well on the strategy that is followed and the structure that is chosen by the company.

2.5 Industry Effect on Strategy and Structure

As indicated above, the industry in which a company operates is likely to have considerable influence on the preferred organisational model. Some industries are more likely to experience forces for global integration (global industries) or for local responsiveness (multidomestic industries), while in other industries firms have to respond to both these demands at the same time (transnational industries)[12].

Various authors have tried to classify industries in terms of these forces. In this section, we will review what these authors have said about the various industries included in our study: chemicals, petroleum, electronics, computer, motor vehicles, papers and food beverages.

The electronics, computer and office equipment and automobile industries are usually seen as global industries, while the food industry is often considered to be the prototype of a multidomestic industry (Bartlett, 1986; Bartlett & Ghoshal, 1987; Doz, 1996; Doyle et aI., 1992). Nohria & Ghoshal (2006) classify both the computer and the automobile industry as transnational, however. These industries are joined by the drugs & pharmaceutical industry. The food industry is again seen as multidomestic, while the paper industry is classified as operating in the relatively placid international industry. Nohria & Ghoshal (2006) indicate, however, that the forces of global integration appear to be getting stronger in the food industry. This would mean that the food industry is moving towards the transnational type. The chemical industry is seen as a global type of industry. Brinkgreve (1993) follows Nohria

[11] A valid explanation for the multidomcstic orientation of Japanese firms could, of course, also be that they have to adapt their policies when entering the Western market for example, because simply they are so different from what is usual practice in Japan.

[12] Previous research in this field is inconsistent and usually focused on one or two industries only. Although we would expect MNEs to differ their use of expatriates according to different subsidiary countries, we do not expect them to vary other elements of their control portfolio dependent on the subsidiary country. If differences occur between various countries, they are most likely due to other factors at the subsidiary level.

& Ghoshal's classification, but adds the petroleum industry in the global category. His results show that from the ten industries included in his survey, the food industry had the highest percentage of firms following a transnational strategy, with the chemical and computer industry the lowest. According to Li & Yao (2010), companies in the pharmaceutical and food industry have a higher than average trade among subsidiaries; a feature that can be seen as characteristic for a transnational model (integrated network with inter-subsidiary flows).
In view of the observations above, the chemical, computer, automobile, electronics and petroleum industries are considered global industries. The food and pharmaceutical industries are considered transnational industries. Ghoshal & Nohria are the only authors that classify the paper industry using the international category but it is not distinguished as a separate category in their study.

We would, of course, expect most companies to have strategies and structures that fit their type of industry. Consequently, we would not expect the absolute majority of firms in the food and pharmaceutical industries to have transnational strategies and structures. Many firms in the food industry are likely to follow multidomestic strategies, while many firms in the pharmaceutical industry will still follow global strategies. (Li & Yao, 2010).

To summarise, we have discussed the strategy and structure of MNEs and its environments; all crucial elements for the MNE. A discussion of the various classifications used in the international management literature and a detailed description of one of these classifications led to the identification of three distinct organisational models for multinational firms: global, multidomestic and transnational. The transnational model is claimed to be the answer to changes in the international environment. Many of the elements discussed in the classification of multinational firms can be traced back to "traditional" management and organisation theory, as seen before.
In chapter four, we combine what we learned about the control mechanism discussed previously with the theory on multinationals and their development, as discussed in this section. And we will see how the industries affect the performance of the subsidiary success. First, however, let's discover the third main element of our study – international transfer.

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2.6 International Transfer and control by socialization

The importance of international transfers to achieve control by socialisation and informal networks is emphasised by various authors. Most of them, however, tend to concentrate on one of the two elements: socialisation or creation of informal information networks. Therefore, these two elements will be discussed separately in the next sections.

2.6.1 Socialisation

Numerous authors (see Bartlett & Ghoshal, 1987; Jaeger, Baliga 2006; Li & Yau 2010 ; Merchant, 1996; Nohria & Ghoshal 1997; Birkinshaw & Hood, 1998) point to the fact that international transfers can foster socialisation in the company culture, either for the internationally transferred manager or for the company as a whole. Below, we have included some of the seminal quotations:

> *"Another reason – other than management development – why sufficient scope for international job rotation should be maintained is the need for what I would call "corporate acculturation" (Kuin, 1972).*
>
> "*Philips found that the most effective way to manage complex flows of information and knowledge was through various socialisation processes: the transfer of people, the encouragement of informal communication channels that fostered information exchange, or the creation of forums that facilitated inter-unit learning" (Bartlett & Ghoshal, 1987).*
>
> "Such *integration was typically the result of a high degree of organisational socialisation and was achieved through extensive travel and transfer of managers between headquarters and the subsidiary, and through joint-work in teams, taskforces, and committees" (Ghoshal &Bartlett, 1988).*

Another option is to transmit culture through a policy of intra-organisational transfers. These transfers tend to improve the socialisation of the individuals in an organisation and thereby inhibit the formation of incompatible goals and perspectives (Merchant, 1996).

2.6.2 Informal information networks

Edstrom & Galbraith (1977b) were probably one of the first to recognise the function of international transfers as network builders. Extensive transfers create a network of informal contacts that can be used to collect the information necessary to support local discretion.
The creation of informal information networks through international transfers is identified by, among others, Egelhoff (1988), Evans (1991), and Bartlett & Ghoshal (2002).

Bartlett and Ghoshal conducted a study in which they tried to relate Perlmutter's classifications of multinational firms to various patterns of international HRM, among which were the functions of international transfers distinguished by Edstrom and Galbraith. Regiocentric and geocentric firms were hypothesised to make greater use of international transfers for management and organisation development (socialisation and creation of informal networks) than polycentric and ethnocentric firms. The sample of eight companies consisted of five regiocentric and three polycentric firms. The regiocentric firms did indeed transfer managers (parent, host and third-country nationals) for management development, while only one polycentric firm did this and then only for parent-country nationals. Transfer for organisation development occurred in only two of the regiocentric firms (for parent, host and third-country nationals). However, the value of international transfers in creating an international network (and socialisation) was recognised by all regiocentric firms. The high costs of transfers were the main reason for using substitutes, such as international meetings and training programs for organisation development purposes. Jaeger, Baliga (2006) points to the role of international transfers in creating an informal information network. His whole work is built on the information-processing perspective. The informal networks that international managers will be likely to maintain with previous co-workers can provide a considerable addition to the information processing capability between various parts of the company. Increasing the number of transfers, therefore, increases the information-processing capability in a multinational company. Evans (1991) also signals the influence of international mobility on the development of a "network of personal relationships based on long-term trust through which important horizontal initiatives get planned and implemented". According to him, network theory and research show that this nervous system requires a large number of loose ties (knowing someone who knows someone who knows someone) to function. However, these can be based on a relatively small number of strong ties between key people in the organisation. This could mean that the potential impact of this nervous system could extend far beyond the managers that were actually transferred to the organisation as a whole.

> *Bartlett & Ghoshal (2002) describe how Ikea realised control by socialisation and informal networks: "Throughout the 1980s, Kamprad (Ikea's founder) led week-long training sessions on Ikea's history, culture and values. Then, the company assigned the ambassadors who attended the sessions to key positions worldwide. By the early 1990s, more than 300 cultural agents were serving as nodes in a personal communication network that could collect and transmit information without the*

distortion that more formal information systems often introduce". (Bartlett & Ghoshal, 2002: 141).

In a non-international setting, various authors have come to the same conclusion.[13]

2.7 Chapter Summary

As indicated in the beginning of this chapter, this study focuses on control mechanisms in multinational enterprises (MNEs) and puts special emphasis on the role of the subsidiary and its performance in this respect. This chapter, therefore, reviewed the literature about control mechanisms, multinational companies and their organisations, and international transfers, respectively.

We first identified 'control' and 'coordination' and made a distinction between these two concepts. Control refers to the mechanisms used to assure the execution of organisational goals and plans. Control is essentially concerned with regulating the activities within an organisation so that they are in accord with the expectations established in policies, plans and targets. This is consistent with Baliga & Jaeger's (1968), in which they state that the importance of control is to ensure the achievement of the ultimate purposes of the organisation. We infer two elements in these types of control. First, management can use it as means to direct the behaviour of the individuals in an organisation towards the goals of the organisation. Second, there is an element of power in this relationship.

Coordination, on the other hand, means integrating or linking together different parts of an organisation to accomplish a collective set of tasks. Coordination of sub-units may be defined as the function of ensuring that sub-units' behaviours are properly linked, sequenced and timed so as to accomplish some joint activity or task. The fundamental theme in the definition of coordination appears to be the integration, harmonisation or linkage of different parts of an organisation towards a common goal. In contrast to control, the power element is much more implicit with coordination. The final aim, however, appears to be the same as in control, moving towards common organisational goals.

We review the different control mechanisms that have been distinguished by a variety of authors. As discussed before, we deal with classifications that use the terms 'control' and 'coordination', as long as the mechanisms have a bearing on the assurance that common organisational goals or objectives are met. The different classifications were fitted into four

[13] See (E.g Ellington, (2002) & Helms et al. (2000).

distinct categories that were constructed heuristically in the process of comparing the various classifications, as summarised below.

The first category consists of control mechanisms that denote the idea of some kind of hierarchy, of decisions being taken at the top level of the organisation and their execution supervised.

The control mechanisms used in the second category are related in as much as they are impersonal (also called bureaucratic) and indirect. They aim at pre-specifying, mostly in a written form, the behaviour that is expected from employees. In this way, control can be impersonal because employees can and should refer to the 'manual' instead of directly being told what to do.

The third category bears the greatest resemblance to the market aspect of coordination. Organisational theorists are perhaps more likely to neglect this category than the others. Of the thirteen authors who defined a control mechanism in this category, seven used the term 'output'. Basically, as we have noted before, the main characteristic of this category is that it focuses on the outputs realised instead of on behaviour (as the other three control mechanisms do). These outputs are usually generated by the use of reporting or monitoring systems, taking any form from rather general aggregated financial data to detailed figures regarding sales, production levels, productivity, investments, etc.

The fourth category combines a lot of relatively diverse mechanisms. It is mainly defined by what it is not: it is not hierarchical, it is not bureaucratic, there are no fixed targets, it is usually not very formal, etc. Compared to the other categories, this control mechanism is rather informal, subtle and sophisticated. This type of control is called 'control by socialisation and networks'.

In this chapter we discussed the relevant issues concerning MNEs. We paid attention to the changing international environment, the industry, and MNEs' strategies and structures. When analysing the environment on a global scale, one of the most important trends for MNEs is the increasing internationalisation of the world economy; we explained four phases in this internationalisation process. In the analysis of the industry, strategy and structure, we used the four familiar terms identified in the literature: multi-domestic, international, global and transnational. Lastly, we discussed the importance of international transfers in achieving control

by socialisation and informal networks, as emphasised by various authors. We discussed some points highlighting the fact that international transfers can foster socialisation in the company culture, either for the internationally transferred manager or for the company as a whole.

CHAPTER THREE CONCEPTUAL BACKGROUND

3.1 Introduction

This chapter focuses on the examination of the factors that were derived in chapter 2. Therefore, this chapter aims to give the background of the theories that are implemented in the international business field, develop a framework for the research using the most appropriate model for the study, review the variables in the HQ–subsidiary relationship and develop the hypotheses of the study.

3.1Control Mechanisms in MNEs

Chapter 2 reviewed organisational control mechanisms in reference to the environment, strategy and structure of MNEs. This section combines these elements and explores what can be deduced about the use of various control mechanisms in MNEs. This is done using a two-step approach. First, traditional organisation theory is reviewed in terms of its conception of the use of control mechanisms in different circumstances, allowing the study's hypotheses to be refined. Subsequently, a number of HQ and subsidiary characteristics that are hypothesised to influence the use of the various control mechanisms are discussed. In discussing these HQ characteristics, several research streams are used. Birkinshaw (1994) distinguishes the strategy–structure stream, the HQ–subsidiary relationship stream, the MNE process stream and the subsidiary role stream. Elements of all four areas are incorporated in the formulation of the hypotheses.

3.1.1 Operationalization of the Variables

In this subsection, we will discuss the way in which we operationalized the variables used in our study. Before doing so, we would like to make some general remarks. Since low response rates frustrate useful conclusions in many international studies, generating a reasonable response rate is a major aim in our study. Using data from 35 methodological studies, Jobber & Saunders (1993) showed that for industrial populations, the length of the questionnaire was an important predictor of response rates: i.e. the longer the questionnaire, the lower the response rate. We, therefore, tried to limit the number of questions to the absolute minimum. This meant that no questions were asked on issues that could be verified using secondary

data. However, another consequence was that we could not use ten-item scales to measure every construct in the study. Most constructs were, therefore, measured using two or three items. Furthermore, we could not differentiate control mechanisms for various functional areas. Many studies found that decisions in the field of marketing, HRM, industrial relations, production, R&D and finance are centralised to different degrees. Decisions in the first three fields are usually more decentralised than decisions in the latter three fields (see Yu, Wong & Chiao 2006; Asakawa 2001 for overview). In view of the size constraints, it was felt unfeasible to include both different control mechanisms and different functional areas. Since most previous studies focused on one control mechanism (centralisation) for various functional areas, we decided to focus on various control mechanisms without differentiating across functions. Since the managing director was judged to be the person most knowledgeable about the variety of issues dealt with in the questionnaire, we decided to combine Martinez & Jarillo (2005) and Harzing (2006) and phrase the questions on control mechanisms in general terms. Focusing on, for instance, marketing or HRM could give biased or missing data since the managing director might not be aware of the control mechanisms used in these areas. In the remainder of this section, we will discuss the operationalization of our variables. In doing so, we will start with the building stones: control mechanisms, MNEs and international transfers as discussed in Chapter 1. We then move to the headquarters characteristics and subsidiary characteristics as discussed in Chapter 2. The operationalization of variables related to the role of international transfers as a control mechanism is discussed under the building stone of international transfers.

3.1.2 Control mechanisms

After a review of the relevant literature, we identified in Chapter two four main control mechanisms: personal centralised control, bureaucratic formalised control, output control and control by socialisation and networks. To measure these different control mechanisms empirically, we adapted and supplemented the questions that were used by Martinez & Jarillo (2005) and Harzing (1995). These studies are one of very few studies that measured control mechanisms at subsidiary level, making the questions highly suitable for our purpose. In addition, they did not differentiate according to various functional areas, also conforming to our approach. Since Martinez & Jarillo only contrasted formal mechanisms with informal mechanisms, their questions for formal control mechanisms were not as differentiated as we would have liked them to be. Therefore, additional questions were constructed for the “direct

supervision" aspect of personal centralised control and the "standardisation" aspect of bureaucratic formalised control. Phrasing the question in such a way could reduce the social desirability effect. In order to emphasise that we solicited information about the control mechanisms applied at the individual subsidiary, we added "towards your subsidiary" for every question. Finally, we made some slight adjustments in wording (e.g. multinational firm in every question instead of the variety of terms – firm, corporation, and company – used by Martinez & Jarillo (2005) and Harzing (2000).

The final questions used are shown in table 3.4

• Personal centralised control

Centralisation aspect: please rate the following with respect to your subsidiary company; the level of this subsidiary's autonomy to decide its own strategies and policies?

The degree of personal surveillance that headquarters managers execute towards this subsidiary

The degree to which headquarters uses expatriates to directly control this subsidiary's.

• Bureaucratic formalised control

Standardisation aspect: In some multinational firms, all subsidiaries are supposed to operate in more or less the same way. In other firms, such standardised policies are not required. In general, what is the degree of standardisation that headquarters requires from this subsidiary?

Formalisation aspect: Some multinational firms have written rules and procedures for everything and employees are expected to follow these procedures accurately. Other firms do not have such strict rules and procedures, or if they have there is some leniency towards following them. Please indicate the kind of rules and procedures that headquarters exerts towards this subsidiary.

• Output control

Output evaluation aspect: Some multinational firms exert a high degree of output control, by means of continuous evaluation of the results of subsidiaries. Other firms exert very little output control beyond the requirement of occasional financial reports. Please indicate the degree of output control that headquarters exerts towards this subsidiary.

Planning aspect: Some multinational firms have a very detailed planning, goal setting and budgeting system that includes clear-cut (often quantitative) objectives to be achieved at both strategic and operational level. Other firms have less developed systems. Please indicate the type of planning/goal setting/budgeting that headquarters uses towards this subsidiary.

• Control by socialisation and networks

Socialisation aspect: Some multinational firms attach a lot of value to a strong "corporate culture", trying to ensure that all subsidiaries share the main values of the firm. Others do not make these efforts (or, having made it, have had no success). To what extent do the executives in this subsidiary share the company main values?

Informal communication aspect: Some multinational firms have a very high degree of informal communication among executives of the different subsidiaries and headquarters. Other firms do not foster that kind of informal communication and rely exclusively on formal communication channels. Please indicate the level of informal communication between this subsidiary and headquarters/other subsidiaries of the group.

Formal networks aspect: Some multinational firms make extensive use of committees/task forces/project groups, both temporary and permanent, made up by executives from different subsidiaries and headquarters. To what extent has this subsidiary's executives participated in this kind of groups in the past couple of years? Following Martinez & Jarillo (2005), other studies in this field and our discussion in Chapter 2, the various control mechanisms are regarded as additive, so that scores for the different control mechanisms can be summed to display the total level of control. Subsidiaries experiencing a relatively high level of all four control mechanisms are thus considered to be more strongly controlled by headquarters than subsidiaries that experience high levels of control on only one or two of the four control mechanisms, or medium levels on all four. In addition, we included two questions related to the role of international transfers as a control mechanism. First, we asked respondents for the application of the direct type of expatriate control in their subsidiary. Retrospectively, following our discussion in Chapter 2, we wished we had included direct expatriate control as one of the functions of international transfers, rather than as one of the control mechanisms. Secondly, we included one of the two major alternatives of international transfers to realise the informal communication and socialisation aspects of control by socialisation and networks, namely international management training. The other major alternative – formal networks – has already been included above.

Direct expatriate control: In some multinational firms, parent country nationals are assigned to subsidiaries to ensure that headquarters' policies are carried out. Others do not send out expatriates or do this for other reasons. Others do not send out expatriates or do this for other reasons. We use the following question in section 3 of the questionnaire; please indicate the degree to which headquarters uses expatriates to directly control this subsidiary's operations.

International management training: Some multinational firms make extensive use of international (as opposed to purely national) management training programs. In these programs, executives from different subsidiaries and headquarters follow courses that deal mostly with the transfer of company-specific knowledge. So we have asked the following question: what has been the participation of this subsidiary's executives in this kind of training programs in the past couple of years?

3.1.3 Multinational Enterprises

In Chapter 2, we described the environment, strategy and structure of MNEs. Three main types of MNEs were derived from a review of relevant literature: global, multidomestic and transnational. In the empirical part of this thesis, industry will be used as a proxy for the international environment. As indicated, the industries included in our population are assumed to be spread throughout the global, multidomestic and transnational types of environment. Subsidiary managers were asked to indicate the industry in which the subsidiary was operating. If the subsidiary was operating in more than one industry, they were asked to indicate the industry that generated the largest percentage of its sales. Since no questions were readily available to measure the organisational model of MNEs, we adapted questions, based on the characteristics of the different types of firms, as described in Bardett & Ghoshal (1989, 1992a), Harzing (2001) and Kim, Park & Prescott (2003).

Structure and strategy was measured by various types of structures and asking respondents to select which best described their organization. Nine statements were constructed that measured aspects of organisational structure, nature of the firm, the role of subsidiaries, the dominant competitive strategy, etc. Respondents were asked to indicate the extent to which they agreed to the various statements. The introduction emphasised that we sought their opinion about the MNE overall, not about the specific subsidiary. The nine statements are reproduced below:

1. Our company's strategy is focused on achieving economies of scale by concentrating its important activities at a limited number of locations.
2. Our company can be adequately described as a very loosely coupled and decentralised federation of rather independent national subunits.

3. In our company, a typical subsidiary's main function is to deliver company products and carry out headquarters' strategies.

4. Our company can be adequately described as an integrated and interdependent network of different but equivalent subunits, in which headquarters does not *a priori* play a dominant role.

5. Our company not only recognises national differences in taste and values, but actually tries to respond to these national differences by consciously adapting products and policies to the local market.

6. In our company, subsidiaries regularly act as a strategic centre for a particular product or process; in other words, subsidiaries regularly perform a role as "centre of excellence"

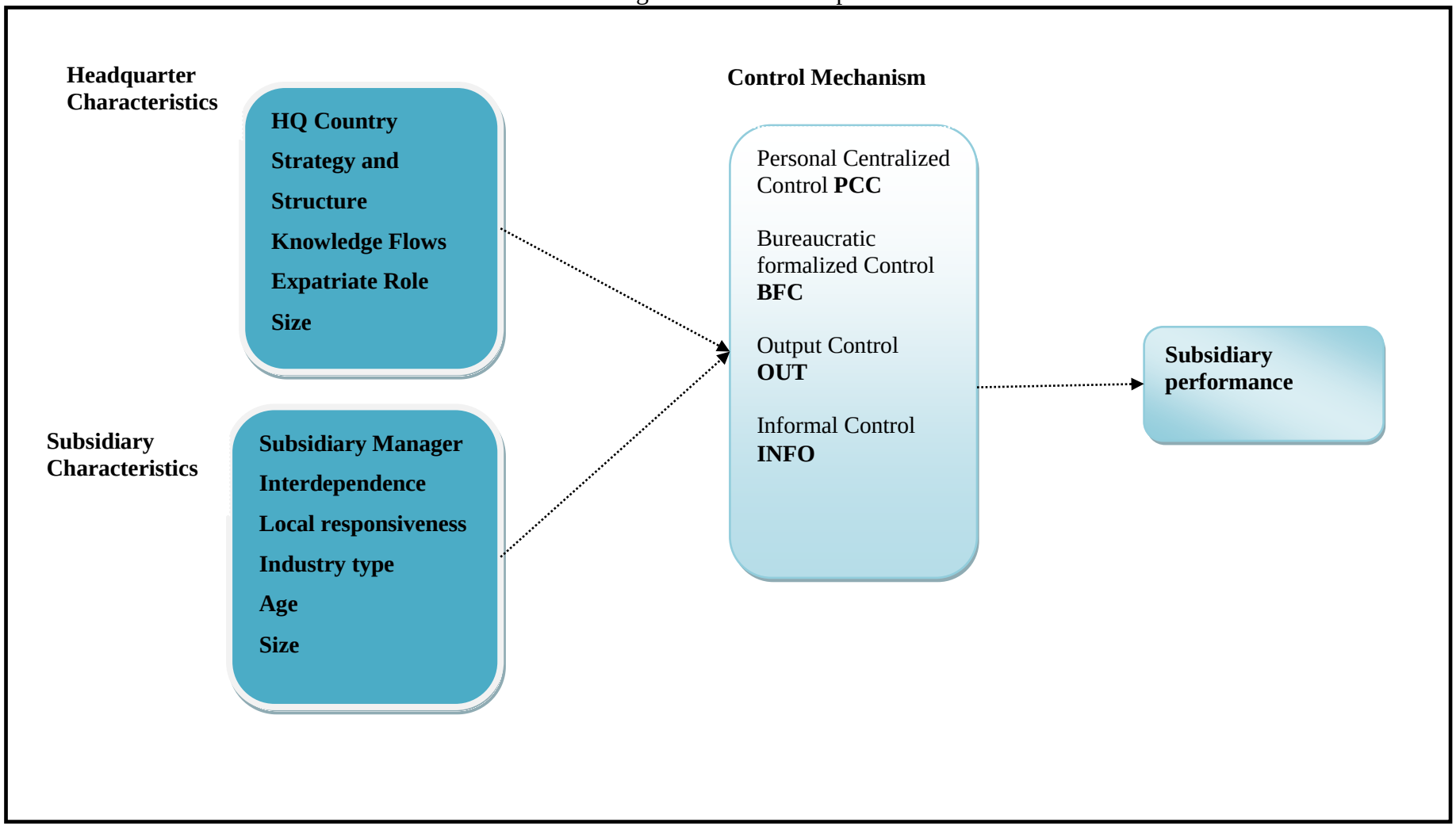
7. In our company, there are not only large flows of components and products, but also of resources, people and information among the company's subsidiaries.

8. Our company's competitive position is defined in worldwide terms. Different national product markets are closely linked and interconnected. Competition takes place on a global basis.

9. Our company's competitive strategy is to let each subsidiary compete on a domestic level as national product markets are judged too different to make competition on a global level possible.

In the questionnaire, the main concepts were put in bold type. Although some questions were aimed specifically at measuring a certain type of company (i.e. global: 1, 3, 8; multidomestic: 2, 4, 9; transnational: 5, 6, 7), we did not create scales. Equally important as the score on these three key questions would be the relative position on the other questions. Following their conceptual description, transnationals would be expected to score "in between" on, for instance, economies of scale, differentiation and both global and local competition. Multidomestic companies, on the other hand, would be expected to score high on own their key questions and low on the key questions for global companies, and *vice versa*. In addition, global companies would be expected to score low on the network statement, since headquarters plays a dominant role in global companies. In the empirical part of this thesis, responses to these questions will, therefore, be factor-analysed to discover any underlying constructs.

Figure 3.1 The Conceptual Model



Source: Developed by the researcher for the purpose of the current study (2013)

3.2 Country of origin and control mechanisms

This section discusses the control mechanisms of our framework. In subsequent sections, we will show how these control mechanisms are affected by other factors. We will also outline the role the manager can play in this respect and will discuss the two other main blocks of the thesis: MNEs and international transfers as well and build all the hypotheses of the study.

The belief in the universal nature of management or organisational science has often been discarded as a myth (Adler, 1983; Osigweh, 1989). Furthermore, as Clark & Mueller (1996) indicate: "The earlier tendency in management studies towards an intra-firm, universal, context-free and time-free analysis has been increasingly challenged over the last ten years or so" (1996:136). The cultural or societal[14] effect might, therefore, be an important factor in explaining differences among companies, even if they are multinational. Therefore, we may find that the use of specific control mechanisms or even the relationship between various contingency factors and control mechanisms is influenced by the home country of the Multinational Company. Of course, this influence will not likely to be completely deterministic[15], but it certainly is a factor to take into account. Later on the thesis, we will systematically analyse whether specific contingency relationships hold for different countries. In this chapter, we will formulate a number of hypotheses and develop our model on the influence of the home country of the multinational companies and other important factors on the control mechanisms used by MNEs towards their subsidiaries abroad.

Many of the hypotheses report supposed differences between American and Japanese MNEs, the problem is that very few of the studies done on this subject so far, include individual European countries in the picture. We, therefore, agree with Ferner's (1997) suggestion that "the choice of countries of origin for such research should reflect the need to overcome the concentration of much existing research on USA and Japanese MNEs"[16].

3.3 Personal centralized control

A relatively large number of studies have investigated the differences in decentralisation of decision making within Japanese and American companies. Sometimes a number of other

[14] See Sorge (1995) for a discussion of the relation between the two concepts.
[15] See Harzing & Hofstede (1996) for a discussion of the relationship between culture, choice and contingencies.
[16] There are the same limitations applied for research on staffing policies not only controls mechanism. See, for example, subsidiary ownership patterns (Eramilli, 1996).

countries were included as well. Unfortunately, these studies do not show a consistent picture. We will first discuss a number of studies that claim that centralisation is rather high in Japanese companies and rather low in American companies. Subsequently, we will review the studies that come to the opposite conclusion and try to resolve these conflicting views.
First, Legewie, (2002) hypothesises a positive relationship between power/distance and centralisation and a negative relationship between individualism and centralisation. He does not test these relationships in his study; later however Schaaper *et al* (2011) test similar hypotheses and find a significantly higher level of centralisation in companies located in Singapore or Hong Kong when compared to American and Australian companies. A positive relationship between country-of-origin power/distance and centralisation was also found by Wong & Birnbaum-More (1994) in a study of subsidiaries of foreign banks located in Hong Kong. Jain & Tucker (1995) assert that power is more centralised in Japanese companies than in American companies. This claim is confirmed indirectly, since Japanese MNEs had a larger observed need to delegate decision-making authority when extending operations abroad. Kustin & Jones (1996) find that the influence of Japanese headquarters on their American subsidiaries is larger than the influence of American headquarters on American subsidiaries. It may be argued, however, that this is not a valid comparison as subsidiaries located in the same country as headquarters might be treated differently anyhow. Zaheer (1995) found, contrary to their prediction, that Japanese banks showed higher levels of centralisation than American banks.

In contrast to the studies discussed above, some studies come to the opposite conclusion as we seen in chapter two. Chow *et al* (1994) relate centralisation to a country's score on Hofstede's power/distance dimension and predict a higher preference for centralisation among Japanese respondents. Although not much difference was found, preference for centralisation turned out to be higher among American respondents. Legewie (2002) explicitly investigated decision-making autonomy in subsidiaries of Japanese and American MNEs. Questionnaires were distributed at both headquarters and subsidiaries. Their results consistently indicated a greater tendency for American MNEs to centralise decision making in the parent organisation. Negandhi (2007) found the decentralisation of decision making of subsidiaries of American MNEs to be lower than that of both German and Japanese MNEs. He found autonomy was highest for subsidiaries of British MNEs. Japan and Sweden were a close second and third, while subsidiaries of German MNEs had a much lower autonomy. The lowest amount of autonomy, however, was found in subsidiaries of American MNEs.

Based on an extensive literature review, Noorderhaven & Harzing (2009) hypothesises centralisation to be higher in American MNEs than in German MNEs, while the latter will have higher levels of centralisation than other European MNEs. Previously, Yuen (1993) finds that American headquarters exercise a higher influence on the HRM policies of their Singapore's subsidiaries than their Japanese counterparts. Finally, Johnston & Menguc (2007) investigated autonomy in subsidiaries of MNEs headquartered in a number of different countries. Japanese subsidiaries had a much higher level of autonomy than subsidiaries from all other countries in the survey, including the USA.

The results of Spencer & Gomez (2010) might shed some light on these contradictory findings. They find that centralisation of *formal* authority (centralisation in theory) is higher in Japanese organisations when compared to their US counterparts. In contrast to this, centralisation of *de facto* decision making (centralisation in daily practice) is lower in Japanese companies than in American companies. The difference between formal and *de facto* centralisation is very small in American companies, but considerable in Japanese companies. Although the above studies do not provide enough information to verify whether formal or *de facto* authority was measured, this difference might very well explain some of the inconsistent results. As our study will focus on *de facto* centralisation and as most of the studies that focused specifically on MNEs found autonomy to be larger for Japanese subsidiaries, we come to the following hypothesis:

> H1: There is a difference between the Japanese subsidiaries and subsidiaries from US on the level of personal centralized control (PCC).

In addition to the studies discussed above, some additional information is available for different European countries. Two of the studies referred to above (Otterbeck, 1981; Noorderhaven & Harzing 2009) already indicated a rather low level of autonomy for German subsidiaries when compared to subsidiaries from Japanese and other European MNEs. This is confirmed by Johnston & Menguc's (2007) study, in which Germany had the second highest level of centralisation of the ten countries included. A very early study by Daniels & Arpan (1972) found autonomy to be very limited in subsidiaries of both German and British MNEs when compared to both Italian and Scandinavian (mostly Swedish) firms.
We put forward the following hypotheses:

H1b: There is a difference between German subsidiaries and subsidiaries from other European countries on the level of personal centralized control (PCC).

H1c: There is a difference between German and Japanese subsidiaries on score for the level of personal centralized control (PCC).

A related issue that might qualify the discussion on decision-making autonomy in Japanese subsidiaries is the relatively high presence of expatriates in Japanese subsidiaries (see e.g. Kopp, 1994; Ferner, 1997). Ferner (1997) refers to this practice as: "expatriate-intensive modes of control to allow the imposition of central authority through direct contract". In this way, a larger amount of autonomy can be granted since committed Japanese expatriates represent "mini-headquarters" within the foreign subsidiary. Bartlett & Ghoshal (2002) also refer to this phenomenon when they claim centralisation to be the dominant type of control mechanism in Japanese MNEs[17]. This issue will be explored later, when we discuss the use of expatriates in a foreign subsidiary as a control mechanism.

3.4 Bureaucratic formalized control

Results in the area of formalisation are less contradictory. Chow *et al* (1994) found the preference for formal rules to be higher among Japanese managers than among their American counterparts (motivated by Japan's higher score on Hofstede's uncertainty avoidance dimension). Schaaper *et al* (2011) found a non-significant higher level of formalisation in firms located in Hong Kong or Singapore, when compared to Australian and American firms. In Zaheer's (1995) study, Japanese banks showed significantly higher levels of formalisation than American banks.

On the other hand, Bartlett & Ghoshal (2002), in their study of nine MNEs, report formalisation to be the dominant control mechanism in American MNEs. Birnberg & Snodgrass (1988) finds that American firms have more explicit control systems, while Japanese MNEs have more implicit systems. An implicit control system is defined as one in which the bureaucratic rules and standards are not clearly set out and readily knowable by both parties. In this context, explicit control systems may, therefore, be considered to be synonymous with formalisation. Ferner (1997) contrasts control rooted in formal systems, which is said to be typical of US companies with the more socially oriented control mechanisms supported by a heavy use of expatriates, as typical of Japanese MNEs. According to Hulbert (2003) some American MNEs follow the American mode of control to

[17] See Schaaper, Mizoguchi, Nakamura & Yamashita (2011) for implementing the control strategy.

the extreme and run the risk of drowning themselves in the morass of procedures and reports. Baliga & Jaeger (2006) use a similar distinction, when they claim that US companies will tend to use more bureaucratic control and Japanese companies more cultural control, which is seen as the internalisation of and moral commitment to the norms, values, objectives and ways of doing things of the organisation.

Negandhi (2007) reports that 88% of the subsidiaries of American MNEs responded that they depended a great deal on written policies from headquarters, while this was the case for only 32% of the subsidiaries of German and 12% of the subsidiaries of Japanese firms. Noorderhaven & Harzing (2009) finds standardisation in the American MNEs to be higher than in European MNEs. Standardisation in German MNE is also higher than in the other European MNEs. In their study of foreign banks in Hong Kong, Wong & Birnbaum-More (1994) find a negative relationship between uncertainty avoidance and formalisation. Countries in their sample with high uncertainty avoidance include Japan, France, Germany, and Switzerland, while the group of countries with low uncertainty avoidance hosts all the Anglo-Saxon countries. Although Germany is now in the low formalisation group, the scores of Japan and the US are consistent with the previous studies. Considering the relative weight of the evidence with regard to American and Japanese MNEs, Calori *et al* (1994) compared the control mechanisms applied by French and American MNEs towards their British acquisitions. American MNEs were hypothesised to exercise greater control through procedures. As in two studies, French MNEs were found to have low levels of control through procedures, when compared to American or Anglo-Saxon MNEs. We put forward the following hypothesis:

> H2a: Subsidiaries of the American MNEs differ from Japanese subsidiaries in bureaucratic formalized control (BFC).
>
> H2b: There is no difference between American MNEs and European MNEs in bureaucratic formalized control.

3.5 Output Control

Concerning output control, the picture is rather homogeneous. In an early study, Scholhammer (1971) found that American MNEs relied more heavily on reports than

European firms. In addition, Hulbert (2003) found that American MNEs required higher levels of reports than either European or Japanese MNEs. Negandhi (2007) finds the frequency of reporting to be higher in American than in German and Japanese MNEs. In Barnard (2010) study American MNEs also tended to exercise relatively high levels of output control over their foreign subsidiaries, when compared to European firms. British MNEs were included as a separate group and showed output control levels between American and European MNEs. For financial matters, though, British MNEs had exactly as much output control as American MNEs. The differences between American and European firms did not disappear when controlling for age, size, subsidiary country, number of subsidiaries and the international experience of the company. Finally, many of the studies mentioned above under bureaucratic formalised control do not make a distinction between this type of control and output control, claiming both of them to be higher in American companies than in Japanese companies. In view of the observations above, we put forward the following hypotheses:

H3a: Subsidiaries of the American MNEs have higher output control than subsidiaries of European MNEs.

H3b: There is a difference between American and Japanese MNEs on the output control (OUT).

3.6 Control by socialization and networks

Although the use of cultural or clan control in Japanese companies is well known (see e.g. Paik, 2004; Zaheer, 1995; Schaaper et al. 2011) it is not clear whether the same type of control is present in Japanese MNEs. We can distinguish two different approaches in this respect. First, Japanese expatriates could indeed socialise foreign subsidiaries' employees into the Japanese way of doing things. On the other hand, control could also rely on a socialised Japanese managing director that either has internalised headquarters decisions or directly supervises decisions taken at headquarters. In the Japanese firms in some studies, the strength of the hierarchy as a control mechanism was emphasised. Managers in American firms were significantly more homogeneous in their values, i.e. has a higher level of shared values, than managers in Japanese companies. Further, we should note that not every subsidiary of a Japanese MNE would have an expatriate as a managing director. With respect to subsidiaries of Japanese MNEs that have a low expatriate presence, shared values with headquarters is likely to be lower than for subsidiaries of American MNEs, simply because the difference with the idiosyncratic Japanese culture will be larger (Lau 1996).

When comparing the control mechanisms applied by French and American MNEs towards their British acquisitions, Calori *et al* (1994) found that American MNEs exercised higher level of informal control, in particular informal communication to achieve socialisation, than French MNEs. As this result relates back to Laurent's (1983) finding that Anglo-Saxons view the organisation primarily as a network of individual relationships, which influence each other through negotiation and communication, we put forward the following hypotheses:

> H4a: Subsidiary control by socialization and networks (INFO) would be affected by the proportion of expatriate managers.
>
> H4b: The level of subsidiary control by socialisation and networks would be affected the role of expatriate managers.

3.7 Nature of the firm

Two organisational characteristics (size and interdependence) are usually considered to have the largest amount of influence on the applicability of different control mechanisms in organisations. To start with *size:* one of the results from the Aston studies (see among others Pugh et al. 1969) showed that the larger the organisation in terms of employees, the more important was standardisation and formalisation (bureaucratic formalised control) and the less important was centralisation (personal centralised control). The larger an organisation, the more likely it is that the centralised approach to control will generate top management overload (Subramaniam & Watson 2006). Not many studies have been conducted to measure the effect of size on output control or control by socialisation and networks. Concerning *interdependence;* the level of dependence of different parts of the organisation on each other, for example, for inputs. Thompson (1967) draws a parallel between different types of interdependence and different types of control. A small amount of interdependence can be handled by standardisation (bureaucratic formalised control). A moderate amount of interdependence (sequential interdependence) needs coordination by plans or schedules (output control category). A large amount of interdependence calls for mutual adjustment (categorised as one of the elements of the control by socialisation and networks).

Output control would only be feasible if plans and budgets are stated in rather general terms and the requested reports are not too detailed. This leaves us with elements of control by networks or socialisation as the most appropriate control mechanism for uncertain environments (Child, 1997; Mintzberg, 1994). An environment is *heterogeneous* (also called diverse) if the organisation's customers or markets have different characteristics and needs.

Complexity is seen by some authors (e.g. Mintzberg, 1994) as a different environmental factor, and is then usually defined as technological complexity.
Decentralised decision making presupposes freedom of action, which is mainly compatible with output control and control by socialisation and networks. Johnston & Menguc (2007) poses the relationship between diversity and control mechanisms in even more direct terms. According to this, organisations that are more diversified and more differentiated will use coordination by feedback or mutual adjustment rather than "a system of programmed interactions". They furthermore argue that these organisations will rely heavily on socialisation. So, in general we can say that elements of our control by socialisation and network category will be the most preferred way of control in heterogeneous and complex environments, while output control would be in second place.

We can say that large size results in a lower use of personal centralised control and a higher use of bureaucratic formalised control, with a high amount of interdependence, all lead to a larger use of either output control or control by socialisation and networks.

What would be the consequence of these observations for multinational companies? Multinationals are undoubtedly large, which would result in a low use of personal centralised control, but a larger amount of bureaucratic formalised control. By definition, multinationals operate in heterogeneous/complex environments because of the geographical spread of their activities.

Furthermore, the international environment *per se* is already more dynamic/uncertain than the domestic environment. Concerning interdependence in multinational companies, we can consider the different subsidiaries to represent the different organisational parts. We can then say that while some multinationals would have to deal only with some type of interdependence, the global and (in particular) the transnational type of multinational, with its integrated network structure, will certainly be characterised by interdependence. So for multinational companies – large size and high diversity – lead into the same direction, which is a more extensive use of output control and in particular control by socialisation and networks. What can be concluded at this stage is that we would expect that, in MNEs in general, the more indirect means of control (output control and control by socialisation) dominate over the more direct ways of control (personal centralised and formal bureaucratic control). Therefore, we hypothesise the following:

H5: Multinational headquarters use indirect control mechanisms (INFO, OUT) to a larger extent in respect of their subsidiaries than direct control (PCC, BFC) mechanism.

As our study focuses on a comparison *between* MNEs, however, these general indications do not provide us with enough information for a systematic comparison. Therefore, in the next sections we will deal with some headquarters and subsidiary characteristics that might explain differences in the type of control mechanisms that are used by headquarters towards their subsidiaries.

3.8 Size of the MNE

Since the Aston studies[18], the influence of the size of the company on the application of particular control mechanisms, usually centralisation and formalisation, has received a lot of attention. As described above, among organisation theorist there is a consensus that a large size leads to more formalisation and less *centralisation.* Unfortunately, results in the international context are not always consistent. Some MNEs researchers look at the increased risk that is associated with a larger size and, therefore, predict an increasing level of centralisation. Others refer to the difficulty of directly controlling a large enterprise, and predict a negative relationship between size and centralisation. Empirically, a positive relationship between size and centralisation has been found by Johnston & Menguc (2007) and Zaidman & Brock (2009). Hedlund's (2006) results are based on six firms only, but the two firms with the highest level of centralisation were large firms, while the two firms with the lowest of centralisation were small firms. Mixed results were found by Wolf and Egelhoff (2012), where decisions in the area of marketing were more centralised in larger firms, while decisions in the area of finance were more decentralised. Wolf & Egelhoff (2012) seems to support Gencturk & Aulakh's (1995) study. These authors investigated the use of process and output control in American firms. Process control was defined as monitoring; a high level of monitoring meant a high level of process control. Output control was defined as the level of influence of headquarters. If this level were low, there would be a high level of output control. So defined, these different control mechanisms resemble surveillance (high process control) and centralisation (low output control), which are both elements of the personal centralised control. Gencturk & Aulakh found that a large size is associated with lower use of process controls (surveillance) and a higher use of output controls (autonomy). A number of

[18] See Child (1972) and Inkson et al (1970) for an overview.

studies have investigated domestic firms in a number of different countries. Replicating the original Aston studies, Hickson *et al* (1974) found a positive relationship between size and centralisation for British and Canadian firms, but a non-significant relationship for American firms. Another replication in Britain, Japan and Sweden (Horvath *et al*, 1981) found a negative relationship for the first country and a positive one for the latter two. No significance levels were included in this study, however. Finally, Young (2004) found a negative correlation between size and centralisation for American firms, but a positive one for Japanese firms. In view of the mixed conclusions above, we conclude that in general MNE's size will not be systematically related to the level of centralisation of decision making. Differences, however, were found between various countries.

Therefore, we investigate whether the relationship between size and centralisation is constant across the various countries included in this survey. Henceforth, we put forward:

> H6a: There is an impact of the size of a subsidiary and level of personal centralised control (PCC) that HQ exerts over this subsidiary.

The theoretical and empirical results concerning *formalisation* are more consistent with the consensus among organisation theorists. Hulbert (2003) found size of the company to be a major factor leading to formalisation and the use of bureaucratic control procedures. Harzing & Noorderhaven (2006) found a higher level of standardisation for larger firms. The studies that investigated domestic firms in various countries (Hickson *et al*, 2002; Young, 2004) Therefore, we put forward the following hypothesis:

> H6b: There is an impact of the size of MNE and the level of output control (OUT) that headquarters exerts over its subsidiary.

Few previous studies have investigated the influence of size on our two other control mechanisms: *output control* and *control by socialisation and networks.* Harzing & Noorderhaven (2006) found a higher level of shared values for larger firms. Wolf & Egelhoff (2012) also found a non-significant positive relationship between firm size and output control. This positive influence would be expected as both mechanisms influence behaviour only indirectly (see Chapter 2). Larger firms will realise that direct personal centralised control will no longer be feasible and that they would have to rely on indirect mechanisms to achieve control. Although bureaucratic formalised control was also judged a direct type of control, larger firms are unlikely to get away from the pressures of bureaucratisation. In view of the argument above, we would expect, however, that the relation between size and both

output control and control by socialisation and networks would be stronger than the relation between size and formal bureaucratic control.

This section has investigated headquarters characteristics that might influence the use of various control mechanisms. We will now focus our attention on various characteristics at subsidiary level that might influence the use of the various control mechanisms.

3.9 Subsidiary characteristics and control mechanisms

As for the size of the parent company, the relationship between the size of the subsidiary and *personal centralised control* has received quite a lot of attention. Unfortunately, the results are just as mixed. A negative relationship between size and personal centralised control was found by Zang *et al* (2006) and Vora *et al* (2007), while a positive relationship was found by Young (2004). Harzing & Noorderhaven (2006) found a significant negative relationship only when relative size was measured.

These contradictory empirical results could be explained by the equally contradictory theoretical motivations. As Vora *et al* (2007) explain: "From a theoretical standpoint, one can detect two conflicting forces at work. On the one hand, increased size means that the subsidiary can build up its own resources and become less dependent upon management. On the other hand, a very large subsidiary is of great importance to the whole company and may, therefore, require a lot of attention." Vora *et al* (2007) conclude that a curvilinear relationship might be most likely. As with the size of the parent company, contradictory results might also be due to a different pattern of relationships across countries.

In a domestic but cross-cultural setting, Crozier et al. (2009) found size to be positively related to autonomy for American firms, negatively for Canadian firms and unrelated to autonomy for British firms. In the comparative domestic study by Dow (1996), size was negatively related to centralisation for British firms, and positively for Swedish firms, while no significant relationship was apparent for Japanese firms.

In view of these very mixed findings, we conclude that in general a subsidiary's size will not be systematically related to the level of personal centralised control. As differences were found between various countries, we will investigate whether the relationship between size and centralisation is constant across the various countries included in this survey.

Although, in general, size is expected to be related to a higher level of *bureaucratic formalised control,* we should not forget that in this study we look at the extent of bureaucratic formalised control that is exercised by headquarters towards its subsidiaries.

Although larger subsidiaries might be more formalised, this is likely to be a self-induced formalisation, and not formalisation or standardisation forced upon them by headquarters. Few studies are found that relate subsidiary size to the level of bureaucratic formalised control exercised by headquarters. (Vora *et al*, 2007) found, contrary to their expectations, a negative relationship between both the relative and absolute size of the subsidiary when measured as turnover and formality. Harzing & Noorderhaven (2006) found no significant relationships for absolute size measured as both employees and turnover.

The theoretical arguments for the relationship between subsidiary size and bureaucratic formalised control could go both ways. On the one hand, larger subsidiaries might be in a better position to resist this rather direct form of control, but on the other hand a larger size might induce headquarters to want to standardise and formalise operations to a larger degree. Since, both arguments are equally reasonable, we will not offer a specific hypothesis on this relationship. For the relationship between subsidiary size and output control the number of empirical investigations are again limited. Wolf & Egelhoff (2012) found a significant positive relationship for manufacturing, while for marketing and finance the relationships were not significant. Harzing & Noorderhaven (2006) found a generally positive relationship for absolute size only. In addition, a significant positive relationship between both relative and absolute size and shared values was found. Due to a complete lack of previous research, they did not offer a hypothesis about this. In his discussion of the findings, they refer to a control gap that could be filled by international travelling; a control mechanism that is not included in our study.

In our view, a control gap could indeed be a problem in large subsidiaries. Precisely, because of their size, large subsidiaries are very important for headquarters. Headquarters would, therefore, be likely to prefer to have some level of control over these subsidiaries. As the discussion above showed, however, centralisation and formalisation are probably less feasible for large subsidiaries. Output control could fill part of this gap, but we consider it more likely that the even more flexible and less oppressive control by socialisation and networks would be used to fill this control gap. We would, therefore, expect that headquarters to exert a relatively large degree of control by socialisation and networks towards larger subsidiaries.

Therefore, we hypothesise:

H6c: Size of the subsidiary will have an impact on the level of control by socialization (INFO) that HQ exerts over this subsidiary.

3.9.1 Age of subsidiary

The age of the subsidiary has also received a relatively high amount of attention by MNEs' researchers, especially what the relationship with *personal centralised control* is concerned. Fortunately, the empirical results are somewhat more homogeneous than the ones we discussed in the previous section. Although Johnston & Menguc (2007) found non-significant results, Wolf and Egelhoff (2012) found a significant negative relationship for the finance area only, Hoffman (1988), Youssef (1975), and Harzing & Noorderhaven (2006) all found support for a negative relationship. This negative relationship seems very logical. Headquarters will tend to supervise young subsidiaries more closely and centralise decision making because the new investment brings specific uncertainties, which have already been eliminated in older subsidiaries. Also, younger subsidiaries probably do not have the same amount of qualified manpower that older subsidiaries have, so are less likely to be left taking decisions on their own. Therefore:

H7a: The age of subsidiary is negatively related to the amount of personal centralised control (PCC) that HQ exerts over this subsidiary.

Concerning the other control mechanisms, the state of empirical research is rare. Although Harzing & Noorderhaven (2006) investigated the relationship between age and standardisation and shared values, no significant results were found. Egelhoff (2010) found a negative relationship between age and output control only in the finance area. We believe that the "control mechanism" that is most affected by the age of the subsidiary is given with the level of expatriation, as was discussed in the second chapter. However, the fact that two personal types of control are expected to be negatively related to subsidiary age would lead us to expect that it might be the more impersonal types of control (bureaucratic formalised control and output control) that are more prominent in older subsidiaries. Therefore:

H7b: The age of the subsidiary is positively related to the amount of bureaucratic formalised control (BFC) and output control (out) that HQ exerts over this subsidiary.

3.9.2Interdependence

In contrast to size and age, interdependence is an ambiguous concept. Before we discuss any possible impacts of this factor on the application of various control mechanisms, we will first explore the exact meaning of this concept. We would like to distinguish three different levels of interdependence. First, independence; where the subsidiary is not (or is only hardly) dependent on headquarters and is operating very much as a standalone company. This is the way in which subsidiaries in the so-called multidomestic MNEs would function. Second, dependence; where the subsidiary is dependent on headquarters, which is claimed to be typical of subsidiaries in global MNEs. Finally, actual interdependence; where the subsidiary, headquarters and other subsidiaries all form part of an interdependent network, such that they are in a sense all dependent on each other. This is assumed to be a typical description of the function of subsidiaries in a transnational company. Interdependence will be used when we refer to the interdependent network idea, in which subsidiaries are also dependent on each other.

That an increasing interdependence should lead to a higher total level of control is assumed, explicitly or implicitly, in many publications. Anderson & Forsgren (1995), for instance, assume the extent of subsidiary embeddedness to be positively related to the amount of control exercised by headquarters.

The study by Martinez & Jarillo characterises subsidiaries, as regards their interdependence in relation to headquarters and other subsidiaries, and finds that the higher the amount of interdependence, the higher the total amount of control exercised. In a discussion about different control mechanisms in relation to interdependence, Hennart (2011) argues that increasing interdependence doesn't have to lead to increased centralisation as there are other ways to control subsidiaries, such as socialisation and output control. What he does argue implicitly is that increased interdependence should lead to increased control levels in one form or another. That an increasing level of interdependence should lead to higher control levels is easily comprehended. High levels of interdependence increase both the importance of subsidiaries for headquarters and the level of risk involved. Consequently, a higher level of control will be induced.

Not all control mechanisms, however, will be equally affected by an increasing interdependence. Various authors have focused on the effect of interdependence on the level of centralisation (an element of our personal centralised control) and have generally found this relationship to be positive. In an early study, Picard (1979) forms an exception to this

case as he found a significant negative relationship between interdependence and centralisation. In Hedlund's (2006) study, the two firms with the lowest level of interdependence also showed the lowest level of centralisation. Johnston & Menguc (2007) found both affiliate sales to headquarters and affiliate purchases from headquarters to be strongly related to centralisation. In fact, these two variables were the only ones that showed consistent and very strong relationships with centralisation across the three samples discussed in his study. Knoerich (2010) also found the dependence of a subsidiary on the parent company to be the most important factor in determining the level of centralisation. In their conceptual article, Baliga & Jaeger (2006) hypothesise a positive relationship between interdependence and the level of centralisation. Gates & Egelhoff (1986) found mixed results; the relationship was negative for financial decisions, and positive for marketing and production decisions. Martinez & Jarillo (2005) found a strong positive relationship between subsidiary dependence on headquarters and headquarters' influence over subsidiaries. In Forsgren & Holm (2010) study of the relationship between division management and subsidiaries in Sweden, resource independence is related to autonomy. Quester & Conduit (1996) argue that the greater the dependence of a parent company on its foreign operations, the greater the risk to the parent company and the stronger the tendency to centralise all decisions.

> H8a: There will be a positive relationship between interdependence and the personalized control. (PCC).

Less empirical studies are available on the relationship between interdependence and bureaucratic formalise control. Consistent with their hypothesis, Vora *et al* (2007) found a positive correlation between cross-shipments of goods and the level of formality of headquarters-subsidiary relationships. Fan & Zhu (2008) found a positive, correlation between manufacturing interdependence and impersonal control mechanisms (standard operating procedures, reports, plans and schedules). Finally, Grant (1996) found a strong positive relationship between interdependence and standardisation of both policies and processes in all functional departments of 69 German MNEs. So we will put forward the following hypothesis:

> H8b: There will be a positive relation between the extent of interdependence of a subsidiary with the MNE as a whole and the amount of control (OUT) that is exercised by headquarters towards that particular subsidiary.

3.9.3 Local responsiveness

Local responsiveness is a very important concept in the studies of MNEs that we have described previously. Subsidiaries might differ in the extent to which they (are allowed to) respond to the local market. Not every subsidiary of a multidomestic company will be equally locally responsive. We will, therefore, also discuss the possible influence of a subsidiary's extent of local responsiveness on the type of control mechanism that is used by headquarters towards this particular subsidiary. Martinez & Jarillo (2005) study deals explicitly with the concept of local responsiveness in relation to different control mechanisms.

Martinez & Jarillo (2005) studied the relationship between various subsidiary roles and the amount of control exercised by headquarters towards a particular subsidiary[19]. Concerning the type of control, they only distinguished between formal and subtle control mechanisms. The formal control mechanisms, distinguished by Martinez & Jarillo, include all our control mechanisms except for control by socialisation and networks, which is represented by Martinez & Jarillo's subtle mechanisms. As Martinez & Jarillo presented their results of subsidiaries on both interdependence and local responsiveness, what can be said, however, is that local responsiveness seems to be positively related to the total level of control exercised by headquarters. In order to be locally responsive, a subsidiary should not be strictly controlled by headquarters, to control its local responsiveness. We put forward the following hypothesis:

> H8c: There would not be a positive relation between the extent of local responsiveness of a subsidiary and the amount of control (PCC) that is exercised by headquarters towards that particular subsidiary.

3.10 International Transfer (Expatriate Role)

In previous sections, we discussed alternatives for international transfers in achieving control by socialisation and informal networks.

Several authors (E.g. Bartlett & Ghoshal, 2002; Vachani 1999) suggest that international transfers would probably be the strongest alternative in providing socialisation and network building for expatriates themselves. Sturges & Liefooghe (2010), for instance, sees "career and mobility management" as a stronger "glue mechanism" providing more "inter-unit cohesion" than project groups and training. When transferred internationally, the employee is

[19] (See Jindra, Giroud, & Scott-Kennel, 2009) for a recent study.

immersed into the local culture and situation completely, has no way to escape and is dependent on his collaboration with people with different cultural backgrounds and perspectives to achieve results. This gives the best opportunity to provide long-lasting multiple dimensional attitudes. The contacts last longer and will be more intensive, which will give a better opportunity for long-lasting informal networks. For subsidiary managers themselves, however, the direct influence of the participation in management training programs or international task forces on informal networking would probably be stronger than the indirect effect of expatriate presence in subsidiaries.

Therefore, a high level of shared values between a given subsidiary and headquarters and an intensive informal information network can probably be achieved in a more direct and less expensive way than by international transfers. This does not mean, however, that international transfers have become useless. First, they can provide an important support function for achieving control by socialisation and informal networks, and second, they can fulfil a number of other functions as discussed in Chapter 2. In an effective multinational company, we would, therefore, expect the use of both management training & task forces and international transfers to achieve control by socialisation and informal networks.

3.10.1 International Transfer and Personal Centralized Control

In Chapter 2, we distinguished four different control mechanisms. And then, we explained how international transfers facilitate control by socialisation and informal networks. In this section, we will show that international transfers can also be used to effectuate personal centralised control.

Most of the authors refer to Edstrom & Galbraith (1977b) to substantiate their argument. Edstrom & Galbraith analysed the international transfer of managers in four multinational companies. One of these multinationals transferred a far greater number of managers than its direct competitor, despite being of the same size, operating in the same industry and having nearly identical organisation charts. Edstrom and Galbraith hypothesised that this multinational transfer of managers was being used to socialise managers and create informal verbal international information networks. However, few research studies (e.g. Ferner, et al. (2004) have attempted to test this hypothesis empirically. According to Ferner *et al* (2004) with regard to international transfers: ‘’These transfers were seen as a way for individuals to build up networks of contacts and to absorb the international ethos and practices of the firm:

part, therefore, of what Edstrom & Galbraith (1977b) refer to as an international "control strategy based on socialisation" (Ferner *et al*, 2004:373). Although these studies provide some preliminary ideas on the validity of Edstrom and Galbraith's hypothesis, a firm conclusion is hampered by the usual generalisation problems associated with case studies.
Some studies, discussed in Chapter 2, empirically investigated the various roles of international transfers. Within the coordination role, however, the emphasis was mostly on a rather direct form of control (comparable to the personal centralised control). In addition, data were usually gathered at headquarters.

To answer this contradiction, we tried to find a more quantitative way to test the hypothesis that international transfers serve to achieve control by socialisation and informal networks. One of our control mechanisms is control by socialisation and networks. If subsidiaries with a large proportion of internationally transferred managers have a higher amount of control by socialisation and informal networks, we may conclude that international transfers achieve control by socialisation and informal networks. As international transfers are hypothesised to influence the socialisation and informal network elements of control by socialisation and informal networks, but not necessarily the formal network element, this leads to the following hypotheses:

> H9: There is a positive relationship between expatriate numbers in the subsidiary and informal control (INFO).

3.11 Performance differences between MNEs

Above, we indicated that, in addition to organisational factors, differences in "economic" factors might also create performance differences between firms. In addition, many researchers in the field of international business, an area dominated by economists, have investigated the influence of International Strategic Structure (ISS) on performance. Since ISS is one of the headquarters characteristics included in our study, we will review the performance effects of this factor as well. Finally, many investigators of MNE performance have found the country of origin to be an important differentiating factor in firm performance (Tolentino 2010; Rao et al., 2007). Although country of origin is clearly not an economic factor, it can have political, social, cultural, legal, as well as economic aspects, and we will discuss its effects. Therefore, we will discuss the factors that may explain performance differences: country of origin, industry, ISS as nature of the firm.

3.12 Country-of origin

Quite a number of researchers have investigated differences in performance between firms from different countries. Since the firms included in these samples, were nearly always the largest companies of the respective countries, most of the studies concerned multinationals. Buckley et al. (1978) found the nationality effect on growth and profitability to be significant. They did not give any details, however, about the specific countries that were found to host either high- or low-performing firms.

Rugman (1983) compared the performance of American and European MNEs over a period of ten years (1970-1979). Performance was measured as ROE. American firms outperformed European firms by a considerable margin; average ROE was 8.36% for European firms and 12.95% for American firms. Soenen & Van den Bulcke (1988) took a slightly different approach and compared performance levels of Belgian MNEs with Belgian subsidiaries of European and American firms over a five-year period (1979-1983). American subsidiaries outperformed both European subsidiaries and Belgian companies, although the difference was larger for the latter.

Geringer & Hebert (1989) included the 100 largest American and the 100 largest European MNEs in their study on the impact of different strategy and internationalisation on performance. In addition to the influence of these two variables that will be discussed below, the authors found large differences in performance between American and European firms. Over a five-year period (1977-1981), ROS was 5.16% for American and 1.52% for European firms, while ROA was 6.82% for American versus 2.05% for European firms. Ramaswamy (1995) studied the ROA of the 50 largest American, European and Japanese companies over the 1980-1985 period. In the regression analysis, however, nationality was only significant when past profitability (1975-1979) was excluded as a predictor variable. Brown et al. (1994) compare American and Japanese firms on a number of financial statement ratios for the years 1985-1988. Since American firms turn over assets other than inventory more quickly than Japanese firms do, they have a significantly higher ROA. This difference increases over the years. Finally, Blaine (1994) concludes that in spite of the vast differences in the approaches used in previous studies it seems safe to say that American firms consistently outperformed similar Japanese and European firms during the period under study (1970-1987). Therefore, we will put forward the following hypothesis:

H10: Performance of MNEs' subsidiaries will differ based on the home country of the subsidiary.

3.13 International Strategy and Structure

In chapter two, we identified three main types of international companies: multidomestic, global and transnational. The multidomestic firm is characterised by decentralised network structure, in which subsidiaries operate rather autonomously and differentiate products and policies to the local market. The global firm operates in a much more integrated and centralised way. Subsidiaries have less freedom of action and the MNE's strategy is focused on achieving efficiency with standardised products. The transnational firm combines integration and responsiveness and is characterised by an integrated network structure in which subsidiaries can play a strategic role. What would be the consequence of these different models for the application of the various control mechanisms?

Let us look at the total level of control that is exercised. When reviewing the descriptions of the various MNEs types, it should immediately become clear that multidomestic MNEs would exercise a lower level of control towards their subsidiaries than global or transnational MNEs as argued by Roth, Schweiger & Morisson (2005). Moreover, Harzing et al. (1996) found indeed that global firms had higher levels of formalisation, centralisation and integrating mechanisms than multidomestic firms. Global and transnational MNEs are assumed to have broadly comparable levels of control as both types of firms are highly integrated. In addition, some authors have discussed the application of *personal centralised control* in "MNEs. Bartlett & Ghoshal (1989, 1992a) claim that centralisation is the dominant control mechanisms in global companies. Gerpott (2001) suggests that centralisation will be highest for global strategies, lowest for multidomestic strategies and in between for "hybrid" (transnational) strategies. Welge (1987b) contends that within integrated global structures there will be less room for autonomy for subsidiaries

Concerning *bureaucratic formalised, some* of the authors above contrast informal control with bureaucratic and claim the latter to be less applicable in transnationals. A more focused motivation can be found in Harzing et al. (1996). They refer to the fact that global companies try to sell standardised products, which would make a high level of standardisation a logical choice. Transnationals are much more differentiated and have to act in very flexible way.

This would make standardisation and formal procedures unfeasible. This means that MNEs with the global strategy will experience higher BFC than MNEs with transnational strategy.
Martinez & *Jarillo* (1989) suggest that changes in the international environment and international competition (from multidomestic and global to transnational) has resulted not only in changing strategies and structures for multinational companies, but also in a change in the combination of coordination mechanisms used by multinational companies. Co-ordinating mechanisms in multidomestic and global multinationals were mainly limited to structural and formal mechanisms, which comprise the first three groups we distinguished in Chapter two (personal centralised control, formalised bureaucratic control and output control). The complexity and uncertainty of a transnational environment, however, has forced multinational firms to adopt what Martinez & Jarillo call "more informal and subtle coordination mechanisms". In this category, they distinguish three different mechanisms. First, "micro-structural arrangements", also called lateral relations that supplement the formal organisation structure.
Also, "informal communication channels" supplementing the formal information system". These informal communication channels consist of direct contact between managers, regardless of their location (headquarters or subsidiaries) or hierarchical position. Moreover , "the development of a strong organisational culture that includes both a deep knowledge of the company's policies and objectives and a strong share of organisational values and beliefs" (Martinez & Jarillo, 1989:508). We clearly recognise the different subsidiary-categories of our control by socialisation and networks as distinguished previously: "socialisation", or INFO control.

Finally, As subsidiaries from multidomestic companies should have a high level of freedom to decide upon their own actions, we would expect that if any control is exercised, headquarters would choose for one of the more indirect ways of control: output control or Info control by socialisation and networks as we discussed in a previous hypothesis. Also Bartlett & Ghoshal (1989, 1992a) saw socialisation as the dominant control mechanism for multidomestic MNE, Therefore we put the following hypothesis:

> H11: INFO control would be expected to be the dominant type of strategy used in global, transnational and multidomestic MNEs.

3.14 Industry

Another "economic" aspect that will be included in the analysis of performance differences is the industry in which a company operates. Many of the studies that we discussed did not pay attention to industry differences, and sometimes did not even include the industry distribution in their sample description. Buckley et al (1978), however, found industry effects significant for both growth and profitability. This was only the case for the American firms in their sample, however. For non-American firms, nationality of the parent had a higher explanatory power. No details are given as to which industries are either high or low performers. *Pantzaliz* (2001) study also found a significant explanatory power for industry. Again, no indication is given as to which industries are either high or low performers. *Ramaswamy* (1995) also found industry to be a significant explanatory factor, especially when past performance was excluded as a predictor variable. The industries included in Ramaswamy's study were nearly the same as the ones included in our sample, except for the fact that the paper and pharmaceutical industry are found in the miscellaneous category, while Ramaswamy's study also includes metal manufacturing and industrial and farm equipment. The following individual industry dummies were significant in the regression analysis: chemicals, metals, motor vehicles and industrial equipment. Unfortunately, the size and sign of their influence is again not revealed. Cool et al., (2006) also find industry to be a significant factor in explaining performance differences. However, once more in this study no additional information is given on the specific influence of an individual industry. Cool et al., refer to a study by Schmalensee (1985), however, in which industry differences (measured as industry ROA) explained almost all (at least 75%) of the variance in business unit performance. We will, therefore, put forward the following general hypothesis:

> H12: There will be significant differences in performance between different industries.

3.15 Knowledge flows

The knowledge transfer between the headquarters of MNEs and foreign subsidiaries is an important factor (Castro & Neira 2005). The knowledge flows from the subsidiary depend on the value the subsidiary has (Gupta & Govindarajan, 2000). Knowledge flows to the subsidiary will depend on the transmission channels and motivational disposition to acquire knowledge (Cantwell & Mudambi, 2005). Moreover, intra-MNE knowledge flows are a key

determinant of subsidiary bargaining power, and subsidiary managers can exploit such power in order to pursue their own ends (Foss & Pederson, 2004). Notably, subsidiaries may have more control and autonomy depending on the flow of knowledge form the headquarters.

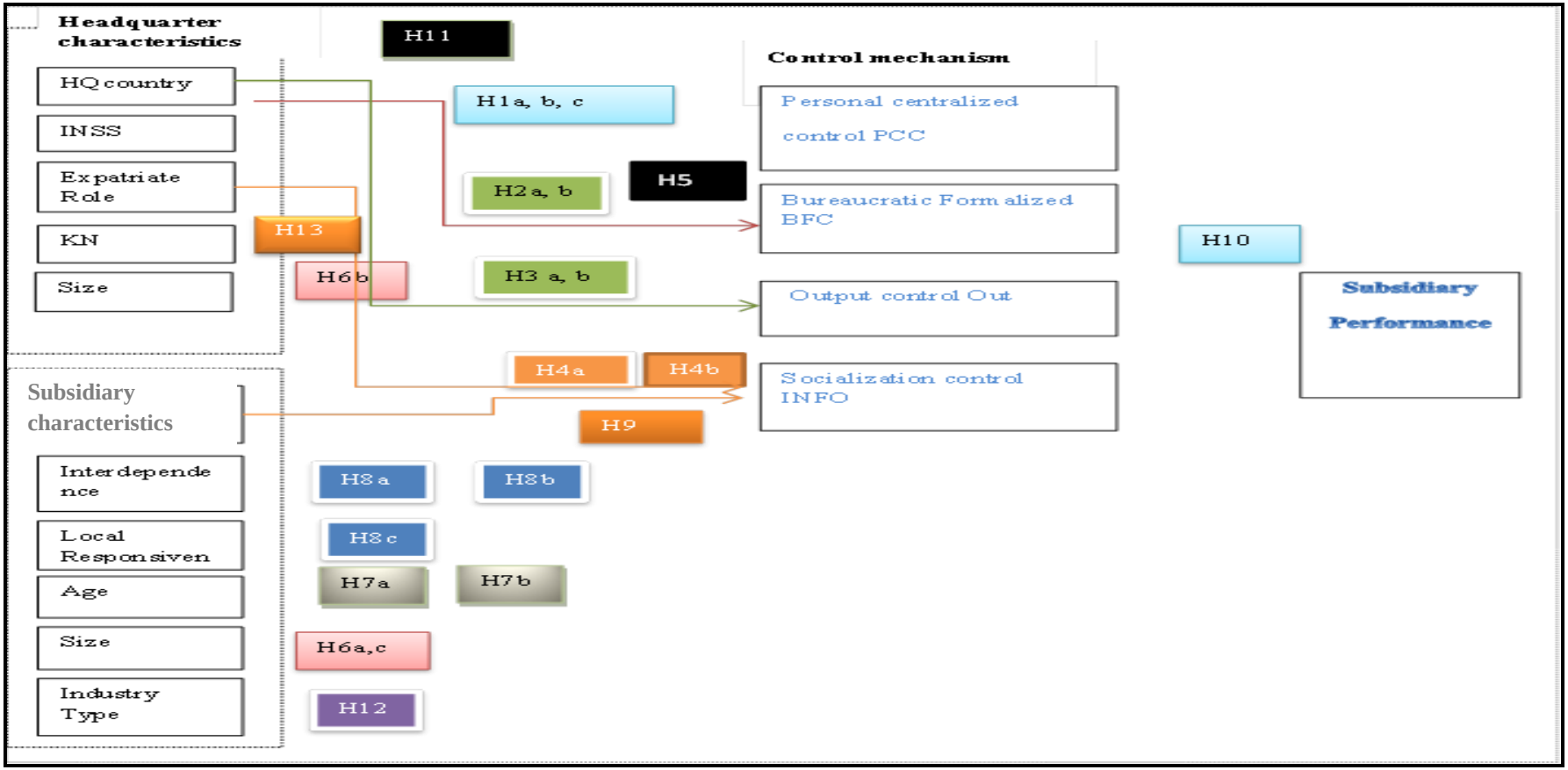
In this regard, Harzing & Noorderhaven (2006) offer an empirical test and extension of Gupta & Govindarajan's (2000) typology of subsidiaries' roles based on knowledge flows and outflows. The results confirm that different subsidiary roles are associated with different coordination mechanisms, relative capabilities, and product flows. Espousing a hierarchical view of the MNE—and focusing particularly on knowledge as a strategic resource—the evolutionary theory of the MNE (Kogut & Zander, 1996), posits that the reason behind the MNE's mere existence was its distinctive ability to absorb and disseminate knowledge within the boundaries of the firm. From this standpoint of firms as repositories of knowledge, the MNE was viewed as a vehicle for creating, integrating and applying knowledge across its different locations (Makela & Piekkari, 2007) In this view, proposed as an alternative explanation to the traditional economic theory arguments (Williamson, 1981), the multinational firm arose; not owing to market failure in transactions involving knowledge, but rather because of its superior ability to transfer knowledge and knowledge-related processes internally (Dimitratos, Liouka, & Young 2009 ;Kogut & Zander, 1996; Drogendijk & Holm, 2012).

Literature on MNE subsidiaries has examined the importance of the subsidiary's network for the creation of new knowledge and essential potentials at the subsidiary level (Andersson *et al*, 2007). Jaw, Yu Ping & Chen (2006) conducted a study to examine the relationships between knowledge flows and subsidiaries' performance in the perspective of human capital, and found that there is a relationship between systematic perspectives of human capital and performance. Senior managers' competence boosts the performance underlying the human capital system. Furthermore, knowledge flows can enhance performance, particularly in the early state of the subsidiary's establishment. Subsidiaries with a high manager's competence during their early establishment will have high knowledge flows from the headquarters, which will affect their performance both significantly and positively. Some subsidiaries can be affected by other subsidiaries facing difficulties in knowledge flows. In this vein, Monteiro, Arvidsson & Birkinshaw (2008) studied the knowledge flows from another perspective; they provided some initial insight to the little-researched phenomenon of why some subsidiaries are isolated from knowledge-transfer activities within the MNE. The study

focused on the market-facing subsidiaries—units responsible for marketing and sales activities within a particular country of large MNEs. The first was sent to the managers of 204 marketing subsidiaries in the six participating MNEs; the second part of the survey was filled in by executives from corporate headquarters. This study showed that there is a difference between market-facing subsidiary units; whilst some units were perceived to be highly capable, others were perceived not highly capable. This study focuses on the knowledge flows within these units. Knowledge flows are also associated with existing levels of communication and reciprocity. Such findings suggest that knowledge transfers in MNEs typically occur between highly capable members and the isolated minority. The isolated minority underperforms other subsidiaries, thus suggesting the possibility of a 'liability of internal isolation'.

H13: Knowledge flows are significantly related to perceived performance of the subsidiary.

Figure 3.2 An overview of relationships that are covered in this study between the headquarter and subsidiary characteristics and control mechanisms



Source: developed by the researcher for the current study (2013)

3.16 Chapter Summary

This chapter focused on the examination of the factors that had been derived from the literature review. Therefore, it gave the background to the theories that are implemented in the international business field; explained the framework for the research, which used the most appropriate model for the study; reviewed the variables that link the headquarters–subsidiary relationship and explained the development of the hypotheses of the study.

In Chapter 2, we discussed organisational control mechanisms and the environments, strategies and structures of MNEs. In this chapter, we combined these elements and explore what can be deduced about the use of various control mechanisms in these MNEs. In doing so, we take a two-step approach. First, we reviewed what 'traditional' organisation theory has to say about the use of control mechanisms in different circumstances and our hypotheses were drawn with regard to MNEs. Subsequently, we discussed a number of headquarters and subsidiary characteristics that are hypothesised to influence the use of various control mechanisms. In discussing the characteristics of subsidiaries and headquarters, we used a variety of research streams. Moreover, we showed how these control mechanisms are affected by other factors. We also outlined the role the manager can play in this respect and discussed the two other main blocks of the thesis: MNEs and international transfers.

Additionally, we discussed all of the hypotheses that are related to our theoretical framework and explained how these can function. We also attempted to provide a clearer picture of what is meant by socialisation and network communication and the relation of this concept to international transfers and strategy and structure of the MNEs. We discuss the general claim that international transfers can be used to achieve control by socialisation and informal networks, explaining why each type of international manager is not equally effective in realising this goal. Subsequently, various alternatives to achieve control by socialisation and informal networks are discussed. Lastly, we discuss the factors that may explain performance differences: country of origin, industry, strategy, structure and knowledge flows.

CHAPTER FOUR RESEARCH METHODOLOGY

4.1 Introduction

This chapter provides a description of the research design and methodology. The methodology of a study is concerned with the choice of appropriate methods, by which the validity of the research is judged. Thus, it requires a clear and comprehensive rationalisation of how the study is to be done and why particular procedures would be preferred.
The present research has been developed on the basis of a literature review and conceptual approach, as discussed previously. With the support of the conceptual approach, a few hypotheses have been developed in relation to independent and dependent variables.
In order to select a methodological approach for a study, a philosophical stance is required to understand the relationship and justification for the adopted approach. This justification leads to an explanation for the use of the methods adopted. The discussion should be limited to the selection of a research strategy and the justification of the adoption of a strategy for the purpose of theory testing.

Drawing on research approaches, a research design has been established to guide the present study in a systematic way. In this chapter, the researcher discusses in detail the empirical research methodology, including data collection and data analysis. The first section discusses the research philosophy; the next section deals with the research approach adopted for this study. This is followed by an explanation of the justification for the use of a quantitative approach in this study. The choice of the research method and the operationalisation of the variables included in this study are explained afterwards. A more detailed description of the research method selected to collect the data is then provided. The final section describes the sample and investigates whether it can be considered representative of the population of MNEs in general. The final section reviews different types of management studies and the methodological issues associated with this type of research.

4.2 Research Philosophy

The research philosophy reflects how a researcher considers or thinks about the effects of the approach adopted in the development of knowledge. Informally, it is the way in which research is conducted in order to ensure convincing research outcomes (Saunders et al.,

2009). Importantly, two main philosophical positions influence the designs of most management research: positivism and phenomenology.

The key idea of positivism is that the social world exists externally; the properties of which should be measured through objective methods (Easterby-Smith *et al,* 2008). On the other hand, the phenomenology idea behind the framework is that reality is not objective and exterior, but rather is constructed socially and given meaning by people; thus, it focuses on the way in which people create logic within their world, particularly through sharing their experiences with others through the medium of language (Saunders *et al*, 2009).
The idea of phenomenology is that reality is determined by people. Accordingly, focus should be directed towards what people are thinking and feeling, both individually and collectively. Thus, it is stated that 'one should try to understand and explain why individuals have diverse experiences' (Easterby-Smith *et al*, 2008, p. 58).

To a significant extent, this study is based on positivism or on the existence of social facts. The positivist approach explains and predicts causal relationships between its elements, which occur in the social world, by searching for the regularities (Bryman, 2004). A positivist has a preference for empirical data, which can be observed and measured so that various components can be compared for their relative frequency. Using such a quantitative basis, it is possible to generate regularities which can then be generalised to broader populations. The philosophical assumptions of positivism are presented in Table 3.1.

Table 4.1 Summary of philosophical stance of research approach

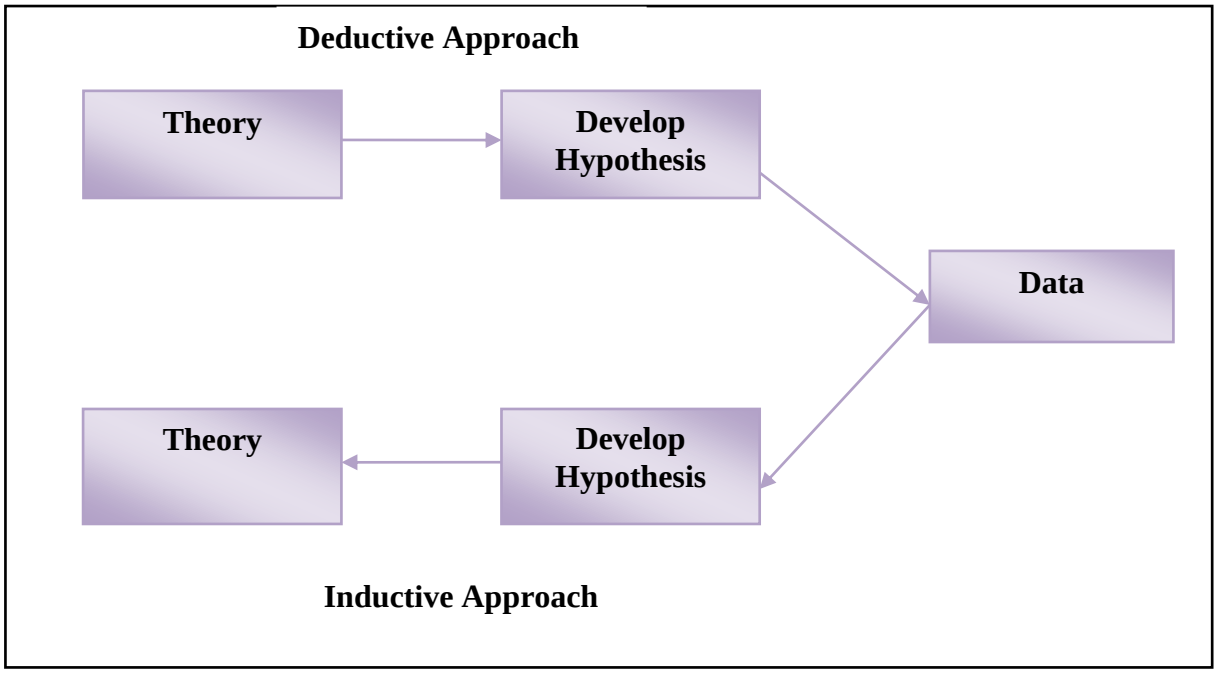
Approach	Description	References
Positivism	To develop valid and reliable ways of collecting "facts" about society, this can then be statistically analysed in order to produce explanations about how the social world operates.	Gilbert (2001)
Phenomenological	To gain deep understanding of human behaviour by revealing people's values, interpretive schemes and belief systems.	Cavana *et al* (2001)

Source: Adapted by the author.

Both traditions were revealed in their pure forms and found not only different but also mutually exclusive (Gilbert, 2001). From a philosophical stance, a positivism paradigm uses

deduction, beginning with theory, developing hypotheses and collecting data, while the phenomenological follows induction, the process of finding a case, observing relationships and finally constructing a general theory to cover all cases. According to Cavana *et al* (2001), quantitative design starts from support of the theory, developing hypotheses, collecting and analysing data and then accepting or rejecting hypotheses. However, the phenomenological research method starts from observing phenomena, analysing patterns and themes, formulating relationships, and then developing a theory, supporting the theory, and developing hypotheses as shown in Figure 3.1.

Figure 4.1 Deductive and inductive reasoning in research



Source: Cohen *et al.* (2000, p-7)

It has been realised in literature (e.g Cycyota & Harrison (2006)) that research methodology has a related philosophy within the different schools of thought. Ultimately, the aim of an approach is to develop valid and reliable facts from society. However, Easterby-Smith *et al* (1991, p-27) observed and found different features of the positivism and phenomenological paradigms, as shown in Table 3.2

It is important to select the correct methodological paradigm in order to appreciate methods and decisions that can be controversial. It can be observed that both methods have some strengths and weaknesses. This is well defined by Amaratunga *et al* (2002), who stated that the positivist approach is faster, more economical and can cover a wider range of population, whilst the data collection method is inflexible. In the phenomenological paradigm, data

gathering methods are seen as natural rather than artificial. This method supports easy understanding of people's meanings and ideas. From the point of view of weaknesses, it can be tedious and requires more sources for data collection. It is more difficult in analysis and interpretation than the positivist approach.

Table 4.2 Key features of positivist and phenomenological paradigms

Theme	Positivist Paradigm	Phenomenological Paradigm
Basic beliefs	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what is observed
	Science is value free	Science is driven by human interest
	Focus on facts	Focus on meaning
	Look for causality and fundamental law	Try to understand what is happing
Research should	Reduce phenomena to simplest elements	Look at the totality of each situation
	Formulate hypothesis and test them	Develop ideas through induction from data
	Use single concepts so that they can be measured	Use multiple methods to establish different views of the phenomena
Preferred method in the research	Taking large samples	Establish different views of the phenomena
		Small samples investigated in depth or over time

(Adapted from Easterby-Smith *et al* (1991)

In research, philosophy depends upon the ontology, epistemology, human nature and methodology which relate to reality, the relationship between reality and the researcher, and the techniques used by the researcher to discover the reality, respectively (Healy and Perry, 2000). The researcher has discussed both paradigms of research in which the positivism paradigm is based on the ontology of the world that is external and objective, while the epistemology is based on the belief that observers are independent. According to Burrell and Morgan (1979), there are four pairs of assumptions of both subjective and objective paradigms in social science research. From an ontological assumption, the main concern is the very nature or essence of the social phenomena that are to be investigated. In this assumption, a nominalist looks at social reality, while an objectivist looks at realist position. In epistemology, there is an assumption that the researcher is concerned with nature and forms, whereas a subjective approach is based on the experience and insight of a personal

nature, and an objectivist approach is observable and is firmly in the research domain. The third assumption involves human nature in relationship to human beings and the environment. In this approach, subjectivists consider individuals as initiators and voluntaristic, while objectivists portray their environment as deterministic.

Finally, there are methodological issues related to measurement and identification of underlying themes. In the above approach, subjectivists try to understand individual behaviour, which may be ideographic, while the objectivist is characterised by procedures and methods which may be designed to discover a general law that is referred to as nomothetic. Table 3.3 given by Cohen *et al* (2000, p7), shows different research methods that influence the choice of methodologies.

Table 4.3 Two traditions of social science approaches

The subjectivist approach to social science		**The objectivist approach to social science**
Nominalism	Ontology	Realism
Anti-positivism	Epistemology	Positivism
Voluntarism	Human nature	Determinism

(Adapted from Cohen *et al* (2000))

4.2.1 Research Approach Adopted for this Study

This research study measures the relationship between independent and dependent variables. Initially, the research started from the review of a large amount of literature and developed a conceptual approach for the empirical examination. According to the conceptual approach, and with the support of theories, this research has developed hypotheses to examine the relations between independent and dependent variables. The procedure adopted for this research follows a quantitative approach for data collection and analysis. According to Gilbert (2001, p19), the positivism paradigm uses deduction, beginning with hypotheses. Hussey and Hussey (1997, p55) defined the normal process under a positivistic paradigm as the study of the literature to establish an appropriate theory and construct hypotheses. There are certain reasons to adopt a quantitative approach for data collection from the workplace. First, this study is going to measure the relationships between the variables. Second, the ontological position suggests the realist position that requires social facts. Third, the epistemological position allows independent observable facts in society. The fourth

assumption identifies human nature, in relation to human beings according to their environment, as determinism. Finally, there are methodological issues relating to measurement and identification of underlying themes. In this approach, the objectivist is characterised by procedures and methods that may be designed to discover general laws which is referred to as nonmothetic. This research consists of an empirical study in which a survey questionnaire has been applied for data collection. This study was conducted in subsidiaries of multinational companies located in KSA where data was collected from a sample of managers of these subsidiaries. For analysis of the data, statistical measures were applied to test the hypotheses in relation to independent and dependent variables. Before collecting the data, a pilot study was conducted to measure the reliability of the survey questionnaire, the language used in the questionnaire and the time horizon to complete the survey.

4.2.2 Justification for Quantitative Approach

In this study, the researcher intends to investigate control mechanisms in multinational companies (MNEs). It is the intention to apply a quantitative approach, which is considered one of the major approaches in business and social sciences' research methodology. This design is aimed at understanding control, and behaviour of different organizations towards their subsidiaries in different environments. A quantitative approach focuses on what, where and when (Collis and Hussey, 2003). It addresses the following questions related to this study:

1-Which characteristics of both headquarters and subsidiaries of multinational companies can explain differences in the composition of the portfolio of control mechanisms that are used by headquarters towards its subsidiaries?

2-What role do international transfers play in controlling MNE subsidiaries? Are there alternative ways to achieve a high level of informal control in MNE subsidiaries?

3- Which of the MNE characteristics included in this study can be used to explain differences in performance between MNEs?

The epistemology focuses strongly on hard human facts and causes. This research approach emphasises realism of context and the use of quantitative methods of research, such as facts and causes of social phenomena. It assumes that the social world is composed of relatively concrete empirical artefacts that can be identified, studied and measured through approaches derived from natural sciences. Thus, for the purpose of conducting this research, it was felt

that understanding the nature of ‘individual behaviour’ demanded a more contextually-oriented study perspective. The conceptual approach presented previously reports several behaviours and attitudes that can influence the individual during organisational change. These factors indicate that there are many organisational, environmental and social issues. Thus, this research was conducted in subsidiaries where companies can develop attitudes and behaviours on the basis of psychological and financial needs. There is, therefore, a need for a research approach that allows the researcher to understand the controls and thoughts of these subsidiaries from psychological and financial points of view.

Table 4.4 Constructs and Corresponding Items generated from Literature Review

CONSTRUCT	ITEMS	ADAPTED FROM
Personal Centralized Control (PCC)	i. Level of autonomy in the subsidiary to decide its own strategies ii. The degree "of personal surveillance that HQ managers execute iii. Degree "to which HQ uses expatriates to directly control subsidiary operations"	Martinez & Jarillo (2005) Harzing (2000).
Bucratic Formalized Control (BFC)	i. the degree of standardisation that HQ requires from the subsidiary ii. the kind of rules and procedures that HQ exerts towards the subsidiary	Ghoshal and Nohria (1989) O'Donnell (2000)
Output Control (OUT)	i. the degree of output control that HQ exerts towards the subsidiary ii. the type of planning/goal setting/ budgeting that HQ uses towards the	Chang & Taylor (1999)
Informal Control (INFO)	i. the degree of participation by executives in committees, taskforces, and project groups in the last two years ii. to which extent executives in the subsidiary share company's values iii. the degree of participation of executives in training programs iv. The level of informal communication between the subsidiary and HQ and subsidiary.	Harzing & Noorderhaven (2009)
Interdependence	i. From headquarters in relation to the total amount of purchases of this subsidiary ii. From other subsidiaries of the group in relation to the total amount of purchases of this subsidiary iii. Of this subsidiary that is sold or delivered to headquarters iv. Of this subsidiary that is sold or delivered to other subsidiaries of the group	O'Donnell (2000) Chang and Taylor (1999)
Local Responsiveness	i. R&D incorporated into products sold by this subsidiary that is actually performed by this subsidiary ii. Company products sold by this subsidiary that have been manufactured (to any degree) by this subsidiary iii. Company products sold by this country that have been created or substantially modified for this market iv. Marketing for company products sold in this country that is consciously	Martinez & Jarillo (2005) Luo (2001)

	adapted to local circumstances	
Role of the expatriates	i. Improvising information and communication channels with headquarters or other subsidiaries of the group ii. Transferring specific technical or management knowledge from headquarters or other subsidiaries to this subsidiary iii. Ensuring a homogeneous corporate culture throughout the company as a whole iv. Filling positions for which no local personnel is available in this country Training the expatriate in question for future positions at headquarters or other subsidiaries	Sturges & Liefooghe (2010) Harzing (2001)
Knowledge Flows	i. this subsidiary possess some key strategic decision making authority concerning a mandated product or product line ii. this Subsidiary is aware of any new products/services and new services from the HQs only iii. the flows of knowledge from the HQ will help this subsidiary to be more autonomous; iv. The more the knowledge we get from the HQ the better the performance will be; v. we communicate with other subsidiaries in getting the right information from HQ vi. the employees and managers in the Headquarters believe they have unique knowledge to share with the subsidiary;	Harzing & Noorderhaven (2006) Monteiro, Arvidsson & Birkinshaw (2008)
International Strategy & Structure	i. Our company's strategy is focused on achieving economies of scale by concentrating its important activities at a limited number of locations ii. Our company can be adequately described as a loosely coupled and decentralised federation of independent national subunits iii. In our company, a typical subsidiary's main function is to deliver company products and carry out headquarters' strategies iv. Our company can be adequately described as an integrated and interdependent network of different but equivalent subunits, in which	Bardett & Ghoshal (1989, 1992a), Harzing (2001) Kim, Park & Prescott (2003).

	headquarters does not a priori plays a dominant role v. Our company not only recognises national differences in taste and values, but actually tries to respond to these national differences by consciously adapting products and policies to the local market vi. In our company subsidiaries regularly act as a strategic centre for a particular product or process, subsidiaries perform a role as "centre of excellence'' vii. In our company, there are not only large flows of components and products, but also of resources, people and information among company's subsidiaries viii. Our company's competitive position is defined in world-wide terms. Different national product markets are closely linked and interconnected. Competition takes place on a global basis. ix. Headquarters' competitive strategy is to let each subsidiary compete on a domestic level as national product markets are judged to be too different to make competition on a global level possible	
Age of the subsidiary	Age was taken as the numeric variable equal to the exact number of years the subsidiary has had operations within the host country	Fenton-O'Creevy, M., Gooderham, P. and Nordhaug, O. (2008).
Size	Size was measured as the number of employees	Fenton O'Creevy *et al*., 2008; Ferner *et al*., 2011
Performance	i. How do you rate this subsidiary's performance over the past three years relative to its objectives ii. This subsidiary's performance over the past three years relative to this subsidiary's main competitors iii. This subsidiary's performance over the past three years relative to other sister subsidiaries operating in the same area of business activity iv. This subsidiary's performance relative to the corporate Headquarters' expectations	Shaw and Wong, (1996) Birkinshaw and Morrison (1995)

Source: Developed by the researcher for current study

4.3 Headquarters characteristics

In Chapter 2, four headquarters' characteristics were identified: organisational model, size, extent of multinationality and complexity Heterogeneity as we have already indicated how the organisational model was standardized t, in this section we will discuss the standardization and measurement of the other characteristics.

4.3.1 Size

There are different measures that are used to operationalize the size of MNEs: the number of employees, total worldwide sales and total worldwide assets. Although these measures will probably be highly correlated, they have a slightly different focus. In particular, size measured by the number of employees might differ from the two other measures. The natural logarithm of the number of employees was used as the final measure of size. As indicated by Miller & Droge (1986), this logarithmic scale is generally used to normalise this variable, which might otherwise be badly skewed. Since the same might be true for sales and assets, we will also use logarithmic values of these variables in the empirical part of this thesis.

4.4 Subsidiary characteristics

4.4.1 Home country, size and age

The countries to which the questionnaires were sent were indicated on the questionnaire and the respondent was asked to tick the country of location of the headquarters. The size of the subsidiary was operationalized using two questions that asked for the total workforce of the subsidiary and its volume of turnover. Since, in many questionnaires, the currency and/or the actual turnover were illegible, we decided to use only the number of employees as an indication of size. As for headquarters' size, the natural logarithm of the number of employees was used as the final measure.

Data on the age of the subsidiary were collected by asking the respondent to indicate the year of foundation of the subsidiary. Since the time that the subsidiary is under the reign of headquarters might be as important for the type of control used as the actual age of the subsidiary, we also asked the respondent to indicate the year in which the subsidiary was acquired by its current owner (if applicable).

4.4.2 Interdependence

Following many of the studies discussed in Chapter 2 and Martinez & Jarillo's study referred to above, interdependence was operationalized using a relatively objective measure: the percentage of intra-company sales and purchases. However, in our discussion about interdependence we made a distinction between dependence and *interdependence.* The first refers to the dependence of subsidiaries on their headquarters, while the second refers to the *interdependence* between various subsidiaries.

Dependence corresponds to the centralised hub organisational model that was indicated to be typical of a global company, while *interdependence* fits the integrated network model, typical of the transnational company. In the configurations of MNEs discussed in Chapter 2, we also indicated that global companies would be expected to have high levels of dependence, while transnational companies would be characterised by high levels of interdependence.

In our questions on intra-company sales and purchases, we asked respondents to differentiate between their purchases from, or sales to, headquarters and subsidiaries. Four questions were constructed that asked for the percentage of purchases from or sales to either headquarters or subsidiaries in relation to total purchases or sales. As respondents would not be likely to know the exact percentages, six answer categories were included: 0%, 1-25%, 26-50%, 51-75%, 76-99% and 100%.

4.4.3 Local responsiveness

As discussed in Section 2.1.4, Martinez & Jarillo's study is one of the few that deal with the influence of the amount of local responsiveness of a subsidiary on the level and type of control mechanism used in this subsidiary. We, therefore, used a slightly adapted version of the questions originally constructed by Martinez & Jarillo (2005) and Luo (2001) to measure local responsiveness. Since their question about the percentage of value added was not well understood in the pre-test, we decided to substitute this question with one about marketing. The questions used are reproduced below. In the questionnaire, the main concepts were put in bold face. As for interdependence, six answer categories were created.

• *Please give your best estimate of the % of R&D incorporated into products sold by these subsidiaries that is actually performed by this subsidiary.*

• *Please give your best estimate of the % of company products sold by this subsidiary that have been manufactured (to any degree) by this subsidiary.*

• *Please give your best estimate of the % of company products sold by this subsidiary that have been created or substantially modified for this market.*
• *Please give your best estimate of the % of marketing for company products sold by this subsidiary that is consciously adapted to local circumstances.*

4.4.4 Subsidiary function

Since the subsidiary function, as defined in our study, is composed of a combination of the level of (inter) dependence and local responsiveness, no additional questions were necessary for this variable. The function of the subsidiary was measured with a simple tick-box question that asked respondents to indicate whether their subsidiary fulfilled the following functions: sales/distribution, service, assembly, production, R&D or country headquarters. Of course, more than one answer was possible.

4.4.5 Performance

Measuring subsidiary performance has been an inherent difficulty in the present study, given its generic orientation, i.e. studying subsidiaries involved in different types of value adding activities and operating in different industries. Hence, apart from a thorough review of relevant literature, some exploratory case studies (see e.g Lane, Salk & Lyles (2001) provided a significant input in terms of identifying appropriate measures of subsidiary performance. Whilst the previous chapter (chapter two) provides a detailed analysis on the issue, it is important to refer to some key insights in the following paragraph. These insights, along with relevant literature, greatly assisted in the development of a measurement scale suitable for the purposes of the present study.

Based on the exploratory case studies, a large part of the benefits of subsidiary tend to be non-financial in nature and thus difficult to quantify. Moreover, each subsidiary, depending on the nature of its main value-adding activity, uses different measures to quantify its performance. In addition, some subsidiaries may not be encouraged to measure their financial performance separately as a site (Andersson *et al*, 2001). As a result, measuring the impact of entrepreneurship on different types of subsidiaries might involve the use of dissimilar types of metrics.

Therefore, in measuring the bottom-line effect of subsidiary entrepreneurship of subsidiary performance, this study focuses on managerial satisfaction with performance. This is based on subjective perceptions and may capture non-financial aspects of performance, while its

use is also recommended in international business studies (e.g. Zou and Stan, 1998 and Beamish 2007). Further, Lumpkin and Dess (1996) in the entrepreneurship field posit that satisfaction of managers with performance may need to be weighted more heavily when estimating firm performance.

The scale employed by this study is based on previous studies who asked respondents to rank their firm's performance in terms of overall performance/success compared to other similar firms (e.g. Tan, & Meyer; Doyle *et al*, 1992; Priem *et al*, 1995; Shaw and Wong, 1996). Such a comparison to other similar firms provides a form of control for differences in performance that may be due to industry (Sumelius & Sarala 2008) and value adding activity. Subjective, self-reported performance measures – such as those used in this study – have been found to be highly correlated with objective measures of firm performance (Dossi, & Patelli, 2008; Robinson and Pearce, 1988; Venkatraman and Ramanujam, 1987; Geringer and Hebert, 1989). Also, multiple relative measures were used to reflect the multidimensionality of the performance construct (Cameron, 1978; Chakravarthy, 1986). An important insight of the exploratory case study research was that, upon evaluating the impact of subsidiary entrepreneurship on subsidiary performance, four key dimensions should be taken into consideration (Taggart, 1999): First, performance is assessed based on the subsidiary's individual objectives, as these have been set by the subsidiary management team, with or without involvement of the parent corporation (Andersson, *et al*, 2001). Second, performance is assessed based on the expectations of the parent corporation; this pressure translates into a need for the subsidiary to fulfil the parent's expectations. Regarding this pressure for performance, Birkinshaw and Morrison (1995) note accordingly: *"Subsidiary performance is a complex construct, because it depends on what the parent company is trying to achieve"* (Birkinshaw and Morrison, 1995, p.740). The parent corporation may set its own private objectives based on which subsidiary performance is measured, which might differ significantly from subsidiary perspectives (Doz & Prahalad 2007; Andersson, *et al*. 2001 and Birkinshaw et al. 1998). Third, performance is assessed based on environmental pressures; several researchers have argued that firm performance is to a great extent determined by the degree of match with overall environmental pressures (Miller and Friesen, 1978; Porter, 1985; Prahalad and Doz, 1999; Bartlett and Ghoshal, 2002; Westney, 1994).

Fourth, performance is assessed based on industry and market norms (Porter, 1980); this pressure translates into a need for the subsidiary to differentiate and to out-innovate competition.

The above four dimensions were taken into careful consideration when building the subsidiary performance measurement scale. In particular, respondents were asked to evaluate (through a Likert-type of scale ranging from 1 to 5, where 1 = low and 5 = high, their *overall level of satisfaction* with the following:

1) The subsidiary's performance over the past three years relative to the subsidiary's objectives.

2) The subsidiary's performance over the past three years relative to the subsidiary's main competitors.

3) The subsidiary's performance over the past three years relative to other sister subsidiaries in the same area of business activity.

4) The subsidiary's performance over the past three years relative to the corporate headquarters' expectations.

4.5 Data Management

This study was undertaken from July 2011 to November 2011. The survey questionnaire was distributed by post, email and personal visits to 350 participants who were selected by random sampling from total Multinational Companies which are based in KSA. In the random sampling, all categories of employees were considered proportionately. During data collection, due process was followed like sending reminders (at least two) to non-respondents after fifteen days. No any participants were forced to fill the form at particular time or in a particular place. All participants were free to respond at anytime and anywhere. This study is primarily based on statistical package for social sciences (SPSS) version 20 for Windows to assess the descriptive statistics and exploratory factor analysis. After exploratory factor analysis, factors were confirmed via confirmatory factor analysis. SPSS programmes, deal with quantitative data to run the objects, thus all responses of participants were entered according to the numeric response value. Before entering the data into SPSS spreadsheet columns and rows were developed by coding of question items. Therefore, any information about the case can be identified across the data editor. In the name column of SPSS, questionnaire items were coded with numbers along with an abbreviation of the variable. Similarly, in the label column question items were written in abbreviated format. The value

section of the column was developed from "1" for "Strongly Agree" to "5" "Strongly Disagree" on a five-point Likert scale and ''1'' for low to ''5'' High on a five-pint Likert scale. After entering data, coding was done for variables, which consisted of a series of grouped question items. These variables are representing as independent and dependent variables used in the analysis. Finally data was cleaned by descriptive statistics tests to know the responses to each question according to column section entry to confirm the proper figure was entered.

4.6 Pre-test of the Questionnaire

According to Kriel (2006, p-109), pre-testing allows the testing of most aspects of the questionnaire with respect to time taken, ease of completion and ease of data collection.
Since most of the variables were operationalized using existing scales or objective measures, a large-scale pre-test was deemed to be too costly and time-intensive. In the pilot mailing respondents were invited to note down any difficulties they had in answering the questions. Four respondents used this opportunity, with most remarks involving questions that were not completely clear. These questions were adjusted or deleted from the final questionnaire. The questionnaire was also sent to managers in 15 different companies. In general, the questionnaire was very well received. However, quite a number of recommendations were made concerning the wording of questions and scale markers. In addition, some questions were thought to be too difficult to answer for subsidiary managers. Most of the recommendations were included in the final version of the questionnaire and a number of questions (mainly concerning HQ characteristics) were deleted.

4.7 Ethical Consideration

Ethical issues play an important role when research is to be conducted among human subjects. According to Neuman (1995), the researcher must protect human rights, guide them and supervise the interests of people. Christians (2000) stated the minimum considerations such that informed consent, privacy and confidentiality, and accuracy. In this research, all ethical requirements are followed throughout all phases of the research. Before collecting data, permission was granted by the relevant organisations.

The survey questionnaire along with a cover letter was provided by personal visits or post or email addresses. The participants were asked to participate voluntarily and given the chance to withdraw from participation if they chose to do so. Participants were told that answering

and returning the questionnaire assumed their consent to participate in this study. All participants were assured that anonymity and confidentiality of the responses was guaranteed. Also, the participants were told not to write their names on the questionnaires and data was coded to ensure anonymity and confidentiality throughout the research process.

4.8 Chapter Summary

This chapter is devoted to providing a description of the research design and methodology. The methodology of this study is concerned with the choice of appropriate methods, by which the validity of the research can be judged. This research is developed on the basis of a literature review and conceptual approach, as discussed previously. With the support of the conceptual approach, the hypotheses were developed in relation to independent and dependent variables. In order to select a methodological approach, a philosophical stance was chosen to understand the relationship and justification for the adopted approach. The discussion is limited to the selection of a research strategy and the justification of the adoption of the strategy for the purpose of theory testing. Drawing on different research approaches, a research design was established to guide the study in a systematic way. We discussed in detail the empirical research methodology, including operationalization of the variables the data collection.

The first part of the chapter discussed the research philosophy; the next section deals with the research approach adopted for this study, followed by the justification and rationale behind the choice of a quantitative approach for this study. The choice of the research method and the operationalization of the variables included in this study are explained. A more detailed description of the research method selected to collect data is then provided. The final section described the sample and investigated whether it can be considered representative of the population of MNEs in general. Similarly, we reviewed different types of management studies and the methodological issues associated with this type of research.

In this study, the researcher intended to investigate the control mechanisms in multinational companies (MNEs). The study applied a quantitative approach, which is considered one of the major approaches in business and social sciences research. This design aimed at understanding control and the behaviour of different organisations towards their subsidiaries in different environments.

The chapter also discussed the pre-testing of the questionnaire. After comparing various survey methods, the survey was distributed by post, email and personal visits for data

collection. Further, a deliberate choice was made to collect the main data at the subsidiary level, since respondents at this level were thought likely to give more truthful and reliable answers. A key informant approach was chosen as the best method of data collection. The limitations of this approach and its possible remedies are duly discussed.

CHAPTER FIVE DESCRIPTIVE ANALYSIS

5.1 Introduction

In order to achieve the research objectives, this chapter analyses and uncovers the relationships between the independent and dependent variables. The previous chapter provided details about the research methodology and the methods used in the study. The data collection adopted a quantitative method, in which a survey questionnaire was applied to obtain the data. This chapter provides the data analysis with subsequent discussions.

Using the quantitative data, various statistical techniques are used to analyse the data, utilising the Statistical Package for Social Sciences (SPSS) (version 20).

This chapter comprises the following sections: data management, data screening prior to analysis, demographic characteristics, factor loading and descriptive analysis. The main analysis and hypotheses testing are discussed in the next chapter.

5.2 Data screening prior to analysis

Ensuring the accuracy of data is necessary in order to analyse the responses of participants. One of the main accuracy issues is related to data inputting. Moreover, issues like missing data, outliers, linearity, normality and homoscedasticity have an impact on the relationships between variables or on the outcomes of variables. Indeed, the objective of data screening is as much to reveal what is not apparent as it is to portray the actual data, as 'hidden' effects are easily overlooked (Hair et al., 2006, p.37). Thus, for the correct analysis of data, these issues must be considered and resolved (Tabachnick and Fidell, 2007).

5.2.1 Missing Data

Missing data is one of the most pervasive problems in data analysis. It is a fairly common occurrence in certain areas of research which can affect the results of research objectives. Missing data occurs for a variety of reasons but the most common reasons in social science research are long questionnaires and/or participants who accidently miss out questions. According to Tabachnick and Fidell (2007, p-62), missing data depend on the pattern of how much is missing, and why it is missing. However, the pattern is more important than the number missing. In social science research, there are various suggestions like using the mean

of the scores on the variance (Stevens, 1992) or removing sample(s) who do not responding to a question (Norusis, 1995). According to Tabachnick and Fidell (2007, p-63), if only few data points, say, 5% or less, are missing in a random pattern from a large data set, the problem is less serious and almost any procedure for handling missing values yields similar results. To find the missing data, this study applied SPSS package of missing value and found all question data less than 5% of the total data. Thus, the removal of all missing data such that 7 samples out of 154 samples is 4.516% which does not cause problems with the outcome of the analysis.

5.2.2 Outliers

An outlier is a score with a distinct characteristic from the rest of the data. It occurs with an extreme value on one variable or a combination of scores on two or more variables to deviate the statistics (Tabachnick and Fidell, 2007). According to Hair et al. (2006, p-73) an outlier is judged to be an unusually high or low value on a variable, or a unique combination of values across several variables that make the observation stand out from the others. Hair et al. (2006, p-73) have classified outliers into one of four classes based on the source of their uniqueness.

a. It can arise from a procedural error, such as a data entry error or mistake in coding.

b. It is an observation that occurs as the result of an extraordinary event, which accounts for the uniqueness of the observation

c. It comprises extraordinary observations for which the researcher has no explanation.

d. It contains observations that fall within the ordinary range of values on each of the variables.

There are three methods to detect outliers (Tabachnick and Fidell, 2007; Hair et al., 2006, p-73 and Field, 2006). Such as:

a. Univariate detection b. Bivariate detection c. Multivariate detection

Univariate outliers are cases with an extreme value on one variable which can be identified by examining the distribution of observations for each variable (Hair et al., 2006). By applying a distribution test, outliers can be detected with those cases falling at the outer ranges of the distribution or by applying z scores test in which cases with operationalized scores in excess of 3.29 ($p<.001$, two tailed test) are potential outliers (Tabachnick and Fidell, 2007). According to Tabachnick and Fidell, (2007, p-73) the extremeness of a standardized score depends on the size of the sample; with a very large N, a few standardized scores in excess of 3.29 are expected.

Bivariate outliers can be identified by applying a pair of variables jointly in a scatter plot in which if case(s) fall markedly outside the range of the other observations will be seen as isolated points (Hair et al., 2006).

Multivariate outliers are a combination of scores on two or more variables. It is a better solution than bivariate because of a large number of graphs and limited numbers of variables observations. Thus for multidimensional position of variables, the multivariate detection method of dealing with outliers is more useful. According to Hair at el. (2006) and Field (2006) multivariate outliers can be identified by Mahalanobis D2 measure in which assessment of each observation can be done across a set of variables. In this test if D2/df (degree of freedom) value exceeds 2.5 in small samples and 3 or 4 in large samples it can be designated as a possible outlier (Hair, at el., 2006, p-75).
After detecting multivariate outliers, these can be examined by univariate or bivariate methods for fully understanding the nature of its uniqueness.

Outliers cannot be categorically characterized as either beneficial or problematic (Hair, et al. 2006) but they can bias the mean and inflate the standard deviations (Field and Hole, 2003). Thus, the researcher should be aware of such values because they bias the model research fit to the data (Field, 2006). This research study applied a graphical method for detecting the univariate outliers and Mahalanobis's distance case was applied for finding multivariate Outliers to confirm their effect on the objectives of the study.

5.3 Normality, linearity and Homoscedasticity

Before going on to infer results from the data, it should be ensured that data is normally distributed and also to confirm the relationship between variables. In multivariate analysis, a fundamental assumption is shaping the data to show the variation. According to Tabachnick and Fidell (2007), variables related with each other must be normally distributed. This research study is going to confirm the data by screening the normality, linearity and homoscedasticity before inferring results from the data.

In statistics, normality refers to the data distribution which is a fundamental assumption in measuring the variation of variables. For analyzing the data, it is not always required but it becomes necessary if the variables are normally distributed (Tabachnick and Fidell, 2007). According to Hair et al. (2006, p-79), if the variation from the data normal

distribution is sufficiently large, all resulting statistical tests are invalid, because normality is required to use the F and t statistics.

Normality of data can be assessed by statistical methods (Tabachnick and Fidell, 2007 and Hair et al., 2006). In statistical method, normality of data distribution can be measured by Kurtosis and Skewness test and Kolmogorov and Shapiro method (Field, 2006; Tabachnick and Fidell, 2007; Hair et al., 2006). For that, initially descriptive statistics were applied in SPSS 20.0 for Windows to know the skewness and kurtosis (Table 5.1). All variables were found normally distributed; however, values for skewness were found negative and for kurtosis values were mixed such that negative and positive. In addition, Kolmogorov and Shapiro test (Field, 2006) was applied to find the data normality.

5.3.1 Assessment of Normality

Prior to commencing parametric statistical analysis, the interval variables should be checked to ensure the general assumptions of normality. As its name implies, to meet the normality assumption, the distribution of variables to be used in the analysis should be normally distributed (Hair et al, 2006; Tabachnick and Fidell, 2008). There are a number of methods to determine whether a variable is normally distributed. The most common method is to superimpose a normal curve on a histogram normality plots, and showed normal Q-Q plots for each variable. Another method often used to examine normality is to examine skewness and kurtosis. According to Hair et al (2006, p.37), skewness refers to the "measure of symmetry of a distribution; in most instances the comparison is made to a normal distribution," while kurtosis refers to the "measure of the peakedness or flatness of distribution when compared with a normal distribution". SPSS offers these tests for any given variable along with standard error measures. In this formulation, both skewness and kurtosis should be zero for a perfectly normally distributed variable; authors vary in the rules of thumb they propose to determine the extent to which these measures can deviate from perfect normality. Some researchers are satisfied to accept variables with skewness values in the range +2 to -2 as near enough normally distributed for most purposes, while values outside this range indicate a normality problem. Others are slightly stricter and use a +1 to -1 range (Hair et al, 2006). Still other scholars (e.g. Brown, 1997) argue that to assess whether a distribution is normal one should consider not only the values of skewness but more importantly their respective standard errors. Thus, if kurtosis or skewness exceeds twice the absolute value of the standard error of skewness, the normality of the data is problematic.

Table 5.1 illustrates the properties of the interval level scales to be used in this analysis. As the table shows, Skewness was not problematic as skewness statistics were below 1.0. The standard error of skewness, was -.40 to .40 (± 2 × .20) and the value for skewness of most variables fall within this range. The values of INTER and OUT were slightly above this range, but it is statistically negligible. In general, while the data was not perfectly normal, the robustness of the statistics to be used in this analysis indicated it was not necessary to transform any of the data. The nature of this survey data, the small number of items and a restricted range of some of the scales due to the small number of items may have contributed to the kurtosis of three of the variables; however, they are not far over the 1.0 expected and kurtosis was not deemed to be problematic. Inspection of the Q-Q plots also indicated the data for this analysis formed almost a linear pattern. It should also be noted that multivariate and univariate, as well as regression analyses are robust to violations of normality and other assumptions (Mertler & Vannata, 2001).

Table 5.1: Descriptive Statistics

The Variable Name	***Min***	***Max***	***Mean***	***STD***	***Skewness***	***Kurtosis***
Performance (PER)	10.00	20.00	15.40	3.06	-.168	1.182
Interdependence (INTRA)	4.00	20.00	11.91	4.84	.253	-1.189
Local Responsiveness (LOCL)	4.00	20.00	10.40	3.95	.880	.147
Knowledge Flows (KN)	7.00	21.00	13.10	4.54	.069	-1.360
Strategy and Structure (INSS)	14.00	37.00	24.48	5.52	.104	-.468
Personal Centralized Control (PCC)	3.00	15.00	9.67	2.96	-.280	-.486
Formalized Control (BFC)	4.00	10.00	8.21	1.7	-.593	.036
output control (OUT)	5.00	10.00	8.38	1.37	-.680	-.447
Informal control (INFO)	11.00	20.00	16.09	2.58	-.434	-.959

*$p < .05$; **$p < .01$ Valid N 147 (list wise). Source: Developed by the researcher for current study (2013)

5.3.2 Linearity

Linearity means that the correlation between variables which is represented by a straight line. In data analysis, it is important to know the level of relationship of variables. An implicit assumption of all multivariate techniques based on co-relational measures of association, including multiple regression, logistic regression, factor analysis (Hair *et al.*, 2006, p-85). Thus, examining the relationships of variables is important to identify any departures that may affect the correlation. In statistics, linearity can be measured by Pearson's correlations or a scatter plot (Field, 2006; Tabachnick and Fidell, 2007; Hair *et al.*, 2006). This study applied Pearson's correlations and found independent variables correlated to the dependent variable (Table 5.2).

Table 5.2 Correlations between Variables

	PCC	BFC	OUT	INF	INTR	PRES	INSS	KN	PERF
Personal Centralized Control PCC	1								
Bureaucratic Formalized Control BFC	.11	1							
Output control OUT	.27**	.59**	1						
Informal control INFO	.33**	.45**	.50**	1					
Interdependence INTRA	.02	.04	.28**	.09	1				
Local presence and responsiveness LOCL	.37**	-.12	-.03	.16	.59**	1			
International strategy and structure INSS	.15	.17*	.31**	.52**	-.05	.11	1		
Knowledge Flows KN	.23*	-.09	-.01	-.16	.06	.18*	-.35**	1	
Perceived Performance PERF	.08	.00	.24**	.46**	.34**	.34**	.33**	-.12	1

* = $p<.05$, ** = $p<.01$, N=147 Source: Developed by the researcher for current study

5.3.3 Homoscedasticity

Homoscedasticity estimates the variance of dependent variables with independent variables. In multiple regression analysis, the assumption of variation of variables should be constant (Field, 2006). According to Hair et al. (2006, p-83) homoscedasticity is the assumption that dependent variable(s) exhibit equal levels of variance across the range of predictor variable(s). Thus, it refers to the assumption of normality because when the assumption of multivariate normality is met, the relationships between variables are homoscedasticity (Field, 2006; Tabachnick and Fidell, 2007). Homoscedasticity can be measured by graphical and statistical methods (Hair et al., 2006; Field, 2006). In research, when data are grouped, homoscedasticity is known as homogeneity which can be measured by Levene's test of homogeneity of variances (Tabachnick and Fidell, 2007). Thus, this study applied Levene's test of homogeneity of variance to confirm the results of variability of dependent variables with independent variables.

5.4 Validity and Reliability

As indicated in methodology chapter, this study conducted factor analysis to ensure the construct validity of instrument and applied a Cronbach alpha test to ascertain the reliability and internal consistency of any section scales or subscales. Numerous methods are available for factor analysis. Among these, the principal component analysis (PCA) method which is the most common and default in SPSS programme was used to extract minimum set of variables accounted for the maximum variance in the data (Tabachnick and Fidell, 2007). Several ways are available to assess the adequacy of extraction and the number of factors but most the common are Eigenvalues greater than one and Scree plot. Before going to extract factors, it is important to calculate the variability in scores (the variance) for any given measures (or variables) (Field, 2006). According to Heir et al. (2007, p-102), communality is the total amount of variance an original variable shares with all other variables included in the analysis. A variable that has no variance would have a communality of 1; a variable that shares nothing with other variables would have a communality of 0 (Field, 2006, p-630). Communality can be calculated from factor loading in which a model containing multiple constructs with communalities of less than .5 are required and for a larger sample size less than .7 is required (Heir et al., 2007). This research applied variables with a communality value above .5.

By the same token, there are different methods for use in establishing reliability; such as test-retest, Kuder-Richarson (KR and KR-20), alternate forms, split-half, and parallel forms. A Cronbach alpha is a mathematical formula for calculating the internal consistency and reliability of a scale or subscale. A Cronbach alpha can range from 0 to +1 and the closer coefficient alpha is to +1, the higher the internal consistency and reliability. However, there are also factors that need to be considered when interpreting reliability alpha coefficients. Ary et al. (2009), noted alpha is a function of the length of the scale or subscale, reliability is a function of the heterogeneity of the group, and the alpha is a function of the specific method used for its estimation, as well as the nature of the variable being measured. The degree of reliability can depend upon the type of instrument being measured. It is expected that academic measures will have a higher level of reliability than some softer measures, such as psychological, business, or marketing types of surveys. In this study for reliability assessment, Cronbach's alpha technique was applied to the factors derived from the exploratory factor analysis to test the internal consistency of factors (Churchill, 1979; Peter, 1979; Litwin, 1995; De Vaus, 2002). Result values equal to or above 0.70 were considered to be an acceptable level of reliability (Nunnally, 1978; De Vaus, 2002).

Control Mechanism Variables

Section 3 of the questionnaire asked about the relationship between headquarters and the subsidiary. There were 11 items in this scale and these were planned to measure personal centralized control (PCC), output control (OUT), bureaucratic formalized control (BFC), and control by socialization (INFO). Each of the subscales in this scale was designed to measure some aspect of control between headquarters and the subsidiary. Table 5.3 presents the proposed subscales and the calculated Cronbach alpha for each subscale. The alpha ranged from .653 to .728, indicating an acceptable level of reliability and internal consistency for each of the subscales. The reliability coefficients while acceptable are lower than some of the other scales in the subsequent sections, perhaps due to the low number of items in each of these subscales (i.e. from 2 to 4). The number of items in any subscale or scale can be affected by the number of items in the scale or subscale.

Table 5.3 Section 3 Headquarters/Subsidiary Relations – Control Mechanisms

	Number of Items	Cronbach Alpha
Personal centralized control (PCC)	3	.728
Output control (OUT)	2	.760
Bureaucratic Formalized Control (BFC)	2	.733
Control by socialization (INFO)	4	.653

Source: Developed by the researcher for current study (2013)

The items in Section 3 were submitted to principal components factor analysis (CFC), using a varimax rotation and a promax rotation. However, the results of the factor analysis failed to confirm the subscales as planned. As a way of checking if the subscales were viable, a Cronbach alpha was completed for each of the subscales proposed by the factor analysis. The analysis found that the alpha were lower than the original proposed subscales indicating the new subscales were not as reliable or internally consistent. Inspection of the items in each of the subscales identified by the factor analysis failed to make sense. The items in the subscales did not make sense together and this analysis resulted in factors that were not useful or meaningful for the study. The decision was made to retain the original arrangement of the items as they were planned for the study, with the higher level of internal consistency and reliability.

Subsidiary Performance

Section 4 contained four items addressing the subsidiary's performance in the last three years compared to objectives, competitors, business activity and headquarters expectations. A five-point Likert type response scale of Low (1) to High (5) was used for the four items in this scale. The calculated Cronbach alpha for the Section 4 performance scale was $\alpha = .837$. The factor analysis indicated this was a unitary scale and accounted for 67.917% of the variance. Since this was a unitary scale, there was no rotation involved in this analysis. Table 5.4 presents the results of the analysis of performance scale and, as can be seen in the table, each of the items loads well on one, and only one, factor.

Table 5.4 Principal Components Loadings for the Performance

Item	Loading	Initial Eigenvlaue
This subsidiary's performance over the past three years relative to this subsidiary's main competitors.	.770	2.717
This subsidiary's performance over the past three years relative to other sister subsidiaries operating in the same area of business activity.	.750	.641
How do you rate this subsidiary's performance over the past three years relative to its objectives?	.634	.473
This subsidiary's performance relative to the corporate headquarters' expectations.	.562	.169

Source: Developed by the researcher for current study (2013)

Subsidiary performance was assessed using two initial sections, where respondents rated performance relative to other parties, from "low" to "high" on a five-point scale, and in terms of specific business goals such as increasing market share, where choices were between "lower than expected" and "better than expected" on a five-point Likert type scale. There were four items in the first section, and seven in the second section. No items were considered to be reverse-coded. Therefore, the average of all items taken together was used as the final score.

The Cronbach's alpha statistic recorded a very high (α= .895) degree of reliability for the 11 items. The individual variable of "General Performance" was also considered to be a proxy for performance overall and so was correlated with the sum of the other items; they were significantly positively correlated, as r=.58, p<.001, thus lending further validity to the scale.

Local Presence and Responsiveness

Section 5 of the questionnaire contained two sections addressing the best estimate of the percentage of purchases to include parts and semi-manufactured articles. The first set of items in Section 5 (INTRA) utilized response choices of 0% (1) to 76-100% (5). There were four items in this section addressing the sale, delivery or amount of purchases between the subsidiary and headquarters. The Cronbach alpha for this section of the questionnaire was α = .931 indicating a high level of internal consistency and reliability. The Kaiser-Meyer-Olkin measure of sampling adequacy (.840) indicated the data was acceptable for factor analysis, the results of which indicated this was a unitary factor and accounted for 83.095% of the variance. Principal components analysis (Table 5.14) indicated this was a unitary factor and no rotation was used as only one component could be extracted.

Table 5.5 Principal Components Loadings for Percentage of Purchase

Item	Loading	Initial Eigenvalue
Of this subsidiary that is sold or delivered to headquarters .	.935	3.324
From other subsidiary of the group in relation to the total amount of purchases of this subsidiary.	.928	.336
Of this subsidiary that is sold or delivered to other subsidiaries of the group.	.903	.185
From headquarters in relation to the total amount of purchases of this subsidiary.	.879	.155

Source: Developed by the researcher for current study (2013)

The second part of Section 5 (INTER) asked respondents to provide their best estimate of the percentage of research and development, products sold and manufactured by subsidiary, products modified to be sold in the subsidiary market, and marketing adapted to local circumstances. Respondents were asked to complete percentage of response as follows: 0% (1) to 76-100% (5). The four items had a Cronbach alpha of $\alpha = .906$ indicating a high level of internal consistency and reliability. The Kaiser-Meyer-Olkin measure of sampling adequacy (.773) indicated the data was suitable for factor analysis. As with the first part of Section 5, this was a unitary factor analysis and accounted for 78.319% of the variance. Since this was a unitary scale, only a principal components' analysis was completed (Table 5.6).

Table 5.6 Principal Components Loadings for local Presence and Responsiveness

Item	Loading	Initial Eigenvalues
Company products sold by this country that have been created or substantially modified for this market.	.931	3.132
R&D incorporated into products sold by this subsidiary that is actually performed by this subsidiary.	.919	.431
Marketing for company products sold in this country that is consciously adapted to local circumstances.	.846	.318
Company products sold by this subsidiary that have been manufactured (to any degree) by this subsidiary.	839	.119

Source: Developed by the researcher for current study (2013)

International Strategy and Structure (INSS)

Section 6 of the questionnaire addressed how effective company strategy was in dealing with local circumstances, competitive strategy, and company integration. Respondents were asked to indicate their level of agreement with each statement using a five-point Likert response scale of *Disagree* (1) to *Agree* (5). There were nine items in the strategy scale, as can be seen

in Table 5.7. The calculated Cronbach alpha for the construct was α = .845 indicating the scale had a high level of internal consistency and reliability. The Kaiser-Meyer-Olkin measure of sampling adequacy (.802) indicated the data was suitable for factor analysis. Findings of the analysis indicated no rotation was possible as this was a unitary factor and accounted for 51.178% of the variance. Two items (8 and 9) asked about whether the company did not load adequately on the scale (.148 and .102); however, the decision was made to leave the two items on the scale as it may have been a factor of how respondents *Agreed* or *Disagreed* with this item, or it might have been a factor of the respondents' knowledge of the information asked for in the item. Thus, Section 6 was a unitary scale.

Table 5.7 Principal Components Loadings for Percentage of Purchase

Item	Loading	Initial Eigenvalue
1. Our company's competitive position is defined in worldwide terms. Different national product markets are closely linked and interconnected. Competition takes place on a global basis.	.889	4.606
2. In our company, subsidiaries regularly act as a strategic centre for a particular product or process; subsidiaries perform a role as "centre of excellence''.	.858	1.350
3. In our company, there are not only large flows of components and products, but also of resources, people and information among company's subsidiaries,	.823	1.029
4. Our company can be adequately described as an integrated and interdependent network of different but equivalent subunits, in which headquarters does not a priori play a dominant role	.803	.610
5. Headquarters' competitive strategy is to let each subsidiary compete on a domestic level as national product markets are judged to be too different to make competition on a global level possible.	.785	.462
6. Our company not only recognises national differences in taste and values, but actually tries to respond to these national differences by consciously adapting products and policies to the local market.	.749	.412
7. In our company, a typical subsidiary's main function is to deliver company products and carry out headquarters' strategies.	.741	.243
8. Our company's strategy is focused on achieving economies of scale by concentrating its important activities at a limited number of locations.	.148	.158
9. Our company can be adequately described as a loosely coupled and decentralised federation of independent national subunits.	.102	.130

Source: Developed by the researcher for current study (2013)

Knowledge Flows

In Section 7 of the questionnaire, respondents were asked to indicate on a five-point Likert response scale their level of agreement using a response scale of Disagree (1) to Agree (5). The seven items in this scale asked about authority for decision making, awareness of the subsidiary, and knowledge flow from headquarters to the subsidiary. The calculated Cronbach alpha for the Section 7 knowledge scale was $\alpha = .894$, indicating a high level of internal consistency and reliability. Table 5.8 presents each of the items and their principal components' loading as the scale was a unitary scale and no rotation was possible. The Kaiser-Meyer-Olkin statistic (.768) indicated the data was appropriate for factor analysis.

Table 5.8 Principal Components Loadings for Knowledge flows

Item	Loading	Initial Eigenvalues
1. We communicate with other subsidiaries in getting the right information from HQ.	.901	4.340
2. Inflow of knowledge from HQ will help this subsidiary to be more autonomous.	.859	.822
3. The more knowledge we get from the HQ, the better the performance will be.	.838	.623
4. Subsidiary possesses some key strategic decision making authority concerning a mandated product or product line.	.829	.456
5. Employees and managers in HQ are able to explain the knowledge clearly when they share with subsidiary.	743	.392
6. Subsidiary is aware of any new products/services and new services from the headquarters only.	.683	.263
7. Employees and managers in HQ think they have unique knowledge to share with subsidiary.	.616	.105

Source: Developed by the researcher for current study (2013)

5.5 Data examination

A total of thirteen hypotheses were posed for this study. Each hypothesis will be addressed separately in the next chapter. The hypotheses each has its own statistical analysis including analysis of variance (ANOVA), correlation, Liner and multiple regression, and Chi Square. Prior to commencing statistical analysis of each hypothesis, the data was checked to ensure the assumptions of normality, skewness, kurtosis, and linearity as we discussed. Homogeneity of variance using the Levene test and homoscedasiticity assumptions will be

tested using the data necessary for the appropriate hypothesis. Homogeneity is the assumption the variabitliy in a continuous dependent variable is expected to be roughly consistent at all levels of the independent or discrete grouping. This assumption will be tested for univariaite ANOVAs for the appropriate hypothesis. The Levene test provides a conservative estimate the come from the same population. If the Levene's test is small ($p<.05$) the null hypothesis is rejected; however the decision to reject the null is not fatal to the analysis. Homoscedasiticity is related to normality since if the assumption of multivariate normality is met, the two variables must be homoscedastic (Tabachnick & Fidell, 1996). The failure of the relationship between two variables to be homoscedastic is caused either by the non-normality of one of the variables. Errors in measurement may also be a cause of homoscedasticity. A scatterplot of the variables or the Box's test for equality of variance-covariance matrices. The Box's test allow testing evaluate the hypothesis the covariance matrices are equal. Like the Levene test, Box's test is calculated when the appropriate statistic is calculate with the variables needed to test the research hypothesis. It is not necessary to test for homogeneity of variance or homoscedasiticy unless univariate or multivariate statistics are involved. These tests will be completed and reported with the appropriate statistical test.

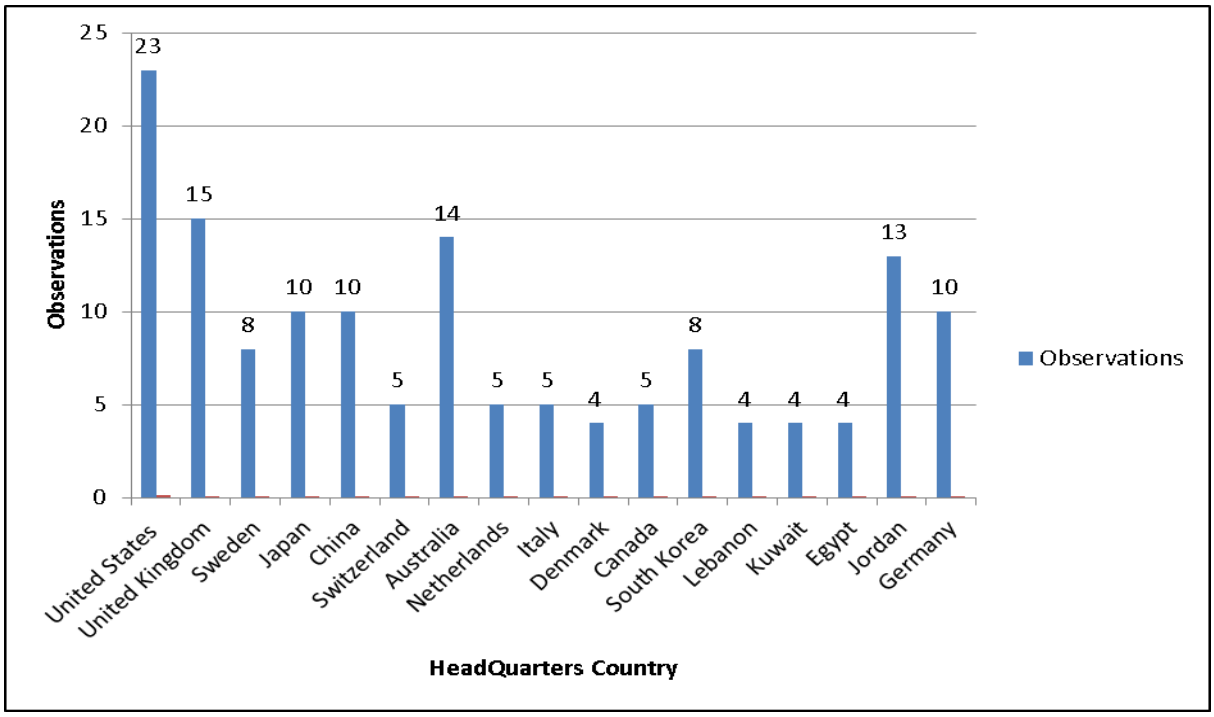
As we mentioned Table 5.1 illustrates the properties of the interval level scales to be used in this analysis. Inspection of histograms, normality plots, and detreded normal Q-Q plots for each variable also indicated outliers were not problematic especially for survey data of this type. Skewness was not problematic as skewness statistics were below 1.0. The Kolmorogov-Smirnov test for normality is based on a quantification of the discrepancy between observed and expected distributions. However, this is not always and adequate method for testing normality. The Shapiro-Wilk normality test does not work well when several values in the data set are the same as was the case in this data set. Inspection of the Q-Q plots indicated the data for this analysis formed a linear pattern.

5.6 Description of the respondents

As indicated before, a total of 147 respondents participated in this study. The participants represented 17 different countries across eight industries. The largest number of MNEs was headquartered in the United States (*n*=23, 15.6%), the United Kingdom (*n*=15, 10.2%), and Australia (*n*=14, 9.5%). Other well represented countries included Japan, China, South Korea, and Jordan. Table 5.9 presents all of the headquarter countries of individuals

participating in the study. MNE headquarter countries were also inspected by region of the world where they were located. While the United States had the highest number of firms in KSA, there were only 28 firms from North America (19.0%), while European countries (n=52, 35.4%) and Asian/Pacific countries (n=42, 28.6%) accounted for the majority of MNE headquarters countries. MNEs from the Middle East only accounted for a total of 25 firms (17%). Table 5.10 presents the MNEs by region of the world.

Figure 5.1 MNE Headquarters Country and their distributions



Source: Developed by the researcher for current study

Table 5.9 MNE Headquarters Country by Region of the World

World Region	Observations	Percentage
North America	28	19.0%
Europe	52	35.4%
The Middle East	25	17.0%
Asia/Pacific	42	28.6%
Total	147	100.0%

Source: Developed by the researcher for current study

The MNEs operated in a variety of industries in KSA but the largest percentage were in chemicals (*n*=51, 34.7%), followed by petroleum (*n*=24, 16.3%) and electronics/electrical equipment (*n*=18, 12.2%). However, there were a number of different industries represented

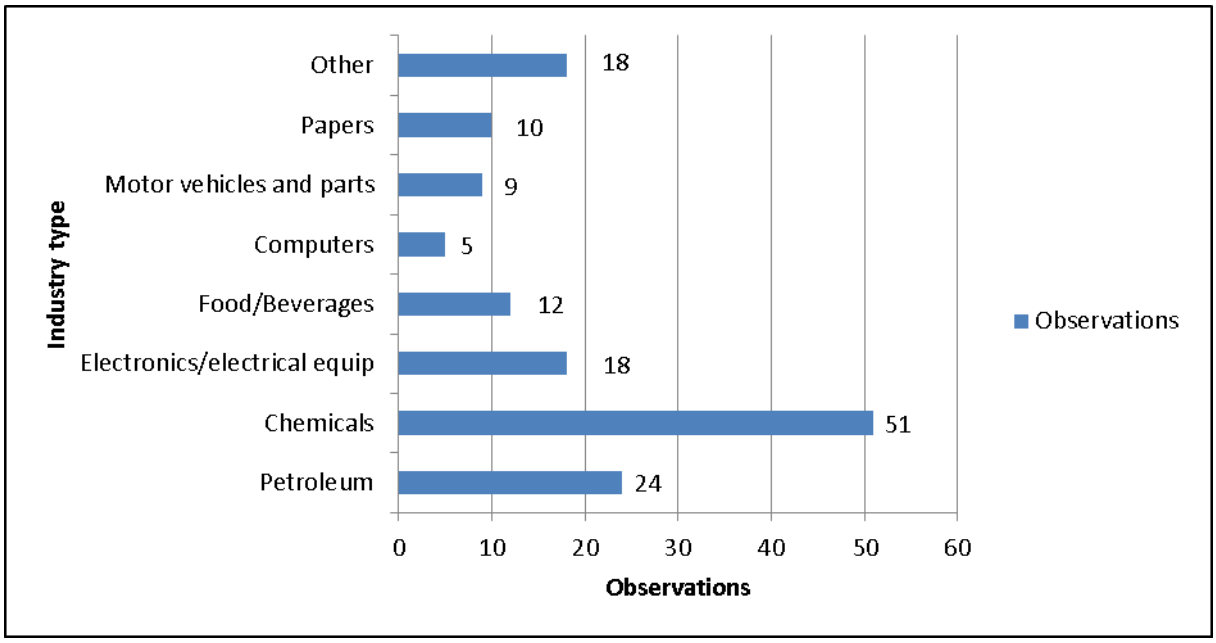
by the individuals responding to this survey. Table 5.11 presents the industries represented by survey respondents and their firms.

Table 5.10 MNEs by Industry and their percentage in the sample of the study

Industry type	Observations	Percentage %
Petroleum	24	16.3%
Chemicals	51	34.7%
Electronics/electrical equip	18	12.2%
Food/Beverages	12	8.2%
Computers	5	3.4%
Motor vehicles and parts	9	6.1%
Papers	10	6.8%
Other	18	12.2%
Total	147	100 %

Source: Developed by the researcher for current study

Figure 5.2 Industries of the study and their distributions in the sample



Source: Developed by the researcher for current study

North American subsidiary firms were engaged only in the fields of petroleum and chemicals, while none of the Middle Eastern firms were engaged in these fields, instead operating in food/beverages, papers and other fields. Asian/Pacific subsidiaries were also engaged in petroleum, chemicals, and electronics/electrical equipment. European firms were active in all fields but predominately in chemicals. Table 4 presents industry by world region for the companies.

Table 5.11 MNE by Industry and World Region

Industry type	**N. America**		**Europe**		**Middle East**		**Asia/Pacific**	
	N	%	N	%	N	%	N	%
Petroleum	5	17.9	9	17.0	0	0	10	23.3
Chemicals	23	82.1	14	26.4	0	0	14	32.6
Electronics/electrical equipment	0	0	0	0	0	0	18	41.9
Food/beverages	0	0	1	1.9	11	47.8	0	0
Computers	0	0	5	9.4	0	0	0	0
Motor vehicles/parts	0	0	9	17.0	0	0	0	0
Papers	0	0	5	9.4	4	17.4	1	2.3
Others	0	0	10	18.9	8	34.8	0	0
Total	28	100.0	53	100.0	23	100.0	43	100.0

Source: Developed by the researcher for current study (2013)

The subsidiary type included marketing and sales as the predominant type of MNE subsidiary (*n*=54, 36.7%), followed by subsidiaries engaged in production (*n*=28, 19.0%). Table 5.4 presents the subsidiaries by type of business activity. Subsidiaries were also in services, manufacturing operations, or were country headquarters or product design.

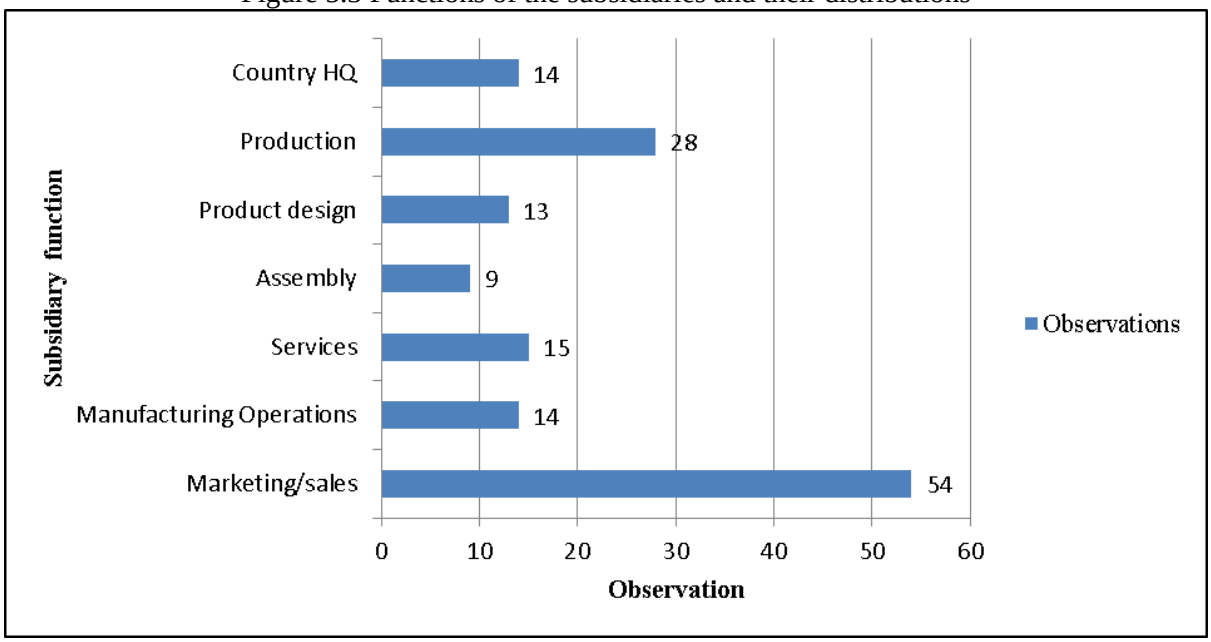
Table 5.12 functions of the subsidiaries and their percentage

Subsidiary function	**Observations**	***Percentage***
Marketing/sales	54	36.7%
Manufacturing Operations	14	9.5%
Services	15	10.25%
Assembly	9	6.1%
Product design	13	8.8%
Production	28	19.0%
Country HQ	14	9.5%
Total	147	100%

Source: Developed by the researcher for current study

Subsidiaries were also compared by region of the world and type of business, as can be seen in Table 5.14 More European countries had country headquarters in KSA and they also represented the largest number in the marketing/sales type, while Asian/Pacific countries were engaged in all types of subsidiaries. North Americans were predominately in marketing/sales, production and product design. Middle Eastern countries were in marketing/sales, services, product design, and production.

Figure 5.3 Functions of the subsidiaries and their distributions



Source: Developed by the researcher for current study

Table 5.13 Subsidiary function by World Region

Function of the Subsidiary	**N. America**		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Marketing/sales	10	35.7	19	35.8	11	47.8	14	32.6
Manufacturing Operations	0	0	9	17.0	0	0	5	11.6
Services	0	0	10	18.9	4	17.4	1	2.3
Assembly	0	0	0	0	0	0.0	9	20.9
Product design	4	14.3	0	0	4	17.4	5	11.6
Production	14	50.0	5	9.4	4	17.4	5	11.6
Country HQ	0	0.0	10	18.9	0	0.0.	4	9.3
Total	28	100.0	53	100.0	23	100.0	43	100.0

Source: Developed by the researcher for current study

Survey respondents were also asked when the subsidiary was established. Responses to this question were categorised as follows: 1-5 years, 6-10 years, 11-15 years, 16-20 years, and 21-30 years. The majority of the subsidiaries had been established between 16 and 20 years (n=53, 36.1%) or 11-15 years ago (n=43, 19.7%), with only 10 subsidiaries established between 21 and 30 years ago (6.8%). It was interesting there were only 12 firms established within the last 1-5 years (8.2%) or between 6 and 10 years (19.7%). Most of the firms had been established in KSA for more than 11 years.

Table 5.14 Age of subsidiaries in the sample

Age of the subsidiary	***Observations***	***Percentage %***
1-5 years	12	8.2
6-10 years	29	19.7
11-15 years	43	29.3
16-20 years	53	36.1
21-30 years	10	6.8
Total	147	100.0

Source: Developed by the researcher for current study

All of the North American subsidiaries (n=28, 100%) had been established 16 or more years ago; however, only 20 of the European (37.7%), none of the Middle Eastern, and only 15 of the Asian/Pacific subsidiaries had been in KSA for 16 or more years. Table 5.16 presents the data for the number of subsidiary employees by region of the world.

Table 5.15 Subsidiary Years of Establishment by World Region

	N. America		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
1-5 years	0	0	0	0	12	52.2	0	0
6-10 years	0	0	15	28.3	4	17.4	10	23.3
11-15 years	0	0	18	34.0	7	30.4	18	41.9
16-20 years	23	82.1	15	28.3	0	0	15	34.9
21-30 years	4	17.9	5	9.4	0	0	0	0
Total	28	100.0	53	0.0	23	100.0	43	100.0

Source: Developed by the researcher for current study

The number of employees per subsidiary varied from 1000 to 15,000. Subsidiaries typically had between 501 and 1000 employees in KSA (*n*=62, 42.2%), or between 101 and 500 employees (*n*=36, 24.5%), or between 1001 and 5000 employees at the subsidiary (*n*=32, 21.8%). There were only five firms with between 10,001 and 15,000 (3.4%) and just 12 subsidiaries had between 5,001-10,000 employees (8.2%).

Table 5.16 Subsidiary number of employees and their percentage

Number of Employees	**Observations**	**Percentage %**
101-500 employees	36	24.5
501-1000 employees	62	42.2
5001-5000 employees	32	21.8
5001-10000 employees	12	8.2
10001-15000 employees	5	3.4
Total	147	100.0

Source: Developed by the researcher for current study

Five of the European firms had the highest number of employees (10,001-15,000) and 11 of the North American subsidiaries had between 5001 and 10,000 employees. Table 5.18 presents the data for the number of firm employees worldwide by region of the world.

Table 5.17 Subsidiary Number of Employees by World Region

Number of Employees	**N. America**		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
101-500 employees	5	17.9	10	18.9	16	69.6	6	11.6
501-1000 employees	8	28.6	28	52.8	3	4.8	23	53.5
5001-5000 employees	4	14.3	10	18.9	4	12.5	14	32.6
5001-10000 employees	11	39.3	0	0.0	0	0	1	2.3
10001-15000 employees	0	0	5	9.4	0	0	0	0
Total	28	100.0	53	100.0	23	100.0	43	100.0

Source: Developed by the researcher for current study (2013)

Respondents were also asked for the total number of employees worldwide for their firm. Responses were grouped into: 1,001-5,000, 5,001-10,000, 10001-20,000, 20,000-50,000, and more then 50,000. Forty-eight of the respondents indicated their firm had more than 50,000 employees worldwide (32.7%) and 41 worked for firms between 5,001 and 10,000 (27.9%) This was followed by 37 respondents working for firms between 20,000-50,000 (25.2%), 10,001-20,000 (n=4, 2.7%), and smaller firms with between 1,001 and 5,000 worldwide employees (n=17, 11.6%).

Table 5.18 Subsidiary Number of Employees by World Region

Number of Employees Worldwide	**Observations**	**Percentage %**
1001-5000 employees	17	11.6
5001-10,000 employees	41	27.9
10,001-20,000 employees	4	2.7
20,000-50,000 employees	37	25.2
More than 50,000 employees	48	32.7
Total	147	100.0

Source: Developed by the researcher for current study (2013)

The majority of the North American firms had over 20,000 employees worldwide and 23 of the Asian/Pacific firms were over 20,000 employees. However, the greatest number of firms, with over 20,000 employees worldwide, was the Europeans. Table 5.8 presents the number of subsidiary employees by world region.

Table 5.19 Subsidiary Number of Employees by World Region

Subsidiary employees	**N. America**		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
1001-5000 employees	0	0	4	7.5	8	34.8	5	11.6
5001-10,000 employees	10	35.7	9	17.4	7	30.4	15	34.9
10,001-20,000 employees	1	0	0	0	4	17.4	0	0
20,000-50,000 employees	4	14.3	15	28.3	4	17.4	14	32.6
More than 50,000 employees	14	29.2	25	47.2	0	0	9	20.9
Total	28	100.0	53	100.0	23	100.0	43	100.0

Source: Developed by the researcher for current study

Respondents were asked to indicate the nationality of the manager of the subsidiary. This was done to identify where the managers were from. Fifty managers were from KSA (34.0%) and 58 were from the headquarters country (39.5%). There were also 39 managers (26.5%) from another third country.

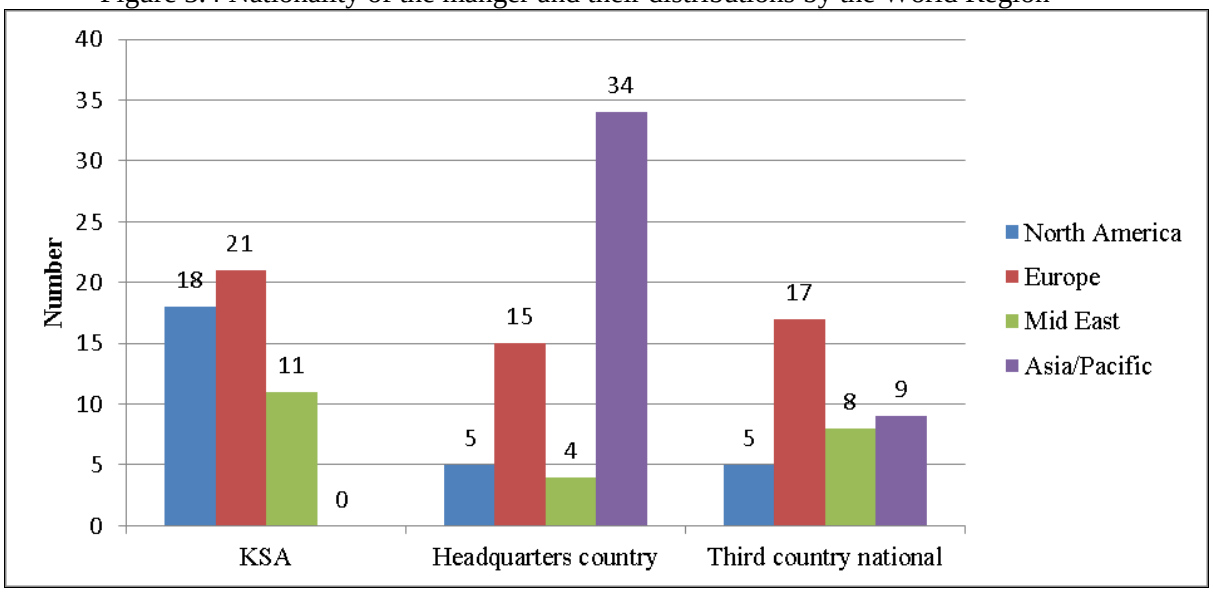
Table 5.20 Nationality of the subsidiary manager

Nationality of the manger	**Observations**	**Percentage %**
KSA	50	34.0
Headquarters country	58	39.5
Third country national	39	26.5
Total	147	100.0

Source: Developed by the researcher for current study

Asian/Pacific had the highest number of managers from the headquarters country (79.1%) and no KSA nationals with only 9 from a third country (20.9%). North Americans firms employed KSA nationals (n=18, 64.3%), Middle Eastern firms employed 11 KSA nationals (47.89%), and Europeans employed 21 KSA nationals (39.6%). Figure 5.4 illustrates the nationality of managers by world region.

Figure 5.4 Nationality of the manger and their distributions by the World Region



Source: developed by the researcher for current study

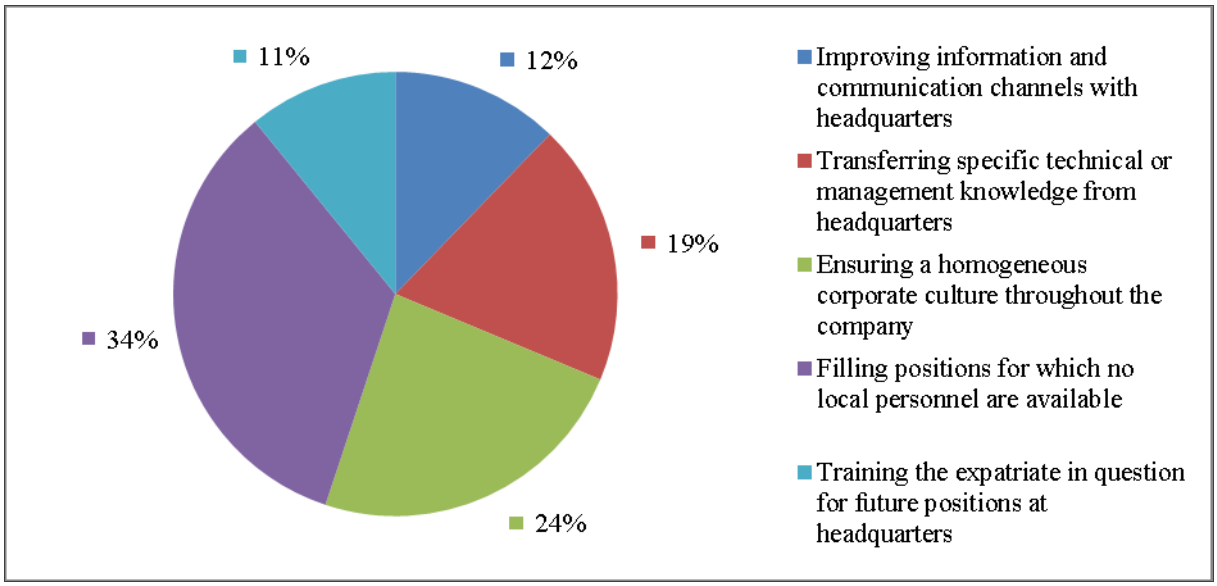
Expatriates play a variety of roles when working for subsidiary firms in KSA. The majority of expatriates fill positions for which there are no local personnel available (n=50, 34.0%), indicating that trained and educated staff are not available in KSA. Expatriates also serve to ensure a homogeneous corporate culture throughout the company and subsidiary (n=35, 23.8%), and work to transfer specific technical or managerial knowledge from the headquarters office. Fewer expatriates work to improve information and communication channels with headquarters (n=18, 12.2%). It was interesting to note that only 16 of the respondents indicated expatriates were being trained for future positions at headquarters (10.9%).

Table 5.21 Expatriates role in the Subsidiary

Expatriate role in the subsidiary	**Observations**	**Percentage%**
Improving information and communication channels with headquarters	18	12.2%
Transferring specific technical or management knowledge from headquarters	28	19.0%
Ensuring a homogeneous corporate culture throughout the company	35	23.8%
Filling positions for which no local personnel are available	50	34.0%
Training the expatriate in question for future positions at headquarters	16	10.9%
Total	147	100%

Source: Developed by the researcher for current study (2013)

Figure 5.5 Expatriates role in the Subsidiary and their percentages



Source: Developed by the researcher for current study

None of the Asian/Pacific firms were using expatriates in the subsidiary to train for future headquarters positions; however, eight of the Middle Eastern firms were using the subsidiary as training for future positions at headquarters (34.8%). Nineteen of the North American headquartered firms were using expatriates to fill positions where there was no local personnel (n=19, 67.9%). Table 5.24 present the roles expatriates play in the subsidiary by world region.

Table 5.22 Role of Expatriates by World Region

	N. America		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Improving information and communication channels with headquarters	0	0	9	17.0	0	0.0	9	20.9
Transferring specific technical or management knowledge from headquarters	0	0	21	39.6	7	30.4	0	0
Ensuring a homogeneous corporate culture throughout the company	5	17.9	10	18.9	4	17.4	16	37.2
Filling positions for which no local personnel are available	19	67.9	9	17.0	4	17.4	18	41.9
Training the expatriate in question for future positions at headquarters	4	14.3	4	7.5	8	34.8	0	0
Total	28	100.0	53	100.0	23	100.0	43	100.0

Source: Developed by the researcher for current study (2013)

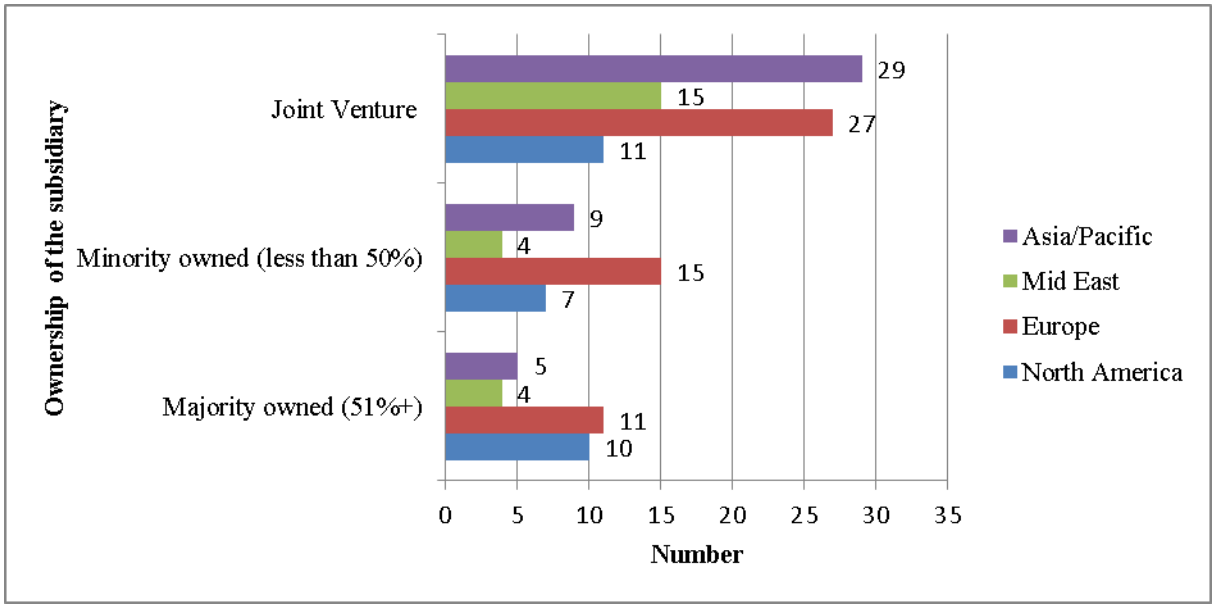
Subsidiary firms in KSA included majority-owned firms (51%+) (n=30, 20.4%) and minority-owned firms (less than 50%). However, the majority of the subsidiary firms were joint ventures (n=82, 55.8%). There were fewer joint ventures with North American firms (n=11, 39.3%) than with Middle Eastern firms (n=16, 65.2%) or Asian/Pacific firms (n=29, 67.4%). Majority and minority-owned firms were fairly evenly spilt across each of the four world regions. Table 5.25 presents the subsidiary ownership by world region.

Table 5.23 Subsidiary Ownership by World Region

Ownership of the subsidiary	**N. America**		**Europe**		**Mid East**		**Asia/Pacific**	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Majority owned (51%+)	10	35.7	11	20.89	4	17.4	5	11.6
Minority owned (less than 50%)	7	25.0	15	28.3	4	17.4	9	20.9
Joint Venture	11	39.3	27	50.9	15	65.2	29	67.4
Total	28	100.0	53	36.1	23	100.0	43	100.0

Source: Developed by the researcher for current study

Figure 5.6 Subsidiary ownership by the World Region



Source: Developed by the researcher for current study (2013)

5.7 Chapter Summary

This chapter is concerned with analysing and uncovering the relationships between the variables used in the study in order to achieve the research objectives. The study adopted a quantitative method, whereby a survey questionnaire was applied to obtain the data.

Based on the quantitative data, various statistical techniques based on Statistical Package for Social Sciences (SPSS) version 20 software were used to analyse the data. Before entering the data into SPSS, spread sheet columns and rows were developed by coding the question items. Therefore, any information about the case could be identified across the data editor. In the 'name' column of SPSS, the questionnaire items were coded with numbers along with abbreviations of the variables. Similarly, in the 'label' column, the question items were written in an abbreviated format. The value section of the column was developed from "1" for "Strongly Agree" to "5" meaning "Strongly Disagree" on a five-point Likert scale. After entering the data, coding was done for the variables, which consisted of a series of grouped question items. These variables represented the independent and dependent variables used in the analysis. Finally, the data was cleaned by descriptive statistics tests. The responses to each question according to the column section entry were checked to confirm that the proper figures had been entered Accuracy of data is necessary for analysing the responses of participants. Many issues relate to the accuracy with which data was entered into the data file. Issues like missing data, outliers, linearity, normality and homoscedasticity have an impact on the relationships between variables or on the outcomes of variables. Indeed, the objective of data screening is as much to reveal what is not apparent as it is to portray the actual data, given that the 'hidden' effects are easily overlooked (Hair et al., 2006, p.37). Thus, for the accurate analysis of the main data in this study, these issues were considered and addressed appropriately.

CHAPTER SIX DATA ANALYSIS

6.1 Introduction

This chapter reports the results of testing 13 hypotheses that examine various aspects of the conceptual model (Figure 4.2). This was done using parametric statistics (including independent sample *t*-tests, one-way between-group analysis of variance, Pearson correlation analysis, linear regression and hierarchical multiple regression) to examine the relationships between MNE HQ characteristics, subsidiary characteristics, control mechanisms, dominant strategies and subsidiary managers' perceptions of subsidiary performance in KSA. The parametric assumption of normality was largely met. Any non-normally distributed variables were log transformed prior to formal analysis, to meet the normality assumption.

The analysis of the survey data was performed using SPSS (version 20.0), with a significance level of $p<.05$ used as the criterion for statistical significance for each hypothesis test: an alpha level of $p<.05$ was significant; $p<.01$ was very significant; and $p<.001$ was highly significant (Field, 2009). Assumptions for each test were checked and reported. Graphs, including histograms and scatterplots, were used to evaluate the assumptions of the regression analyses. A summary of the results from the hypotheses testing is detailed in Table 21 at the end of this chapter.

6.2 Correlation and Regression Analysis

A Pearson product-moment correlation was performed to examine the relationship between the study variables, prior to regression analyses. The correlation coefficients are shown in Table 1. Perceived subsidiary performance was strongly, positively correlated with MNE control of output ($r=.557$, $p<.01$), and strategy (INSS) ($r=.414$, $p<.01$), global strategy ($r=.458$, $p<.01$), control by socialisation and networks (INFO) ($r=.359$, $p<.02$), multi-domestic strategy ($r=.332$, $p<.01$), transnational strategy ($r=.322$, $p<.01$), personal centralized control (PCC) ($r=.295$, $p<.01$), interdependence ($r=.280$, $p<.01$), local responsiveness ($r=.235$, $p<.01$), and bureaucratic formalized control (BFC) ($r=.206$, $p<.05$), with higher scores on these variables associated with higher perceptions of subsidiary performance. The

proportion of expatriate managers per subsidiary, size of subsidiary (no. of employees), and knowledge flows were not significantly related so perceived subsidiary performance. See table 6.1 below.

Table 6.1 Pearson Correlation Matrix of all the variables

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Subsidiary Performance	3.85	.766														
2. Control.PCC	3.22	.988	.295**													
3. Control.BFC	4.11	.736	.206*	.116												
4. Control.OUT	4.19	.689	.557**	.330**	.588**											
5. Control.INFO	4.08	.703	.359**	.309**	.475**	.485**										
6. Log of size of MNE	10.17	1.03	.319**	.441**	-.164*	.186*	.096									
7. Log of proportion of expatriate managers	1.88	.578	.112	.016	-.029	.170*	.219**	.235**								
8. Log of size of subsidiary	3.13	.451	.111	.039	-.077	.171*	.272**	.306**	.828**							
9. Knowledge flows	1.87	.649	-.108	.190*	-.093	-.013	-.132	-.086	-.145	-.160						
10. Interdependence	2.98	1.21	.280**	.031	.036	.280**	-.032	.129	.117	.131	.056					
11. Local responsiveness	2.60	.990	.235**	.334**	-.116	-.033	.068	.041	-.100	-.094	.178*	.589**				
12. Overall strategy (INSS)	2.83	.614	.414**	.240**	.121	.303**	.601**	.198*	.142	.171*	-.185*	.047	.311**			
13. Global strategy	2.50	.698	.458**	.289**	-.004	.222**	.410**	.150	.021	.069	.065	.143	.482**	.889**		
14. Multi-domestic strategy	3.01	.622	.332**	.224**	.145	.258**	.513**	.185*	.141	.120	-.181*	.055	.292**	.904**	.726**	
15. Transnational strategy	2.99	.734	.322**	.137	.184*	.331**	.682**	.198*	.217**	.262**	-.371**	-.066	.074	.897**	.662**	.730**

Note: Control PCC = personal centralized control, Control BFC = bureaucratic formalized control, Control OUT = output control, Control INFO = control by socialisation, MNE = multinational headquarters. **. Correlation is significant at the 0.01 level (2-tailed), *. Correlation is significant at the 0.05 level (2-tailed). $N = 147$.
Source: Developed by the researcher for current study

6.3 Hypotheses Testing

The following section report the results of thirteen hypothesis tests in order to understand the above relationships in more detail, and to verify the conceptual model based on the literature in previous chapters.

Hypothesis 1:

There are three separate hypotheses for the first hypothesis, which are as follows.

H1a: Japanese and US subsidiaries would differ on the level of PCC.

H1b: German other European subsidiaries would differ on level of PCC

H1c: German and Japanese subsidiaries would differ on level of PCC.

Overall, Hypothesis 1 asked about how headquarters countries differed from other countries in their level of personal centralized control.

Hypothesis 1 is evaluated using independent samples *t*-tests. The results are as follows:

H1a: An independent samples t-test found that USA (M=3.36, SD=.948) and Japanese subsidiaries (M=3.50, SD=.527) did not differ significantly in their level of PCC, t(28)=.533, p<.01, as shown in Table 6.2. Levene's test indicated unequal variances.

H1b: Consistent with H1b, an independent samples t-test found that German subsidiaries (M=4.00, SD=1.05) had significantly higher PCC than other EU subsidiaries (M=3.38, SD=.795), t(145)=-.533, p<.01, d=.79, medium effect size (see Table 6.2). Levene's test indicated equal variances. See Table 6.2

H1c**:** An independent samples t-test found that German subsidiaries (M=4.00, SD=1.05) and Japanese subsidiaries (M=3.50, SD=.527) did not differ significantly in their level of

PCC, t(145)=-1.34, p=.196 (see Table 6.2). Levene's test indicated equal variances. See Table 6.2

These results suggest that German subsidiaries really do have higher levels of personal centralized control, than the other EU country subsidiaries. In addition, there are no differences in the levels of personal centralized control between US and Japanese subsidiaries, or between German and Japanese subsidiaries, in KSA.

Table 2 shows the means, standard deviations and 95% confidence intervals for the level of Personal Centralized Control (PCC) by home country of the subsidiary.

Table 6.2 Mean Personal Centralized Control (PCC) by Country of Subsidiary

Home Country	***N***	***Mean***	***SD***	***95% CI-***	***95% CI+***
United States (US)	*23*	*3.36*	*.948*	*2.95*	*3.77*
Other EU Countries	*28*	*3.38*	*.795*	*3.07*	*3.69*
Japan	*10*	*3.50*	*.527*	*3.12*	*3.88*
Germany	*10*	*4.00*	*1.05*	*3.25*	*4.75*

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
Source: Developed by the researcher for current study

Hypothesis 2:

There were two hypotheses included in Hypothesis 2, these were as follows:

H2a: US and Japanese subsidiaries differ in bureaucratic formalized control (BFC).

H2b: US and EU subsidiaries will not differ in bureaucratic formalized control (BFC).

Hypothesis 2 was also evaluated using independent samples *t*-tests (two-tailed), as follows:

H2a: Consistent with H2a, an independent *t*-test found that Japanese subsidiaries (M=4.75, SD=.264) reported significantly higher bureaucratic formalized control than US subsidiaries (M=3.93, SD=.590), $t(30)=5.49$, $p<.001$ (see Table 6.3). Levene's test had equal variances.

H2b: Consistent with H2b, an independent samples *t*-test found that US subsidiaries (*M*=3.93, *SD*=.590) and EU subsidiaries (*M*=3.98, *SD*=.419) had similar levels of bureaucratic formalized control, *t*(135)=.132, *p*=.189 (see Table 6.3). Levene's test had equal variances.

These results suggest that in KSA, Japanese subsidiaries really do have higher levels of bureaucratic formalized control, than US subsidiaries; and that US subsidiaries have similar levels of bureaucratic formalized control as other EU countries.

Table 6.3 Mean Bureaucratic Formalized Control (BFC) by Country of Subsidiary

Home country of the subsidiary	***N***	**Mean BFC**	**SD**	**95% CI-**	**95% CI+**
USA	23	3.93	.590	3.68	4.19
EU Countries	28	3.98	.419	3.82	4.14
Japan	10	4.75	.264	4.56	4.94
Germany	10	4.00	1.05	3.25	4.75

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
Source: Developed by the researcher for current study

Hypothesis 3:

Two separate hypotheses for hypothesis three, as follows:

H3a: US subsidiaries have higher output control (OUT) than EU subsidiaries.

H3b: US subsidiaries have higher output control (OUT) than Japanese subsidiaries.

Hypothesis 3 was tested using independent samples *t*-tests (one-tailed). The results found:

H3a: An independent samples t-test found that US subsidiaries (M=4.20, SD=.719) have significantly higher output control than other EU country subsidiaries (M=3.27, SD=.585), t(135)=.099, p=.922, d=0.01, small effect size (see Table 6.4). Levene's test indicated equal variances.

H3b: an independent samples *t*-test found that US subsidiaries have significantly higher output control (*M*=4.20, *SD*=.719) than Japanese subsidiaries (*M*=3.50, *SD*=.527), *t*(135) =-

1.201, p=.239, d=0.42, small effect size (see Table 6.4). Levene's test indicated equal variances.

These results suggest that in KSA, the North American, other EU countries and Japanese subsidiaries really do have different levels of output control, although the control of output is slightly higher in US subsidiaries, as shown in Table 6.4

Table 6.4 Mean Amount of Output Control (OUT) by Home Country of the Subsidiary

Home Country of the Subsidiary	**N**	**Mean OUT**	**SD**	**95% CI-**	**95% CI+**
USA	23	4.20	.719	3.88	4.51
EU Countries	28	3.27	.585	4.04	4.49
Japan	10	3.50	.527	4.12	4.88
Germany	10	4.00	1.05	3.25	4.75
Total	71	4.24	.701	4.07	4.41

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.

Source: Developed by researcher for current study

Hypothesis 4:

Hypothesis 4 included two sub-hypotheses:

H4a: The level of subsidiary control by socialization and networks (control.INFO) would be affected by the proportion of expatriate managers

H4b: The level of subsidiary control by socialisation and networks (control.INFO) would be affected the role of expatriate managers

Hypothesis 4 was evaluated using linear regression and one-way analysis of variance.

H4a: Hypothesis 4a sought to understand, to what extent does the number of expatriate mangers in an MNE subsidiary impact on the level of subsidiary control by socialization and networks. A linear regression revealed a significant model as y=3.58 + 2.19x, where y represents control.INFO and x represents the log of proportion of expatriate managers, supporting H4a. The assumptions of linearity and homoscedasticity were met after visually

inspecting the residual diagnostics and scatterplots. The results in Table 6.5 show the log of proportion of expatriate managers explained 4.8% of the variation in control.INFO (R^2=.048, F(1,145)=7.27, p<.01), and had a significantly positive effect on increasing control.INFO (β=.219, t=2.70, p<.01). For every one-unit increase in the log of expatriate managers, control.INFO increases by .266 points (based on the unstandardized regression coefficient).

Table 6.5 Linear regression of the log of the proportion of expatriate managers on the level of subsidiary control by socialization and networks

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.584	.194		18.495	.000
Log of the proportion of expatriate managers	.266**	.099	.219	2.697	.008

Dependent Variable: Control.INFO. R = .219, R^2 = .048, Adjusted R^2 = .041, Model Fit: F(1,145)=7.27, p<.01. Regression Equation: y = 3.58 + .219x** p< 01.
Source: Developed by researcher for current study

H4b: One-way between groups analysis of variance (ANOVA) was performed to compare the impact of the expatriate manager's role on the level of control.INFO. Respondents were divided into five groups according to their management role. There was a statistically significant difference in level of control.INFO for the five expatriate manager roles, [F(4, 412)=3.20, p<.01] (see Table 6.6). Despite being statistically significant, the actual difference in mean scores between the groups was small. The effect size, calculated using eta-squared was small (η^2=.03). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for expatriate managers' involved in 'training the expatriate for future positions at headquarters or other subsidiaries' (M=4.50, SD=.172), was significantly higher (p<.05), than for expatriate managers who 'transfer specific technical or management knowledge from headquarters or other subsidiaries to this subsidiary' (M=3.81, SD=.681); but did not differ significantly from other groups. These results suggest that the expatriate manager's role moderates the level of control.INFO. Levene's test indicated equal variances.

Table 6.6 One-way ANOVA of role of expatriate manager on level of control by socialization

Role of expatriate manager in the subsidiary	N	Mean INFO	SD	95% CI-	95% CI+
Improvising information and communication channels with headquarters or other subsidiaries of the group	18	3.87	.678	3.53	4.21
Transferring specific technical or management knowledge from headquarters or other subsidiaries to this subsidiary	28	3.81	.681	3.55	4.07
Ensuring a homogeneous corporate culture throughout the company as a whole	35	4.14	.720	3.90	4.39
Filling positions for which no local personnel is available in this country	50	4.14	.753	3.93	4.35
Training the expatriate for future positions at headquarters or other subsidiaries	16	4.50	.172	4.41	4.59
Total	147	4.08	.703	3.97	4.20

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean. $F(4,412)=3.20$, $MS^{Err}=1.49$, $p<.01$. Source: Developed by researcher for current study

Hypothesis 5:

H5: Multinational headquarters will use indirect control mechanisms (INFO, OUT) to a larger extent in respect of their subsidiaries than direct control (PCC, BFC) mechanism

Hypothesis five was evaluated using a paired-samples *t*-test to analyse the impact of the use of direct versus indirect control mechanisms by multinational headquarters on their subsidiaries. Consistent with hypothesis 5a, there was statistically significant higher use of indirect control mechanisms by multinational headquarters on their subsidiaries (M=4.14, SD=.60) than use of direct control mechanisms (M=3.66, SD=.65), $t(146)=10.67$, $p<.001$. As SPSS does not calculate an effect size for the paired samples *t*-tests, the effect size (eta-squared) was obtained using the formula below (Pallant, 2001, p.212). The eta squared statistic (.44) indicated a medium effect size.

$$\text{Eta squared} = \frac{t^2}{t^2 + N - 1} \qquad = (10.671*10.671)/((10.671*10.671)+147-1) = 0.44$$

Hypothesis 6:

There are three separate hypotheses for the sixth hypothesis, these are as follows:

H6a: There is no relationship between the size of a subsidiary and level of personal centralised control (PCC) that HQ exerts over this subsidiary.

H6b: There is a positive relationship between the size of MNE and the level of bureaucratic formalized control (BFC) that headquarters exerts over its subsidiary.

H6c: Size of the subsidiary will have an impact on the level of control by socialization (INFO) that HQ exerts over this subsidiary.

H6a: Hypothesis 6a sought to understand, to what extent does the size of a subsidiary impact on the level of personal centralised control (PCC) that HQ exerts over this subsidiary. A linear regression revealed a non-ssignificant model as y=2.95 + .039x, where y represents the dependent variable of PCC and x represents the independent variable of log of size of the subsidiary. The results are shown in Table 6.7. Consistent with hypothesis H6a, the size of subsidiary explained only .2% of the variation in PCC (R2=.002, F(1,145)=.225, p=.636), and did not predict the level of PCC (β=.039, t=.475, p=.636). Inspection of the scatterplot revealed acceptable linearity and heteroscedasticity.

Table 6.7 Linear regression of log of size of subsidiary on personal centralised control

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.954	.575		5.140	.001
Log of the size of subsidiary	.086	.182	.039	.475	.475

Dependent Variable: Control.PCC. R = .039, R^{2} = .002, Adjusted R^{2} = .041, $F(1,145)$=.225, p=..636
Regression Equation: y = 2.95 + .039x.
Source: Developed by researcher for current study

H6b**:** Hypothesis 6b sought to understand, to what extent does the size of MNE impact on the level of bureaucratic formalized control (BFC) that headquarters exerts over its subsidiary. A linear regression revealed a significant model as y=5.29 - .164x, where y represents the dependent variable of BFC, and x represents the independent variable (log of the size of MNE), to evaluate how well x predicted y. The linear results appear in Table 6.8. Consistent

with hypothesis 6b, the log of the size of MNE explained 2.7% of the variance in BFC (R^2=.027, F(1,145)=3.99, p<.05). The log of the size of MNE significantly positive effect on decreasing the level of bureaucratic formalized control (β=-.164, t=-1.99, p<.05). For every one additional employee in the MNE, bureaucratic formalized control decreased, on average, by .117 points (based on the unstandardized regression coefficient). Inspection of the scatterplots indicated acceptable linearity and homoscedasticity.

Table 6.8 Linear regression of log of size of MNE on bureaucratic formal control

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	5.295	.598		8.852	.001
Log of the size of MNE	-.117*	.059	-.164	-1.998	.048

Dependent Variable: Control.BFC. R = .164, R^2 = .027, Adjusted R^2 = .020, F(1,145)=3.99, p<.05
Regression Equation: y=5.29 - .164x* p< .05.
Source: Developed by researcher for current study

H6c: Hypothesis 6c sought to understand, to what extent does the size of subsidiary impact on the level of control by socialization (INFO) that HQ exerts over this subsidiary. A linear regression revealed a significant model as y=2.76 + 2.72x, where y represents subsidiary control by socialization, and x represents the log of size of subsidiary, to evaluate how well x predicted y. As shown in the model in Table 6.9, the results of the regression indicated the predictor explained 7.4% of the variance in subsidiary control by socialization and networks (R^2=.074, F(1,145)=11.59, p<.001. This result indicates that the level of subsidiary control by socialization and networks is only partly explained by the log of the proportion of expatriate managers. This means that other factors, not entered in this regression model, also play a role. It was found that the log of size of subsidiary had a significantly positive effect on increasing subsidiary control by socialization and networks (β=.272, t=3.40, p<.001). For every one additional employee in a subsidiary, the level of control by socialization and networks

increased by .424 points (based on the unstandardized regression coefficient). Inspection of the scatterplots indicated acceptable linearity and homoscedasticity. Hypothesis 6c was confirmed.

Table 6.9 Linear regression of the log of size of subsidiary on control by socialization

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.756	.394		6.995	.001
Log of size of subsidiary	.424***	.125	.272	3.404	.001

Dependent Variable: Control.INFO. R = .272, R^{2} = .074, Adjusted R^{2} = .068, Model Fit: $F(1,145)=11.59$, $p<.001$.
Regression Equation: y = 2.76 + .272x
*** $p<$ .001. Source: Developed by the researcher for current study

Hypothesis 7:

There were two hypotheses included in Hypothesis 7, these were as follows:

H7a: The age of subsidiary is negatively related to the amount of personal centralised control (PCC) that HQ exerts over the subsidiary

H7b: The age of the subsidiary is positively related to the amount of bureaucratic formalised control (BFC) and output control (OUT) that HQ exerts over this subsidiary

Hypothesis 7 was evaluated using one-way ANOVA.

H7a**:** One-way between groups analysis of variance (ANOVA) was conducted to compare the impact of the age of the subsidiary on the amount of personal centralised control that multinational headquarters exerts over its subsidiary. Respondents were divided into five groups according to the age of the subsidiary (Group 1: 1-5 years, Group 2: 6-10 years, Group 3: 11-15 years, Group 4: 16-20 years, and Group 5: 21-30 years). The results found a significant subsidiary age effect on levels of personal centralised control [$F(4,142)=10.09$, $p<.001$]. Despite being statistically significant, the actual difference in mean scores between

the groups was small. The effect size, calculated using eta-squared was small (η^2=.22). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the subsidiaries aged 21-30 years was significantly higher (p<.05), than for subsidiaries aged 1-5, 6-10, 11-15 and 16-20 years; also subsidiaries aged 11-15 years had significantly higher mean scores (p<.05) than subsidiaries aged 6-10 years. These results suggest that subsidiary age has a moderating effect on the amount of personal centralised control that multinational headquarters exerts over its subsidiary, so that, in general, the longer established a subsidiary is, the higher the amount of personal centralised control that headquarters tends to exert over it. Hypothesis 7a is refuted. However, the Levene's test of equality of error variances shows that the variances of the five subsidiary age groups are significantly different from each other (p=.012).

Table 6.10 Mean level of personal centralised control by age of the subsidiary

Age of the subsidiary	N	Mean PCC	SD	95% CI-	95% CI+
1-5 years	12	3.33	.752	2.86	3.81
6-10 years	29	2.66	.932	2.30	3.01
11-15 years	43	3.52	.915	3.24	3.80
16-20 years	53	3.03	.930	2.78	3.29
21-30 years	10	4.50	.176	4.37	4.63
Total	147	3.22	.988	3.06	3.39

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
F(4,142)=10.09, p<.001. Source: Developed by the researcher for current study (2013)

H7b(i): A one-way ANOVA with age of the subsidiary as factor and level of bureaucratic formalized control as dependent variable revealed a statistically significant difference in the amount of bureaucratic formalised control for the five subsidiary age groups [F(4,146)=8.56, p<.001]. Despite being statistically significant, the actual difference in mean scores between the groups was small. The effect size, calculated using eta-squared was small (η^2=.19). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for subsidiaries aged 11-15 years was significantly higher at the p<.05 level, than for subsidiaries aged 6-10

years and 16-20 years. These results show the moderating effect of a subsidiary's age on the amount of bureaucratic formalised control that headquarters exerts over its subsidiary. Table 10 shows that subsidiaries aged 11-15 years had the highest bureaucratic formalised control, followed by subsidiaries aged 21-30 years. Hypothesis H7b(i) is refuted. However, the Levene's test of equality of error variances shows that the variances of the five subsidiary age groups are significantly different from each other (p=.001).

Table 6.11 Mean level of bureaucratic formal control by age of the subsidiary

Age of the subsidiary	N	Mean BFC	SD	95% CI-	95% CI+
1-5 years	12	4.00	0.426	3.73	4.27
6-10 years	29	3.90	1.00	3.51	4.28
11-15 years	43	4.58	0.607	4.39	4.77
16-20 years	53	3.83	0.580	3.67	3.99
21-30 years	10	4.25	0.264	4.06	4.44
Total	147	4.11	0.736	3.99	4.23

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
$F(4,146)=8.56$, $p<.001$. Source: Developed by researcher for current study

H7b(ii): A one-way ANOVA with age of the subsidiary as factor and amount of output control as dependent variable revealed a statistically significant difference in the amount of output control for the five subsidiary age groups [F (4,146)=8.56, p<.001). There was a statistically significant difference in amount of output control for the five subsidiary age groups [$F(4,146)=7.76$, $p<.001$]. Despite being statistically significant, the actual difference in mean scores between the groups was small. The effect size, calculated using eta-squared was small (η^2=.18). Post-hoc comparisons using the Tukey HSD test indicated that the mean score for subsidiaries aged 21-30 years was significantly higher than for younger subsidiaries aged 1-5, 6-10, 11-15 and 16-20 years. These results show the moderating effect of a subsidiary's age on the amount of output control that headquarters exerts over its subsidiary. Table 6.12 shows that subsidiaries aged 21-30 years had the highest output control, followed by subsidiaries aged 11-15 years. Hypothesis 7b(ii) is confirmed. However, the Levene's test

of equality of error variances shows that the variances of the five subsidiary age groups are significantly different from each other (p=.001),

Table 6.12 Mean amount of output control by age of the subsidiary

Age of the subsidiary	N	Mean OUT	SD	95% CI-	95% CI+
1-5 years	12	4.17	.651	3.75	4.58
6-10 years	29	4.22	1.01	3.84	4.61
11-15 years	43	4.36	.398	4.24	4.48
16-20 years	53	3.90	.566	3.74	4.05
21-30 years	10	5.00	.000	5.00	5.00
Total	147	4.19	.689	4.08	4.31

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean. $F(4,146)=7.76$, $p<.001$. Source: Developed by the researcher for current study (2013)

Hypothesis 8:

There are three hypotheses included in Hypothesis 8, which are as follows:

H8a: There is a positive relationship between interdependence and the level of personalized control (PCC).

H8b: There is a positive relationship between the extent of interdependence of a subsidiary with the MNE as a whole and the amount of control (OUT) that is exercised by headquarters towards that particular subsidiary

H8c: There is no positive relationship between the extent of local responsiveness of a subsidiary and the amount of personalised control (PCC) that is exercised by headquarters towards that particular subsidiary

Hypothesis 8 is evaluated using a linear regression. The results are as follows:

H8a: Hypothesis 8a sought to understand, to what extent does the extent of interdependence impact on the level of control by socialization (INFO) that HQ exerts over this personalized control (PCC). A linear regression revealed a significant as y=3.15 + 0.31x, where y represents the amount of PCC, and x represents the extent of interdependence, to evaluate how well x predicted y. The extent of interdependence explained only .01% of the variation

in the level of PCC (R^2=.001, F(1,145)=.135, MS^{Err}=.133, p=.713, and did not predict the level of PCC (β=.031, t=.368, p=.713). Inspection of the scatterplots indicated acceptable linearity and homoscedasticity. Hypothesis 8a was refuted.

Table 6.13 Linear regression of the extent of interdependence on personalized control

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.150	.218		14.482	.001
Extent of interdependence	.025	.068	.031	.368	.713

Dependent Variable: Control.PCC. R = .031, R^2 = .001, Adjusted R^2 = -.006, F(1,145)=.135, p=.713 Regression Equation: y=3.15 + 0.31x = 3.58 + .219x. Source: Developed by the researcher for current study (2013)

H8b**:** Hypothesis 8b sought to understand, to what extent does the extent of interdependence impact on the level of the amount of control (OUT) that is exercised by headquarters towards that particular subsidiary. A linear regression revealed a significant relationship as y=3.72 + .280x, where y represents the amount of output control, and x represents the extent of interdependence, to evaluate how well x predicted y. The regression results appear in Table 6.14. Consistent with hypothesis 8b, the extent of interdependence explained 7.8% of the variation in the amount of output control (R^2=.078, F(1,145)=12.31, p<.001), and had a significantly positive effect on increasing the amount of output control (β=.280, t=3.51, p<.001). For every one-unit increase in interdependence, the amount of output control increased by .159 points (based on the unstandardized regression coefficient). Inspection of the scatterplots revealed acceptable linearity and homoscedasticity.

Table 6.14 Linear regression of the extent of interdependence output control

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.720	.146		25.544	.000

Extent of interdependence	.159***	.045	.280	3.508	.001

Dependent Variable: Control.INFO. R = .280, R^2 = .078, Adjusted R^2 = .072 $F(1,145)=12.31$, $p<.001$
Regression Equation: y = 3.72 + .280x *** $p<$ .001.
Source: Developed by the researcher for current study (2013)

H8c**:** Hypothesis 8c sought to understand, to what extent does the extent of local responsiveness of a subsidiary impact on the level of the amount of control (OUT) that is exercised by headquarters towards that particular subsidiary. A linear regression revealed a significant relationship as y=2.36 + .334x, where y represents level of personalized control, and x represents the extent of local responsiveness, to evaluate how well x predicted y. As shown in the model in Table 6.15, the extent of local responsiveness explained 11.2% of the variation in the level of PCC (R^2=.112, $F(1,145)=18.21$, $p<.001$). The extent of local responsiveness had a significantly positive effect on increasing the level of personalized control (β=.334, t=4.27, $p<.001$). For every one-unit increase in local responsiveness, the level of personalized control increased by 0.333 points (based on the unstandardized regression coefficient). Inspection of the scatterplots indicated acceptable linearity and homoscedasticity. Hypothesis 8c was refuted.

Table 6.15 Linear regression of extent of local responsiveness on personalized control

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.358	.217		10.853	.000
Extent of local responsiveness	.333***	.078	.334	4.267	.001

Dependent Variable: Control.INFO. R = .334, R^2 = .112, Adjusted R^2 = .105, $F(1,145)=18.21$, $p<.001$
Regression Equation: y=2.36 + .334x
*** $p<$ .001. Source: Developed by the researcher for current study (2013)

Hypothesis 9:

H9: There is a positive relationship between expatriate manager (not Saudi) in the subsidiary and informal communication (control.INFO)

H9**:** A one-way between groups ANOVA was conducted to compare the impact of the expatriate manager (not Saudi) in the subsidiary and informal communication. Respondents were divided into three groups according to their nationality (Group 1: Saudi national, Group 2: headquarters country, Group 3: third country national) The Levene's test indicated unequal variances. There was no statistically significant difference in levels of informal communication for the three manager nationalities [$F(2,144)=2.59$, $p=.078$] (see Table 6.16). The effect size calculated using eta-squared was small ($\eta^2=.03$). These results suggest that the expatriate manager (not Saudi) really does use the same level of informal communication as the Saudi managers in the subsidiary. Hypothesis 9 is refuted.

Table 6.16 One-way ANOVA of effect of expatriate manager (not Saudi) on the level of informal communication (INFO)

Subsidiary Manager	**N**	**Mean INFO**	**SD**	**95% CI-**	**95% CI+**
Saudi National	50	3.93	.700	3.73	4.13
HQ Country	58	4.24	.720	4.05	4.42
Third Country National	39	4.05	.651	3.84	4.26
Total	147	4.08	.703	3.97	4.20

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
$F(2,144)=2.59$, $p=.078$.
Source: Developed by the researcher for current study (2013)

Hypothesis 10:

H10: Performance of MNEs' subsidiaries would differ based on the home country of the subsidiary.

H10**:** A one-way between groups ANOVA was conducted to compare the impact of the home country of the subsidiary on performance of MNEs' subsidiaries. Respondents were divided

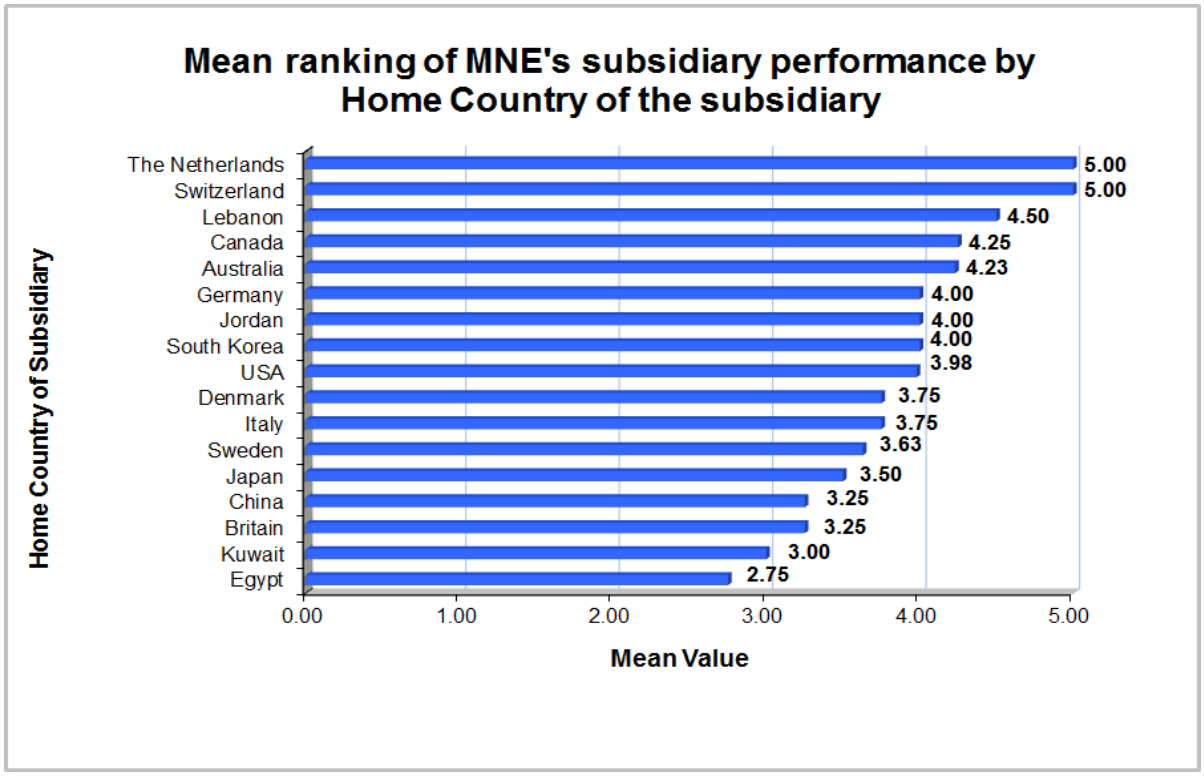
into 17 home country subsidiaries. The results are shown in Table 6.17. Consistent with hypothesis 10, there was a significant difference in levels of overall performance for the 17 home countries of subsidiaries [$F(16,130)=6.27$]. The actual difference in mean scores was quite large ($\eta^2=.44$). Post-hoc comparisons using the Tukey HSD test indicated that the mean performance for USA is significantly higher than Britain and Egypt is significantly lower than USA, Switzerland, Australia, Netherlands, and Lebanon. Sweden is significantly lower than Switzerland and Netherlands. Japan is significantly lower than Switzerland and Netherlands. China is significantly lower than Switzerland, Netherlands and Australia is significantly higher than Sweden, Japan, China, USA, Kuwait and Egypt. Australia is significantly higher than Britain, China, Egypt and Kuwait. Canada is significantly higher than Egypt. Lebanon is significantly higher than Britain and Egypt. Finally, Egypt is significantly lower than USA, Switzerland, Australia, Netherlands, Canada, and Lebanon. These results show the moderating effect of the home country on subsidiary performance in KSA. Levene's test indicated unequal variances. Figure 6.6 further illustrates the mean ranking for overall performance by home country of the subsidiary.

Table 6.17 Ranking of MNE's subsidiary performance from highest to lowest performance

Mean Ranking	Home country of the subsidiary	Observations	Mean	SD	95% CI
1	Switzerland	5	5.00	.000	5.00 - 5.00
2	Netherlands	5	5.00	.000	5.00 - 5.00
3	Lebanon	4	4.50	.000	4.50 - 4.50
4	Canada	5	4.25	.000	4.25 - 4.25
5	Australia	14	4.23	.207	4.11 - 4.35
6	South Korea	8	4.00	.802	3.33 - 4.67
7	Jordan	13	4.00	.612	3.63 - 4.37
8	Germany	10	4.00	1.05	3.25 - 4.75
9	USA	23	3.98	.626	3.71 - 4.25
10	Italy	5	3.75	.000	3.75 - 3.75
11	Denmark	4	3.75	.000	3.75 - 3.75
12	Sweden	8	3.63	.134	3.51 - 3.74
13	Japan	10	3.50	1.05	2.75 - 4.25
14	Britain	15	3.25	.732	2.84 - 3.66
15	China	10	3.25	.527	2.87 - 3.63
16	Kuwait	4	3.00	.000	3.00 - 3.00
17	Egypt	4	2.75	.000	2.75 - 2.75

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval of the mean.
Source: Developed by the researcher for current study (2013)

Figure 6.6 Mean values for MNE's subsidiary performance by home country of the subsidiary



Source: Developed by the researcher for current study

Hypothesis 11:

H11: INFO control will be the dominant type of strategy used in global, transnational and multi-domestic MNE, as compared with control.PCC, control.BFC, and control.OUT.

Table 6.1 illustrates that most correlations between the four control mechanisms (PCC, BFC, OUT, INFO) and global, multi-domestic, and transnational strategy were significant and positive. Consistent with hypothesis 11, the strongest correlations were between control.INFO and transnational strategy (r=.682, p<.01), multi-domestic strategy (r=.513, p<.01), and global strategy (r=.410, p<.01),, with higher control of INFO associated with higher use of transnational, multi-domestic, and global strategy. Three standard multiple regression were determined to further evaluate H11. The results appear in Table 6.18 (below). All three regression equations were statistically significant. The linear combination of four control mechanisms were most strongly related to transnational strategy, R^2=.509, F(4,142) =

36.82, $p<.001$, followed by multi-domestic strategy, $R^2=.283$, $F(4,142) = 14.03$, $p<.001$, and global strategy, $R^2=.257$, $F(4,142) = 12.27$, $p<.001$. These results indicate that the four control mechanisms, together, accounted for approximately 50.9% of the variation in transnational strategy, 28.3% of the variation in multi-domestic strategy, and 25.7% of the variation in global strategy. The strength of each predictor variable is as follows: Control.INFO was significantly, positively related to global strategy ($\beta=.447$, $p<.001$), and multi-domestic strategy ($\beta=.537$, $p=.088$), and transnational strategy ($\beta=.768$, $p<.001$), and was the dominant type of strategy used in global, transnational and multi-domestic MNE's, as compared with PCC, BFC, and OUT control mechanism. Conversely, BFC had a significant, negative and weak relationship with global strategy ($\beta=-.317$, $p<.001$), and transnational strategy ($\beta=-.252$, $p<.001$), and no relationship with multi-domestic strategy ($\beta=-.159$, $p=.088$). PCC and OUT control mechanisms were not significantly related to global, multi-domestic, or transnational strategy. Hypothesis 11 is thus confirmed, as the strongest control mechanism exerted was control.INFO.

Table 6.18 Multiple regression results for control mechanisms on strategy

	Dependent Variables		
Predictor Variables	Global strategy	Multi-domestic strategy	Transnational strategy
Control.PCC (β)	.140 (1.77)	.052 (.674)	-.120 (-1.86)
Control.BFC (β)	-.317*** (-3.73)	-.159 (-.172)	-.252*** (-3.29)
Control.OUT (β)	.145 (1.50)	.074 (.775)	.146 (1.85)
Control.INFO (β)	.447*** (5.08)	.537*** (6.22)	.768*** (10.74)
R	.507	.532	.714
R^2	.257	.283	.509
Adj. -R^2	.236	.263	.495
F-ratio	12.27***	14.03***	36.82***

The figures in the table are standardized beta coefficient regression weights, figures in parentheses are *t*-values. ***$p<.001$. Source: developed by the author for the purpose of the study.

Post Model Checks

The assumptions and residual diagnostics were checked to assess the accuracy of the above multiple regression model. There was no evidence of multicollinearity or singularity, with no correlation above .9 between variables, and all variance inflation factors (VIF) were below 2, as recommended. Examination of the Mahalanobis and Cooks maximum distance measures did not identify any multivariate outliers. Inspection of the residual scatterplots indicated acceptable linearity and heteroscedasticity (Field, 2009).

Hypothesis 12:

H12: The industry type will have an effect on the performance of the subsidiary.

A one-way between groups ANOVA was performed to compare the impact of eight different industries on perceived subsidiary performance. Respondents were divided into eights groups according to their industry (Group 1: Computers, Group 2: Paper, Group 3: Electronics / Electrical Equipment, Group 4: Chemicals, Group 5: Others, Group 6: Food / Beverages, Group 7: Petroleum, and Group 8: Motor Vehicles and Parts). Consistent with hypothesis 12 was supported, there was a statistically significant difference in perceived subsidiary performance for the eight industries, F (7, 139) = 7.18, p < .001, η^2=.27. The effect size, calculated using eta-squared was medium. Post-hoc comparisons using the Tukey HSD test indicated that, at the p<.05 level, the mean performance for petroleum industry was significantly lower than for computers, paper, and electronics/electrical equipment industries. Chemicals industry performance was significantly lower than the computer industry, but was significantly higher than the motor vehicles and parts industry. The food / beverages industry performance was significantly lower than the computer industry, but was significantly higher than the motor vehicles and parts industry. The motor vehicles and parts industry performance was significantly lower than the computers and paper industries (*Refer to Appendix 6 for detailed post hoc test results*). Levene's test indicated unequal variances. Table 18 shows a mean ranking of subsidiary perceived subsidiary performance by industry type, from lowest to highest performance. The highest subsidiary performance rating was given for the petroleum industry (M=5.00). Followed by the computer industry (M=4.50),

electronics / electrical equipment industry (*M*=4.00), chemicals industry (*M*=3.99), other industry (*M*=3.76), food / beverages industry (*M*=3.67), paper industry (*M*=3.34), and motor vehicles and parts industry (*M*=3.19). Figure 6.7 further describes the lowest to highest perceiving performing subsidiaries by industry as ranked by respondents.

Table 18 Mean ranking of performance by different industries, from highest performance to lowest performance

Mean Ranking	Industry of the subsidiary	Observations	Mean	SD	95% CI-	95% CI+
1	Petroleum	5	5.00	.000	5.00	5.00
2	Computers	10	4.50	.527	4.12	4.88
3	Electronics / Electrical Equipment	18	4.00	.549	3.73	4.27
4	Chemicals	51	3.99	.584	3.82	4.15
5	Others	18	3.76	1.06	3.24	4.29
6	Food / Beverages	12	3.67	.807	3.15	4.18
7	Paper	24	3.34	.650	3.07	3.62
8	Motor Vehicles and Parts	9	3.19	.527	2.79	3.60

Note: SD=standard deviation, 95% CI=95% upper and lower confidence interval.
Source: Developed by the researcher for current study

Hypothesis 13:

H13: Knowledge flows are significantly related to perceived performance of the subsidiary.

Hypothesis 13 sought to understand, to what extent do knowledge flows impact on the perceived performance of the subsidiary. A linear regression revealed a significant relationship as y=4.09 - .108x, where y represents perceived performance, and x represents knowledge flows, to evaluate how well x predicted y. The results appear in Table 6.19. Contrary to expectations, knowledge flows explained only 1.2% of the varition in overall performance (R^2=.012, F(1,145)=1.71, p=193), and was not a significant predictor. Inspection of plots indicated acceptable linearity and homoscedasticity. Hypothesis 13 is refuted.

Table 6.19Linear Regression for Perceived Performance of the Subsidiary

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.

(Constant)	4.089	.193		21.193	.000
Knowledge flows	-.127	.097	-.108	-1.308	.193

Dependent Variable: Overall Performance. R = .108, R^2 = .012, Adjusted R^2 = .005, Model Fit: $F(1,145)=1.71$, p=.193. Regression Equation: y = 4.09 -.108x. Source: Developed by the researcher for current study

Multiple regressions for the different control mechanism

Personal Centralised Control (PCC)

Multiple regression analysis was used to test if Interdependence, Local Responsiveness, Knowledge Flows and Type of Strategy (Global, Multi-domestic or Transnational) significantly predicted Personal Centralised Control (PCC). The results of the regression indicated that the predictors explained around 26.5% of the variance (R^2 = .228, F (5,147) = 7.1, p<.00). It was found that Interdependence significantly predicted PCC (β = .311, p = 001), as did Local Responsiveness (β = .464, p<.00) and Knowledge Flows (β = .244, p<.001). For the Global, Multi-domestic and Transnational strategies, it was found that they were not predictors of PCC. The results of the regressions were (β = .218, p = .145), (β = .099, p = .418) and (β = .140, p = .300), respectively. The standardised regression coefficients of the predictors, together with their beta values and their significance levels, are shown in Table 6.20.

Table 6.20: Multiple regression of Personal Centralised Control (PCC)

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	.218	.624		.350	.727
Interdependence	-.254	.078	-.311	-3.245	.001
Local responsiveness	.463	.111	.464	4.189	.000
Global Strategy	-.308	.210	-.218	-1.467	.145
Multi-domestic Strategy	.157	.194	.099	.813	.418
Transnational Strategy	.189	.181	.140	1.041	.300
Knowledge Flows	.371	.136	.244	2.732	.007

Source: developed by the researcher for the current study (2013)

Bureaucratic Formalised Control (BFC)

Multiple regression analysis was used to test if Interdependence, Local Responsiveness, Knowledge Flows and Type of Strategy (Global, Multi-domestic or Transnational) predicted Bureaucratic Formalised Control (BFC). The results of the regression indicated that the predictors explained only 10.4% of the variance (R^2 = .147, F (5,147) = 6.9, p<.00). It was found that Global Strategy significantly predicted BFC (β = .424, p = 009). The results of the other regressions were as follows: Local Responsiveness (β = -.143, p = .234), Multi-domestic Strategy (β = -.215, p = .104), Transnational Strategy (β = .93, p = .045) and Knowledge Flows (β = .129, p = .182). The standardised regression coefficients of the predictors, together with their beta values and their significance levels, are shown in Table 6.21.

Table 6.21: Multiple regression of Bureaucratic Formalised Control (BFC)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.453	.501		4.895	.000
Interdependence	.067	.063	.111	1.069	.287
Local responsiveness	-.106	.089	-.143	-1.197	.234
Global Strategy	-.447	.168	.424	-2.656	.009
Multi-domestic Strategy	.254	.155	.215	1.636	.104
Transnational Strategy	.294	.146	.293	2.020	.045
Knowledge Flows	.146	.109	.129	1.342	.182

Source: developed by the researcher for the current study (2013)

Output Control mechanism (OUT)

Multiple regression analysis was used to test if Interdependence, Local Responsiveness, Knowledge Flows and Type of Strategy (Global, Multi-domestic or Transnational) significantly predicted the Output Control mechanism (OUT). The results of the regression indicated that the predictors explained around 51.4% of the variance (R2 = .49, F (5,147) = .717, p<.00). It was found that four independent variables significantly predicated OUT: Interdependence (β = .399, p<.00), Local Responsiveness (β = .373, p<.00), Global Strategy (β = .270, p = .027) and Multi-domestic Strategy (β = .117, p = .239). The results of the regressions for Transnational Strategy and Knowledge Flows were (β = .415, p<.00) and (β = .279, p<.00), respectively.

Table 6.22: Multiple regression of Output Control (OUT)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.970	.354		2.741	.007
Interdependence	.227	.044	.399	5.113	.000
Local responsiveness	-.259	.063	.373	-4.140	.000
Global Strategy	-.266	.119	-.270	-2.238	.027
Multi-domestic Strategy	.130	.110	.117	1.183	.239
Transnational Strategy	.390	.103	.415	3.789	.000
Knowledge Flows	.296	.077	.279	3.843	.000

Source: developed by the researcher for the current study (2013)

Informal Control Mechanism (INFO)

Multiple regression analysis was used to test if Interdependence, Local Responsiveness, Knowledge Flows and Type of Strategy (Global, Multi-domestic or Transnational) significantly predicted Informal Control (INFO). The results of the regression indicated that the predictors explained around 55.5% of the variance (R^2 = .532, F (5,147) = .745, p<.00). It was found that Global Strategy, Transnational Strategy and Knowledge Flows significantly predicted INFO. The results for these variables were (β = .452, p<.00), (β = .895, p<.00) and (β = .261, p<.00), respectively. Interdependence, Local Responsiveness and Multi-domestic Strategy were not predictors of INFO. The results of the regressions for these variables were (β = -.073, p = .327), (β = .121, p = .163) and (β = .119, p = .211), respectively. The standardised regression coefficients of the predictors, together with their beta values and their significance levels, are shown in Table 6.23.

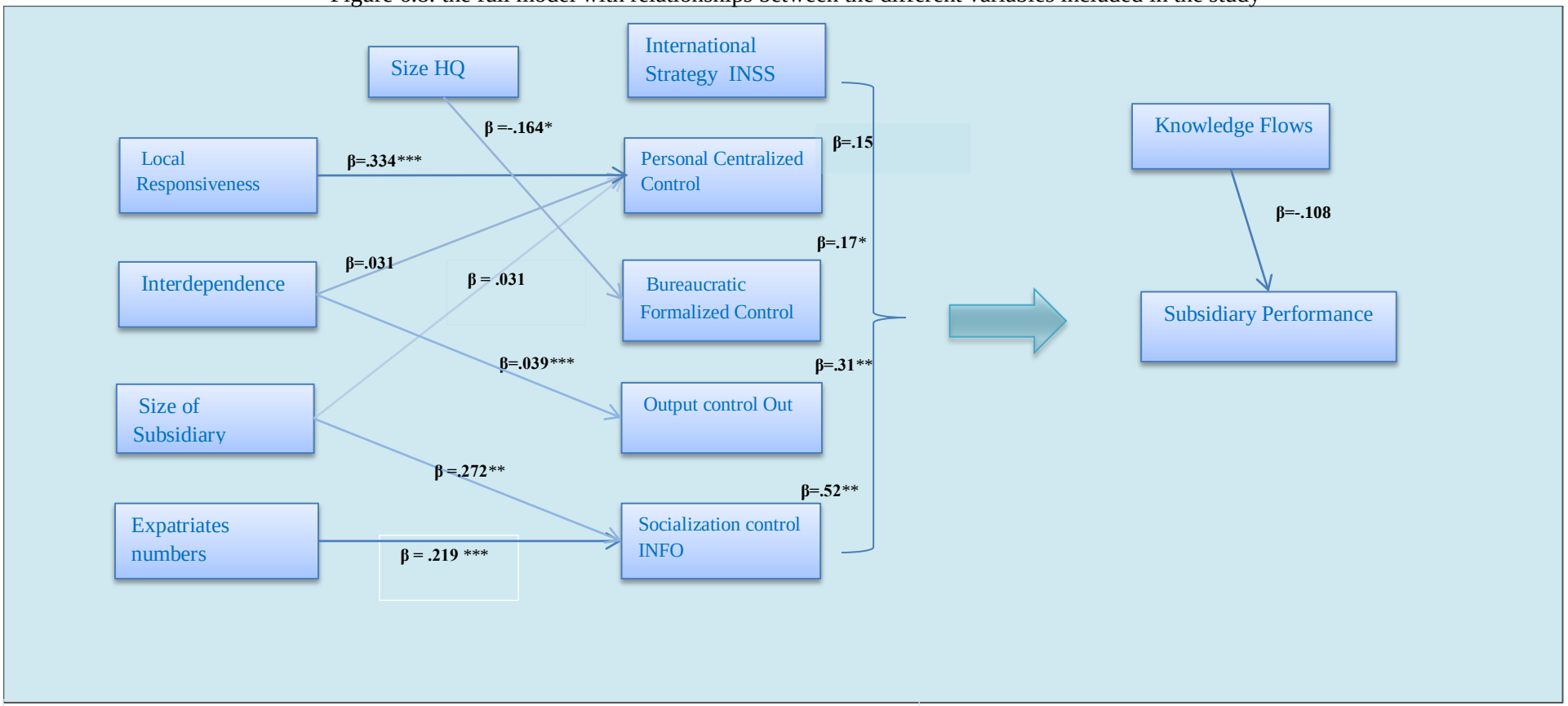
Table 6.23: Multiple regression of Informal Control (INFO)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.719	.346		2.077	.040
Interdependence	-.043	.043	-.073	-.984	.327
Local responsiveness	.086	.061	.121	1.404	.163
Global Strategy	-.455	.116	.452	-3.917	.000

Multi-domestic Strategy	.135	.107	.119	1.255	.211
Transnational Strategy	.857	.101	.895	8.525	.000
Knowledge Flows	.283	.075	.261	3.762	.000

Source: developed by the researcher for the current study (2013)

Figure 6.8: the full model with relationships between the different variables included in the study



* = p<.05, ** = p<.01 ***= p<.001
Source: developed by the author for the purpose of the study (2013).

Summary of Hypotheses Testing Results

Table 21 displays a summary of the hypothesis test results in this study.

Table 21: Summary of assessed hypotheses

	Hypothesis	Test	Results
H1	There is a difference between the Japanese and US subsidiaries on the level of personal centralized control (PCC).	Independent samples *t*-test	Confirmed
H1b	There is a difference between German and other European countries subsidiaries on the level of personal centralized control (PCC).	Independent samples *t*-test	Confirmed
H1c	There is a difference between German and Japanese subsidiaries on the level of personal centralized control (PCC)	Independent samples *t*-test	Confirmed
H2a	There is a difference between US and Japanese subsidiaries in the level of bureaucratic formalized control (BFC)	Independent samples *t*-test	Confirmed
H2b	There are no differences between American MNEs and European MNEs in bureaucratic formalized control (BFC)	Independent samples *t*-test	Confirmed
H3a	Subsidiaries of the American MNEs have higher output control (OUT) than subsidiaries of European MNEs	Independent samples *t*-test	Confirmed
H3b	There is a difference between American and Japanese MNEs on the output control (OUT)	Independent samples *t*-test	Confirmed
H4a	Subsidiary control by socialization and networks (INFO) is positively related to the proportion of expatriate managers	Linear regression	Confirmed
H4b	The level of subsidiary control by socialisation and networks is related to the role of expatriate managers	One-way ANOVA	Confirmed
H5	Multinational headquarters will use indirect control mechanisms (INFO, OUT) to a larger extent in respect of their subsidiaries than direct control (PCC, BFC) mechanism	Paired samples t-test	Confirmed
H6a	The size of a subsidiary will have an impact on the level of personal centralised control (PCC) that HQ exerts over this subsidiary	Linear regression	Refuted

Table 21 Continued: Summary of assessed hypotheses

	Hypothesis	Test	Results
H6b	The size of MNE will have an impact on the level of bureaucratic formalized control (OUT) that headquarters exerts over its subsidiary	Linear regression	Confirmed
H6c	The size of the subsidiary would have an effect on the level of control by socialization that HQ exerts over this subsidiary	Linear regression	Confirmed
H7a	The age of subsidiary have a negative impact to the amount of personal centralised control (PCC) that HQ exerts over this subsidiary	One-way ANOVA	Refuted
H7b	The age of the subsidiary have an impact to the amount of bureaucratic formalised control (BFC) and output control (OUT) that HQ exerts over this subsidiary	One-way ANOVA	BFC Refuted OUT Confirmed
H8a	There is a positive relationship between interdependence and personalized control. (PCC).	Linear regression	Refuted
H8b	There will be a positive relation between the extent of interdependence of a subsidiary with the MNE as a whole and the amount of control (OUT) that is exercised by headquarters towards that particular subsidiary.	Linear regression	Confirmed
H8c	There is a positive relation between the extent of local responsiveness of a subsidiary and the amount of control (PCC) that is exercised by headquarters towards that particular subsidiary	Linear regression	Refuted
H9	There is a positive relationship between expatriate manager (not Saudi) in the subsidiary and informal communication. (INFO)	One-way ANOVA	Refuted
H10	Performance of MNEs' subsidiaries will differ based on the home country of the subsidiary	One-way ANOVA	Confirmed
H11	INFO control will be the dominant type of strategy used in global, transnational and multi-domestic MNE	Multiple regression	Confirmed
H12	There will be significant differences in performance between different industries.	One-way ANOVA	Confirmed
H13	Knowledge flows are significantly related to perceived performance of the subsidiary.	Linear regression	Refuted

Source: Developed by the researcher for current study

6.4 Chapter Summary

This chapter presents the inferential statistics that are used to test our main hypotheses used in the study. It presented the overall relationships between the variables in order to make inferences about the population of multinational subsidiaries in KSA, from which the sample was drawn. Specifically, in this research, inferential statistics (e.g., t-tests and analyses of variance, correlations and regressions) were expected to provide better insights into the relationship between multinational headquarter characteristics, subsidiary characteristics, control mechanisms, dominant strategies and the outcome measure of perceived performance of the subsidiary. The analysis of the data was performed using SPSS, with a significance level of $p<.05$ used as the criterion for statistical significance for each hypothesis test: an alpha level of $p<.05$ is significant; $p<.01$ is very significant; and $p<.001$ is highly significant (Field, 2009).

A series of post-hoc power analyses were conducted to determine the appropriate sample size and to achieve statistical power for correlations, multiple regressions, hierarchical regression and one-way analysis of variance (ANOVA). Some detailed results are presented in the appendix. The power analyses confirmed that the correlation analysis achieved 98% power; multiple regressions (H11) achieved 97% power; and hierarchical regression achieved 99% statistical power. All these power values were well above the 80% threshold needed to detect all the significant results in the data. By contrast, the one-way ANOVA tests were relatively underpowered. Hence, the ANOVA tests may not have detected all significant results. For the correlation analysis, the analysis (two-tailed) was performed to determine the degree of the relationship between fourteen predictor variables and the outcome measure of respondents' perceptions of subsidiary performance.

Given the variety of hypotheses and types of variables, a corresponding variety of statistical procedures were used to test our hypotheses. For H1, H2, H8, H9 and H11, one-way ANOVA was used with planned linear contrasts. This is because the variables involved were continuous-interval scales, analysed along categorical-nominal variables. For H3, regular one-way ANOVA was also used, but emphasising post-hoc comparisons using the Games-Howell procedure. A paired-samples t-test was used for H6, since two standardised scale variables were compared within respondents. This was combined with Levene's test for equality of variances. Spearman's rho rank order coefficient was used to verify the results for

H5 and H6, while Pearson's correlation coefficient was used for H7 and H10, since the variables involved were continuous scales.

To test our model, a three-stage hierarchical regression model was determined with perceived subsidiary performance as the dependent variable. The four control mechanisms (i.e., control.PCC, BFC, OUT, and INFO) were posited as the independent variables in Step 1 of the model. In Step 2, the overall strategy (INSS) and knowledge flow were posited as the independent variables, to examine their additional influence on perceived subsidiary performance, over and above the control mechanisms. In Step 3, interdependence and local responsiveness were posited as the independent variables, to examine their additional influence on perceived subsidiary performance, over and above control.PCC, BFC, OUT, INFO, overall strategy (INSS) and knowledge flow. Tables 6.20, 6.21.6.22 and 6.23 present the results of the multiple regression analyses.

CHAPTER SEVEN FINDINGS AND DISCUSSION

7.1 Introduction

This study was conducted in the private sector of KSA. All the subsidiaries studied were located in KSA and selected from those in the Directory of Foreign Companies in KSA, published by the Saudi Investment Authority (SAGIA). A total of 350 subsidiaries were initially contacted in person, via telephone or through e-mail. A total of 147 subsidiary managers agreed to respond to the survey (42.8% response rate). A random sample was taken for data collection (Tabachnick and Fidell, 2007; Hair et al., 2006). This study provides a large sample and a substantive representation of the total population of the private sector organisations that were asked to participate voluntarily (see chapter 4).

This chapter explores the outcomes concerning the three central aspects of this study: control mechanisms, MNEs and international transfers. Testing the different sets of hypotheses provides external validation for the empirical data used to answer the study's main research questions. Confidence in the validity of research instruments considerably increases if most of the hypotheses, constructed after an extensive review of previous research in the field, prove acceptable and correct. This was the case in this study. The study focuses on the integration between these variables and attempts to elucidate the sum of these variables in a broader sense.

As discussed in the last chapter, dealing with missing data is important. Precedents in social science research suggest using the mean of the scores on the variance (Stevens, 1992) or removing unresponsive sample(s) (Norusis, 1995). Specifically, this study contained eight samples of missing data out of 156 samples (5.01%), which did not significantly affect the outcome of the analysis. Thus, these eight samples were deleted from the data; then, the data was tested to locate outliers, as discussed in the previous chapters.

The following section explores the application of control mechanisms in MNEs. The results of the study are reviewed and linked to the current stream of international business literature. The theoretical and practical contributions of the study are described and the characteristics of the HQ–subsidiary mechanisms are emphasised. The study then shifts focus to the influence of the environment and home country of the HQs by testing different sets of

hypotheses. The influence of different variables is discussed and the effects on performance are summarised. Moreover, the different types of strategy and structure applied by MNEs are discussed. Finally, the effects that international transfers of managers have on subsidiaries are explored.

7.2 Control mechanism

This section discusses the first component of our thesis: control mechanisms. After a review of the relevant literature, we identified four control mechanisms: personal centralised control, bureaucratic formalised control, output control, and control by socialisation and networks. Further, we discussed the reliability of the scales used to measure these various control mechanisms. Also, we tested the hypotheses that have been posited concerning the country of origin effect in the application of control mechanisms in chapter four (H1, H2 and H3).

By virtue of the analysis of the first set of hypotheses in the previous chapter, we can conclude that subsidiaries of German MNEs experience a very high level of control; indeed, the only control mechanism for which German MNEs are not among users proves the control by socialisation and networks. German firms exhibit a much more horizontal differentiation of tasks and functions, and in particular have a much greater overlap of operations of functions and of technical and supervisory work this results coincide with other studies, e.g. (Lane, 1989; Sparrow and Hiltrop, 1994). German and Japanese MNEs, rooted in business systems are concerned with the management of the issue internationally than perhaps American or British companies.

The second group reflects the Anglo-Saxon countries and they heavily use the impersonal types of control mechanisms, specifically bureaucratic formalised control and output control. These results concern the debate on the level of autonomy exercised in Oriental vs. US subsidiaries. Our results showed that, when compared to the US, the level of control in Oriental subsidiaries is less; or, put differently, the latter enjoy a greater degree of autonomy than US subsidiaries. It seems that, once a unit is operational, Oriental parents grant many more degrees of freedom than US parents. The relatively significant amount of freedom in Oriental societies becomes understandable, as trust and bonding are much stronger within Oriental societies than among US or Anglo-Saxon societies, leading to greater autonomy, particularly in short- to medium-term decision-making. The results, however, do not align

with the findings of Jain & Tucker (1995), who report that power is more centralised in Japanese companies, as well as the work of Kustin & Jones (1996) and Zaheer (1995).

When we deconstruct the results for Europe, we find support of a hypothesis in the literature that states that controls exercised by German and British MNEs are generally higher than other European countries. However, comparing German and British as a group to Oriental MNEs reveals the latter as possessing greater overall controls. With regard to the output and bureaucratic controls, we found that both US MNEs and those from the Middle East exercised higher controls than Oriental MNEs. These results prove explicable when considered through the lens of the generally understood obsession of US firms, entities that use short-term (often quarterly) results as a gauge of success of their long-term operations. These results also align with the work of O'Donnell (2000) and Harzing (2001). The literature has also reported that firms can also exercise controls often through means of non-measurable cultural bindings, commonly referred to as control by informal and social means (Ferner, 1997). Thus, HQ can strategize to implement this method by positioning a sizeable number of managers from home within the subsidiary. Indeed, the results reveal this as true. The presence has positive and significant effects on most levels of control: personal, output, bureaucratic, and informal.

Contrary to this, however, we found that the presence of a sizeable number of expatriates (as opposed to HQ managers) leads to greater autonomy in subsidiaries. These results provide us with insights that suggest two opposing forces are at play in subsidiaries: one exerted by managers from the home country, loyal to implementing the ways of the HQ; the other force is exerted by expatriates who, possibly as a result of being on fixed-term assignments, speak their minds and bond better with local employees, providing them with either an actual or imaginary sense of well-being and freedom.

MNEs operate globally in a competitive environment. In order to survive in this, they have to have stricter quality controls in the front line services and products on which they will exercise strict surveillance. Logic dictates that, whereas in sectors where employees (most probably the local) are in direct touch with the customer (in marketing or insurance sales, for example), it is not feasible to exercise direct control, and the local employee to whom the task has been assigned should be trusted with this task. However, in sectors such as manufacturing or assembly lines, direct control can be exercised and might be desirable, and this study's results reflect this as correct. The same analogy applies to high-tech sectors where, for a

variety of reasons (such as to protect technical know-how, for example), tight control may have to be exercised (Richards, 2000), and, again, results prove this supposition to be correct. Echoes of internalisation theory (Buckley & Casson, 1976) are detectable here.

This first section has discussed the empirical results concerning the first building block of our thesis: control mechanisms. We then tested the hypotheses concerning the country of origin effect in the application of control mechanisms and now turn to the second building block of our study: the MNE.

7.3 Strategy and Structure

In chapter 4, we indicated that the three distinct organisational models identified for MNEs could be recognized in the study. The global organisational model is most popular in our sample, while the transnational model is least popular. The fact that the transnational model is least prevalent conforms to the findings of Leong and Tan (1993), as well as Harzing (2001); this fact also coincides with the general idea that the transnational model is an ideal-type, realised by a minority of firms only. However, contrary to these researchers' findings, the global model proved the most prevalent model, rather than the multi-domestic.

Turning back towards the individual control mechanisms, we predicted multi-domestic companies to employ socialisation and networks (INFO) control as their dominant control mechanisms. Since these control mechanisms are relatively indirect and less obtrusive, they were hypothesised to fit the rather independent subsidiaries of multi-domestic companies better than the direct personal centralised control and bureaucratic formalised control. Indeed, both personal centralised control (t-value: -4.259, P = .433, 2-tailed) and bureaucratic formalised control (t-value: -2.326, p = .264, 2- tailed) are used significantly less in multi-domestic companies than on average in our sample. Global companies exhibit the same. The personal centralised control (t-value: -.914, P = 362, 2-tailed) and formalised control are not significant (t-value: -2.69, P= .058, 2-tailed). Subsidiaries from all different types of strategies are found to experience greater levels of control via socialisation and networks. The values of (p = 0.362, p = 0.058, p = 0.146 & p = 0.000) are the indicators PCC, BFC, OUT, and INFO respectively. In general, however, we can deduce existence of a tendency for global, transnational and multi-domestic MNEs to use the indirect control mechanisms, informal control, suited to their integrated organisational model, to a larger extent than direct controls.

The above elucidates that an MNE deals with its external environment and its preferred control mechanisms with respect to its subsidiaries based on the MNE's preferred strategic implementation. In testing the strategy of the MNE, two propositions were developed: one concerned a relationship between a generic strategy and HQ-Subsidiary control mechanisms and the other a relationship between an international strategy and performance. A generic strategy concerns the extent to which a company is willing and able to explore new opportunities in the market and develop new products, and this strategy should balance opportunism against more central control (see Miles and Snow, 1978). We therefore posed that for a strategy, flexibility and agility are necessary; these features are related more to resource dependency than to agency mechanisms when applying the INFO control mechanism.

7.4 Knowledge flows

Upon analysis, we found that knowledge flows were not associated with personalised (PCC) or bureaucratic controls (BFC), but rather moderately positively associated with (INFO) controls. Also, it was found, as expected, that PCC and BFC mechanisms were negatively associated with performance, while output control and informal coordination were positively associated. The direction of these relationships did not change through each model; rather, they amplified except for informal/socialisation controls, which weakened while remaining significant. This proved particularly evident in the case of output controls, where, in the final model, this became the strongest predictor of performance in the entire model.

Knowledge flows can enhance performance, especially in the early stage of a subsidiary's establishment, because the knowledge from other subsidiaries or the parent company will aid the newly established subsidiary to reduce cost and time. If subsidiaries in only rely on the importation of knowledge while failing to invest in their human capital long term, the importation of knowledge cannot significantly benefit the performance, and the reason is that subsidiaries still cannot absorb or create knowledge to complete tasks; they will become less and less competitive over time. This can be a case of poor management, but it is more likely to derive from a lack of competition (Birkinshaw and Hood, 1998). Consequently, if the subsidiary continues to import knowledge on the basis of capabilities that lack a leading edge, the subsidiary gradually atrophies over time due to lack of attention. As also indicated by Oxley (1997), it is unlikely that continuing to increase resource commitment will bolster a subsidiary's performance in a linear fashion. In other words, the net contribution of

knowledge flow to performance might diminish after a certain point due to over-commitment as we found.

7.5 Interdependence and local responsiveness

Increasing interdependence-measured as intra-company sales and purchases between a particular subsidiary and either headquarters or other subsidiaries increases both the importance of this subsidiary for headquarters and the risk involved. Therefore, our hypothesis predicted a positive relationship between the extent of interdependence of a subsidiary with the MNE as a whole, and OUT control exercised by headquarters towards this subsidiary. As the table 6.14 indicates, this hypothesis is indeed confirmed by our data; this higher level of control suspected to be attributable to a higher level of personal centralised control but with more output control. The level of interdependence between a particular subsidiary and the rest of the MNE has a considerable influence on the level and type of control exerted by headquarters within this subsidiary. Highly interdependent subsidiaries and certain dependent subsidiaries experience a higher level of control than others. The control mechanisms most affected is output control, where the HQ is highly concerned about the outside relationships in which the subsidiary is involved.

Taken together, the results of this thesis led us to draw four conclusions related to the hypotheses about interdependence and local responsiveness. First, the more embedded the subsidiary in the local environment, the more likely that the MNE will use informal controls. However, local embeddedness does not necessarily lead to fewer formal controls, as different types of local embeddedness appear to have differential effects. For instance, whereas dependence on local networks of suppliers, experts, and the like discourage the use of formal controls, local responsiveness appears to have the opposite effect, leading an MNE to utilize informal controls. This finding lends further support to Martinez and Jarillo's (1991) discovery that subsidiaries pursuing strategies that required a high level of integration with the parent company made more extensive use of informal mechanisms of control than subsidiaries following other strategies. In addition, our research supports Ferner's (2000) finding that formal and informal control mechanisms appear to coexist. Moreover, according to Hamilton and Kashlak (1999) more informal controls, such as input controls, would be employed when the task programmability and output measurability are low, a possibility when the culture in which the subsidiary operates differs or host country restrictions exist. Our measures of interdependence and local responsiveness attempted to measure the

embeddedness of the influence of the local responsiveness on the subsidiary. We found that the local responsiveness does not significantly and accurately predicted the use of personal control (hypothesis 8c). It might be that when local responsiveness dominates a subsidiary's operating environment, the MNE needs to provide additional control to counterbalance these local demands with integration. Such control might come in the form of both the more subtle type of informal controls and additional formal controls that guide employee behaviour, as argued by Gomez and Sanchez (2007). As stated in Hypothesis 8b, the degree of interdependence is positively related to the use of output control. This finding seems to support Hamilton and Kashlak's framework (1999). That is, as the subsidiary relies more on local technology, supplies, managers and output measurability are likely reduced. Under such circumstances, informal controls can provide the flexibility needed to ensure relatively seamless function.

In sum, the level of interdependence between a particular subsidiary and the rest of the MNE has a considerable influence on the level and type of control exerted by headquarters towards a particular subsidiary. Highly interdependent subsidiaries experience a higher level of control than other subsidiaries. The control mechanisms most affected in this respect are the output control mechanisms.

For the local responsiveness as the eight hypothesis indicated would not be positively related to total control levels. In order to be locally responsive, a subsidiary should not be strictly controlled by headquarters. As Table 6.13 shows, this hypothesis can indeed be rejected. The only explanation for this is that many MNEs have only recently started to localise their production and marketing which might lead them to keep matters under rather strict control in this start-up period. However , this result have to be put into perspective by consideration of the far reaching organisational changes in MNEs over the past few years as well, whereby often key suppliers with regional or global reach dominate linkages and foreign subsidiaries tend to be tightly controlled and specialised. On the other hand, MNE entry into a different economy is fairly recent and economic development on-going. This is also dependent upon the development of local firms as the strength of external network in the host country can lead to an enhanced position of the subsidiary in the MNE's network.

7.6 Size

The influence of size on the level of personal centralised control has received quite a lot of attention in previous literature. Results were in the expected direction that in hypothesis 6 we predicted no significant relationship between size and this type of personal control mechanism. As can be seen in table 6 of chapter six, there is no positive relationship between size and the level of personal centralised control that is applied towards subsidiaries.

As predicted in hypothesis 6b and 6c that size with both output control and control by socialisation and networks are positively related. For control by socialisation and networks this relationship acquires a high level of significance, (t-value: .272, P= .001, 2-tailed) and (t-value: .171, P= .039, 2-tailed). These results also confirm that the positive relationship between size and output control would be stronger than the relationship between size and the other control mechanisms. It seems that 'size does matter'. The larger parents and correspondingly larger size of subsidiaries dictates and attracts larger degrees of control. With regard to subsidiary size in particular, output controls become progressively important as they increase in size. The results also indicate that, with the increase in subsidiary size, the level of autonomy and informal communication between the HQ and fellow subsidiaries decreases. These results make sense in that with growth in the size of the firm comes a greater need to keep a tab on its functioning. An increase in size also means difficulty on the part of the parent compnay to keep the informal channels of communications going, which may gradually come to lose their intensity as time goes by and as the subsidiary size increases. The second major result concerns the debate on the level of autonomy exercised in Oriental vs. US subsidiaries. Our results show that, when compared to the US, the level of control in Oriental subsidiaries is less; or, put differently, the latter enjoy a greater degree of autonomy than US subsidiaries. It seems that, once a unit is up and running, Oriental parents grant many more degrees of freedom than US parents. This result is understandable in the light of culture of trust and bonding that is much stronger within Oriental societies than amongst US or Anglo-Saxon societies, leading to greater autonomy, particularly in regard to short- and medium-term decision-making. The results, however, are not align with the findings of Jain & Tucker (1995), who reported in their work that power is more centralised in Japanese companies, as well as the works of Kustin & Jones (1996) and Zaheer (1995).

These results, thus, confirm previous studies in the field of organisation theory, in the sense that size is an important explanatory factor for differences in control mechanisms. In contrast

to these studies, however, a dominant effect was found only for the indirect control mechanisms. As was indicated in Chapter Two, few detailed studies that have investigated the effect of size on the two indirect control mechanisms; in actuality, most previous studies focused on the direct control mechanisms (personal centralised control and bureaucratic formalised control) only. As such, our study reconfirms the importance of the variable size, but concludes that it is mainly associated with higher levels of indirect control.

7.7 Age

The year of establishment of the subsidiaries of MNEs drawn from the seventeen different countries were analysed, with the results showing that all the subsidiaries were established over a period of ten years. Importantly, over 82% of the subsidiaries of the MNEs headquartered in the North America region had been established for between 16 and 20 years. Moreover, it was found that most subsidiaries of the MNEs headquartered in the European region were established between 6 and 20 years. Furthermore, the majority of the subsidiaries of MNEs headquartered in the Middle East region had been established during the last 15 years. Subsidiaries of MNEs headquartered in the Asia Pacific region had been established between 6 and 20 years. This analysis indicates that the majority of MNE subsidiaries—irrespective of their industry of operations or their headquarters—were established no less than five years before, which thus suggests that the analysis will take subsidiary companies with an age of anything between 4 and more than 30 years. Turning to the hypothesis, in hypothesis 7, subsidiary age is negatively related to the amount of personal centralised control exercised by headquarters towards this subsidiary. As we predicted that the headquarters will supervise young subsidiaries more closely and centralise decision-making because the new investment brings specific uncertainties that have already been eliminated with older subsidiaries. The analysis in chapter 6 shows this hypothesis is not confirmed by our data. Controlling for the other variables included in this section, does not change this lack of significant relationship. Our sample shows no significant relationships between subsidiary age and bureaucratic formalised control, output control as predicted in hypothesis seven. However, a significant negative relationship is found between subsidiary age and the two types of control. In sum, the age of the subsidiary does not seem to have a significant influence on the type of control mechanism that is exercised by headquarters towards this particular subsidiary.

Till now, we combined the first two building blocks of this thesis: control mechanisms and characteristics of MNEs. We investigated the influence of both headquarters and subsidiary characteristics on the level and type of control that is exercised by headquarters towards its subsidiaries. In the next section, Section 7.8, we will add our third component and look at international transfers and its power in then MNEs.

7.8 International transfer and expatriate presence

This section discusses the third component of our thesis: international transfers. After a review of the relevant literature, we formulated two hypotheses concerning the use of expatriates in the subsidiary in various conditions. Expatriate presence was measured using a question that asked for the number of expatriates in the workforce of the subsidiary. Since all hypotheses regard the presence of expatriates in top positions only, we will explain the choice of the parent country, host country or third country nationals for the subsidiary manager as they were considerably influenced by differences in response rates between expatriates and locals for certain country. We first investigated whether international transfers can indeed function as a way to achieve control by socialisation and networks and more in particular shared values and informal communication networks. Then we explored the situations in which the role of international transfers in achieving this informal type of control is strongest.

Expatriates play a variety of roles when working for subsidiary firms. The majority of expatriates fill positions for which there are no local personnel available (n=50, 34.0%), indicating that trained and educated staff are not available in KSA. Expatriates also serve to ensure a homogeneous corporate culture throughout the company and subsidiary (n=35, 23.8%), and work to transfer specific technical or managerial knowledge from the headquarters office. Fewer expatriates work to improve information and communication channels with headquarters (n=18, 12.2%).

For the nationality of the managing director, we compared PCNs and HCNs, since the number of TCNs is too small to base any firm conclusions. HCN are found in Asian pacific subsidiaries, few cases in the EU and Swiss. Previously, we distinguished the four different control mechanisms. And then, we explained how international transfers facilitate control by socialisation and informal networks. Most of the authors refer to Edstrom & Galbraith (1977b) to substantiate their argument as we did. However, we showed the Ferner et al (2004) argument empirically that these transfers were seen as a way for individuals to build

up networks of contacts and to absorb the international ethos and practices of the firm. In the hypothesis as we have seen in table 6.16 in the previous chapter, predicted that expatriate presence is strongly and significantly related to INFO control (b = .219, p < 008). Such a result indicates that MNEs prefer that INFO control with the subsidiaries that have more expatriates than subsidiaries with less number of expatriates.

7.9 Performance

There multiple regression models were run, hierarchical forced entry mode. The dependent variable was the performance measure. Model 1 used the various control mechanisms (PCC, BFC, OUT, INF) as predictors. Model 2 included the headquarter characteristics that were configured as continuous variables (INSS, KN). Model 3 then added subsidiary characteristics, i.e., local responsiveness and intra-company purchasing (INTR, LOCL). The full regression coefficients and model fit diagnostics can be seen in table 20 in the previous chapter. The final model significantly predicted performance, as the adjusted R^2 was .44. In exploring the composition as well as the influence of the external and internal factors, based on the contingency theory we predict that there is an optimal fit between these factors and companies showing this fit will show enhanced performance as debated by (Burton et al., 2000). In fact the informal control mechanisms indicate a positive effect on performance, proposing that if subsidiaries recognise the influences included in the propositions, they will show enhanced performance.

In our study, performance is related to the company's objectives, main competitors and headquarters' expectations. In general, subsidiary managers are satisfied with their short- and long-term goal achievements. The multivariate model shows a positive relationship between coordination mechanisms and performance. As mentioned in the previous paragraph, agency mechanisms, such as strategic control, showed an indirect path to performance through a prospector strategy, and also through coordination. Operational control is indirectly related to performance through coordination mechanisms. In that sense coordination appears to be the central mediating variable in the association of control and performance.

7.10 Chapter Summary

This chapter described the results concerning the three main building blocks of the thesis: control mechanisms, MNEs and international transfers. The results of the study are reviewed and linked to the current stream of international business literature. The theoretical and practical contributions of the study are described, and the characteristics of the headquarters–subsidiary mechanisms are emphasised. The study then shifted focus to the influence of the environments and home countries of the headquarters by testing different sets of hypotheses. Moreover, the influence of different variables is discussed and the effects on performance are summarised. Likewise, we discussed the different types of strategies and structures applied by MNEs. Finally, we discussed the effects that international transfers of managers can have on the subsidiary.

Regarding control mechanisms, we identified four control mechanisms: personal centralised control, bureaucratic formalised control, output control, and control by socialisation and networks. We tested the hypotheses that had been posited concerning the country of origin's effect in the application of control mechanisms in Chapter 4 (H1, H2 and H3). By virtue of the analysis of the first set of hypotheses in the previous chapter, we found that subsidiaries of German MNEs experienced a very high level of control; indeed, the only control mechanism that German MNEs did not implement among subsidiaries was control by socialisation and networks. German firms exhibited much more horizontal differentiation of tasks and functions, and in particular have much greater overlap of operations of functions and of technical and supervisory work. These results coincide with other studies (e.g., Lane, 1989; Sparrow & Hiltrop, 1994). German and Japanese MNEs are perhaps more rooted in business systems concerned with the management of issues internationally than American or British companies.

The second group reflects that Anglo-Saxon countries heavily used impersonal types of control mechanisms, specifically bureaucratic formalised control and output control. These results relate to the debate on the level of autonomy exercised in Oriental vs. US subsidiaries. Our results showed that, when compared to the US, the level of control in Oriental subsidiaries is less; or, put differently, the latter enjoyed a greater degree of autonomy than US subsidiaries. It seems that, once a unit is operational, Oriental parent companies grant many more degrees of freedom than US parent companies. The relatively significant amount of freedom in Oriental societies becomes understandable, as trust and bonding are much

stronger within Oriental societies than among US or Anglo-Saxon societies, leading to greater autonomy, particularly in short- to medium-term decision-making. The results, however, do not align with the findings of Jain & Tucker (1995), who reported that power is more centralised in Japanese companies, as well as the work of Kustin & Jones (1996) and Zaheer (1995).

When we deconstruct the results for Europe, comparing German and British as a group to Oriental MNEs reveals the latter as possessing greater overall control. With regard to output and bureaucratic control, we found that both US MNEs and those from the Middle East exercised greater control than Oriental MNEs. These results prove explicable when considered through the lens of the generally understood obsessions of US firms, entities that use short-term (often quarterly) results as a gauge of the success of their long-term operations. Headquarters can strategize to implement control by the informal and social means method by positioning a sizeable number of managers from the home country within the subsidiary. Indeed, our results revealed this as true. It seems that their presence has positive and significant effects on most levels of control: personal, output, bureaucratic and informal. Contrary to this, however, we found that the presence of a sizeable number of expatriates (as opposed to headquarters managers) leads to greater autonomy in subsidiaries. These results provide us with insights that suggest two opposing forces are at play in subsidiaries: one exerted by managers from the home country, loyal to implementing the ways of the headquarters; the other force is exerted by expatriates who, possibly as a result of being on fixed-term assignments, speak their minds and bond better with local employees, providing them with either a sense of well-being and freedom.

In terms of strategy and structure, we indicated that the three distinct organisational models identified for MNEs could be recognised in our study. Turning towards individual control mechanisms, we predicted that multi-domestic companies would employ socialisation and network control as their dominant control mechanism.

Control.INFO was significantly, positively related to global strategy, multi-domestic and transnational strategy compared with PCC, BFC, and OUT control mechanism. Conversely, BFC had a significant, negative and weak relationship with global strategy and transnational strategy, and no relationship with multi-domestic strategy. In general, however, we can deduce the existence of a tendency for global, transnational and multi-domestic MNEs to use

indirect control mechanisms and informal control suited to their integrated organisational models to a larger extent.

This chapter described the results concerning control mechanisms, MNEs and international transfers. It explained the testing of all the specific hypotheses, which had been developed based on an extensive review of previous research. In addition to consolidating previous research, the acceptance of the majority of our hypotheses enhances our confidence in the validity of the research instruments used to measure the various concepts.

CHAPTER EIGHT CONCLUSIONS

8.1 Overview

This study has attempted to create a sound theoretical foundation for explaining the characteristics of control mechanisms in the relationship between MNE HQs and their subsidiaries, with many different variables.

In the first research question, it was proposed that the characteristics of HQ–subsidiary mechanisms could be linked to agency theory (with the 'classical' principal–agent relationship as its core) and to resource dependency theory (RDT; implying relations between the subsidiary and other partners based on interdependence). This is in line with the organisation design literature, which proposes that organisations face extreme pressures that will initially tighten control.

The results of the present study indeed show that the agency and RDT mechanisms are used alongside and complementary to one another. The model for HQ–subsidiary mechanisms explains the relationships between the four kinds of mechanisms that were identified in the study. Control (as an agency mechanism) provides a solid platform on which other mechanisms can be built. The complementarities of these control mechanisms may be linked to earlier studies that show that successful organisations combine tight control with more open, informal and flexible information and communication systems (Chenhall & Morris, 1995). A focus that bends too much towards control or too much towards informal control may threaten a company's existence, as was also shown by Sundaramurthy and Lewis (2003). The present thesis provides a theoretical explanation for this, as it argues that agency theory and RDT are not opposing standpoints but complementary dimensions of the HQ–subsidiary relationship.

The second research question considered the aspect of international transfers and investigated the role of expatriates in controlling subsidiaries. It has been recognised that expatriates can form both direct and indirect means of control. In executing the direct type of control, expatriates directly supervise decisions taken at subsidiaries. This role is particularly strong in Asia-Pacific countries and German MNEs and is much less important in subsidiaries of Anglo-Saxon MNEs.

Previous research on expatriate management often claims that expatriates play a role in realising an informal type of control. Thus far, however, no studies have conducted adequate empirical tests into this relationship. This study conducted such a test, finding that there is indeed a positive relationship between the level of expatriate presence and the level of both shared values between HQ and subsidiary managers and the informal communication between them. Including expatriate presence, improved models were constructed in order to explain the variance in the level of shared values and informal communication across subsidiaries. In addition, the level of informal control exercised towards a particular subsidiary could also be explained partly by the level of expatriate presence: the higher the percentage of expatriates in the workforce of a subsidiary, the lower the levels of output control used towards this subsidiary. INFO controls appear to be seen as alternative ways of controlling subsidiaries.

The last research question investigated the importance of various MNE characteristics in an attempt to explain performance differences between MNEs. The advantage of this study is that many of the characteristics that have been identified in previous literature as being important factors influencing performance were included in the research design, in order to answer the other research questions. This therefore allowed the study to assess the relative importance levels of different variables in explaining performance differences between companies, such as: country of origin, industry, size, interdependence, local responsiveness, knowledge flows, and the strategy and structure of the MNE.

The discussion section of the thesis can be summarised as follows.

8.2 MNEs characteristics: the effect of country of origin

Country of origin was shown to be very important. Even when considering other variables—as was done with the help of linear and logistic regression analysis—country of origin was found to have high explanatory power. If we look at the main subject of this thesis—the headquarter-subsidiary relationship and control portfolios—we find strong differences between MNEs headquartered in different countries in terms of the application of the various control mechanisms. In addition, some of the relationships between other headquarter and/or subsidiary characteristics and control mechanisms differ between countries. The direction of the relationship between MNE size and both personal centralised control and bureaucratic formalised control, for instance, differs between countries. The effect of culture/society will

be particularly strong in micro-level organisation processes relating to authority, style, conduct, participation and attitudes. Control mechanisms would be a good example of a micro-level organisation process.

The overall conclusion that can be drawn from these observations is that, in studies relating to control mechanisms—as well as many other micro-level subjects—in the context of MNEs, the country of origin of the MNE should be given due emphasis in the research design. It would not seem very useful to select a large enough number of countries to randomise the variance on non-matched cultural/societal variables; rather, researchers are recommended to focus on conducting a comparison across a well-motivated selection of a limited number of countries to ensure that sample sizes per country are large enough to separate the effect of country of origin from other effects under investigation. Since there is some indication that contingency relationships are socially/culturally determined as well, it would also not seem very useful to investigate contingency relationships across a large number of different countries without anticipating the possibility of a country-by-country analysis in advance. We explain the recommendations for future research later.

Furthermore, it has also been reported in the literature that firms commonly exercise control by means of non-measurable cultural bindings, commonly referred to as control by informal and social means (Ferner, 1997). In this regard, HQs can strategise to do so, such as by positioning a sizeable number of managers from home within the subsidiary. Our results show this to be true; it seems that their presence has positive and significant effects on most levels of control—personal, output, bureaucratic and informal. Contrary to this, however, we found that the presence of a sizeable number of expatriates (as opposed to HQ managers) leads to greater autonomy in subsidiaries. These results provide us with insights into the fact that two opposing forces are at play in subsidiaries: one exerted by managers from the home country who are loyal to implementing the ways of the HQ, and the other exerted by expatriates who, possibly as a result of being on fixed-term assignments, speak their minds and bond better with local employees, providing them with either an actual or perhaps imaginary sense of well-being and freedom.

8.3 Contributions to Theory

This research provides important contributions and novel insights into the growing body of research that has sought to examine and understand control mechanisms in MNEs'

relationships. The major theoretical contribution of this study is the development of a novel, holistic conceptual framework for control mechanisms in the HQ–subsidiary relationship, as proposed in Figure 4.1. As noted in Section 2.1, there is a lack of research offering a holistic and thorough examination and analysis of the key factors that facilitate or inhibit a company's success through control. Thus, this integrative and coherent framework is particularly important as it focuses on more than one or two control mechanisms. Furthermore, non-US MNEs were included in the empirical part of the study.

Several theoretical contributions emerge from this research. First, to the knowledge of the researcher, this research is the first empirical work to synthesise concepts from two main theories: agency theory and resource dependence theory (RDT). The results show that the characteristics of HQ–subsidiary mechanisms could be linked to agency theory (with the 'classical' principal–agent relationship as its core) and to RDT (implying relations between the subsidiary and other partners based on interdependence). The results of the present study indeed show that the agency and RDT mechanisms are used alongside and complementary to one another. The study's model for HQ–subsidiary mechanisms explains the relationships between the four kinds of mechanisms that were identified in the study. Control (as an agency mechanism) provides a solid platform on which other mechanisms can be built. The complementarities of these control mechanisms may reinforce earlier studies that show that successful organisations combine tight control with more open, informal and flexible information and communication systems (e.g. Chenhall & Morris, 1995).

Second, the study provides a valuable contribution to our understanding of the complex mechanisms of HQ–subsidiary relationships, with particular reference to the culturally rich Middle Eastern region. To the best knowledge of the researcher, this is the first time such a theoretical framework has been tested empirically and theoretically in the context of KSA.

Third, many previous studies have focused on MNEs from one country of origin (usually the US) and have investigated subsidiary operations in only one or two countries. This study explicitly addressed these boundaries by identifying and including a full range of control mechanisms and predictor variables. In addition, MNE headquarters in a range of different countries and subsidiaries located in one country were included in the study.

Finally, a key combination relates to the fact that the findings provide empirical evidence from a relatively new cultural context, taking into account the fact that most prior studies have taken place in the US and other Western countries. This is the first study to report on control mechanisms and HQ–subsidiary relationships in MNEs in the Middle East, which adds value to the existing literature.

8.4 Methodological Contribution

The contribution of this study in terms of methodology is that this research is one of a few studies to test control mechanism variables outside the Western cultural setup, specifically in the Middle East. The research has filled gaps in global investigations by testing predictor variables in cross-cultural work settings, which may be useful for generalising these predictors. The study's examination of predictor variables in KSA could provide additional insights into the extant literature, as KSA people and their cultural backgrounds are substantially different from those of Western countries (Niemeier et al., 1998).

Moreover, numerous authors (e.g. Bartlett & Ghoshal, 1987; Jaeger & Baliga, 2006; Merchant, 1996; Nohria & Ghoshal, 1997; Birkinshaw & Hood, 1998) have pointed to the fact that international transfers can foster socialisation in a company's culture, either for the internationally transferred manager or for the company as a whole. Despite the popularity of this concept, there is little empirical evidence about how international transfers can form an important indirect control mechanism, including the often referred to but never systematically investigated role of expatriate managers. This finding of this study provides a key contribution.

The study's methodological contribution can be summarised as follows:

- Provides a solid theoretical foundation by reviewing contributions in the field of organisation studies and expatriate management, in addition to international management literature.
- Included different nationalities of MNEs in the sample.
- Investigated subsidiaries in a new context (the Middle East) and in more than one or two countries.

- Questioned subsidiary managers instead of headquarter managers, in order to increase the accuracy of the answers and to diminish social desirability bias.
- Resulted in a response rate that was higher than that of many other studies, so the sample size was relatively large.

8.5 Practical Contribution

Knowledge building in any field is gradual and cumulative, so the results of one single study can hardly be used to offer firm recommendations. This is even more the case in organisation research because the functioning of organisations is influenced by a multitude of factors, so any isolated advice may be of limited use. In spite of these reservations, some of the possible practical contributions of this study are provided below.

The data clearly shows that MNEs from different countries often have different dominant control mechanisms and organisational models. This could partly be due to different industry distributions, but it is also at least partly related to cultural/societal differences between countries. It would be wise to consider these differences when searching for a partner in cross-national mergers and acquisitions. Failure to do so could hinder the successful operation of a merger that seems to be perfect from a financial and competitive point of view. In addition, the relationships between some of the explanatory variables and specific control mechanisms proved to be different for MNEs from different countries. This might lead MNEs in certain countries to prefer close personal control in situations of high risk or uncertainty. The common prescription in organisational theory for situations of high uncertainty is to decentralise operations, release strict personal control and rely on more informal control mechanisms. The results show, however, that this might be an example of the many US (or Anglo-Saxon) management prescriptions that cannot simply be transferred to other countries/cultures. MNEs that originate from countries with cultural/societal profiles that are markedly different from the profile of the US (in the sample: Japan, Germany and Middle Eastern countries) would, therefore, be wise not to accept the prescriptions of US management theorists and experts without questioning them. There is simply no ‘best way of management’ that is universally applicable across countries.

Moreover, most MNEs differ in their application of control mechanisms for different types of subsidiaries. In the study, larger subsidiaries were more strongly controlled than smaller subsidiaries, especially through control by socialisation and networks. Subsidiaries that were

highly integrated within the company network were also more strongly controlled, especially through the two direct control mechanisms (personal centralised control and bureaucratic formalised control), than their less-integrated counterparts. The reverse was true for subsidiaries that scored highly on local responsiveness. In addition, MNEs preferred direct control (output and informal) over direct (personal centralised and bureaucratic formalised) mechanisms for their subsidiaries located in KSA. These findings are consistent with the theoretical expectations. It would, therefore, not seem wise to take an undifferentiated approach to control; rather, it would be better to consider differences in subsidiary characteristics when deciding on the level and type of control exercised. A high level of control, especially of the direct type, might be very dysfunctional for relatively autonomous subsidiaries, whose main function is to be responsive to the local market. However, for highly integrated subsidiaries that play a crucial role in their MNEs' integrated international production systems, a higher level of control might be needed and appropriate. Because of their importance, large subsidiaries might also need to be more strongly controlled. However, because of their generally higher levels of local resources and competences, a direct type of control is likely to be resisted. The less-obtrusive control by socialisation and networks might indeed be a better solution in this case.

Next, we discuss the limitations of the study and directions for future research

8.6 Limitations of the study and recommendations for future researchers

Whichever form of organisational structure an MNE parent chooses to adopt, it ultimately boils down to a command structure in which power is exercised in order to achieve an end goal of reduced agency costs and maintained competitive position in the face of rivals, which is *sine qua non* for its long-term survival in the market. Our empirical work has proven some of the propositions found in the literature and has also put to test various additional ones for future research.

The methodology adopted can be extended to other host countries. A useful extension would be to link different control mechanisms with the perceived and actual financial performance of subsidiaries. They can also be linked with the objectives and strategies of subsidiaries vis-à-vis HQs. In a study of this nature, it could be researched whether inter-country differences exist between the control mechanisms of subsidiaries of the same parent operating in

different host countries. Such a study would also account for the limitation that the present study was a one-country study.

This summary expresses our overall view as to the direction of future research in this area. In addition to a discussion of the limitations of our study, the study offers various specific recommendations and issues that could be taken into account by other researchers in this field.

Overall, the headquarters–subsidiary relationship is a fascinating area of research, and this is one of few studies of this nature conducted for the region of the Middle East—and the only one for the country of KSA.

Now we will discuss the limitations of our study and offer some recommendations for further research. We would first like to indicate, however, which of the limitations apparent in many other studies have been remedied in our own study. As already referred to in some of the previous chapters, our study does not suffer from many of the 'conventional' limitations in this field of research. It avoids these by doing the following:

(a) focusing on more than one or two control mechanisms;

(b) including a whole range of predictor variables, instead of only one or two;

(c) including different nationalities of MNEs in the sample;

(d) explicitly dealing with the strategic aspects of MNE management; providing an integrated perspective on control mechanisms, including the often referred to but never systematically investigated role of expatriate managers;

(e) providing a solid theoretical foundation by reviewing contributions in the field of organisation studies and expatriate management, in addition to international management literature; and

(f) questioning subsidiary managers instead of headquarter managers, in order to increase the accuracy of information about the subsidiary.

In spite of the fact that many limitations of previous studies have been remedied, our study does have its own limitations. These will be discussed in more detail below. Where applicable, we will include recommendations for further research.

First, since we used a key-informant approach, our results are based on the opinions of a single respondent in each organisation: a limitation this study shares with virtually all large-scale international studies. A solution to this problem might be to try and cooperate with key people within the various organisations, asking them to distribute questionnaires and convince their colleagues to co-operate. This approach, however, is very time intensive and does not remove the risk of low response rates.

Second, since our study is cross-sectional rather than longitudinal, statistical correlations cannot unambiguously be interpreted as causal relationships. We tried to alleviate this problem by including an extensive literature review to motivate the hypothesised causal relationships tested in our study. However, a true test of the causality of the relationships tested in this thesis can only be offered by qualitative or longitudinal research.

Third, because of our emphasis on generalisability and the method of data collection—questionnaires with closed-ended questions—our results mainly focus on outcomes. The actual process underlying many of the relationships has remained a black box. For instance, now that the role of international transfers in achieving an informal type of control has been empirically confirmed on a large scale, more detailed analysis by means of case studies, for instance, should give better insight into the way in which this process actually works. An important but potentially very difficult issue would be to distinguish between direct and indirect expatriate control.

Fourth, in spite of the fact that our study has a much larger geographical spread than previous studies, some areas have been neglected. Although MNEs from Japan, China and South Korea were included in the survey, our study did not include any other Asian MNEs (e.g., from Hong Kong, Singapore, Taiwan, Thailand and Malaysia). Malhotra et al. (2005) report that MNEs from developing countries in Asia show patterns that resemble Japanese firms concerning expatriation, control and structure. Since developments in this region have become increasingly important, including for the Western world, it would be worthwhile to include MNEs from other countries in this region in future studies.

Fifth, this study, as with most of the other studies in this field, only included the application of control mechanisms by headquarters towards their subsidiaries. As Forsgren & Holm (2010: 421) rightly indicate: "if we adopt the view of the international firm as a multi-centre structure, it is relevant to broaden the question of control beyond the issue of conflict between the subsidiary's local adaptation and the top management's overall integration." The behaviour of a subsidiary can have an effect not only at the local level but also for the whole or part of the MNE to which it belongs. Therefore, control issues within an MNE should not only consider the design of various control systems by headquarters but should also pay attention to the control exercised by powerful subsidiaries. This question also relates to the importance of distinguishing various subsidiary roles and the effect these roles may have on the level and type of control exercised towards and by these subsidiaries. The fact that the multi-centre or transnational firm is a rather new concept has led most researchers to focus on 'top-down' control. Future research could try to remedy this limitation and include 'bottom-up' or 'lateral' types of control. This is particularly important in further investigating the role of expatriates, since transfers from subsidiaries to headquarters, and from subsidiaries to other subsidiaries, are becoming more important.

8.7 Implications for management

Knowledge building in any field is gradual and cumulative, so the results of one single study can hardly be used to offer firm recommendations. This is even more the case since the functioning of organisations is influenced by a multitude of factors, so any isolated advice may be of limited use. In spite of these reservations, we will try to give some idea of the possible managerial implications of our research.

First, our data clearly show that MNEs from different countries often have different dominant control mechanisms and organisational models. This could partly be due to different industry distributions, but it is also at least partly related to cultural/societal differences between countries. It would be wise to consider these differences when searching for a partner in cross-national mergers and acquisitions. Failure to do so could hinder the successful operation of a merger that seems to be perfect from a financial and competitive point of view. Although the difficulties in merging with Japanese companies might be apparent for most Westerns MNEs, there are also other 'country combinations' that might be less successful. In addition, the relationship between some of the explanatory variables and specific control mechanisms proved to be different for MNEs from different countries. This might lead MNEs

in these countries to prefer close personal control in situations of high risk/uncertainty. The common prescription in organisational theory for situations of high uncertainty is to decentralise operations, release strict personal control and rely on more informal control mechanisms. The results show, however, that this might be an example of the many American (or Anglo-Saxon) management prescriptions that cannot simply be transferred to other countries/cultures. MNEs that originate from countries with a cultural/societal profile that is markedly different from that of the US (in our sample: Japan, Germany and Middle Eastern countries) would, therefore, be wise not to accept the prescriptions of American management theorists and experts without questioning. There is simply no 'best way of management' that is universally applicable across countries.

Most MNEs also differ in their application of control mechanisms for different types of subsidiaries. In this study, larger subsidiaries were more strongly controlled than smaller subsidiaries, especially through control by socialisation and networks. Subsidiaries that were highly integrated within the company network were also more strongly controlled, especially through the two direct control mechanisms (personal centralised control and bureaucratic formalised control), than their less integrated counterparts. The reverse was true for subsidiaries that scored highly on local responsiveness. In addition, MNEs preferred direct control (output and informal) over direct (personal centralised and bureaucratic formalised) mechanisms for their subsidiaries located in KSA. These findings were consistent with our theoretical expectations. It would, therefore, not seem wise to take an undifferentiated approach to control; rather, it would be better to consider differences in subsidiary characteristics when deciding on the level and type of control exercised. A high level of control, especially of the direct type, might be very dysfunctional for relatively autonomous subsidiaries, whose main function is to be responsive to the local market. For highly integrated subsidiaries, however, that play a crucial role in their MNEs' integrated international production system, a higher level of control might be needed and appropriate. Because of their importance, large subsidiaries might also need to be more strongly controlled. However, because of their generally higher level of local resources and competences, a direct type of control is likely to be resisted. The less obtrusive control by socialisation and networks might indeed be a better solution in this case.

This thesis is an empirical investigation in to the control mechanisms of headquarters (HQ) exercised over their subsidiaries conducted with the help of primary data collected from 147 Multinational Enterprises (MNEs) operating in the

kingdom of Saudi Arabia (KSA). This study attempted to create a foundation for explaining the characteristics of control mechanisms in the relations between MNE headquarters and their subsidiaries with many different variables

In the first research question, we proposed that the characteristics of headquarters–subsidiary mechanisms could be linked to agency theory (with the 'classical' principal–agent relationship as its core) and to resource dependency theory (implying relations between the subsidiary and other partners based on interdependence). Our results show that the agency and resource dependency mechanisms are indeed used side by side and complementary to each other to exercise control.

The Headquarters–subsidiary model used in this study has four components of control in it: personal centralised control (PCC), bureaucratic formalised control (BFC), output control (OUT) and informal control (INFO). These controls (as an agency mechanism) provide a solid platform on which other mechanisms can be built. The complementarities of these control mechanisms may be linked to earlier studies that show that successful organisations combine tight control with more open, informal and flexible information and communication systems. A focus that bends too much towards formal control or too much towards informal control may threaten a company's existence. Our research provides an empirical explanation for such.

The second research question drew the aspect of international transfers into the picture and investigated the role of expatriates in controlling subsidiaries. It has been recognised that expatriates can form both direct and indirect means of control. In executing direct types of control, expatriates directly supervised decisions taken at subsidiaries. This role is particularly strong in Asia-Pacific countries and German MNEs, and is much less important in subsidiaries of Anglo-Saxon MNEs.

Previous research on expatriate management often claims that expatriates play a role in realising an informal type of control. Thus far, however, no studies have provided adequate empirical tests into this relationship. This study provided such a test and showed that there is a positive relationship between the level of expatriate presence and the level of both shared values between headquarters and subsidiary managers and the informal communication between them. Including expatriate presence,

improved models were constructed in order to explain the variance in the level of shared values and informal communication across subsidiaries.

In addition, the level of informal control exercised towards a particular subsidiary could also be explained partly by the level of expatriate presence: the higher the percentage of expatriates in the workforce of a subsidiary, the lower the levels of output control used towards this subsidiary. Socialisation and network control appeared to be seen as an alternative way to control subsidiaries.

The last research question investigated the importance of various MNE characteristics in an attempt to explain performance differences between MNEs. The advantage of this study is that many of the characteristics that have been identified in previous literature as being important factors influencing performance were included in our research design, in order for us to be able to answer the other research questions. This therefore allowed us to assess the relative importance levels of different variables in explaining performance differences between MNEs.

Some limitations apparent in many other studies have been remedied in our own study. As already referred to in some of the previous chapters, our study does not suffer from many of the ‘conventional’ limitations in this field of research. However, our study has some limitations as any other research.

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Appendix 1

Survey Questionnaire

SURVEY QUESTIONNAIRE ON HEADQUARTER-SUBSIDIARY RELATIONS IN MULTINATIONAL CORPORATIONS (MNCS) BASED IN SAUDI ARABIA

Dear Subsidiary Manager,

I am writing this letter to ask for your support with my PhD studies in Business Management which I am at present conducting at Brunel University in the UK. I am studying the Headquarter-Subsidiary relationships of Multinational companies located in Saudi Arabia.

The success of my thesis depends on your cooperation in this questionnaire. I will treat all information confidentially. When the study is completed, I will send you a copy of the findings.
Thank you.

I can be contacted on the following address:

34 Alkhaleej area P.O. Box 63
Riyadh, Saudi Arabia
Jaithen Alharbi

e-mail: Jaithen.Alharbi@brunel.ac.uk
Tel:0569395443

SECTION 1: BASIC INFORMATION

1. Please indicate the home country of this subsidiary:

USA___	(i)	Britain ___	(ii)	France___	(iii)	Sweden__	(iv)	Japan___	(v)	China___
(vi)	Swiss__	(vii)	Australia__	(viii)	Netherland	(ix)	Italy___	(x)	Denmark_	(xi)	Canada_
(xii)	India___	(xiii)	Singapor	(xiv)	South Korea_	(xv)	UAE___	(xvi)	Lebanon_	(xvii)	Kuwait__
(xviii)	Egypt___	(xix)	Jordan___	(xx)	Germany___	(xxi)	Sweden___	(xxii)	Others___		

2. Please indicate the industry in which this subsidiary is operating:

i. Petroleum___	ii. Chemicals___	iii. Electronics, electrical equipment___	iv. Food, Beverages_ _	v. Computers, office equipments___
vi. Motor vehicles and parts___	vii. Pharmaceuticals__ _	viii. Papers (products) ___	ix. Others ___	

3. Please indicate the function in which this subsidiary is operating:

i. Marketing& Sales activities___	ii. Manufacturing operations___	iii. Services___
iv. Assembly___	v. Product design___	vi. Production___
vii. Research and Development___	viii. Country headquarters___	ix. Others , please indicate___

4. Please fill in the following:

i. The year this subsidiary was established_____
ii. Total of employees in this subsidiary_____
iii. Total of employees worldwide of your parent company_____

iv. Total turnover of this subsidiary (latest year) _____

5. Please tick the nationality of the Subsidiary Manager?

i. Subsidiary manager: Saudi National ____ from HQ's country ____ from third country____

ii. **Please tick as appropriate regarding this subsidiary:**

i. This is a majority owned subsidiary(51% and above)____
ii. This is a minority owned subsidiary(less than 50%) ____
iii. This is a joint-venture _____

SECTION 2: ROLE OF EXPATRIATES

1. Please tick the role expatriates perform in this subsidiary:

i. Improvising information and communication channels with headquarters or other subsidiaries of the group_____
ii. Transferring specific technical or management knowledge from headquarters or other subsidiaries to this subsidiary_____
iii. Ensuring a homogeneous corporate culture throughout the company as a whole _____
iv. Filling positions for which no local personnel is available in this country _____
v. Training the expatriate for future positions at headquarters or other subsidiaries _____

SECTION 3: HEADQUARTERS-SUBSIDIARY RELATIONS

1. Please rate the following with respect to your subsidiary company. ***Please tick the appropriate number on the scale (1 = low/little, 5 = high)***

		Low High				
i.	The level of autonomy in this subsidiary to decide its own strategies.....	1	2	3	4	5
ii.	The degree of personal surveillance that Headquarters' managers execute towards this subsidiary.....	1	2	3	4	5
iii.	The degree to which HQ uses expatriates to directly control this subsidiary's operations.....	1	2	3	4	5
iv.	The degree of standardisation that HQ requires from this subsidiary.....	1	2	3	4	5
v.	The kind of rules and procedures that HQ exerts towards this subsidiary.....	1	2	3	4	5
vi.	The degree of output control that HQ exerts towards this subsidiary.....	1	2	3	4	5
vii.	. The type of planning/goal setting/budgeting that Headquarter uses towards this subsidiary.....	1	2	3	4	5
viii.	.To what extents have this subsidiary's executives participated in committees/taskforces/project groups in the last two years.....	1	2	3	4	5
ix.	What has been the participation of this subsidiary's executives in training programs in last two years.....	1	2	3	4	5
x.	To which extent do the executives in this subsidiary share the company's main values.....	1	2	3	4	5
xi.	The level of informal communication between this subsidiary and Headquarters/other subsidiaries of the group.....	1	2	3	4	5

xii.	Please indicate to which extent the entrepreneurial Activity in this subsidiary is welcomed by HQ.....	1	2	3	4	5

SECTION 4: PERFORMANCE

1. Please rate the following with respect to this subsidiary. Please tick the appropriate number on the scale (1 = low/little, 5 = high)

		High				Low
i.	How do you rate this subsidiary's performance over the past three years relative to its objectives?.....	1	2	3	4	5
ii.	This subsidiary's performance over the past three years relative to this subsidiary's main competitors.....	1	2	3	4	5
iii.	This subsidiary's performance over the past three years relative to other sister subsidiaries operating in the same area of business activity.....	1	2	3	4	5
iv.	This subsidiary's performance relative to the corporate Headquarters' expectations.....	1	2	3	4	5

2. Please evaluate this subsidiary performance in terms of following items. Please tick as appropriate on the scale (1=lower than expected, 5 = better than expected)

		Lower than expected				Better than expected
i.	Increasing business volume.....	1	2	3	4	5
ii.	Increasing market share.....	1	2	3	4	5
iii.	Sales growth.....	1	2	3	4	5
iv.	Innovation.....	1	2	3	4	5
v.	Employee development.....	1	2	3	4	5
vi.	Employee retention.....	1	2	3	4	5

SECTION 5: INTRA-COMPANY PURCHASE AND SALES & LOCAL PRESENCE AND RESPONSIVENESS

1. **Please give your best estimate of the percentage of purchases (incl. parts/semi-manufactured articles)**

		0%	1-25%	26-50%	51-75%	76-100
i.	From headquarters in relation to the total amount of purchases of this subsidiary.					
ii.	From other subsidiaries of the group in relation to the total amount of purchases of this subsidiary					
iii.	Of this subsidiary that is sold or delivered to headquarters					
iv.	Of this subsidiary that is sold or delivered to other subsidiaries of the group.					

2. **Please give your best estimate of the % of the following:**

		0%	1-25%	26-50%	51-75%	76-100
i.	R&D incorporated into products sold by this subsidiary that is actually performed by this subsidiary					
ii.	Company products sold by this subsidiary that have been manufactured (to any degree) by this subsidiary					
iii.	Company products sold by this country that have been created or substantially modified for this market					
iv.	Marketing for company products sold in this country that is consciously adapted to local circumstances					

SECTION 7: INTERNATIONAL STRATEGY AND STRUCTURE

1. **Please indicate to what extent you agree with these statements.** ***Please tick the appropriate number on the scale (1 = Disagree, 5 = Agree)***

		Disagree				Agree
i.	Our company's strategy is focused on achieving economies of scale by concentrating its important activities at a limited number of locations.....	1	2	3	4	5
ii.	Our company can be adequately described as a loosely coupled and decentralised federation of independent national subunits.....	1	2	3	4	5
iii.	In our company, a typical subsidiary's main function is to deliver company products and carry out headquarters' strategies.....	1	2	3	4	5
iv.	Our company can be adequately described as an integrated and interdependent network of different but equivalent subunits, in which headquarters does not a priori plays a dominant role.....	1	2	3	4	5
v.	Our company not only recognises national differences in taste and values, but actually tries to respond to these national differences by consciously adapting products and policies to the local market.....	1	2	3	4	5
vi.	In our company subsidiaries regularly act as a strategic centre for a particular product or process, subsidiaries perform a role as "centre of excellence''.....	1	2	3	4	5
vii.	In our company, there are not only large flows of components and products, but also of resources, people and information among company's subsidiaries.....	1	2	3	4	5

viii.	Our company's competitive position is defined in world-wide terms. Different national product markets are closely linked and interconnected. Competition takes place on a global basis.....	1	2	3	4	5
ix.	Headquarters' competitive strategy is to let each subsidiary compete on a domestic level as national product markets are judged to be too different to make competition on a global level possible.....	1	2	3	4	5

SECTION 8: KNOWLEDGE FLOWS

1. Please indicate to what extent you agree with these statements. ***Please tick the appropriate number on the scale (1 = Disagree, 5 = Agree)***

		Disagree				Agree
i.	This subsidiary possess some key strategic decision making authority concerning a mandated product or product line.....	1	2	3	4	5
ii.	This Subsidiary aware of any new products/services and new services from the HQs only.....	1	2	3	4	5
iii.	The inflow of knowledge from the HQ will help this subsidiary to be more autonomous.....	1	2	3	4	5
iv.	The more the knowledge we get from the HQ the better your performance will be.....	1	2	3	4	5
v.	We communicate with other subsidiaries in getting the right information from HQ.....	1	2	3	4	5
vi.	The employees and managers in the Headquarters believe they have unique knowledge to share with the subsidiary.....	1	2	3	4	5
vii.	The employees and managers in the HQ are able to explain the knowledge clearly when they share their knowledge with the subsidiary.....	1	2	3	4	5

Appendix 2

Covering Letter

Subject: Participation in a survey questionnaire about studying Headquarter-subsidiary relations in multinational corporations (MNEs) based in Saudi Arabia (KSA)

Dear Sir

I am writing to introduce my PhD study on "Headquarter-subsidiary relations in multinational corporations (MNEs) based in Saudi Arabia". This research study is sponsored by the Higher Education Commission of Saudi Arabia. It is being carried out at Brunel Business School, Brunel University, UK. It has approval from a Business School Research Ethics Committee, Brunel University.

This research involves completion of a questionnaire that comprises questions about home country of the company, age, size, control mechanism in the company, and its performance. The participants of this study include different subsidiary managers located in the KSA.

In the hope that you are able to take part in this study and I am enclosing the consent form and the questionnaire.

If you would like to discuss this with me in more detail please email/telephone me on the address/ telephone number given below. When the study is completed, I will send you a copy of the findings.
Thank you for your help and time.
Yours sincerely,

Jaithen Alharbi
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Brunel University
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Appendix 3

Research Consent Form

Required for research involving human participants

Title of Research: Headquarter-Subsidiary Relationship: An Empirical Study in the Country of KSA

Researcher: Jaithen Alharbi, PhD Student, Brunel Business School, Brunel Universit
y

Contact Information: Jaithen.Alharbi@brunel.ac.uk

Purpose of the Research: The purpose of this study is to carry out an empirically based examination of the types and degrees of control exerted by MNEs on their foreign subsidiaries located in KSA.

What is involved in participating?

I will ask you to complete the following survey questionnaire signed below serves to signify that you agree to participate in this study.

Your participation is voluntary and you can choose to decline to answer any question or even to withdraw at any point form the project. Anything you say will only be attributed to you with your permission: if not, the information will be reported in such a way as to make direct association with yourself impossible.

Confidentiality also means that the questionnaire will be coded and stored in such a way as to make it impossible to identify them directly with any individual (e.g. they will be organized by number rather than by name)

Consent:
I wish to be identified in the report YES ☐ NO ☐
I have read the above information and I agree to participate in this study (please tick) ☐

Researcher's signature:
Date:

APPENDIX 4

Extra analysis for some variables

Continent type and Control Mechanisms

A one-way between subjects ANOVA was conducted to compare the effect of the continent type (America, Europe, Oriental, Middle East and Australia) on participants' Control PCC score. There was a significant effect of Continent type on Participants' Control PCC score at the p<.001 level for the five conditions [F(4,142)=5.42, p=0.000], the highest score was found for America (Oriental= 3.23, Europe=3.40, America=3.64, Australia=2.83; Middle east=2.58). Post hoc comparisons using the Bonferroni test indicated that the mean score for the America (M = 3.64) was significantly different (p<0.01) than the Middle East (M = 2.58). This result suggests that the type of continent does really have an effect on participants' score on Control PCC. Specifically the results indicate that participants in American countries had the highest scores of control PCC followed by Europe. However both were only significantly different from the Middle East, but not significantly different from others. These results lend support to our first set of hypotheses.

For the control BFC, there was a significant effect of Continent type on Participants' Control BFC score at the p<.001 level for the five conditions [F(4,142)= 4.95, p=0.001], the highest score was found for Europe (Oriental= 4.37, Europe=4.02, America=3.76, Australia=4.64; Middle east=4.04).

Post hoc comparisons using the Bonferroni test indicated that the mean score for the America (M = 3.76) was significantly different (p<0.01) than the Oriental (M = 4.37). These results suggest that the type of continent does really have an effect on participants' score on the Control BFC. Specifically the results indicate that participants in Oriental countries had the highest scores of control BFC followed by Australia.

As for the output control, there was no significant effect of continent type on Participants' Control OUT score at the p<.001 level for the five conditions [F(4,142)=2.174, p=0.075], the mean score was (Oriental= 4.45, Europe=4.27, America=4.07, Australia=3.96; Middle east=4.02).

For INFO control, there was a significant effect of Continent type on Participants' Control INFO score at the p<.001 level for the five conditions [F(4,142)=3.24, p=0.014], the highest

score was found for Europe (Oriental= 4.49, Europe=4.04, America=3.90, Australia=3.95; Middle east=3.99).

Post hoc comparisons using the Bonferroni test indicated that the mean score for the US (M =3.90) was significantly different ($p<0.01$) than the Oriental (M = 4.49). The results indicate that participants in Oriental countries had the highest scores of control INFO. And this is understandable as the relatively significant amount of social relationships and trust in Oriental societies becomes understandable, as trust and bonding are much stronger within Oriental societies than among US or Anglo-Saxon societies, leading to greater autonomy.

Table of means and SD for the continent type with the control variables PCC, BFC, OUT and INFO

Variables	Continent type									
	America		Europe		Asia		Middle East		Australia	
	M=	SD	M	SD	M	SD	M	SD	M	SD
PCC	3.64	.90	3.40	.98	3.24	.43	2.59	.94	2.83	1.42
BFC	3.77	.65	4.03	.62	4.38	.55	4.04	1.1	4.64	.50
OUT	4.07	.70	4.27	4.45	.64	.53	4.02	.82	3.96	.75
INFO	3.90	.72	4.04	.69	4.48	.43	3.98	.78	3.95	.75

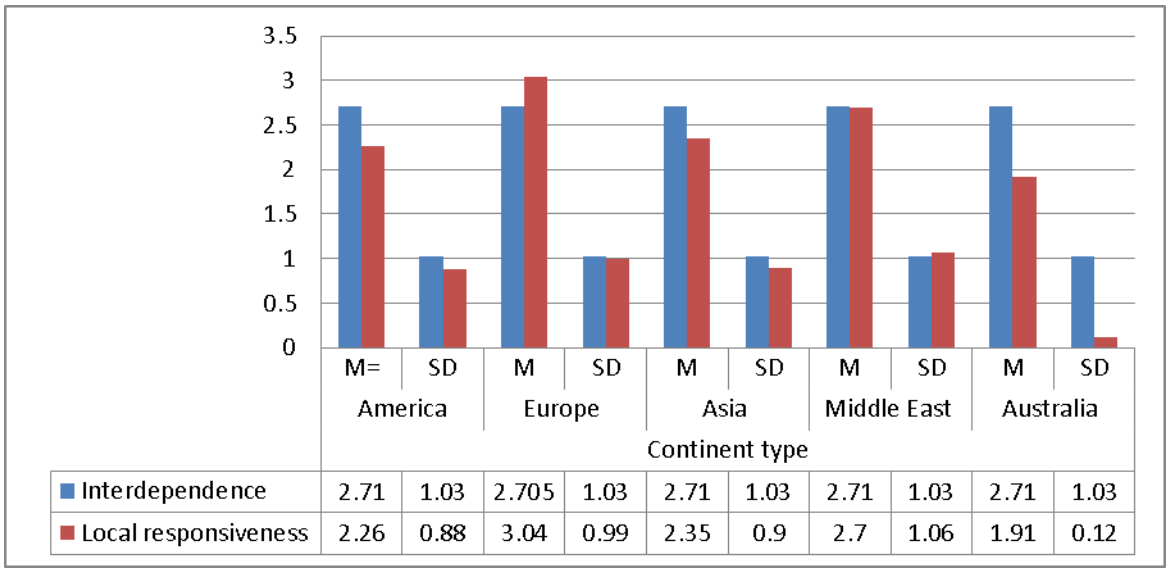
Source: developed by researcher for the purpose of this study

Continent impact on Interdependence and Local Responsiveness

A one-way between subjects ANOVA was conducted to compare the effect of continent type (America, Europe, Middle East, Oriental and Australia) on interdependence score. There was no significant effect of Continent type on Interdependence score at the $p<.001$ level for the five conditions [$F(4,142)=2.846$, $p=0.026$], the mean score was (Oriental= 2.77, Europe=3.39, America=2.70, Australia=3.07; Middle east=2.6).

There was a significant effect of Continent type on local responsiveness score at the $p<.001$ level for the five conditions [$F(4,142)=6.479$, $p=0.000$], the mean score was (Oriental= 2.35, Europe=3.05, America=2.26, Australia=1.91; Middle east=2.70). Using the Bonferroni test indicated that the mean score for the US (M = 2.26) was significantly different ($p<0.01$) than the Europe (M = 2.58). Also a significant difference ($p<0.01$) was found between Europe (M = 3.05) and Oriental (M=2.35). These results suggest that the type of continent have an impact on MNEs on local responsiveness. And this is also support our hypotheses that the subsidiary should be have more autonomy to be more locally responsiveness.

Continent type and interdependence and local responsiveness with Means and Standard deviations



Source: developed by author for the purpose of the study

Subsidiary manager and Control variables

A one-way between subjects ANOVA was conducted to compare the effect of nationality of the manager (Saudi nationals, HQ national and third country national) on participants' Control PCC score. There was no significant effect of nationality of the manager on Participants' Control PCC score at the p<.001 level for the three conditions [F(2,144)=2.049, p=0.133], the highest (KSA= 3.12, HQ national= 3.42, Third country national=3.059).

A one-way between subjects ANOVA was conducted to compare the effect of nationality of the manger (Saudi nationals, HQ national and third country national) on participants' Control OUT score.

There was a significant effect of nationality manager on participants' Control OUT score at the p<.001 level for the three conditions [F(2,594)=5.177, p=0.007], the highest score was found for HQ nationality and the mean score was (KSA= 3.93, HQ national= 4.23, Third country national=4.05). This is also support our hypotheses.

Post hoc comparisons indicated that the mean score for the Saudi National (M = 3.93) was significantly different (p<0.01) than the HQ nationals (M = 4.23). Also a significant difference (p<0.01) was found between Saudi National (M = 3.93) and the third country national (M=4.05). These results suggest that nationality of the manger does really have an

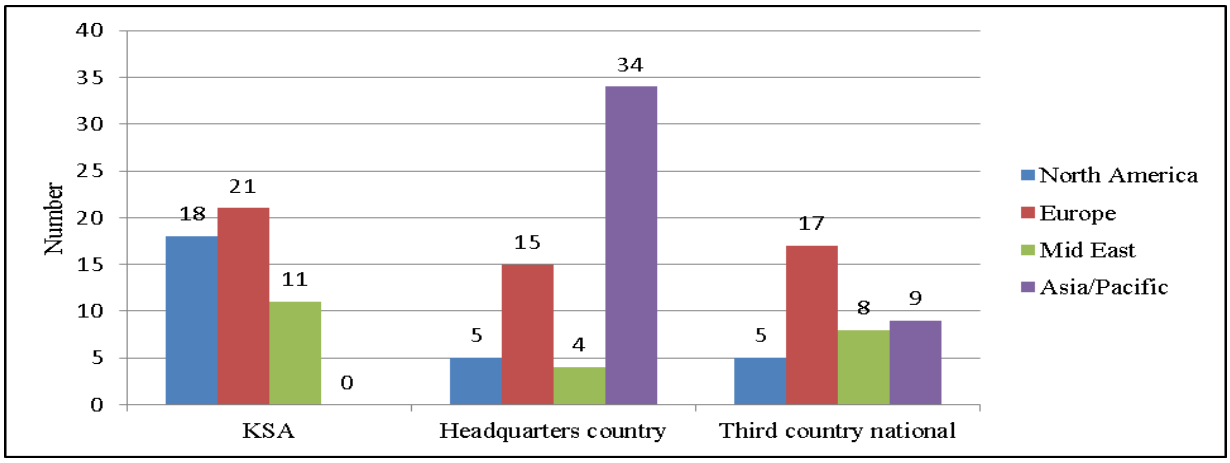
effect on participants' score on Control INFO. Specifically the results indicate that HQ managers had the highest scores of control INFO followed by Saudi National.

Table of the means for the different nationality groups with control variables

	Nationality of the manger					
Variables	Saudi N=50		HQ country N=58		Third Country N=39	
	M=	SD	M	SD	M	SD
PCC	3.12	1.16	3.40	.80	3.01	.95
BFC	3.93	.76	4.13	.75	4.28	.64
OUT	4.44	.68	4.08	.74	4.04	.52
INFO	3.93	.70	4.24	.72	4.05	.65

Source: developed by researcher for the purpose of this study

Subsidiary mangers based on their continent type



Source: developed by author for the purpose of the study

Performance and nationality of manager

A one-way between subjects Anova was conducted to compare the effect of nationality of the manger (Saudi nationals, HQ national and third country national) on participants' perceived performance score. There was a significant effect of nationality manager on Participants' perceived performance score at the p<.001 level for the three conditions [F(2,594)=9.48, p=0.000], the highest score was found for Saudi managers nationality and the mean score was (KSA= 4.21, HQ national= 3.69, Third country national=3.61).

Obviously, as we found a statistically significant result in this example, we needed to compute a post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the Saudi National (M = 4.21) was significantly different (p<0.01) than the HQ nationals (M = 3.69). Also a significant difference (p<0.01) was found between Saudi

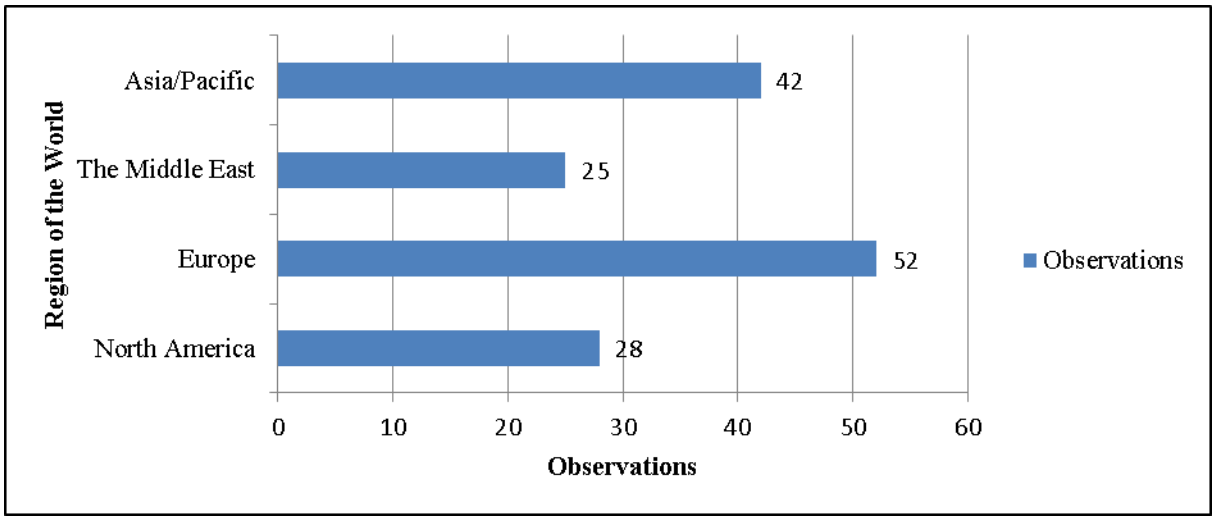
National (M = 4.21) and the third country national (M=3.61). No significant difference was found with other comparisons (p>0.05). These results suggest that nationality of the manger does really have an effect on participants' score on perceived performance. Specifically the results indicate that HQ managers had the highest scores of performance followed by Saudi National lending support to our hypothesis.

Mean and standard deviation of the nationality of the subsidiary manger

Nationality	N	Mean	Std. Deviation
Saudi National	50	4.2100	.64752
HQ Country	58	3.6983	.81617
Third Country National	39	3.6154	.67093
Total	147		

Source: developed by researcher for the purpose of this study

Figure MNE Headquarters Country by Region of the World



Source: developed by researcher for the purpose of this study

Knowledge flows and Manager of the subsidiary

A one-way between subjects ANOVA was conducted to compare the effect of nationality of the manger (Saudi nationals, HQ national and third country national) on knowledge flows score. There was a significant effect of nationality manager on the knowledge flows score at the p<.001 level for the three conditions [F(2,594)=5.117, p=0.007], the mean score was (KSA= 1.79, HQ national= 2.01, Third country national=1.677).

Obviously, as we found a statistically significant result in this example, we should compute a post hoc test. We selected the Bonferroni post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the HQ nationals (M = 2.01) was

significantly different ($p<0.01$) than the third country national (M = 1.677). These results suggest that nationality of the manger does really have an effect on participants' score on the knowledge flows. Specifically the results indicate that HQ managers had the highest scores of knowledge flows followed by Saudi National.

Mean values and Standard Deviation for the Nationality of the manger with knowledge flows

Nationality of the manager	N	Mean	Std. Deviation
Saudi National	50	1.79	.60
HQ National	58	2.07	.65
Third Country National	39	1.67	.63

Source: developed by the researcher for the purpose of this study

Performance and type of Subsidiary ownership

A one-way between subjects ANOVA was conducted to compare the type of the subsidiary (Majority owned, Minority owned and Joint-Venture) on performance score. There was a significant effect of subsidiary type on the performance score at the $p<.001$ level for the three conditions [$F(2,594)=7.76$, $p=0.001$], the mean score was (Majority owned= 4.31, Minority owned = 3.67, JV=3.75).

Obviously, as we found a statistically significant result in this example, we should compute a post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the Majority owned (M= 4.31) was significantly different ($p<0.01$) than the Minority owned (M = 3.67). And the Majority owned (M= 4.31) was significantly different than the Joint venture (M=3.75)

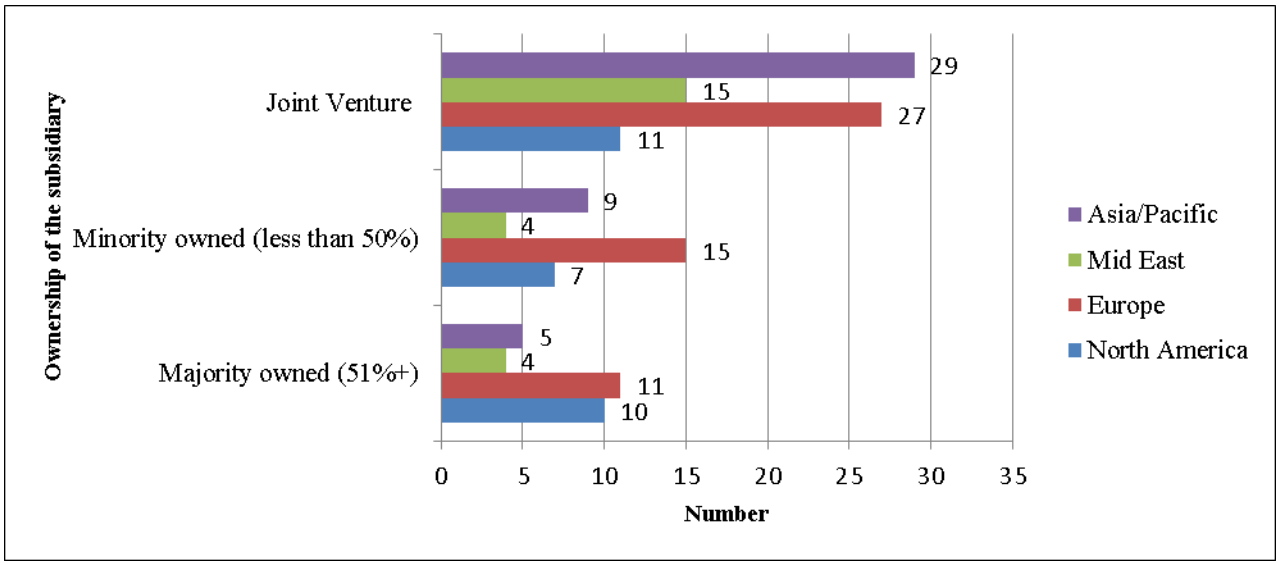
Tthese results suggest that subsidiary type does really have an effect on participants' score on perceived performance. Specifically the results indicate Majority owned had the highest scores of perceived performance followed by Minority owned.

Ownership

Subsidiary type	N	Mean	Std. Deviation
Majority owned	50	4.31	.59
Minority owned	35	3.67	.82
Joint-Venture	82	3.75	.73
Total	147	3.85	.76

Source: developed by author for current study

Subsidiary ownership by the World Region



Source: developed by author for the current study

Role of the manager and PCC Control

A one-way between subjects ANOVA was conducted to compare the effect of role of the manger (improvising information and communication, transferring specific technical knowledge, ensuring homogenous corporate culture, filling position with no local personnel, training the expatriate for future position) on participants' Control PCC score.

There was a significant effect of manager role on Participants' Control PCC score at the $p<.001$ level for the five conditions [$F(4,142)=4.146$, $p=0.003$], the mean score (improvising information and communication=2.66, transferring specific technical knowledge=3.38, ensuring homogenous corporate culture=3.38, filling position with no local personnel=303, training the expatriate for future position=3.83).

Because we have found a statistically significant result in this example, a post hoc test is needed. We selected the Bonferroni post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the improvising information ($M = 2.66$) was significantly different ($p<0.01$) than training the expatriate ($M = 3.83$). Also a significant difference ($p<0.01$) was found between training the expatriates ($M = 3.83$) and Filling positions ($M=3.03$). No significant difference was found with other comparisons ($p>0.05$) these results suggest that the role of the manger does really have an effect on participants' score on Control PCC.

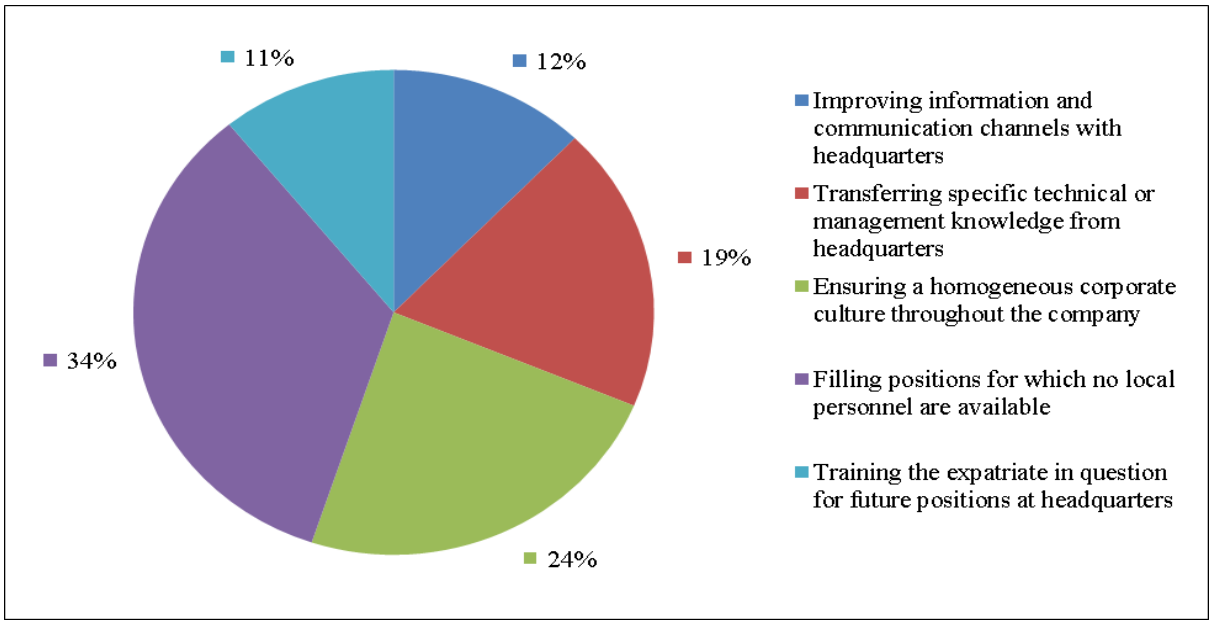
Role of the Manager and INFO Control

A one-way between subjects ANOVA was conducted to compare the effect of role of the manger (improvising information and communication, transferring specific technical knowledge, ensuring homogenous corporate culture, filling position with no local personnel, training the expatriate for future position) on participants' INFO Control score.

There was a significant effect of manager role on Participants' Control INFO score at the $p<.001$ level for the five conditions [$F(4,142)=3.20$, $p=0.015$], the mean score (improvising information and communication=3.87, transferring specific technical knowledge=3.80, ensuring homogenous corporate culture=4.14, filling position with no local personnel=4.14, training the expatriate for future position=4.50).

We needed to compute a post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the transferring technical knowledge ($M = 4.14$) was significantly different ($p<0.01$) than training the expatriate ($M = 4.50$). No significant difference was found with other comparisons ($p>0.05$). These results suggest that the role of the manger does really have an effect on participants' score on Control INFO providing support to the hypothesis.

Figure Expatriates role in the subsidiary



Source: developed by the author for the current study

Industry type and PCC

A one-way between subjects ANOVA was conducted to compare the effect of the industry type (Petroleum and Chemicals, Electronics, electrical components and computers, motor vehicles and parts, paper, products and food, and others) on participants' Control PCC score.
There was a significant effect of the industry type on Participants' Control PCC score at the p<.001 level for the five conditions [F(4,142)=3.572, p=0.008], the mean score was (Petroleum and Chemicals = 3.33, Electronics, electrical components and computers=2.69, motor vehicles and parts=3.96, paper , products and food=3.04, and others=3.29).
Because we have found a statistically significant result in this example, we are required to compute a post hoc test. Post hoc comparisons using the Bonferroni test indicated that the mean score for the electronics and components (M = 2.69) was significantly different (p<0.01) than motor vehicles and parts (M = 3.96). Taken together, these results suggest that the industry type does really have an effect on participants' score on Control PCC.

Industry type and the different control variables

	Industry type									
Variables	Petroleum and chemicals		Electronics and electrical components		Motor vehicles and parts		Papers, products and food		Others	
	M=	SD	M	SD	M	SD	M	SD	M	SD
PCC	3.33	.678	3.33	.678	3.33	.678	3.33	.678	3.33	.678
BFC	4.11	.670	4.34	.611	3.5	.00	4.36	1.16	3.80	.25
OUT	4.11	.70	4.43	.484	4.22	.26	4.34	.918	4.03	.65
INFO	3.90	.64	4.52	.41	3.78	1.0	4.27	.87	4.20	.50
Performance	3.78	.67	4.21	.640	3.19	.52	4.04	.80	3.76	1.05

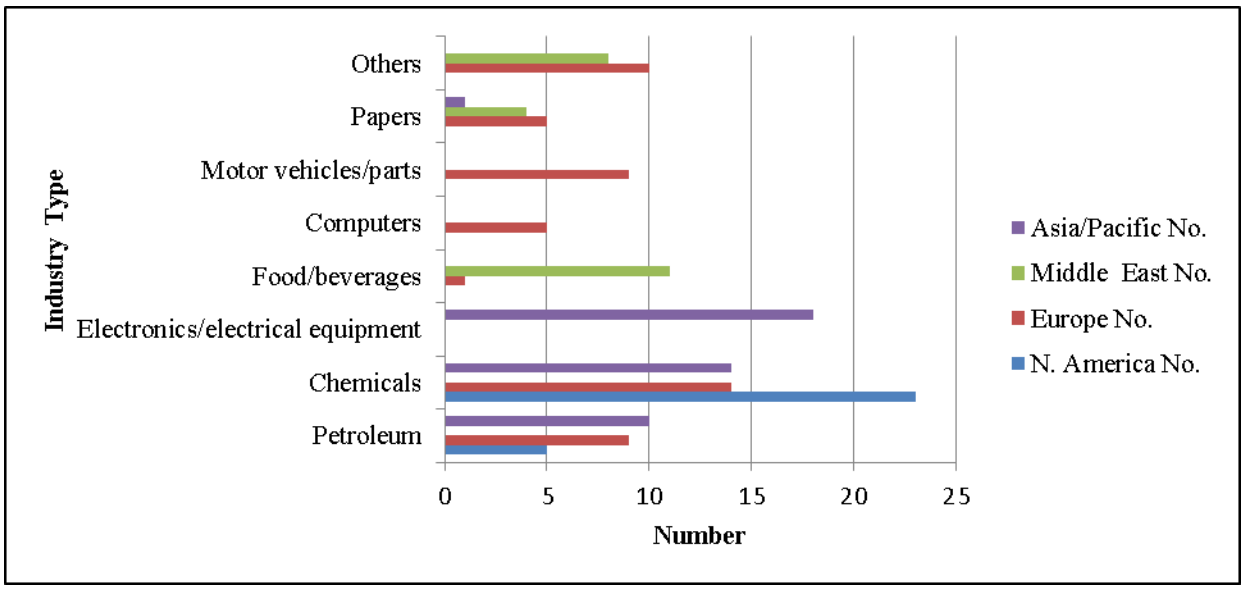
Source: developed by author for current study

Industry and INFO Control

A one-way between subjects ANOVA was conducted to compare the effect of the industry type (Petroleum and Chemicals, Electronics, electrical components and computers, motor vehicles and parts, paper, products and food, and others) on participants' Control INFO score.
There was a significant effect of the industry type on Participants' Control INFO score at the p<.001 level for the five conditions [F(4,142)=4.91, p=0.001], the mean score was (Petroleum and Chemicals = 3.90, Electronics, electrical components and computers=4.52, motor vehicles and parts=3.78, paper , products and food=4.27, and others=4.20).

Bonferroni test indicated that the mean score for petroleum and chemcicals (M = 3.90) was significantly different ($p<0.01$) than electronics, electrical components and computers (M = 4.52). Taken together, these results suggest that the industry type does really have an effect on participants' score on Control INFO as electrical components and computers industry used IFNO control more than the petroleum and chemical industry which has been more controlled by the MNEs.

MNEs by industry type and their World Region



Source: Developed by researcher for current study

Function of the subsidiary and PCC Control

A one-way between subjects ANOVA was conducted to compare the effect of the function of the subsidiary (marketing and sales, manufacturing, country HQ, Assembly, services, product design and R&D) on prticipants' Control PCC score.

There was a significant effect of function type on Participants' Control PCC score at the $p<.001$ level for the six conditions [$F(5,141)=4.410$, $p=0.001$], the highest score was found for Marketing and sales (marketing and sales = 2.94, manufacturing=3.30, country HQ=2.77, Assembly=3.85, services3.33, product design=3.97).

A post hoc test is needed. This test is designed to compare each of function of the subsidiary other functions. Post hoc comparisons using the Bonferroni test indicated that the mean score for the Europe (M = 3.40) was significantly different ($p<0.01$) than the Middle east (M = 2.58). Also a significant difference ($p<0.01$) was found between Oriental (M = 3.64) and the Middle East (M=2.58). No significant difference was found with other comparisons ($p>0.05$).

These results suggest that the type of continent does really have an effect on participants' score on Control PCC. Specifically the results indicate that participants in Oriental countries had the highest scores of control PCC followed by Europe. However both were only significantly different from the Middle East, but not significantly different from others.

Table for all the functions with different types of control

Variables	Subsidiary function											
	Marketing and Sales N= 54		Manufacturing N= 14		Services N=15		Assembly N= 9		Product design and production N=41		HQ Country N= 14	
	M=	SD	M	SD	M	SD	M	SD	M	SD	M	SD
PCC	2.94	.85	3.30	.76	2.77	1.38	3.85	.170	3.30	.930	3.9	1.02
BFC	3.96	.77	4.50	.00	4.33	.48	4.00	.00	4.12	.90	4.03	.74
OUT	3.72	.69	4.30	.497	4.55	.43	3.8	1.05	4.18	.61	4.5	.33
INFO	3.56	.66	4.01	.37	4.6	.48	3.6	.39	3.8	.79	4.10	1.06

Source: developed by author for current study

Performance and Industry

A one-way between subjects ANOVA was conducted to compare the effect of the industry type (Petroleum and Chemicals, Electronics, electrical components and computers, motor vehicles and parts, paper, products and food, and others) on participants' performance score.

There was a significant effect of the industry type on Participants' Control INFO score at the $p<.001$ level for the five conditions [$F(4,142)=4.91$, $p=0.001$], the mean score was (Petroleum and Chemicals = 3.90, Electronics, electrical components and computers=4.52, motor vehicles and parts=3.78, paper , products and food=4.27, and others=4.20).

Bonferroni test indicated that the mean score for petroleum and chemicals (M = 3.90) was significantly different ($p<0.01$) than electronics, electrical components and computers (M = 4.52). Taken together, these results suggest that the industry type does really have an effect on participants' score on Control INFO as electrical components and computers industry used IFNO control more than the petroleum and chemical industry which has been more controlled by the MNEs.

APPENDIX 5

DETAILED RESULTS FOR THE ONE-WAY ANOVA AND TUKEY MULTIPLE COMPARISON TESTS

Table A.1. Hypothesis 10: One-way ANOVA Results for Mean Differences in Overall Performance by Home Country of the Subsidiary

(I) Home Country of Subsidiary	(J) Home Country of Subsidiary	Mean Difference (I-J)	*p*-value	95% CI-	95% CI+
USA	Britain	.728*	.040	.015	1.44
	Egypt	1.23*	.028	.063	2.393
Britain	Switzerland	-1.75*	.000	-2.86	-.639
	Australia	-.982*	.003	-1.78	-.183
	Netherlands	-1.75*	.000	-2.86	-.639
	Lebanon	-1.25*	.035	-2.46	-.040
Sweden	Switzerland	-1.38*	.013	-2.60	-.149
	Netherlands	-1.38*	.013	-2.60	-.149
Japan	Switzerland	-1.50*	.002	-2.68	-.322
	Netherlands	-1.50*	.002	-2.68	-.322
China	Switzerland	-1.75*	.000	-2.93	-.572
	Australia	-.982*	.016	-1.87	-.092
	Netherlands	-1.75*	.000	-2.93	-.572
Switzerland	USA	1.02*	.073	-.039	2.08
	Kuwait	2.00*	.000	.557	3.44
	Egypt	2.25*	.000	.807	3.69
Australia	Kuwait	1.23*	.045	.013	2.45
	Egypt	1.48*	.004	.263	2.70
Netherlands	Kuwait	2.00*	.000	.557	3.44
	Egypt	2.25*	.000	.807	3.69
Canada	Egypt	1.50*	.033	.057	2.94
Lebanon	Egypt	1.75*	.009	.229	3.27
Egypt	Lebanon	-1.75*	.009	-3.27	-.229
	Jordan	-1.25	.042	-2.48	-.020

*. The mean difference is significant at the 0.05 level. Source: Developed by researcher for current study

APPENDIX 6

DETAILED RESULTS FOR THE ONE-WAY ANOVA AND TUKEY

MULTIPLE COMPARISON TESTS

Table A.2. Hypothesis 11: One-way ANOVA Results for Mean Differences in Overall Performance by Industry of the Subsidiary

(I) Industry	(J) Industry	Mean Difference (I-J)	*p*-value	95% CI-	95% CI+
Petroleum	Chemicals	-.642*	.004	-1.15	-.129
	Electronics / Electrical Equipment	-.656*	.043	-1.30	-.011
	Computers	-1.66*	.000	-2.67	-.639
	Paper	-1.16*	.000	-1.94	-.377
Chemicals	Computers	-1.01*	.033	-1.98	-.045
	Motor Vehicles and Parts	.791*	.030	0.043	1.54
Food / Beverages	Computers	-1.33*	.007	-2.43	-.232
	Chemicals	1.01*	.033	0.045	1.98
	Food / Beverages	1.33*	.007	0.232	2.43
	Motor Vehicles and Parts	1.81*	.000	0.651	2.96
	Others	1.24*	.009	0.190	2.28
Motor Vehicles and Parts	Computers	-1.81*	.000	-2.96	-.651
	Paper	-1.31*	.001	-2.26	-.355
Others	Computers	-1.24*	.009	-2.28	-.190

*. The mean difference is significant at the 0.05 level. Source: Developed by researcher for current study

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Control.PCC	Between Groups	31.525	4	7.881	10.086	.000
	Within Groups	110.955	142	.781		
	Total	142.481	146			
Control.BFC	Between Groups	15.364	4	3.841	8.556	.000
	Within Groups	63.751	142	.449		
	Total	79.116	146			
Control.OUT	Between Groups	12.423	4	3.106	7.764	.000
	Within Groups	56.802	142	.400		
	Total	69.224	146			
Control.INFO	Between Groups	8.156	4	2.039	4.522	.002
	Within Groups	64.031	142	.451		
	Total	72.187	146			
Performance.overall	Between Groups	13.215	4	3.304	6.483	.000
	Within Groups	72.367	142	.510		
	Total	85.582	146			
Interdependance.overall	Between Groups	9.890	4	2.472	1.716	.150

	Within Groups	204.549	142	1.440		
	Total	214.439	146			
Local.overall	Between Groups	18.673	4	4.668	5.328	.001
	Within Groups	124.410	142	.876		
	Total	143.082	146			
Strategy	Between Groups	10.022	4	2.506	7.911	.000
	Within Groups	44.974	142	.317		
	Total	54.996	146			
Knowledge.overall	Between Groups	10.017	4	2.504	6.905	.000
	Within Groups	51.498	142	.363		
	Total	61.515	146			

Post Hoc Tests

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Years Subsidiary was Established	(J) Years Subsidiary was Established	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Control.PCC	1-5 years	6-10 years	.67816	.30341	.270	-.1870	1.5434
		11-15 years	-.18605	.28859	1.000	-1.0090	.6369
		dimension3 16-20 years	.30189	.28259	1.000	-.5039	1.1077
		21-30 years	-1.16667*	.37849	.025	-2.2459	-.0874
	6-10 years	1-5 years	-.67816	.30341	.270	-1.5434	.1870
		11-15 years	-.86421*	.21240	.001	-1.4699	-.2585
		dimension3 16-20 years	-.37627	.20417	.674	-.9585	.2059
		21-30 years	-1.84483*	.32416	.000	-2.7692	-.9205
	11-15 years	1-5 years	.18605	.28859	1.000	-.6369	1.0090
		6-10 years	.86421*	.21240	.001	.2585	1.4699
	dimension2	dimension3 16-20 years	.48793	.18142	.080	-.0294	1.0053
		21-30 years	-.98062*	.31034	.019	-1.8656	-.0957
	16-20 years	1-5 years	-.30189	.28259	1.000	-1.1077	.5039
		6-10 years	.37627	.20417	.674	-.2059	.9585
		dimension3 11-15 years	-.48793	.18142	.080	-1.0053	.0294
		21-30 years	-1.46855*	.30476	.000	-2.3376	-.5995
	21-30 years	1-5 years	1.16667*	.37849	.025	.0874	2.2459
		6-10 years	1.84483*	.32416	.000	.9205	2.7692
		dimension3 11-15 years	.98062*	.31034	.019	.0957	1.8656
		16-20 years	1.46855*	.30476	.000	.5995	2.3376
Control.BFC	1-5 years	6-10 years	.10345	.22999	1.000	-.5524	.7593
		11-15 years	-.58140	.21875	.088	-1.2052	.0424
	dimension2	dimension3 16-20 years	.16981	.21420	1.000	-.4410	.7806
		21-30 years	-.25000	.28689	1.000	-1.0681	.5681

	6-10 years		1-5 years	-.10345	.22999	1.000	-.7593	.5524
			11-15 years	-.68484*	.16100	.000	-1.1440	-.2257
		dimension3	16-20 years	.06636	.15476	1.000	-.3750	.5077
			21-30 years	-.35345	.24572	1.000	-1.0541	.3472
	11-15 years		1-5 years	.58140	.21875	.088	-.0424	1.2052
			6-10 years	.68484*	.16100	.000	.2257	1.1440
		dimension3	16-20 years	.75121*	.13752	.000	.3591	1.1434
			21-30 years	.33140	.23524	1.000	-.3394	1.0022
	16-20 years		1-5 years	-.16981	.21420	1.000	-.7806	.4410
			6-10 years	-.06636	.15476	1.000	-.5077	.3750
		dimension3	11-15 years	-.75121*	.13752	.000	-1.1434	-.3591
			21-30 years	-.41981	.23101	.713	-1.0786	.2389
	21-30 years		1-5 years	.25000	.28689	1.000	-.5681	1.0681
			6-10 years	.35345	.24572	1.000	-.3472	1.0541
		dimension3	11-15 years	-.33140	.23524	1.000	-1.0022	.3394
			16-20 years	.41981	.23101	.713	-.2389	1.0786
Control.OUT	1-5 years		6-10 years	-.05747	.21709	1.000	-.6765	.5616
			11-15 years	-.19380	.20649	1.000	-.7826	.3950
		dimension3	16-20 years	.27044	.20219	1.000	-.3061	.8470
			21-30 years	-.83333*	.27081	.025	-1.6056	-.0611
	6-10 years		1-5 years	.05747	.21709	1.000	-.5616	.6765
			11-15 years	-.13633	.15197	1.000	-.5697	.2970
		dimension3	16-20 years	.32791	.14609	.263	-.0887	.7445
			21-30 years	-.77586*	.23194	.011	-1.4372	-.1145
	11-15 years		1-5 years	.19380	.20649	1.000	-.3950	.7826
dimension2			6-10 years	.13633	.15197	1.000	-.2970	.5697
		dimension3	16-20 years	.46424*	.12981	.005	.0941	.8344
			21-30 years	-.63953*	.22204	.046	-1.2727	-.0064
	16-20 years		1-5 years	-.27044	.20219	1.000	-.8470	.3061
			6-10 years	-.32791	.14609	.263	-.7445	.0887
		dimension3	11-15 years	-.46424*	.12981	.005	-.8344	-.0941
			21-30 years	-1.10377*	.21806	.000	-1.7256	-.4820
	21-30 years		1-5 years	.83333*	.27081	.025	.0611	1.6056
			6-10 years	.77586*	.23194	.011	.1145	1.4372
		dimension3	11-15 years	.63953*	.22204	.046	.0064	1.2727
			16-20 years	1.10377*	.21806	.000	.4820	1.7256
Control.INFO	1-5 years		6-10 years	.19157	.23049	1.000	-.4657	.8488
			11-15 years	-.18346	.21923	1.000	-.8086	.4417
dimension2		dimension3	16-20 years	.22432	.21467	1.000	-.3878	.8365

			21-30 years	-.55556	.28752	.553	-1.3754	.2643
	6-10 years		1-5 years	-.19157	.23049	1.000	-.8488	.4657
			11-15 years	-.37503	.16136	.215	-.8351	.0851
		dimension3	16-20 years	.03275	.15510	1.000	-.4095	.4750
			21-30 years	-.74713*	.24626	.029	-1.4493	-.0449
	11-15 years		1-5 years	.18346	.21923	1.000	-.4417	.8086
			6-10 years	.37503	.16136	.215	-.0851	.8351
		dimension3	16-20 years	.40778*	.13782	.036	.0148	.8008
			21-30 years	-.37209	.23575	1.000	-1.0444	.3002
	16-20 years		1-5 years	-.22432	.21467	1.000	-.8365	.3878
			6-10 years	-.03275	.15510	1.000	-.4750	.4095
		dimension3	11-15 years	-.40778*	.13782	.036	-.8008	-.0148
			21-30 years	-.77987*	.23152	.010	-1.4401	-.1197
	21-30 years		1-5 years	.55556	.28752	.553	-.2643	1.3754
			6-10 years	.74713*	.24626	.029	.0449	1.4493
		dimension3	11-15 years	.37209	.23575	1.000	-.3002	1.0444
			16-20 years	.77987*	.23152	.010	.1197	1.4401
Performance.overall	1-5 years		6-10 years	.13793	.24504	1.000	-.5608	.8367
			11-15 years	.17442	.23307	1.000	-.4902	.8390
		dimension3	16-20 years	.36321	.22822	1.000	-.2876	1.0140
			21-30 years	-.87500*	.30567	.048	-1.7466	-.0034
	6-10 years		1-5 years	-.13793	.24504	1.000	-.8367	.5608
			11-15 years	.03649	.17154	1.000	-.4527	.5256
		dimension3	16-20 years	.22528	.16489	1.000	-.2449	.6955
			21-30 years	-1.01293*	.26179	.002	-1.7595	-.2664
	11-15 years		1-5 years	-.17442	.23307	1.000	-.8390	.4902
dimension2			6-10 years	-.03649	.17154	1.000	-.5256	.4527
		dimension3	16-20 years	.18879	.14652	1.000	-.2290	.6066
			21-30 years	-1.04942*	.25063	.000	-1.7641	-.3347
	16-20 years		1-5 years	-.36321	.22822	1.000	-1.0140	.2876
			6-10 years	-.22528	.16489	1.000	-.6955	.2449
		dimension3	11-15 years	-.18879	.14652	1.000	-.6066	.2290
			21-30 years	-1.23821*	.24613	.000	-1.9401	-.5364
	21-30 years		1-5 years	.87500*	.30567	.048	.0034	1.7466
			6-10 years	1.01293*	.26179	.002	.2664	1.7595
		dimension3	11-15 years	1.04942*	.25063	.000	.3347	1.7641
			16-20 years	1.23821*	.24613	.000	.5364	1.9401
Interdependance.overall	1-5 years		6-10 years	.53448	.41196	1.000	-.6403	1.7092
dimension2		dimension3	11-15 years	-.10465	.39184	1.000	-1.2220	1.0127

				16-20 years	-.10377	.38369	1.000	-1.1979	.9903
				21-30 years	-.25000	.51390	1.000	-1.7154	1.2154
			6-10 years	1-5 years	-.53448	.41196	1.000	-1.7092	.6403
				11-15 years	-.63913	.28839	.283	-1.4615	.1832
				16-20 years	-.63826	.27722	.228	-1.4288	.1523
				21-30 years	-.78448	.44014	.768	-2.0396	.4706
			11-15 years	1-5 years	.10465	.39184	1.000	-1.0127	1.2220
				6-10 years	.63913	.28839	.283	-.1832	1.4615
				16-20 years	.00088	.24633	1.000	-.7015	.7033
				21-30 years	-.14535	.42136	1.000	-1.3469	1.0562
			16-20 years	1-5 years	.10377	.38369	1.000	-.9903	1.1979
				6-10 years	.63826	.27722	.228	-.1523	1.4288
				11-15 years	-.00088	.24633	1.000	-.7033	.7015
				21-30 years	-.14623	.41380	1.000	-1.3262	1.0337
			21-30 years	1-5 years	.25000	.51390	1.000	-1.2154	1.7154
				6-10 years	.78448	.44014	.768	-.4706	2.0396
				11-15 years	.14535	.42136	1.000	-1.0562	1.3469
				16-20 years	.14623	.41380	1.000	-1.0337	1.3262
Local.overall			1-5 years	6-10 years	1.07759*	.32128	.010	.1614	1.9937
				11-15 years	.38953	.30559	1.000	-.4819	1.2609
				16-20 years	.87264*	.29923	.041	.0194	1.7259
				21-30 years	.12500	.40078	1.000	-1.0178	1.2678
			6-10 years	1-5 years	-1.07759*	.32128	.010	-1.9937	-.1614
				11-15 years	-.68805*	.22491	.027	-1.3294	-.0467
				16-20 years	-.20494	.21620	1.000	-.8214	.4116
				21-30 years	-.95259	.34325	.063	-1.9314	.0262
			11-15 years	1-5 years	-.38953	.30559	1.000	-1.2609	.4819
				6-10 years	.68805*	.22491	.027	.0467	1.3294
				16-20 years	.48311	.19211	.130	-.0647	1.0309
				21-30 years	-.26453	.32861	1.000	-1.2016	.6725
			16-20 years	1-5 years	-.87264*	.29923	.041	-1.7259	-.0194
				6-10 years	.20494	.21620	1.000	-.4116	.8214
				11-15 years	-.48311	.19211	.130	-1.0309	.0647
				21-30 years	-.74764	.32271	.219	-1.6679	.1726
			21-30 years	1-5 years	-.12500	.40078	1.000	-1.2678	1.0178
				6-10 years	.95259	.34325	.063	-.0262	1.9314
				11-15 years	.26453	.32861	1.000	-.6725	1.2016
				16-20 years	.74764	.32271	.219	-.1726	1.6679
Strategy	dimension2	1-5 years	dimension3	6-10 years	.81098*	.19317	.000	.2601	1.3618

			11-15 years	.47115	.18374	.114	-.0528	.9951
			16-20 years	.87561*	.17991	.000	.3626	1.3886
			21-30 years	.53704	.24097	.274	-.1501	1.2242
	6-10 years		1-5 years	-.81098*	.19317	.000	-1.3618	-.2601
			11-15 years	-.33984	.13523	.131	-.7255	.0458
		dimension3	16-20 years	.06463	.12999	1.000	-.3060	.4353
			21-30 years	-.27395	.20638	1.000	-.8625	.3146
	11-15 years		1-5 years	-.47115	.18374	.114	-.9951	.0528
			6-10 years	.33984	.13523	.131	-.0458	.7255
		dimension3	16-20 years	.40447*	.11550	.006	.0751	.7338
			21-30 years	.06589	.19758	1.000	-.4975	.6293
	16-20 years		1-5 years	-.87561*	.17991	.000	-1.3886	-.3626
			6-10 years	-.06463	.12999	1.000	-.4353	.3060
		dimension3	11-15 years	-.40447*	.11550	.006	-.7338	-.0751
			21-30 years	-.33857	.19403	.832	-.8919	.2147
	21-30 years		1-5 years	-.53704	.24097	.274	-1.2242	.1501
			6-10 years	.27395	.20638	1.000	-.3146	.8625
		dimension3	11-15 years	-.06589	.19758	1.000	-.6293	.4975
			16-20 years	.33857	.19403	.832	-.2147	.8919
Knowledge.overall	1-5 years		6-10 years	-.59770*	.20671	.044	-1.1871	-.0083
			11-15 years	-.44740	.19661	.244	-1.0080	.1133
		dimension3	16-20 years	-.48607	.19252	.127	-1.0351	.0629
			21-30 years	.40476	.25785	1.000	-.3305	1.1400
	6-10 years		1-5 years	.59770*	.20671	.044	.0083	1.1871
			11-15 years	.15030	.14471	1.000	-.2623	.5629
		dimension3	16-20 years	.11163	.13910	1.000	-.2850	.5083
			21-30 years	1.00246*	.22084	.000	.3727	1.6322
dimension2	11-15 years		1-5 years	.44740	.19661	.244	-.1133	1.0080
			6-10 years	-.15030	.14471	1.000	-.5629	.2623
		dimension3	16-20 years	-.03868	.12360	1.000	-.3911	.3138
			21-30 years	.85216*	.21142	.001	.2493	1.4550
	16-20 years		1-5 years	.48607	.19252	.127	-.0629	1.0351
			6-10 years	-.11163	.13910	1.000	-.5083	.2850
		dimension3	11-15 years	.03868	.12360	1.000	-.3138	.3911
			21-30 years	.89084*	.20763	.000	.2988	1.4829
	21-30 years		1-5 years	-.40476	.25785	1.000	-1.1400	.3305
		dimension3	6-10 years	-1.00246*	.22084	.000	-1.6322	-.3727
			11-15 years	-.85216*	.21142	.001	-1.4550	-.2493

	16-20 years	-.89084*	.20763	.000	-1.4829	-.2988

*. The mean difference is significant at the 0.05 level. Source: Developed by researcher for current study

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Control.PCC	101-500	36	2.7870	.88785	.14797	2.4866	3.0874	1.33	4.33
	501-1000	62	3.5054	.73859	.09380	3.3178	3.6929	2.33	5.00
	1001-5000	32	3.1042	1.35318	.23921	2.6163	3.5920	1.00	4.67
	5001-10000	12	3.6389	.90407	.26098	3.0645	4.2133	2.33	4.67
	10001-15000	5	2.6667	.00000	.00000	2.6667	2.6667	2.67	2.67
	Total	147	3.2245	.98787	.08148	3.0635	3.3855	1.00	5.00
Control.BFC	101-500	36	3.9861	.83226	.13871	3.7045	4.2677	2.00	5.00
	501-1000	62	4.1774	.75257	.09558	3.9863	4.3685	3.00	5.00
	1001-5000	32	4.3906	.51953	.09184	4.2033	4.5779	3.50	5.00
	5001-10000	12	3.5833	.55732	.16088	3.2292	3.9374	3.00	4.50
	10001-15000	5	3.5000	.00000	.00000	3.5000	3.5000	3.50	3.50
	Total	147	4.1054	.73613	.06072	3.9854	4.2254	2.00	5.00
Control.OUT	101-500	36	3.9583	.84832	.14139	3.6713	4.2454	2.50	5.00
	501-1000	62	4.1613	.64512	.08193	3.9975	4.3251	3.00	5.00
	1001-5000	32	4.5938	.48256	.08531	4.4198	4.7677	3.50	5.00
	5001-10000	12	4.2917	.39648	.11445	4.0398	4.5436	3.50	5.00
	10001-15000	5	3.5000	.00000	.00000	3.5000	3.5000	3.50	3.50
	Total	147	4.1939	.68858	.05679	4.0816	4.3061	2.50	5.00
Control.INFO	101-500	36	3.9722	.63434	.10572	3.7576	4.1869	3.00	5.00
	501-1000	62	3.8763	.79441	.10089	3.6746	4.0781	2.67	5.00
	1001-5000	32	4.5104	.44789	.07918	4.3489	4.6719	3.67	5.00
	5001-10000	12	4.2500	.58818	.16979	3.8763	4.6237	2.67	4.67
	10001-15000	5	4.3333	.00000	.00000	4.3333	4.3333	4.33	4.33
	Total	147	4.0839	.70316	.05800	3.9693	4.1985	2.67	5.00
Performance.overall	101-500	36	3.8889	.82255	.13709	3.6106	4.1672	2.75	5.00
	501-1000	62	3.6573	.75236	.09555	3.4662	3.8483	2.50	5.00
	1001-5000	32	4.2500	.57851	.10227	4.0414	4.4586	3.25	5.00
	5001-10000	12	4.1250	.48265	.13933	3.8183	4.4317	2.75	4.75
	10001-15000	5	2.7500	.00000	.00000	2.7500	2.7500	2.75	2.75
	Total	147	3.8503	.76562	.06315	3.7255	3.9751	2.50	5.00
Interdependance.overall	101-500	36	2.5347	1.19546	.19924	2.1302	2.9392	1.00	5.00
	501-1000	62	3.0645	.99170	.12595	2.8127	3.3164	2.00	5.00
	1001-5000	32	3.3828	1.50668	.26635	2.8396	3.9260	1.00	5.00
	5001-10000	12	2.8958	1.37947	.39822	2.0194	3.7723	1.25	4.25
	10001-15000	5	2.7500	.00000	.00000	2.7500	2.7500	2.75	2.75
	Total	147	2.9796	1.21192	.09996	2.7820	3.1771	1.00	5.00
Local.overall	101-500	36	2.5903	.99670	.16612	2.2530	2.9275	1.50	5.00
	501-1000	62	2.7097	1.02848	.13062	2.4485	2.9709	1.00	5.00
	1001-5000	32	2.5469	1.07095	.18932	2.1608	2.9330	1.25	4.25
	5001-10000	12	2.1458	.66108	.19084	1.7258	2.5659	1.00	3.75
	10001-15000	5	2.7500	.00000	.00000	2.7500	2.7500	2.75	2.75
	Total	147	2.6003	.98996	.08165	2.4390	2.7617	1.00	5.00

Strategy	101-500	36	2.8488	.79733	.13289	2.5790	3.1185	1.67	4.11
	501-1000	62	2.6846	.48503	.06160	2.5614	2.8078	1.56	3.67
	1001-5000	32	3.0069	.60985	.10781	2.7871	3.2268	2.33	3.89
	5001-10000	12	2.7222	.28623	.08263	2.5404	2.9041	2.11	3.00
	10001-15000	5	3.6667	.00000	.00000	3.6667	3.6667	3.67	3.67
	Total	147	2.8314	.61375	.05062	2.7314	2.9315	1.56	4.11
Knowledge.overall	101-500	36	1.7262	.55526	.09254	1.5383	1.9141	1.00	2.57
	501-1000	62	2.1889	.55466	.07044	2.0481	2.3298	1.14	3.00
	1001-5000	32	1.2857	.42626	.07535	1.1320	1.4394	1.00	2.14
	5001-10000	12	2.4286	.57467	.16589	2.0634	2.7937	1.14	2.86
	10001-15000	5	1.4286	.00000	.00000	1.4286	1.4286	1.43	1.43
	Total	147	1.8727	.64911	.05354	1.7669	1.9785	1.00	3.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Control.PCC	Between Groups	15.861	4	3.965	4.447	.002
	Within Groups	126.620	142	.892		
	Total	142.481	146			
Control.BFC	Between Groups	8.540	4	2.135	4.296	.003
	Within Groups	70.575	142	.497		
	Total	79.116	146			
Control.OUT	Between Groups	9.702	4	2.425	5.786	.000
	Within Groups	59.523	142	.419		
	Total	69.224	146			
Control.INFO	Between Groups	9.583	4	2.396	5.434	.000
	Within Groups	62.604	142	.441		
	Total	72.187	146			
Performance.overall	Between Groups	14.435	4	3.609	7.203	.000
	Within Groups	71.147	142	.501		
	Total	85.582	146			
Interdependance.overall	Between Groups	13.122	4	3.281	2.314	.060
	Within Groups	201.316	142	1.418		
	Total	214.439	146			
Local.overall	Between Groups	3.427	4	.857	.871	.483
	Within Groups	139.655	142	.983		
	Total	143.082	146			
Strategy	Between Groups	5.965	4	1.491	4.319	.003
	Within Groups	49.032	142	.345		
	Total	54.996	146			
Knowledge.overall	Between Groups	22.693	4	5.673	20.751	.000
	Within Groups	38.822	142	.273		
	Total	61.515	146			

Post Hoc Tests

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Total Employees in this Subsidiary	(J) Total Employees in this Subsidiary	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Control.PCC	101-500	501-1000	-.71834*	.19787	.004	-1.2826	-.1541
		1001-5000	-.31713	.22942	1.000	-.9713	.3371
		5001-10000	-.85185	.31476	.076	-1.7494	.0457

		10001-15000	.12037	.45067	1.000	-1.1648	1.4055
	501-1000	101-500	.71834*	.19787	.004	.1541	1.2826
		1001-5000	.40121	.20554	.529	-.1849	.9873
		5001-10000	-.13351	.29781	1.000	-.9827	.7157
		10001-15000	.83871	.43900	.581	-.4131	2.0905
	1001-5000	101-500	.31713	.22942	1.000	-.3371	.9713
		501-1000	-.40121	.20554	.529	-.9873	.1849
		5001-10000	-.53472	.31965	.966	-1.4462	.3768
		10001-15000	.43750	.45410	1.000	-.8574	1.7324
	5001-10000	101-500	.85185	.31476	.076	-.0457	1.7494
		501-1000	.13351	.29781	1.000	-.7157	.9827
		1001-5000	.53472	.31965	.966	-.3768	1.4462
		10001-15000	.97222	.50264	.551	-.4611	2.4055
	10001-15000	101-500	-.12037	.45067	1.000	-1.4055	1.1648
		501-1000	-.83871	.43900	.581	-2.0905	.4131
		1001-5000	-.43750	.45410	1.000	-1.7324	.8574
		5001-10000	-.97222	.50264	.551	-2.4055	.4611
Control.BFC	101-500	501-1000	-.19131	.14772	1.000	-.6125	.2299
		1001-5000	-.40451	.17128	.195	-.8929	.0839
		5001-10000	.40278	.23500	.887	-.2673	1.0729
		10001-15000	.48611	.33646	1.000	-.4733	1.4456
	501-1000	101-500	.19131	.14772	1.000	-.2299	.6125
		1001-5000	-.21321	.15345	1.000	-.6508	.2244
		5001-10000	.59409	.22234	.084	-.0399	1.2281
		10001-15000	.67742	.32775	.406	-.2572	1.6120
	1001-5000	101-500	.40451	.17128	.195	-.0839	.8929
		501-1000	.21321	.15345	1.000	-.2244	.6508
		5001-10000	.80729*	.23864	.009	.1268	1.4878
		10001-15000	.89063	.33902	.096	-.0761	1.8574
	5001-10000	101-500	-.40278	.23500	.887	-1.0729	.2673
		501-1000	-.59409	.22234	.084	-1.2281	.0399
		1001-5000	-.80729*	.23864	.009	-1.4878	-.1268
		10001-15000	.08333	.37526	1.000	-.9867	1.1534
	10001-15000	101-500	-.48611	.33646	1.000	-1.4456	.4733
		501-1000	-.67742	.32775	.406	-1.6120	.2572
		1001-5000	-.89063	.33902	.096	-1.8574	.0761
		5001-10000	-.08333	.37526	1.000	-1.1534	.9867
Control.OUT	101-500	501-1000	-.20296	.13566	1.000	-.5898	.1839
		1001-5000	-.63542*	.15730	.001	-1.0840	-.1869
		5001-10000	-.33333	.21581	1.000	-.9487	.2821
		10001-15000	.45833	.30900	1.000	-.4228	1.3395
	501-1000	101-500	.20296	.13566	1.000	-.1839	.5898
		1001-5000	-.43246*	.14093	.026	-.8343	-.0306
dimension2		5001-10000	-.13038	.20419	1.000	-.7126	.4519
		10001-15000	.66129	.30099	.296	-.1970	1.5196
	1001-5000	101-500	.63542*	.15730	.001	.1869	1.0840
		501-1000	.43246*	.14093	.026	.0306	.8343
		5001-10000	.30208	.21916	1.000	-.3229	.9270
		10001-15000	1.09375*	.31134	.006	.2059	1.9816

	5001-10000	101-500	.33333	.21581	1.000	-.2821	.9487
		501-1000	.13038	.20419	1.000	-.4519	.7126
		1001-5000	-.30208	.21916	1.000	-.9270	.3229
		10001-15000	.79167	.34462	.231	-.1910	1.7744
	10001-15000	101-500	-.45833	.30900	1.000	-1.3395	.4228
		501-1000	-.66129	.30099	.296	-1.5196	.1970
		1001-5000	-1.09375*	.31134	.006	-1.9816	-.2059
		5001-10000	-.79167	.34462	.231	-1.7744	.1910
Control.INFO	101-500	501-1000	.09588	.13913	1.000	-.3009	.4926
		1001-5000	-.53819*	.16132	.011	-.9982	-.0782
		5001-10000	-.27778	.22133	1.000	-.9089	.3534
		10001-15000	-.36111	.31689	1.000	-1.2648	.5425
	501-1000	101-500	-.09588	.13913	1.000	-.4926	.3009
		1001-5000	-.63407*	.14453	.000	-1.0462	-.2219
		5001-10000	-.37366	.20940	.765	-.9708	.2235
		10001-15000	-.45699	.30868	1.000	-1.3372	.4232
	1001-5000	101-500	.53819*	.16132	.011	.0782	.9982
		501-1000	.63407*	.14453	.000	.2219	1.0462
		5001-10000	.26042	.22476	1.000	-.3805	.9013
		10001-15000	.17708	.31930	1.000	-.7334	1.0876
	5001-10000	101-500	.27778	.22133	1.000	-.3534	.9089
		501-1000	.37366	.20940	.765	-.2235	.9708
		1001-5000	-.26042	.22476	1.000	-.9013	.3805
		10001-15000	-.08333	.35343	1.000	-1.0912	.9245
	10001-15000	101-500	.36111	.31689	1.000	-.5425	1.2648
		501-1000	.45699	.30868	1.000	-.4232	1.3372
		1001-5000	-.17708	.31930	1.000	-1.0876	.7334
		5001-10000	.08333	.35343	1.000	-.9245	1.0912
Performance.overall	101-500	501-1000	.23163	.14832	1.000	-.1913	.6546
		1001-5000	-.36111	.17197	.375	-.8515	.1293
		5001-10000	-.23611	.23595	1.000	-.9089	.4367
		10001-15000	1.13889*	.33782	.010	.1756	2.1022
	501-1000	101-500	-.23163	.14832	1.000	-.6546	.1913
		1001-5000	-.59274*	.15407	.002	-1.0321	-.1534
		5001-10000	-.46774	.22324	.379	-1.1043	.1688
		10001-15000	.90726	.32907	.066	-.0311	1.8456
	1001-5000	101-500	.36111	.17197	.375	-.1293	.8515
		501-1000	.59274*	.15407	.002	.1534	1.0321
		5001-10000	.12500	.23960	1.000	-.5582	.8082
		10001-15000	1.50000*	.34039	.000	.5294	2.4706
	5001-10000	101-500	.23611	.23595	1.000	-.4367	.9089
		501-1000	.46774	.22324	.379	-.1688	1.1043
		1001-5000	-.12500	.23960	1.000	-.8082	.5582
		10001-15000	1.37500*	.37678	.004	.3006	2.4494
	10001-15000	101-500	-1.13889*	.33782	.010	-2.1022	-.1756
		501-1000	-.90726	.32907	.066	-1.8456	.0311
		1001-5000	-1.50000*	.34039	.000	-2.4706	-.5294
		5001-10000	-1.37500*	.37678	.004	-2.4494	-.3006
Interdependance.overall	101-500	501-1000	-.52979	.24949	.354	-1.2412	.1817
		1001-5000	-.84809*	.28928	.039	-1.6730	-.0232
		5001-10000	-.36111	.39689	1.000	-1.4929	.7707
		10001-15000	-.21528	.56827	1.000	-1.8357	1.4052

	501-1000	101-500	.52979	.24949	.354	-.1817	1.2412
		1001-5000	-.31830	.25917	1.000	-1.0573	.4207
		5001-10000	.16868	.37551	1.000	-.9021	1.2395
		10001-15000	.31452	.55354	1.000	-1.2639	1.8930
	1001-5000	101-500	.84809*	.28928	.039	.0232	1.6730
		501-1000	.31830	.25917	1.000	-.4207	1.0573
		5001-10000	.48698	.40305	1.000	-.6623	1.6363
		10001-15000	.63281	.57258	1.000	-.9999	2.2656
	5001-10000	101-500	.36111	.39689	1.000	-.7707	1.4929
		501-1000	-.16868	.37551	1.000	-1.2395	.9021
		1001-5000	-.48698	.40305	1.000	-1.6363	.6623
		10001-15000	.14583	.63379	1.000	-1.6615	1.9531
	10001-15000	101-500	.21528	.56827	1.000	-1.4052	1.8357
		501-1000	-.31452	.55354	1.000	-1.8930	1.2639
		1001-5000	-.63281	.57258	1.000	-2.2656	.9999
		5001-10000	-.14583	.63379	1.000	-1.9531	1.6615
Local.overall	101-500	501-1000	-.11940	.20780	1.000	-.7120	.4732
		1001-5000	.04340	.24094	1.000	-.6437	.7305
		5001-10000	.44444	.33057	1.000	-.4982	1.3871
		10001-15000	-.15972	.47330	1.000	-1.5094	1.1899
	501-1000	101-500	.11940	.20780	1.000	-.4732	.7120
		1001-5000	.16280	.21586	1.000	-.4527	.7783
		5001-10000	.56384	.31276	.735	-.3280	1.4557
		10001-15000	-.04032	.46104	1.000	-1.3550	1.2744
	1001-5000	101-500	-.04340	.24094	1.000	-.7305	.6437
		501-1000	-.16280	.21586	1.000	-.7783	.4527
		5001-10000	.40104	.33570	1.000	-.5562	1.3583
		10001-15000	-.20313	.47690	1.000	-1.5630	1.1568
	5001-10000	101-500	-.44444	.33057	1.000	-1.3871	.4982
		501-1000	-.56384	.31276	.735	-1.4557	.3280
		1001-5000	-.40104	.33570	1.000	-1.3583	.5562
		10001-15000	-.60417	.52788	1.000	-2.1094	.9011
	10001-15000	101-500	.15972	.47330	1.000	-1.1899	1.5094
		501-1000	.04032	.46104	1.000	-1.2744	1.3550
		1001-5000	.20313	.47690	1.000	-1.1568	1.5630
		5001-10000	.60417	.52788	1.000	-.9011	2.1094
Strategy	101-500	501-1000	.16418	.12313	1.000	-.1869	.5153
		1001-5000	-.15818	.14277	1.000	-.5653	.2489
		5001-10000	.12654	.19587	1.000	-.4320	.6851
		10001-15000	-.81790*	.28045	.041	-1.6176	-.0182
	501-1000	101-500	-.16418	.12313	1.000	-.5153	.1869
		1001-5000	-.32236	.12790	.128	-.6871	.0424
		5001-10000	-.03763	.18532	1.000	-.5661	.4908
dimension2		10001-15000	-.98208*	.27318	.004	-1.7611	-.2031
	1001-5000	101-500	.15818	.14277	1.000	-.2489	.5653
		501-1000	.32236	.12790	.128	-.0424	.6871
		5001-10000	.28472	.19891	1.000	-.2825	.8519
		10001-15000	-.65972	.28258	.210	-1.4655	.1461
	5001-10000	101-500	-.12654	.19587	1.000	-.6851	.4320
		501-1000	.03763	.18532	1.000	-.4908	.5661
		1001-5000	-.28472	.19891	1.000	-.8519	.2825

		10001-15000	-.94444*	.31278	.030	-1.8364	-.0525
	10001-15000	101-500	.81790*	.28045	.041	.0182	1.6176
		501-1000	.98208*	.27318	.004	.2031	1.7611
		1001-5000	.65972	.28258	.210	-.1461	1.4655
		5001-10000	.94444*	.31278	.030	.0525	1.8364
Knowledge.overall	101-500	501-1000	-.46275*	.10956	.000	-.7752	-.1503
		1001-5000	.44048*	.12704	.007	.0782	.8027
		5001-10000	-.70238*	.17429	.001	-1.1994	-.2054
		10001-15000	.29762	.24955	1.000	-.4140	1.0092
	501-1000	101-500	.46275*	.10956	.000	.1503	.7752
		1001-5000	.90323*	.11381	.000	.5787	1.2278
		5001-10000	-.23963	.16490	1.000	-.7099	.2306
		10001-15000	.76037*	.24308	.021	.0672	1.4535
	1001-5000	101-500	-.44048*	.12704	.007	-.8027	-.0782
		501-1000	-.90323*	.11381	.000	-1.2278	-.5787
		5001-10000	-1.14286*	.17699	.000	-1.6476	-.6381
		10001-15000	-.14286	.25144	1.000	-.8599	.5741
	5001-10000	101-500	.70238*	.17429	.001	.2054	1.1994
		501-1000	.23963	.16490	1.000	-.2306	.7099
		1001-5000	1.14286*	.17699	.000	.6381	1.6476
		10001-15000	1.00000*	.27832	.004	.2064	1.7936
	10001-15000	101-500	-.29762	.24955	1.000	-1.0092	.4140
		501-1000	-.76037*	.24308	.021	-1.4535	-.0672
		1001-5000	.14286	.25144	1.000	-.5741	.8599
		5001-10000	-1.00000*	.27832	.004	-1.7936	-.2064

*. The mean difference is significant at the 0.05 level. Source: Developed by researcher for current study

Descriptives

						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Control.PCC	1001-5000	17	2.7647	.86414	.20958	2.3204	3.2090	1.33	3.67
	5001-10000	41	2.7561	.93993	.14679	2.4594	3.0528	1.00	4.33
	10001-20000	4	2.6667	.00000	.00000	2.6667	2.6667	2.67	2.67
	200001-50000	37	3.3333	.92296	.15173	3.0256	3.6411	1.67	4.33
	More than 50000	48	3.7500	.88726	.12807	3.4924	4.0076	2.33	5.00
	Total	147	3.2245	.98787	.08148	3.0635	3.3855	1.00	5.00
Control.BFC	1001-5000	17	3.8235	1.18508	.28742	3.2142	4.4328	2.00	5.00
	5001-10000	41	4.5488	.73997	.11556	4.3152	4.7823	3.00	5.00
	10001-20000	4	4.0000	.00000	.00000	4.0000	4.0000	4.00	4.00
	200001-50000	37	3.9595	.51879	.08529	3.7865	4.1324	3.00	4.50
	More than 50000	48	3.9479	.53831	.07770	3.7916	4.1042	3.00	5.00
	Total	147	4.1054	.73613	.06072	3.9854	4.2254	2.00	5.00
Control.OUT	1001-5000	17	3.5294	.62426	.15141	3.2084	3.8504	2.50	4.00
	5001-10000	41	4.2561	.61362	.09583	4.0624	4.4498	3.00	5.00
	10001-20000	4	4.0000	.00000	.00000	4.0000	4.0000	4.00	4.00
	200001-50000	37	4.5676	.39374	.06473	4.4363	4.6988	4.00	5.00

	More than 50000	48	4.1042	.78522	.11334	3.8762	4.3322	3.00	5.00
	Total	147	4.1939	.68858	.05679	4.0816	4.3061	2.50	5.00
Control.INFO	1001-5000	17	3.7647	.64296	.15594	3.4341	4.0953	3.00	4.67
	5001-10000	41	4.0732	.74354	.11612	3.8385	4.3079	2.67	5.00
	10001-20000	4	4.3333	.00000	.00000	4.3333	4.3333	4.33	4.33
	200001-50000	37	4.3153	.38447	.06321	4.1871	4.4435	3.67	4.67
	More than 50000	48	4.0069	.84911	.12256	3.7604	4.2535	2.67	5.00
	Total	147	4.0839	.70316	.05800	3.9693	4.1985	2.67	5.00
Performance.overall	1001-5000	17	2.9706	.48317	.11719	2.7222	3.2190	2.50	3.75
	5001-10000	41	3.8110	.47362	.07397	3.6615	3.9605	3.00	4.50
	10001-20000	4	4.5000	.00000	.00000	4.5000	4.5000	4.50	4.50
	200001-50000	37	4.0203	.86478	.14217	3.7319	4.3086	2.75	5.00
	More than 50000	48	4.0104	.78204	.11288	3.7833	4.2375	2.75	5.00
	Total	147	3.8503	.76562	.06315	3.7255	3.9751	2.50	5.00
Interdependance.overall	1001-5000	17	2.3824	1.08296	.26266	1.8255	2.9392	1.00	4.00
	5001-10000	41	2.8598	1.05482	.16474	2.5268	3.1927	2.00	5.00
	10001-20000	4	5.0000	.00000	.00000	5.0000	5.0000	5.00	5.00
	200001-50000	37	3.0743	1.16498	.19152	2.6859	3.4627	2.00	5.00
	More than 50000	48	3.0521	1.29438	.18683	2.6762	3.4279	1.00	5.00
	Total	147	2.9796	1.21192	.09996	2.7820	3.1771	1.00	5.00
Local.overall	1001-5000	17	2.6765	.54317	.13174	2.3972	2.9557	2.00	3.50
	5001-10000	41	2.4207	.75299	.11760	2.1831	2.6584	1.50	3.75
	10001-20000	4	5.0000	.00000	.00000	5.0000	5.0000	5.00	5.00
	200001-50000	37	2.3514	.67562	.11107	2.1261	2.5766	2.00	4.00
	More than 50000	48	2.7188	1.23623	.17843	2.3598	3.0777	1.00	5.00
	Total	147	2.6003	.98996	.08165	2.4390	2.7617	1.00	5.00
Strategy	1001-5000	17	2.5425	.32366	.07850	2.3761	2.7089	2.00	2.78
	5001-10000	41	2.6369	.74412	.11621	2.4020	2.8717	1.56	3.89
	10001-20000	4	4.1111	.00000	.00000	4.1111	4.1111	4.11	4.11
	200001-50000	37	3.0210	.41146	.06764	2.8838	3.1582	2.44	3.78
	More than 50000	48	2.8472	.54991	.07937	2.6875	3.0069	2.11	3.67
	Total	147	2.8314	.61375	.05062	2.7314	2.9315	1.56	4.11
Knowledge.overall	1001-5000	17	2.2437	.21288	.05163	2.1342	2.3532	2.00	2.57
	5001-10000	41	1.7979	.62595	.09776	1.6003	1.9955	1.00	2.86
	10001-20000	4	1.0000	.00000	.00000	1.0000	1.0000	1.00	1.00
	200001-50000	37	1.9730	.66653	.10958	1.7507	2.1952	1.00	2.71
	More than 50000	48	1.8006	.69783	.10072	1.5980	2.0032	1.00	3.00
	Total	147	1.8727	.64911	.05354	1.7669	1.9785	1.00	3.00

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Control.PCC	Between Groups	27.528	4	6.882	8.501	.000
	Within Groups	114.953	142	.810		
	Total	142.481	146			
Control.BFC	Between Groups	11.434	4	2.858	5.997	.000
	Within Groups	67.682	142	.477		
	Total	79.116	146			
Control.OUT	Between Groups	13.368	4	3.342	8.496	.000
	Within Groups	55.857	142	.393		
	Total	69.224	146			
Control.INFO	Between Groups	4.251	4	1.063	2.222	.070

	Within Groups	67.936	142	.478		
	Total	72.187	146			
Performance.overall	Between Groups	17.208	4	4.302	8.934	.000
	Within Groups	68.375	142	.482		
	Total	85.582	146			
Interdependance.overall	Between Groups	23.565	4	5.891	4.383	.002
	Within Groups	190.874	142	1.344		
	Total	214.439	146			
Local.overall	Between Groups	27.421	4	6.855	8.417	.000
	Within Groups	115.661	142	.815		
	Total	143.082	146			
Strategy	Between Groups	10.864	4	2.716	8.739	.000
	Within Groups	44.133	142	.311		
	Total	54.996	146			
Knowledge.overall	Between Groups	6.237	4	1.559	4.006	.004
	Within Groups	55.278	142	.389		
	Total	61.515	146			

Post Hoc Tests

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Total Employees Worldwide		(J) Total Employees Worldwide	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Control.PCC	dimension2	1001-5000	5001-10000	.00861	.25955	1.000	-.7315	.7487
			10001-20000	.09804	.50000	1.000	-1.3277	1.5238
			200001-50000	-.56863	.26363	.327	-1.3204	.1831
			More than 50000	-.98529*	.25394	.002	-1.7094	-.2612
		5001-10000	1001-5000	-.00861	.25955	1.000	-.7487	.7315
			10001-20000	.08943	.47130	1.000	-1.2545	1.4334
			200001-50000	-.57724	.20402	.053	-1.1590	.0045
			More than 50000	-.99390*	.19134	.000	-1.5395	-.4483
		10001-20000	1001-5000	-.09804	.50000	1.000	-1.5238	1.3277
			5001-10000	-.08943	.47130	1.000	-1.4334	1.2545
			200001-50000	-.66667	.47356	1.000	-2.0171	.6837
			More than 50000	-1.08333	.46824	.221	-2.4185	.2519
		200001-50000	1001-5000	.56863	.26363	.327	-.1831	1.3204
			5001-10000	.57724	.20402	.053	-.0045	1.1590
			10001-20000	.66667	.47356	1.000	-.6837	2.0171
			More than 50000	-.41667	.19684	.360	-.9780	.1446
		More than 50000	1001-5000	.98529*	.25394	.002	.2612	1.7094
			5001-10000	.99390*	.19134	.000	.4483	1.5395
			10001-20000	1.08333	.46824	.221	-.2519	2.4185
			200001-50000	.41667	.19684	.360	-.1446	.9780
Control.BFC		1001-5000	5001-10000	-.72525*	.19915	.004	-1.2932	-.1574
			10001-20000	-.17647	.38366	1.000	-1.2705	.9176
			200001-50000	-.13593	.20229	1.000	-.7128	.4409
			More than 50000	-.12439	.19485	1.000	-.6800	.4312
		5001-10000	1001-5000	.72525*	.19915	.004	.1574	1.2932
			10001-20000	.54878	.36164	1.000	-.4825	1.5800

		200001-50000	.58932*	.15655	.002	.1429	1.0357
		More than 50000	.60086*	.14682	.001	.1822	1.0195
	10001-20000	1001-5000	.17647	.38366	1.000	-.9176	1.2705
		5001-10000	-.54878	.36164	1.000	-1.5800	.4825
		200001-50000	.04054	.36337	1.000	-.9956	1.0767
		More than 50000	.05208	.35929	1.000	-.9724	1.0766
	200001-50000	1001-5000	.13593	.20229	1.000	-.4409	.7128
		5001-10000	-.58932*	.15655	.002	-1.0357	-.1429
		10001-20000	-.04054	.36337	1.000	-1.0767	.9956
		More than 50000	.01154	.15104	1.000	-.4191	.4422
	More than 50000	1001-5000	.12439	.19485	1.000	-.4312	.6800
		5001-10000	-.60086*	.14682	.001	-1.0195	-.1822
		10001-20000	-.05208	.35929	1.000	-1.0766	.9724
		200001-50000	-.01154	.15104	1.000	-.4422	.4191
Control.OUT	1001-5000	5001-10000	-.72669*	.18092	.001	-1.2426	-.2108
		10001-20000	-.47059	.34854	1.000	-1.4645	.5233
		200001-50000	-1.03816*	.18377	.000	-1.5622	-.5141
		More than 50000	-.57475*	.17701	.015	-1.0795	-.0700
	5001-10000	1001-5000	.72669*	.18092	.001	.2108	1.2426
		10001-20000	.25610	.32853	1.000	-.6807	1.1929
		200001-50000	-.31147	.14222	.301	-.7170	.0941
		More than 50000	.15193	.13338	1.000	-.2284	.5323
	10001-20000	1001-5000	.47059	.34854	1.000	-.5233	1.4645
		5001-10000	-.25610	.32853	1.000	-1.1929	.6807
		200001-50000	-.56757	.33011	.877	-1.5089	.3738
		More than 50000	-.10417	.32640	1.000	-1.0349	.8266
	200001-50000	1001-5000	1.03816*	.18377	.000	.5141	1.5622
		5001-10000	.31147	.14222	.301	-.0941	.7170
		10001-20000	.56757	.33011	.877	-.3738	1.5089
		More than 50000	.46340*	.13721	.009	.0721	.8547
	More than 50000	1001-5000	.57475*	.17701	.015	.0700	1.0795
		5001-10000	-.15193	.13338	1.000	-.5323	.2284
		10001-20000	.10417	.32640	1.000	-.8266	1.0349
		200001-50000	-.46340*	.13721	.009	-.8547	-.0721
Control.INFO	1001-5000	5001-10000	-.30846	.19953	1.000	-.8774	.2605
		10001-20000	-.56863	.38438	1.000	-1.6647	.5275
		200001-50000	-.55061	.20266	.074	-1.1285	.0273
		More than 50000	-.24224	.19522	1.000	-.7989	.3144
	5001-10000	1001-5000	.30846	.19953	1.000	-.2605	.8774
		10001-20000	-.26016	.36232	1.000	-1.2933	.7730
		200001-50000	-.24214	.15684	1.000	-.6894	.2051
		More than 50000	.06623	.14709	1.000	-.3532	.4857
	10001-20000	1001-5000	.56863	.38438	1.000	-.5275	1.6647
		5001-10000	.26016	.36232	1.000	-.7730	1.2933
		200001-50000	.01802	.36406	1.000	-1.0201	1.0561
		More than 50000	.32639	.35996	1.000	-.7001	1.3528
	200001-50000	1001-5000	.55061	.20266	.074	-.0273	1.1285
		5001-10000	.24214	.15684	1.000	-.2051	.6894
		10001-20000	-.01802	.36406	1.000	-1.0561	1.0201
		More than 50000	.30837	.15132	.434	-.1231	.7399
	More than	1001-5000	.24224	.19522	1.000	-.3144	.7989

	50000	5001-10000	-.06623	.14709	1.000	-.4857	.3532
		10001-20000	-.32639	.35996	1.000	-1.3528	.7001
		200001-50000	-.30837	.15132	.434	-.7399	.1231
Performance.overall	1001-5000	5001-10000	-.84039*	.20017	.000	-1.4112	-.2696
		10001-20000	-1.52941*	.38562	.001	-2.6290	-.4298
		200001-50000	-1.04968*	.20332	.000	-1.6295	-.4699
		More than 50000	-1.03983*	.19585	.000	-1.5983	-.4814
	5001-10000	1001-5000	.84039*	.20017	.000	.2696	1.4112
		10001-20000	-.68902	.36349	.600	-1.7255	.3475
		200001-50000	-.20929	.15735	1.000	-.6580	.2394
		More than 50000	-.19944	.14757	1.000	-.6202	.2214
	10001-20000	1001-5000	1.52941*	.38562	.001	.4298	2.6290
		5001-10000	.68902	.36349	.600	-.3475	1.7255
		200001-50000	.47973	.36523	1.000	-.5617	1.5212
		More than 50000	.48958	.36112	1.000	-.5402	1.5193
	200001-50000	1001-5000	1.04968*	.20332	.000	.4699	1.6295
		5001-10000	.20929	.15735	1.000	-.2394	.6580
		10001-20000	-.47973	.36523	1.000	-1.5212	.5617
		More than 50000	.00985	.15181	1.000	-.4230	.4427
	More than 50000	1001-5000	1.03983*	.19585	.000	.4814	1.5983
		5001-10000	.19944	.14757	1.000	-.2214	.6202
		10001-20000	-.48958	.36112	1.000	-1.5193	.5402
		200001-50000	-.00985	.15181	1.000	-.4427	.4230
Interdependance.overall	1001-5000	5001-10000	-.47740	.33445	1.000	-1.4311	.4763
		10001-20000	-2.61765*	.64429	.001	-4.4549	-.7804
		200001-50000	-.69197	.33970	.435	-1.6607	.2767
		More than 50000	-.66973	.32722	.425	-1.6028	.2634
	5001-10000	1001-5000	.47740	.33445	1.000	-.4763	1.4311
		10001-20000	-2.14024*	.60731	.006	-3.8720	-.4085
		200001-50000	-.21457	.26290	1.000	-.9642	.5351
		More than 50000	-.19233	.24655	1.000	-.8954	.5107
	10001-20000	1001-5000	2.61765*	.64429	.001	.7804	4.4549
		5001-10000	2.14024*	.60731	.006	.4085	3.8720
		200001-50000	1.92568*	.61022	.020	.1856	3.6658
		More than 50000	1.94792*	.60336	.015	.2274	3.6684
	200001-50000	1001-5000	.69197	.33970	.435	-.2767	1.6607
		5001-10000	.21457	.26290	1.000	-.5351	.9642
		10001-20000	-1.92568*	.61022	.020	-3.6658	-.1856
		More than 50000	.02224	.25364	1.000	-.7010	.7455
	More than 50000	1001-5000	.66973	.32722	.425	-.2634	1.6028
		5001-10000	.19233	.24655	1.000	-.5107	.8954
		10001-20000	-1.94792*	.60336	.015	-3.6684	-.2274
		200001-50000	-.02224	.25364	1.000	-.7455	.7010
Local.overall	1001-5000	5001-10000	.25574	.26034	1.000	-.4866	.9981
		10001-20000	-2.32353*	.50154	.000	-3.7537	-.8934
		200001-50000	.32512	.26444	1.000	-.4289	1.0792
		More than 50000	-.04228	.25472	1.000	-.7686	.6841
	5001-10000	1001-5000	-.25574	.26034	1.000	-.9981	.4866
		10001-20000	-2.57927*	.47275	.000	-3.9273	-1.2312
		200001-50000	.06938	.20465	1.000	-.5142	.6529
		More than 50000	-.29802	.19193	1.000	-.8453	.2493
	10001-20000	1001-5000	2.32353*	.50154	.000	.8934	3.7537

		5001-10000	2.57927*	.47275	.000	1.2312	3.9273
		200001-50000	2.64865*	.47502	.000	1.2941	4.0032
		More than 50000	2.28125*	.46968	.000	.9419	3.6206
	200001-50000	1001-5000	-.32512	.26444	1.000	-1.0792	.4289
		5001-10000	-.06938	.20465	1.000	-.6529	.5142
		10001-20000	-2.64865*	.47502	.000	-4.0032	-1.2941
		More than 50000	-.36740	.19744	.648	-.9304	.1956
	More than 50000	1001-5000	.04228	.25472	1.000	-.6841	.7686
		5001-10000	.29802	.19193	1.000	-.2493	.8453
		10001-20000	-2.28125*	.46968	.000	-3.6206	-.9419
		200001-50000	.36740	.19744	.648	-.1956	.9304
Strategy	1001-5000	5001-10000	-.09437	.16082	1.000	-.5530	.3642
		10001-20000	-1.56863*	.30981	.000	-2.4521	-.6852
		200001-50000	-.47854*	.16335	.040	-.9443	-.0127
		More than 50000	-.30474	.15734	.548	-.7534	.1439
	5001-10000	1001-5000	.09437	.16082	1.000	-.3642	.5530
		10001-20000	-1.47425*	.29202	.000	-2.3070	-.6415
		200001-50000	-.38416*	.12641	.028	-.7446	-.0237
		More than 50000	-.21037	.11855	.781	-.5484	.1277
	10001-20000	1001-5000	1.56863*	.30981	.000	.6852	2.4521
		5001-10000	1.47425*	.29202	.000	.6415	2.3070
dimension2		200001-50000	1.09009*	.29342	.003	.2534	1.9268
		More than 50000	1.26389*	.29013	.000	.4366	2.0912
	200001-50000	1001-5000	.47854*	.16335	.040	.0127	.9443
		5001-10000	.38416*	.12641	.028	.0237	.7446
		10001-20000	-1.09009*	.29342	.003	-1.9268	-.2534
		More than 50000	.17380	.12196	1.000	-.1740	.5216
	More than 50000	1001-5000	.30474	.15734	.548	-.1439	.7534
		5001-10000	.21037	.11855	.781	-.1277	.5484
		10001-20000	-1.26389*	.29013	.000	-2.0912	-.4366
		200001-50000	-.17380	.12196	1.000	-.5216	.1740
Knowledge.overall	1001-5000	5001-10000	.44579	.17998	.144	-.0674	.9590
		10001-20000	1.24370*	.34673	.005	.2550	2.2324
		200001-50000	.27072	.18281	1.000	-.2506	.7920
		More than 50000	.44310	.17609	.130	-.0590	.9452
	5001-10000	1001-5000	-.44579	.17998	.144	-.9590	.0674
		10001-20000	.79791	.32683	.159	-.1341	1.7299
		200001-50000	-.17506	.14148	1.000	-.5785	.2284
		More than 50000	-.00269	.13268	1.000	-.3810	.3757
	10001-20000	1001-5000	-1.24370*	.34673	.005	-2.2324	-.2550
		5001-10000	-.79791	.32683	.159	-1.7299	.1341
		200001-50000	-.97297*	.32839	.036	-1.9094	-.0365
		More than 50000	-.80060	.32470	.149	-1.7265	.1253
	200001-50000	1001-5000	-.27072	.18281	1.000	-.7920	.2506
		5001-10000	.17506	.14148	1.000	-.2284	.5785
		10001-20000	.97297*	.32839	.036	.0365	1.9094
		More than 50000	.17238	.13650	1.000	-.2168	.5616
	More than 50000	1001-5000	-.44310	.17609	.130	-.9452	.0590
		5001-10000	.00269	.13268	1.000	-.3757	.3810
		10001-20000	.80060	.32470	.149	-.1253	1.7265

	200001-50000	-.17238	.13650	1.000	-.5616	.2168

*. The mean difference is significant at the 0.05 level. Source: Developed by researcher for current study

Group Statistics for the HQ country

	Home Country of Subsidiary		N	Mean	Std. Deviation	Std. Error Mean
Control.PCC	dimension1	USA	23	3.3623	.94769	.19761
		Japan	10	3.5000	.52705	.16667
Control.BFC	dimension1	USA	23	3.9348	.58977	.12298
		Japan	10	4.7500	.26352	.08333
Control.OUT	dimension1	USA	23	4.1957	.71889	.14990
		Japan	10	4.5000	.52705	.16667
Control.INFO	dimension1	USA	23	3.9565	.79331	.16542
		Japan	10	4.3333	.35136	.11111
Performance.overall	dimension1	USA	23	3.9783	.62574	.13048
		Japan	10	3.5000	1.05409	.33333
Interdependance.overall	dimension1	USA	23	2.6413	1.13525	.23672
		Japan	10	2.2500	.26352	.08333
Local.overall	dimension1	USA	23	1.9457	.59332	.12372
		Japan	10	2.2500	.26352	.08333
Strategy	dimension1	USA	23	2.3333	.47849	.09977
		Japan	10	2.9444	.17568	.05556
Knowledge.overall	dimension1	USA	23	1.6957	.71078	.14821
		Japan	10	2.4286	.30117	.09524

Source: Developed by researcher for current study

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Control.PCC	Equal variances assumed	14.438	.001	-.429	31	.671	-.13768	.32097	-.79230	.51693
	Equal variances not assumed			-.533	28.803	.598	-.13768	.25851	-.66655	.39118
Control.BFC	Equal variances assumed	9.595	.004	-4.165	31	.000	-.81522	.19573	-1.21441	-.41603
	Equal variances not assumed			-5.488	30.911	.000	-.81522	.14855	-1.11822	-.51221
Control.OUT	Equal variances assumed	.488	.490	-1.201	31	.239	-.30435	.25336	-.82109	.21239
	Equal variances not assumed			-1.358	23.231	.188	-.30435	.22416	-.76780	.15911
Control.INFO	Equal variances assumed	9.013	.005	-1.432	31	.162	-.37681	.26310	-.91342	.15979
	Equal variances not assumed			-1.891	30.936	.068	-.37681	.19927	-.78326	.02963
Performance.overall	Equal variances assumed	21.372	.000	1.629	31	.113	.47826	.29352	-.12037	1.07689

	Equal variances not assumed			1.336	11.855	.207	.47826	.35796	-.30272	1.25924
Interdependance.overall	Equal variances assumed	39.814	.000	1.068	31	.294	.39130	.36623	-.35562	1.13823
	Equal variances not assumed			1.559	26.785	.131	.39130	.25096	-.12381	.90642
Local.overall	Equal variances assumed	1.455	.237	-1.546	31	.132	-.30435	.19682	-.70576	.09706
	Equal variances not assumed			-2.040	30.929	.050	-.30435	.14916	-.60860	-.00010
Strategy	Equal variances assumed	6.517	.016	-3.896	31	.000	-.61111	.15684	-.93099	-.29123
	Equal variances not assumed			-5.351	30.573	.000	-.61111	.11420	-.84415	-.37807
Knowledge.overall	Equal variances assumed	26.673	.000	-3.119	31	.004	-.73292	.23499	-1.21218	-.25366
	Equal variances not assumed			-4.160	30.999	.000	-.73292	.17617	-1.09222	-.37362

Source: Developed by researcher for current study

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1 dimension0	(0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Performance.overall, Control.BFC, Interdependance.overall, Strategy[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Control.PCC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension01	.647[a]	.418	.376	.78056

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Performance.overall, Control.BFC, Interdependance.overall, Strategy

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.619	10	5.962	9.785	.000[a]
	Residual	82.862	136	.609		
	Total	142.481	146			

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Performance.overall, Control.BFC, Interdependance.overall, Strategy
b. Dependent Variable: Control.PCC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.567	.601		-.943	.347
	Control.BFC	-.164	.126	-.122	-1.298	.197
	Control.OUT	.745	.161	.519	4.616	.000
	Control.INFO	.188	.140	.134	1.346	.181
	Performance.overall	-.006	.117	-.005	-.050	.960

	Interdependance.overall	-.388	.079	-.476	-4.895	.000
	Local.overall	.665	.101	.667	6.562	.000
	Strategy	-.135	.173	-.084	-.780	.437
	Knowledge.overall	.173	.114	.113	1.511	.133
	(0,1) JAPAN	.052	.285	.013	.182	.856
	(0,1) US	.479	.213	.177	2.254	.026

a. Dependent Variable: Control.PCC

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1 dimension0	(0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Control.PCC, Performance.overall, Strategy, Interdependance.overall[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Control.BFC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension01	.722[a]	.522	.487	.52736

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Control.PCC, Performance.overall, Strategy, Interdependance.overall

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.293	10	4.129	14.848	.000[a]
	Residual	37.823	136	.278		
	Total	79.116	146			

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.INFO, Control.PCC, Performance.overall, Strategy, Interdependance.overall
b. Dependent Variable: Control.BFC

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.845	.375		4.915	.000
	Control.PCC	-.075	.058	-.100	-1.298	.197
	Control.OUT	.631	.104	.590	6.064	.000
	Control.INFO	.428	.088	.408	4.868	.000
	Performance.overall	-.053	.079	-.055	-.669	.505
	Interdependance.overall	-.081	.058	-.133	-1.397	.165
	Local.overall	.082	.078	.111	1.051	.295
	Strategy	-.460	.111	-.383	-4.160	.000
	Knowledge.overall	-.178	.076	-.157	-2.330	.021
	(0,1)	.441	.189	.151	2.338	.021
	(0,1)	-.361	.143	-.179	-2.521	.013

a. Dependent Variable: Control.BFC

Regression

[DataSet1] C:\Users\Administrator\Desktop\Jaithen.sav

Variables Entered/Removed[b]

Model		Variables Entered	Variables Removed	Method
dimension0	1	(0,1), Control.PCC, Interdependance.overall, Control.BFC, Knowledge.overall, (0,1), Performance.overall, Control.INFO, Local.overall, Strategy[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Control.OUT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension01	.841[a]	.708	.686	.38564

a. Predictors: (Constant), (0,1), Control.PCC, Interdependance.overall, Control.BFC, Knowledge.overall, (0,1), Performance.overall, Control.INFO, Local.overall, Strategy

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.999	10	4.900	32.948	.000[a]
	Residual	20.225	136	.149		
	Total	69.224	146			

a. Predictors: (Constant), (0,1), Control.PCC, Interdependance.overall, Control.BFC, Knowledge.overall, (0,1), Performance.overall, Control.INFO, Local.overall, Strategy
b. Dependent Variable: Control.OUT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.222	.297		.747	.457
	Control.PCC	.182	.039	.261	4.616	.000
	Control.BFC	.337	.056	.361	6.064	.000
	Control.INFO	.076	.069	.078	1.102	.272
	Performance.overall	.282	.053	.314	5.367	.000
	Interdependance.overall	.259	.036	.456	7.144	.000
	Local.overall	-.342	.049	-.491	-6.907	.000
	Strategy	.184	.084	.164	2.186	.031
	Knowledge.overall	.102	.056	.096	1.810	.072
	(0,1)	.116	.140	.043	.828	.409
	(0,1)	-.012	.107	-.007	-.116	.908

a. Dependent Variable: Control.OUT

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method

1 dimension0	(0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.PCC, Strategy, Control.BFC, Performance.overall, Interdependance.overall[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Control.INFO

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension01	.758[a]	.575	.543	.47512

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.PCC, Strategy, Control.BFC, Performance.overall, Interdependance.overall

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.487	10	4.149	18.379	.000[a]
	Residual	30.700	136	.226		
	Total	72.187	146			

a. Predictors: (Constant), (0,1), Control.OUT, Knowledge.overall, (0,1), Local.overall, Control.PCC, Strategy, Control.BFC, Performance.overall, Interdependance.overall
b. Dependent Variable: Control.INFO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.291	.366		.796	.428
	Control.PCC	.070	.052	.098	1.346	.181
	Control.BFC	.347	.071	.363	4.868	.000
	Control.OUT	.116	.105	.114	1.102	.272
	Performance.overall	-.033	.071	-.035	-.456	.649
	Interdependance.overall	-.049	.052	-.084	-.938	.350
	Local.overall	-.005	.071	-.008	-.076	.940
	Strategy	.659	.089	.575	7.379	.000
	Knowledge.overall	.022	.070	.020	.315	.753
	(0,1)	-.131	.173	-.047	-.758	.450
	(0,1)	.272	.130	.141	2.096	.038

a. Dependent Variable: Control.INFO