

INNOVATION IN THE ARAB WORLD CONTEXT

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ABSTRACT

The thesis is grounded in the literature of the national system of innovation (NSI) and, its latest version, the national innovation and competence building system (NICS) that focuses on the developed and, to a lesser extent, emerging markets such as Brazil, Russia, India and China (the “BRIC” group). Four theoretical gaps are identified in this literature. The literature lacks the following: 1) an agreed upon unit of analysis; 2) a broad approach that goes beyond the narrow focus on science-based high-technology innovations; 3) a fine-grained articulation of innovation’s micro-dynamics in developed countries; and, 4) an understanding of innovation’s macro and micro elements in developing countries.

The thesis focuses on the fourth gap, attempting to provide an initial understanding of innovation in the developing countries of the Arab world. It poses the following research question: *how is innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential?* The thesis takes a broad view of innovation that goes beyond the science-based high-technology innovations that typify much of the innovation literature to consider innovations that employ low- and medium-technology (LMT) that constitute the majority of innovative activity referred to as ‘hidden innovation’. Besides LMT innovations in manufacturing, hidden innovation comprises organizational, social, and service innovations. Reflecting this broad view, I advance the following working definition: *Innovation is any newly developed and diffused institutional, social, organizational or business model, process, product or service that has been broadly adopted within a certain community, industry, country or the world.*

The research is conducted as an exploratory qualitative study that is retrospective and longitudinal. It deals with five innovation mini-cases within an embedded case. These mini-cases are researched in the three Arab countries of Jordan, Lebanon and the United Arab Emirates. The embedded case is Aramex, a Jordanian-founded service sector organization that has grown into a major global logistics and transportation solutions provider. One of the innovation mini-cases is organizational, another is social, and three are services. Each of these mini-cases is identified as a unit of analysis. The research initially uses a semi-structured interview guide and research questions that are premised on NSI’s foundational constructs of 1) formal institutions; 2) knowledge; and, 3) learning, as well as on NICS’s area of emphasis of 4) social capital.

Early observations in the field reveal the low relevance of these NSI ‘theorized’ foundational constructs in the Arab world context. These observations prompt the use of an unstructured interview format to collect the data and, later, an iterative data analysis and literature research process. Arab world NSI ‘observed’ foundational constructs ultimately emerge and an Arab world NSI grounded theory and model are inductively built. The ‘observed’ constructs are the following: 1) institutions; 2) culture of empowerment; 3) dynamic capabilities building; and, 4) social capital. Besides revealing qualitatively distinct institutions and the significance of a culture of empowerment in the

Arab world contexts, these constructs uncover alignments with developed-country NICS's areas of emphasis on social capital and competence building.

Results indicate that institutions considered in the developed-country literature to be 'essential' for innovation are often either weak or missing from the Arab world contexts while strong 'hostile' institutions seem to be prevalent. In response to this adverse set of conditions in the Arab world, organizations dynamically build micro-level capabilities to mitigate the challenges resulting from these weak, missing or hostile macro-level institutions. Consistent with NSI's pattern of macro-micro interplay, these capabilities seem to play the following four roles vis-à-vis institutions: 1) substitute missing institutions; 2) support weak institutions; 3) overcome hostile institutions; and, in some cases, 4) create new institutions altogether. Several external and internal mechanisms are employed to build capabilities dynamically. The two that emerge as most important in this research are the external mechanism of social capital and the internal mechanism of empowerment that are observed to develop over time into critical capabilities. The process of dynamic capabilities building is mobilized by an overarching organizational culture of empowerment.

The Arab world grounded NSI theory with its model, foundational constructs and the macro-micro interplay offers two main contributions to NSI's fourth literature gap. First, this articulation of innovation in the Arab world countries builds knowledge within the scant literatures on innovation in developing countries including those of the Arab world. Second, building a grounded theory of an Arab world NSI framework provides an initial understanding of the macro and micro elements of NSI in the developing countries of the Arab world, builds knowledge within the NSI literature and extends it beyond its developed and BRIC country contexts. The thesis also addresses indirectly the other three NSI literature gaps and identifies overlaps with NICS's areas of emphasis. Hence, it has the potential to contribute to NSI's literature on developed countries as well as the dynamic capabilities building literature.

RÉSUMÉ

La thèse se fonde sur des sources documentaires relatives au système national d'innovation (SNI) ainsi que sur la dernière forme prise par celui-ci, le système national d'innovation et de renforcement des compétences (SNIRC), qui se concentre sur les marchés des pays développés et, dans une moindre mesure, sur ceux de pays émergents comme le Brésil, la Russie, l'Inde et la Chine (le groupe dit « BRIC »). Quatre lacunes théoriques sont identifiées dans les sources documentaires. En effet, les éléments suivants leur manquent : 1) une unité d'analyse convenue; 2) une approche élargie qui dépasse le cadre d'un intérêt restreint aux innovations de haute technologie fondées sur la science; 3) une articulation fine de la microdynamique de l'innovation dans les pays développés; 4) la compréhension des micro-éléments et macroéléments de l'innovation dans les pays en développement.

La thèse se concentre sur la quatrième lacune, en essayant de donner un aperçu de l'innovation dans les pays en développement du monde arabe. On y pose la question suivante : *comment l'innovation dans les pays du monde arabe est-elle menée à bien en l'absence des institutions habilitantes jugées essentielles dans la littérature sur l'innovation et les SNI?* La thèse prend une vue large de l'innovation qui va au-delà des innovations de haute technologie fondées sur la science qui caractérisent le plus souvent les sources documentaires sur l'innovation, pour envisager les innovations qui emploient une technologie faible à moyenne (LMT) constituant la majeure partie de l'activité innovante désignée sous le vocable d'« innovation cachée ». Outre les innovations de LMT dans la fabrication, l'innovation cachée comprend des innovations organisationnelles, sociales et dans les services. Compte tenu de ce point de vue général, je propose la définition suivante : *L'innovation est un modèle, processus, produit ou service institutionnel, social, organisationnel ou d'affaires, récemment mis au point et diffusé, qui a été largement adopté au sein d'une collectivité, d'un secteur d'activité ou d'un pays, ou dans le monde entier.*

La recherche est menée sous forme d'une étude qualitative exploratoire qui est rétrospective et longitudinale. Elle aborde cinq mini-cas d'innovations au sein d'un cas intégré. Ces mini-cas font l'objet de recherches dans trois pays arabes, la Jordanie, le Liban et les Émirats arabes unis. Le cas intégré concerne Aramex, un organisme de services fondé en Jordanie qui est devenu un grand fournisseur international de services logistiques et de solutions de transports. L'un des mini-cas concernant l'innovation est d'ordre organisationnel, un autre est d'ordre social, et trois sont associés aux services. Chacun de ces mini-cas est identifié comme une unité d'analyse. La recherche utilise en premier un guide d'entretien semi-structuré et des questions de recherche qui sont fondées sur des concepts fondamentaux du SNI, à savoir 1) les institutions formelles; 2) la connaissance, 3) l'apprentissage, ainsi que le champ d'intérêt particulier du SNIRC, 4) le capital social.

Les premières observations dans le domaine montrent la faible pertinence de ces concepts fondamentaux théorisés du SNI dans le monde arabe. Ces observations justifient le recours à un format d'entrevue non structuré pour recueillir les données et,

ultérieurement, à un processus itératif d'analyse de données doublé d'un processus de recherche documentaire. Des concepts fondamentaux « observés » de SNI dans le monde arabe finissent par émerger, et une théorie et un modèle fondés sur le SNI du monde arabe sont construits de façon inductive. Les concepts « observés » sont les suivants : 1) les institutions, 2) la culture de la responsabilisation; 3) la construction de capacités dynamiques; 4) le capital social. En plus de révéler des institutions distinctes sur le plan qualitatif ainsi que la signification d'une culture de responsabilisation dans les contextes du monde arabe, ces concepts mettent au jour des alignements avec les champs d'intérêt du capital et du renforcement des compétences dans les SNIRC des pays développés.

Les résultats indiquent que les institutions considérées, dans les sources documentaires des pays développés, comme « essentielles » pour l'innovation sont souvent faibles ou absentes dans le monde arabe, alors que des institutions « hostiles » fortes semblent avoir le dessus. En réponse à cet ensemble de conditions défavorables dans le monde arabe, les organisations construisent, de façon dynamique, des capacités au micro-niveau afin d'atténuer les difficultés posées par ces institutions faibles, absentes ou hostiles au macro-niveau. Conformément à la tendance du SNI d'établir une interaction macro-micro, ces capacités semblent jouer les quatre rôles suivants vis-à-vis des institutions : 1) se substituer aux institutions manquantes; 2) soutenir les institutions faibles; 3) surmonter les institutions hostiles; dans certains cas, 4) créer de nouvelles institutions. Plusieurs mécanismes internes et externes sont utilisés pour renforcer les capacités de façon dynamique. Les deux mécanismes qui émergent comme les plus importants dans le cadre de cette recherche sont le mécanisme externe du capital social et le mécanisme interne de la responsabilisation, dont on observe le développement graduel en capacités critiques. Le processus de renforcement des capacités dynamiques est mobilisé par une culture organisationnelle globale de l'autonomisation.

La théorie du SNI dans le monde arabe, avec ses modèles, ses concepts fondamentaux et l'interaction macro-micro offre deux principales contributions au quatrième écart du SNI trouvé dans les sources documentaires. Tout d'abord, cette articulation de l'innovation dans les pays du monde arabe renforce les connaissances au sein des rares sources documentaires sur l'innovation dans les pays en développement, y compris ceux du monde arabe. Deuxièmement, la construction d'une théorie solide d'un cadre de SNI dans le monde arabe donne une compréhension initiale des éléments macro et micro-éléments du SNI dans les pays en développement du monde arabe, développe les connaissances au sein de la littérature sur le SNI et s'étend au-delà des contextes des pays développés et BRIC. La thèse aborde aussi, indirectement, les trois autres lacunes de la littérature sur le SNI et identifie des chevauchements avec les champs d'intérêt du SNI. Par conséquent, elle offre la possibilité de contribuer à la littérature sur le SNI dans les pays développés, ainsi qu'aux sources documentaires sur la construction dynamique des capacités.

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ACRONYMS

BRIC	Brazil, Russia, India and China
CE	Corporate Entrepreneurship
DISKO	The Danish Innovation System in Comparative Perspective Project
GCC	Gulf Cooperation Council, i.e. Gulf States
GERD	Gross Expenditure on Research and Development
GDP	Gross Domestic Product
LMT	Low- and Medium-Technology
MENA	Middle East and North Africa
NESTA	National Endowment for Science, Technology and the Arts (UK)
NGO	Non-Governmental Organization
NICS	National Innovation and Competence Building System
NSI	National System of Innovation
OECD	The Organization for Economic Co-operation and Development
PPP	Purchasing Power Parity
R&D	Research and Development
SMEs	Small and Medium Enterprises
U.A.E.	United Arab Emirates
UNDP	The United Nations Development Program
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNRWA	The United Nations Relief and Works Agency for Palestine Refugees in the Near East

1. INTRODUCTION

1.1 Background and Research Question

The literatures of the systems of innovation and the national system of innovation (NSI) (Lundvall, 1992; Nelson, 1993) focus on science-based high-technology innovations in developed and, to a lesser extent, the BRIC countries of Brazil, Russia, India and China. By emphasizing innovation's role in economic growth and development and placing it at the center of economic analysis, these literatures have bridged the gap between economics and innovation. Despite this theoretical contribution, a review of NSI's literature identifies four gaps. The literature lacks: 1) an agreed upon unit of analysis; 2) a broad approach that goes beyond the narrow focus on science-based high-technology innovations; 3) a fine-grained articulation of innovation's micro-dynamics in developed countries; and, 4) an understanding of innovation's macro and micro elements in developing countries.

The NSI level of analysis tends to be the macro national level, but the literature is tacit on the unit of analysis. Hence, NSI scholars have yet to address the first gap. The second gap refers to, or can be taken to, refer to the bulk of innovations that UK's National Endowment for Science and Technology has termed 'hidden innovation' (NESTA, 2006) which employ low- and medium-technology (LMT). Hidden innovation encompasses LMT innovations in manufacturing as well as organizational, social, and service innovations (Gallouj & Weinstein, 1997; Miles, 2005). Some of these types of innovations are among the most economically significant in their respective countries or regions. For example, services in developed countries account for about seventy percent of employment (de Vries, 2006) and also "constitute the bulk of advanced economies,

and the only part of most of these that is growing in terms of value added and employment” (Tether & Tajar, 2008). NSI scholars have yet to take account of hidden innovation’s nascent research streams or to integrate these streams within NSI’s literature.

One major effort to address the third gap of innovation’s micro-dynamics in developed countries is the Danish Innovation System in Comparative Perspective Project (DISKO) (Lundvall, 2002). Designed in 1995, the DISKO project involved fifteen scholars working together over a period of three years on four distinct modules of research activity (Lundvall, 2007). Table 1.1 below summarizes these four modules.

Table 1.1 Modules of the DISKO Project*

Module #	Module Description
Module 1	The firm-product competition, competence building, organization, and innovative activities
Module 2	Inter-firm relationships and interaction with the knowledge infrastructure in the context of product innovation
Module 3	Inter-sectoral knowledge flows in an input-output perspective
Module 4	Education system and the markets for labour and finance

* Lundvall (2002) provides the detailed findings of the DISKO project.

The DISKO project’s results placed heavy emphasis on people, organizations and competence building (Lundvall, 2007). To incorporate these results, NSI was redefined as the national innovation and competence building system (NICS) (Lundvall, Johnson, Andersen, & Dalum, 2002). NICS envisions a core and a wider institutional set-up with the core perceived to be composed of firms that interact with other firms and with a knowledge infrastructure. The institutional set-up is envisaged to include, among others,

the national educational systems, labor and financial markets and intellectual property rights (Lundvall, 2007).

The fourth gap points to the limited ability of NSI's literature to inform our understanding of innovation's macro- and micro-dynamics in developing countries. Perhaps because of its focus on science-based innovation, the NSI literature has focused on developed and, to a lesser extent, the BRIC countries of Brazil, Russia, India and China. Apart from the limited, but growing, number of studies that address innovation in the BRIC countries, innovation is treated as though it did not exist in developing countries. Hence, there is a dearth of studies on innovation in developing countries. This thesis attempts to address this gap by studying innovation in the developing countries of the Arab world.

Table 1.2 on the next page presents NSI's four theoretical gaps, their relevant contexts, scholarly efforts to address them, and the main area of focus of this thesis.

Table 1.2 Thesis Research Focus in Relation to NSI Literature Gaps

Gap #	Literature Gap Reflects the Lack of ...	Relevant Contexts	Attempts to Address Gap
1st	an agreed upon unit of analysis	Developed countries BRIC countries Non-BRIC Developing countries	None identified
2nd	a broad approach that goes beyond the narrow focus on science-based high-technology innovations	Developed countries BRIC countries Non-BRIC Developing countries	Various nascent research streams addressing low- and medium-technology LMT innovations, not within NSI or NICS
3rd	a fine-grained articulation of innovation's micro-dynamics in developed countries	Developed countries BRIC countries	DISKO Project (Lundvall, 2002) (Table 1.1) -DISKO results placed emphasis on people, organizations and competence building -NSI was redefined as the National Innovation and Competence Building System (NICS) (Lundvall et al., 2002)
4th	<i>a clear understanding of innovation's macro and micro elements in developing countries</i>	<i>BRIC countries Non-BRIC Developing countries</i>	<i>This research attempts to provide an understanding of innovation in the Arab world developing countries</i>

The developed-country context in which the NSI literature is grounded possesses what the literature considers 'essential' institutions for the emergence and diffusion of innovation. Besides the institutions of education systems and markets for labor and finance mentioned earlier for NICS, innovation-enabling institutions include venture

capital, strong science-bases and R&D. As I discuss later, Baumol, Litan and Schramm (2007) categorize institutions essential to innovation into four sets. In most instances, these ‘essential’ institutions are either weak or absent from developing-country contexts (Mehar, 2005) including those of the Arab world. However, as the literature and my findings show, besides weak and missing institutions, the Arab world contexts do possess several strong institutions. However, these strong institutions are hostile to free enterprise and innovation.

One example of strong hostile institutions is the military establishments that control large parts of national economies in several Arab world countries. Other examples include monopolies, oppressive and inflexible government bureaucracies, restrictive regulations, corruption, and nepotism. By crowding out SMEs and creating high entry barriers to entrepreneurship and startups, these strong hostile institutions hinder the development of competitive markets and lead to the prevalence of large informal economies in the Arab world’s developing countries (Zahra, 2011). Another factor that further deepens the dysfunctionality of Arab world institutional contexts is the perennial political instability fueled by wars and conflicts which have plagued the Arab world throughout its modern history (Appendix III).

These specificities of the Arab world’s institutional contexts beg the following research question: *how is innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential?*

1.2. Theory

This thesis is situated in the innovation and the national system of innovation (NSI) (Freeman, 1987; Lundvall, 1992; Nelson, 1993) literatures. It focuses on NSI's fourth gap and attempts to provide an understanding of innovation's macro- and micro-dynamics in the developing countries of the Arab world. The definition of innovation employed in this thesis extends beyond science-based high-technology innovations to encompass the bulk of innovations that utilize low- and medium-technology (LMT). Referred to as 'hidden innovation', these innovations comprise LMT innovations in manufacturing as well as organizational, social and service innovations (NESTA, 2006). To reflect this broad scope, I employ the following working definition: ***innovation is any newly developed and diffused institutional, social, organizational or business model, process, product or service that has been broadly adopted within a certain community, industry, country or the world.***

Drawing on the NSI literature, I initially specified four foundational constructs. These are NSI's (Lundvall, 1992) 'theorized' constructs of 1) formal institutions; 2) knowledge; 3) learning; as well as NICS's (Lundvall et al., 2002) emphasis on 4) social capital. However, when early observations in the Arab world contexts revealed a marked divergence from these NSI 'theorized' developed-country foundational constructs it became necessary to substitute for the pre-designed semi-structured interview guide an unstructured format for conducting the fieldwork. This new interview format uncovered the finer-grained data of the research context and innovation mini-cases.

While trying to make sense of the collected data that diverged from developed-country NSI constructs, I turned to several streams of literature that seemed to match the

data being analyzed. Following several iterations of this data analysis and literature search process, some Arab world NSI ‘observed’ foundational constructs ultimately emerged. These ‘observed’ constructs arose out of streams of literature that differed from the developed-country NSI literatures which constituted my initial literature review. It was thus necessary to revise the literature review to integrate the research streams related to these ‘observed’ constructs. Apart from summarizing the literatures of the various systems of innovation and NSI, the bulk of the literature review in Chapter 3 is devoted to reviewing the streams of research that seem to be more relevant to innovation and to NSI in the Arab world.

Two of the main literatures integrated in my literature review are those on the types of innovation and institutions that represent fundamental constructs of developed-country NSI and form integral parts of its literature. However, some scholars assert that innovation and institutions represent two contradictory social forces. These authors argue that while innovation reflects change, institutions reflect stability (Hargadon & Douglas, 2001). This difference is reflected in their respective theoretical grounding. The innovation literature is grounded in the resource-based (Barney, 1991; Kraaijenbrink, Spender, & Groen, 2010; Penrose, 1959) and knowledge-based (Grant, 1996; Nonaka, 1994; Spender, 1996a) views. By contrast, most literatures within strategic management are grounded in the rather more stable, even equilibrium-oriented, literatures of economics and institutional theories (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Nelson & Winter, 1982; Powell & DiMaggio, 1991).

Besides the literatures on innovation and institutions, the thesis integrates the research strands that emerged from the study as relevant to NSI in the Arab world. I also

touch upon the literature related to the role of business groups and business associations in developing countries (Doner & Schneider, 2000; Granovetter, 2005; Khanna & Fisman, 2004; Khanna & Yafeh, 2007; Leff, 1978). I deliberately exclude several other potentially relevant literatures that have not emerged as prominently in my research. Examples include the literatures on the concept of ‘institutional entrepreneur’ (Garud, Jain, & Kumaraswamy, 2002; Greenwood, Suddaby, & Hinings, 2002; Lounsbury, 2002) and research that extends it (Lounsbury & Crumley, 2007; Vermeulen, Büch, & Greenwood, 2007). These literatures may become more relevant in the Arab world in the future as the activities of Arab entrepreneurs expand in both scope and scale and ultimately influence and shape institutions in these contexts. The Arab uprisings that have erupted in December 2010 seem to have given rise to such a trend as some early indicators that I mention in Chapter 2 reveal.

1.3 Study Methodology

As innovation is under-researched and under-theorized in the Arab world contexts, I select and use an exploratory qualitative case study methodology. I conduct a retrospective longitudinal research with a historical perspective to capture the dynamics of each setting (Langley, 1999) in the innovation process. This methodology enables me to collect the kind of fine-grained data that, in turn, facilitates inductive theorizing (Eisenhardt, 1989; Glaser & Strauss, 1967) of Arab world's NSI. The research context I selected reflects the broad view and working definition of innovation that I have adopted as more appropriate to understanding large parts of the developing world. Using purposive sampling, I have chosen to study one rich embedded case (Yin, 1994) containing several potential mini-cases (Eisenhardt, 1989) or units of analysis within it (Yin, 1994). From these, I have chosen five mini-cases of innovation. I research these mini-cases in three countries of the Arab world, namely Jordan, Lebanon and the United Arab Emirates.

The embedded case is Aramex Private Joint Stock Company, Aramex PJSC, referred to throughout this thesis as Aramex¹. From modest beginnings in 1982, Aramex has evolved into a leading global logistics and express transportation solutions provider that is known for its innovative services and products. In January 1997, Aramex became the first Arab-based company to be listed on the NASDAQ exchange. Five years later, it returned to private ownership through being acquired by Abraaj Capital, the Arab world's largest private equity company. In June 2005, Abraaj Capital turned Aramex again into a public company by listing it on the Dubai Financial Market (Figure 5.1). Among other critical milestones (Appendix III), Aramex was a founding partner of 'Business

¹ Aramex, website accessed on May 30, 2012, <http://www.aramex.com/aboutus/default.aspx>

Optimization Consultants' that later evolved into Maktoob.com. The latter company developed the largest Arabic language portal that was acquired, in August 2009, by Yahoo! for US\$ 175 million.

The five mini-cases that I have selected within Aramex include an organizational innovation (Federal Structure), a social innovation (Ruwwad²), and three service innovations (Shop and Ship, Personalized Delivery Services, and Third Party Logistics). I identify each of these innovation mini-cases as a unit of analysis. This indirectly addresses NSI's first gap (Table 1.2). In addition, NSI's second theoretical gap on the need for a broader approach going beyond the narrow focus on science-based high technology innovations is indirectly addressed by the broad working definition of innovation that I adopt and the selection of the low- and medium-technology (LMT) 'hidden innovation' types.

Table 1.3 on the next page lists the five mini-cases of innovation selected within Aramex, highlights their respective innovation types, their birthplaces and management centers. In Chapter 5, I provide detailed profiles of the embedded case, Aramex, and these five innovation mini-cases.

² The Arab Foundation for Sustainable Development (Ruwwad), website accessed on June 5, 2012, <http://www.ruwwad.jo/>

Table 1.3 Innovation Mini-Cases Selected

Mini-Case of Innovation Selected Within Aramex				
#	Name	Innovation Type	Birthplace	Managed from
1	Federal Structure	Organizational	Jordan	Jordan & U.A.E.
2	Ruwad (The Arab Foundation for Sustainable Development)	Social	Jordan	Jordan
3	Shop and Ship	Service	Lebanon	Jordan
4	Personalized Delivery Services	Service	U.A.E.	U.A.E.
5	Third Party Logistics	Service	U.A.E.	U.A.E.

To summarize the evolution of my methodology during the course of my thesis research, I initially conducted a review of the extant NSI literature that focuses on developed countries and specified a priori (Eisenhardt, 1989) the following NSI ‘theorized’ foundational constructs: 1) formal institutions; 2) knowledge; 3) learning; and, 4) social capital. I posed some initial research questions (Appendix I) and designed an interview guide (Appendix IV) to help direct the field research in a semi-structured interview format. Early observations in the field revealed a marked divergence from the above NSI ‘theorized’ foundational constructs. Based on these observations and to ensure the validity and quality of the research, I then set aside the pre-designed semi-structured interview format and conducted the bulk of my fieldwork in an unstructured format. Apart from some pilot interviews in August 2009, I conduct the bulk of the fieldwork in March and April 2010. The field research is composed of a total of 41 face-to-face interviews, 3 phone interviews, 4 mini-focus groups as well as 10 site visits (Appendix VII). Six of the site visits took place in Dubai, in the United Arab Emirates, and four took place in Amman, Jordan.

Given the specificities of the Arab world institutional set-ups as well as the limited research on innovation in these contexts, unstructured interviewing ultimately came to represent the most appropriate format to use. Conducting the research in this format that is characterized by openness and flexibility (Eisenhardt, 1989) enabled storytelling and the collection of fine-grained data. The unstructured interview methodology also enabled the research question to evolve (Eisenhardt, 1989) into the following: *how is innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential?* I triangulated the data that I collected in the field with data from other sources. These other data sources included documents, records, field notes, observation, online websites as well as email and telephone communications.

1.4 Contributions

This thesis advances two theoretical contributions. First, studying innovation in the Arab world builds knowledge within the scant developing-country innovation literature and extends it beyond its BRIC country focus. Second, inductively building grounded theory for the Arab world context extends the NSI literature beyond its developed-country and BRIC country contexts. These contributions have the potential to initiate comparative studies of innovation between countries of the BRIC and other developing countries as well as between developed and developing countries. Potential findings and insights from these comparative studies could enrich the innovation and NSI literatures. The thesis also has the potential to contribute, albeit, indirectly to the first three NSI literature gaps (detailed in Chapter 7).

In addition, this research has the potential to contribute to practice. A better understanding of NSI's foundational constructs in developing countries could enhance the design and implementation of more relevant and effective innovation policies in these contexts. Moreover, highlighting the innovation potential of developing countries could broaden the awareness of potential investors of investment opportunities beyond their traditional developed-country markets. This could result in directing more foreign and local investments to developing countries, thus increasing the funding sources available to entrepreneurs and startups in these countries.

1.5 Organization of the Thesis

This thesis is organized into seven chapters. Following this introductory chapter, Chapter 2 presents an overview of some of the demographic, economic, political and cultural characteristics of the Arab world contexts. Chapter 3 reviews the literature. The chapter starts by advancing a broad working definition of innovation and a typology that delineates innovations based on process criteria and outcome criteria. It then highlights some observations of mainstream innovation studies and presents an overview of the emergence and foundational constructs of the national system of innovation (NSI). Given early observations and the Arab world ‘observed’ foundational constructs, the chapter at this point poses the research question about innovation in the Arab world contexts. It then reviews the research streams that are related to the Arab world ‘observed’ foundational constructs that emerged in the research.

Chapter 4 describes the chosen research methodology that simultaneously addresses the research question and maintains the research quality. I highlight early observations in the field that reveal divergences from the NSI ‘theorized’ foundational constructs. Then I draw attention to the resulting changes in the interview format, the analysis process, and the literature review. Chapter 5 provides detailed profiles of the embedded case and the five innovation mini-cases. Chapter 6 presents the research findings and an organizational level analysis. Chapter 7 provides the Arab world NSI theory and model and discusses the implications of the findings. This chapter also highlights the theoretical and practice-related contributions, proposes some avenues for future research, and concludes. References and appendices are attached at the end.

2. THE ARAB WORLD CONTEXTS

2.1. Demographic and Economic Background

This research addresses innovation in the developing countries of the Arab world and aligns with recent calls to focus more scholarly research on this part of the world (Zahra, 2011). I conducted my field research in three of the twenty-two Arab world countries³. These are Jordan, Lebanon, and the United Arab Emirates. According to the 2002 Arab Human Development Report⁴ of the United Nations Development Program (UNDP), the Arab world had, in the year 2000, a total population of about 280 million. Just over a decade later, the UNFPA State of World Population 2011⁵ report estimates the Arab world population at 360.7 million. The total Arab world population in 2000 was nearly equal to the population of the United States, around one fourth of India's and almost one fifth of China's populations⁶. Due to the region's high population growth rate of 2%⁷, the total Arab world population in 2011 became larger than the population of the United States, nearly a third of the population of India and just over a fourth of China's population⁸. With a population of 68 million in 2000⁹ and 82.5 million in 2011¹⁰, Egypt is identified as the most populous Arab country. The Arab world has a youthful population.

³ Arab Human Development Report 2009, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/contents/2009/annex1-e.pdf>

⁴ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

⁵ The UNFPA State of World Population 2011, web accessed on July 19, 2012, <http://foweb.unfpa.org/SWP2011/reports/EN-SWOP2011-FINAL.pdf>

⁶ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

⁷ The UNFPA State of World Population 2011, web accessed on July 19, 2012, <http://foweb.unfpa.org/SWP2011/reports/EN-SWOP2011-FINAL.pdf>

⁸ Ibid.

⁹ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

¹⁰ The UNFPA State of World Population 2011, web accessed on July 19, 2012, <http://foweb.unfpa.org/SWP2011/reports/EN-SWOP2011-FINAL.pdf>

More than 50% are below 25 years¹¹ with children in the 0-14 age bracket constituting over 38% of the Arab world's population¹².

Leaving out the failed state¹³ of Somalia and one of the world's poorest countries that has a per capita income of US\$ 600¹⁴, the UNESCO Science Report 2010¹⁵ uses per capita income (purchasing power parity PPP in 2007) to classify twenty one Arab countries into three groups. These are a high per capita income group (6 countries), a middle per capita income group (10 countries), and a least developed countries group (5 countries). Details of the characteristics of these three groups are given in the following few pages and presented in summary form in Table 2.1.

According to the classification of this report, the high income group boasts a per capita income that ranges between US\$ 22,695 and US\$ 65,182 and includes the oil-rich countries of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates. These countries are situated in Asia within the boundaries of the Arabian Peninsula and are members of the 'Gulf Cooperation Council' (GCC). Hence, they are often referred to as the 'Gulf States'. These countries are home to 11% of Arab world's total population. The small indigenous populations of the Gulf States fall short, in terms of numbers and skills, of meeting the labor demands of their respective growing economies.

Small populations, oil revenues and determination to catch up quickly are all factors that underlie the reliance of Gulf States on skilled and unskilled expatriate

¹¹ Arab world experiences rapid population explosion, World Focus, 2010, website accessed on June 7, 2012, <http://worldfocus.org/blog/2010/03/23/arab-world-experiences-rapid-population-explosion/10090/>

¹² Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

¹³ The Failed States Index 2010, Foreign Policy, accessed May 18, 2012, http://www.foreignpolicy.com/articles/2010/06/21/the_failed_states_index_2010

¹⁴ World Economic Indicators Database 2008, World Bank, website accessed on June 7, 2012, <http://siteresources.worldbank.org/DATA-STATISTICS/Resources/GDP.pdf>

¹⁵ The UNESCO Science Report: The Current Status of Science Around the World, accessed May 21, 2012, <http://unesdoc.unesco.org/images/0018/001899/189958e.pdf>

workers¹⁶ from the West, the Arab world and the rest of Asia. Besides having a dominant public sector, the Gulf States are home to many family firms that play a critical role in the business and economic landscapes of these countries (Welsh & Raven, 2006). This group of oil-rich Arab countries is represented in my research by the United Arab Emirates where two of the service innovations under study, namely ‘Personalized Delivery Services’ and ‘Third Party Logistics’, have emerged and continue to be based.

According to the same report, countries that belong to the middle income group are home to more than two thirds, 70%, of Arab world’s total population. These have a per capita income that ranges between US\$ 4,263 and US\$ 16,208. The ten countries within this group are equally divided between two geographic regions: the Levant and North Africa. Situated in Asia and stretching from the Euphrates and the Arabian (Persian) Gulf in the East to the Mediterranean Sea in the West, the Levant region comprises Iraq, Jordan, Lebanon, the Palestinian Territories and Syria. North Africa comprises Algeria, Egypt, Libya, Morocco and Tunisia and is bordered from the North by the Mediterranean Sea.

Due to their different levels of oil endowment, countries within this middle income group have quite different economies. Those countries that are rich in oil, such as Libya and Algeria, are completely dominated by the oil and gas sector, which generates most of their revenues. Countries, such as Egypt and Syria, with moderate to low oil reserves and others, such as Jordan, with none, have more diversified economies. Revenue generating sectors within these less oil-endowed countries include agriculture, industry and services, such as tourism. Two other main revenue sources for these

¹⁶ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

countries are foreign aid from the U.S., Europe and Japan, and remittances from their expatriate citizens who work in other Arab countries or abroad, reflecting the persistent brain drain problem in these countries (Zahra, 2011). Two of this middle income group of countries are included in my research. The first is Jordan, which is Aramex's birthplace, and therefore the location of the 'Federal Structure' as an organizational innovation and of the social innovation 'Ruwwad'. The second is Lebanon, which, during the Lebanese civil war years, saw the emergence of the service innovation 'Shop and Ship'.

The least developed countries group has a per capita income that ranges between US\$ 1,918 and US\$ 2,416. This group is composed of Comoros, Djibouti, Mauritania, Sudan, and Yemen which between them are home to nearly 19% of Arab world's total population. Apart from Yemen, located in the Arabian Peninsula in Asia, all the other countries within this lowest income group are located in Africa. The United Nations classifies these countries among the least developed countries in the world¹⁷, since more than half of their respective populations live under the world poverty line of US\$ 1.25 per day¹⁸. As already mentioned, the even more dismal state of development of the failed state of Somalia, the remaining twenty second Arab country, defies its classification even within this least developed countries group.

Studies show the clear distinction in prerequisites for knowledge creation and innovation between the three groups of Arab countries. The UNESCO Report highlights the deliberate investments in higher education over multiple decades by countries of the more modestly endowed middle income group. The focus on higher education in some

¹⁷ World Statistics Pocketbook 2010, Least Developed Countries, United Nations, New York, 2011, accessed on May 21, 2012, <http://www.unohrlls.org/UserFiles/File/LDC%20Pocketbook2010-%20final.pdf>

¹⁸ World Bank Development Indicators 2011, website accessed on May 22, 2012, <http://data.worldbank.org/indicator/SI.POV.DDAY>

countries within this group goes far back in history, as the two oldest universities in the world¹⁹ founded in Tunisia and Egypt testify. The first of these universities is ‘Bayt al-Hikma’ (House of Wisdom)²⁰ University, that was founded in Al-Qairawan, Tunisia, in the year 859 AD. Among the subjects taught were medicine, astronomy, engineering and translation. The other university is Al Azhar University²¹, founded in Cairo, Egypt, in the year 975 AD.

Efforts to establish universities as centers of knowledge in the Arab countries of the middle income group have continued into recent history. This is reflected in the founding of Cairo University²², in Egypt, in 1908, Damascus University²³, in Syria, with its founding in 1901, the University of Baghdad²⁴, in Iraq, in 1956/1957, and the Beirut Arab University²⁵, in Lebanon, in 1960. Added to these are the universities that were founded by American missionaries and scholars which include the American University of Beirut²⁶, founded in Lebanon in 1866, and the American University in Cairo²⁷, founded in Egypt in 1919. This focus on knowledge and its related investments by countries within this middle income group have, over several decades, enabled them to build their human capital and develop the prerequisites for knowledge creation.

Therefore, it comes as no surprise that most knowledge generated in the Arab world,

¹⁹ Top 10 Oldest Universities in the World, College Stats.org, website accessed on May 28, 2012, <http://collegestats.org/articles/2009/12/top-10-oldest-universities-in-the-world-ancient-colleges/>

²⁰ Zeimeche, Salah, 2004, Al-Qayrawan (Tunisia), Foundation for Science, Technology and Civilization, web accessed on July 11, 2012, <http://www.muslimheritage.com/uploads/Qayrawan.pdf>

²¹ Al-Azhar University, website accessed on May 28, 2012, <http://www.azhar.edu.eg/En/index.htm>

²² Cairo University, website accessed on May 28, 2012, <http://www.cu.edu.eg/english/history/default.aspx>

²³ Damascus University, (Arabic) website accessed on May 28, 2012, <http://www.damascusuniversity.edu.sy/2011-09-11-08-43-14/2011-09-11-08-51-25>

²⁴ University of Baghdad, website accessed on May 28, 2012, <http://en.uobaghdad.edu.iq/PageViewer.aspx?id=6>

²⁵ Beirut Arab University, website accessed on May 28, 2012, <http://www.bau.edu.lb/history.php>

²⁶ American University of Beirut, website accessed on May 28, 2012, <http://www.aub.edu.lb/main/academics/Pages/index.aspx>

²⁷ American University in Cairo, website accessed on May 28, 2012, <http://www.aucegypt.edu/about/History/Pages/history.aspx>

reflected both in number of publications and in patent applications filed (Table 2.5), originate in these middle income countries.

Arab countries that belong to the least developed countries group continue to lag behind in terms of prerequisites for knowledge. By contrast, the Gulf States of the high income group have, in recent years, been catching up by making sizeable investments in higher education, science and technology, information technology and telecommunications (Zahra, 2011). Besides many local colleges and universities that have been established in these countries in the last few years, efforts to attract top U.S. and European universities have increasingly been bearing fruit.

For example, the government of the United Arab Emirates has recently subsidized the Sorbonne, INSEAD, and New York University, among others, to set up campuses and to launch undergraduate, graduate and executive education programs in that Gulf State. However, as I discuss further below, in contrast to more advanced economies and countries of the BRIC, the Arab world continues to suffer from a low quality of education as well as from low investments in research and development. According to a 2011 World Economic Forum survey²⁸, the Arab world countries rank low in comparison to other countries in the world in both research universities and corporate research funding.

Table 2.1 on the next page provides a summary of the respective characteristics of the three groups of Arab countries of high per capita income, middle per capita income and least developed countries that are classified in the UNESCO Science Report 2010 (purchasing power parity PPP in 2007).

²⁸ The Global Competitiveness Report 2011-2012, World Economic Forum, accessed June 8, 2012, http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

Table 2.1 Groups* of the Arab World Countries²⁹

Groups of Countries	High Per Capita Income Group (6 countries)	Middle Per Capita Income Group (10 countries)	Least Developed Countries Group (5 countries)
Characteristics			
Countries	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates	Algeria, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Palestinian Territories, Syria, Tunisia	Comoros, Djibouti, Mauritania, Sudan, Yemen
GDP per capita income in US\$ (PPP in 2007)	H: 65,182 (Qatar) L: 22,695 (Oman)	H: 16,208 (Libya) L: 4,263 (Morocco)	H: 2,416 (Yemen) L: 1,918 (Mauritania) 50% under poverty line
Economy type	Oil-producing countries	Oil-producing, Foreign Aid, Remittances, Agriculture, Industry, Services	Least Developed Countries
Total Population	37 Million	219 Million	64 Million
% of Arab world's Population	11%	70%	19%
Higher Education	New local and international colleges and universities created	Most developed, home to the two oldest universities in the world, Arab world's older universities	Under-developed
Investment in education, Science & Technology	Many recent sizeable investments	Decades of consistent investments	Negligible

* Due to the dire state of its economic, social, and political development, Somalia, the twenty second Arab country recognized as a failed state, is denied inclusion even in the least developed group in this table.

Despite the above differences, Arab countries have several features in common. In terms of demographics, almost all Arab countries have a sizeable and growing youth segment that currently constitutes over 50% of their respective populations. This

²⁹ The UNESCO Science Report: The Current Status of Science Around the World, accessed May 21, 2012, <http://unesdoc.unesco.org/images/0018/001899/189958e.pdf>

demographic reality is expected to create a huge job seekers' bulge by the year 2020 and is already posing problems for employment.

For many decades, the Arab world countries had closed economies that were dependent on welfare states and dominated by monopolies. These monopolies were either by the state or by a small circle of cronies associated with the autocratic regimes and leaders. However, following the fall of the Berlin wall in 1989, the World Bank and the IMF pressured the Arab world countries, and many other developing countries, to adopt a free market economic model. This entailed implementing the pillars of the Washington Consensus (Williamson, 2000) that included, among others, liberalizing markets, relegating the role of the state to a regulatory one, privatizing state-owned enterprises, as well as seeking memberships in representative international bodies such as the World Trade Organization³⁰. Having taken steps in the above prescribed direction, the public sectors of several Arab countries became much less able to absorb the millions of current and future job seekers. Facing the anticipated job seekers' bulge in 2020, Arab world decision-makers, in recent years, have been looking for potential remedies.

In most cases, results of the above-mentioned efforts to liberalize the Arab world economies have fallen short of expectations. This is partly due to the persistent weak institutional set-ups of most Arab world countries where many of the institutions that are considered by the literature to be essential are either missing or weak. Meanwhile those that are present are actively hostile to both free enterprise and to the emergence and diffusion of innovation. Shaker Zahra lists some of the missing institutions from the Arab world contexts that are conventionally considered essential. These include, among others, intellectual and private property laws, capital markets, the rule of law and effective legal

³⁰ World Trade Organization, website accessed on May 21, 2012, <http://www.wto.org/>

systems to resolve commercial disputes (Zahra, 2011). In his book *Mystery of Capital*, Hernando De Soto (2000) asserts that the poor in many countries, including countries of the Middle East, have the assets needed to succeed in capitalism but are prevented from turning these assets into capital due to formal institutions such as property rights laws that are either absent or weak as well as due to lengthy bureaucratic procedures, giving rise to an informal economic sector.

Although the situation varies from country to country across the Arab world, it is common knowledge in all of them that the process of setting up a private company is hindered by a myriad of rigid, costly and lengthy bureaucratic requirements. For example, Zahra (2011) cites De Soto as stating “To do business in Egypt, an aspiring poor entrepreneur would have to deal with 56 government agencies and repetitive government inspections”³¹. These complications create high entry barriers that discourage potential entrepreneurs and restrict the emergence of free enterprise. In line with De Soto, Zahra (2011) blames such restrictions for the emergence and dominance of large informal economies in the Arab world countries. In addition, the absence of any bankruptcy laws renders exit as difficult as entry, or perhaps even more difficult.

Entrepreneurs and startups in the Arab world also face the dominance of strong military establishments that have been created to counter the threat of the Israeli occupation³². According to the UNDP’s 2002 Arab Human Development Report “In most Arab states, occupation dominates national policy priorities, creates large humanitarian challenges for those receiving refugees and motivates the division of public investment in

³¹ De Soto, H., (2011, February 3), Egypt’s economic apartheid, Wall Street Journal, accessed on June 7, 2012, <http://online.wsj.com/article/SB10001424052748704358704576118683913032882.html>

³² Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

human development towards military spending [...] it provides both a cause and an excuse for distorting the development agenda, disrupting national priorities and retarding political development”³³. In many Arab countries, these militaries are heavily-funded institutional and economic actors that wield significant power. In Egypt for example, some accounts claim that the military, which is heavily subsidized by the United States for reasons of diplomacy, controls 10% to 15% of the Egyptian economy³⁴ while other sources estimate it to be between 25% and 40%³⁵. The military establishment in Jordan, which also receives foreign subsidies, has a budget almost equal to those allocated to education, higher education, scientific research, and health combined³⁶.

Recent uprisings in the Arab world appear to be having an effect on the business landscape. Dubbed ‘Arab Spring’ by the media, these ongoing uprisings across the Arab world countries first erupted in December of 2010, eight months after the conclusion of my field research. A 2011 policy report³⁷ by the Center for the Study of Presidency and Congress highlights what it calls ‘tectonic shifts’ brought about by the ‘Arab Spring’. This report advises the U.S. government, rather than try to influence the political processes, to focus instead on economic measures, e.g. free trade agreements, as a means to advance democracy in the Arab world. Evidence of these tectonic shifts includes

³³ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

³⁴ West, G. F., July 29, 2011, Tectonic Shifts: Lessons for Policy Makers from the Arab Spring Interview Series, Center for the Study of Presidency and Congress, accessed on May 21, 2012, http://www.thepresidency.org/storage/documents/Tectonic_Shifts_PDF.pdf

³⁵ Abul-Magd, Zeinab, The Army and the Economy in Egypt (translated from original Arabic version), Jadaliyyah, website accessed on May 28, 2012, <http://www.jadaliyya.com/pages/index/3732/the-army-and-the-economy-in-egypt>

³⁶ Jordanian Budget 2010, Ministry of Finance, website accessed on May 21, 2012, <http://www.mof.gov.jo/admin/Upload/Tables%20of%20estimated%20expenditures.pdf>

³⁷ West, G. F., July 29, 2011, Tectonic Shifts: Lessons for Policy Makers from the Arab Spring Interview Series, Center for the Study of Presidency and Congress, accessed on May 21, 2012, http://www.thepresidency.org/storage/documents/Tectonic_Shifts_PDF.pdf

changes in the institutional set-ups of countries, such as Egypt and Tunisia, which have successfully removed their long-governing dictatorial presidents.

Despite the chaos associated with the ongoing transitions in both countries, more in Egypt than in Tunisia due to the stronger hold of its military establishment, level economic playing fields seem to be emerging. For example, as a result of ending the decades-long monopoly by the small circle of cronies associated with the deposed Tunisian President Zein al-Abdine Ben Ali, improvements in the Tunisian business environment are already being felt by businessmen³⁸. Breaking with its previous role, the Tunisian government is also removing some obstacles for private firms and entrepreneurs, as the more recently observed transparency in its bidding process seems to indicate³⁹.

Other factors that have, for decades, impeded the emergence and the longevity of startups in the Arab world are the difficulties in raising needed equity and debt capital. The entire Arab world has less than a handful of angel investors. The Founder and CEO of Aramex, the embedded case under study here, happens to be one of them. Apart from a few exceptions, the Arab world also suffers from a shortage of venture capital. One of the few exceptions is the recently established Riyadh Enterprise Development⁴⁰ that, in addition to financial capital, provides technical support. Riyadh is a member of The Abraaj Capital Group⁴¹, the region's largest private equity firm with over \$6 billion of

³⁸ West, G. F., July 29, 2011, Tectonic Shifts: Lessons for Policy Makers from the Arab Spring Interview Series, Center for the Study of Presidency and Congress, accessed on May 21, 2012, http://www.thepresidency.org/storage/documents/Tectonic_Shifts_PDF.pdf

³⁹ West, G. F., July 29, 2011, Tectonic Shifts: Lessons for Policy Makers from the Arab Spring Interview Series, Center for the Study of Presidency and Congress, accessed on May 21, 2012, http://www.thepresidency.org/storage/documents/Tectonic_Shifts_PDF.pdf

⁴⁰ Riyadh Enterprise Development, a member of The Abraaj Capital Group, website accessed on May 20, 2012, <http://www.abraaj.com/content/riyada-enterprise-development-1>

⁴¹ The Abraaj Capital Group, website accessed on May 20, 2012, <http://www.abraaj.com/>

assets under management. Another recent exception is Oasis 500⁴², that aims to become the Middle East and North Africa (MENA) region's premier seed investment and development company which not only provides funding but also mentoring. Among the recent few, but growing, Arab world initiatives that connect budding entrepreneurs, provide them with mentoring support, and inspire creativity and innovation in the Arab world are Wamda⁴³, an initiative by Abraaj Capital, and the New Think Theatre⁴⁴.

Banks could serve as alternative funding sources for entrepreneurs and startups, but they fail to make up for the absence of angel investors and venture capital. As in more developed countries, risk-averse traditional banks in the Arab world are notoriously unwilling to lend to entrepreneurs, startups and small firms. Unlike large and well-established companies that are classified by bank credit departments within a low-risk business segment, entrepreneurs, startups and small firms are classified as a high risk business segment, their risks stemming from their novel and untested business models or products. Another main source of risk associated with these business actors is their inability to provide the necessary collateral to support their loan applications, a risk management condition set by almost all commercial banks. Hence, besides an absence of angel investors and venture capital, the Arab world has suffered from an absence of bank lending instruments that are specifically tailored to meet the needs of actors within this high risk business segment.

As with the disruptions of monopolies, the persisting Arab uprisings seem to have introduced positive changes to the above funding-related situation. Several governments,

⁴² Oasis 500, website accessed on August 9, 2012, <http://www.oasis500.com/>

⁴³ Wamda, website accessed on August 9, 2012, <http://www.wamda.com/>

⁴⁴ New think theatre, website accessed on August 9, 2012, http://www.nttheatre.com/index.php?option=com_seyret

regional and multilateral institutions as well as businessmen have increased their investments in startups across the region. In their efforts to avoid the social unrest that constantly threatens to be triggered by high levels of unemployment, the Gulf States have also provided greater funding for startups. In Saudi Arabia for example, “the state-affiliated Saudi Industrial Development Fund began guaranteeing as much as 80 percent of commercial bank loans to small firms”⁴⁵. Among regional institutions, the Arab Fund for Economic and Social Development⁴⁶ manages an Arab investment fund that is allocated to finance small and medium private sector projects across the Arab world⁴⁷.

With respect to multilateral lending bodies, the World Bank’s International Finance Corporation has recently stepped up funding for small and medium enterprises in Arab world countries, particularly for those in the budget-constrained middle per capita income group. Since January 2011, it has invested \$2.2 billion, a substantial increase from its annual regional investment range of \$300 million of a few years ago⁴⁸. As already mentioned, businessmen have also increased their funding to Arab world entrepreneurs and startups. Again, the investment fund created by Ghandour, Founder and CEO of Aramex, and Naqvi, Founder and CEO of Abraaj Capital, to act as an ‘angel investor’ for startups in the Arab world, is a prime example⁴⁹.

In addition to these finance-related institutions, some knowledge-related institutions fail to support the emergence of innovation in the Arab world, namely

⁴⁵ Start-up firms bloom in wake of Arab Spring, April 11, 2012, Reuters News Agency, accessed on May 20, 2012, <http://www.reuters.com/article/2012/04/11/us-mideast-startups-idUSBRE83A11L20120411>

⁴⁶ The Arab Fund for Economic and Social Development, website accessed on May 21, 2012, <http://www.arabfund.org/Default.aspx?pageId=1&mid=20>

⁴⁷ The Arab Fund for Financing Small and Medium Private Sector Projects, (Arabic only) website accessed on May 21, 2012, <http://www.arabfund.org/Default.aspx?pageId=554&mid=338>

⁴⁸ Start-up firms bloom in wake of Arab Spring, April 11, 2012, Reuters News Agency, accessed on May 20, 2012, <http://www.reuters.com/article/2012/04/11/us-mideast-startups-idUSBRE83A11L20120411>

⁴⁹ Start-up firms bloom in wake of Arab Spring, April 11, 2012, Reuters News Agency, accessed on May 20, 2012, <http://www.reuters.com/article/2012/04/11/us-mideast-startups-idUSBRE83A11L20120411>

education and research and development. According to UNDP's 2002 Arab Human Development Report⁵⁰, 65 million adults are still illiterate and 10 million children remain out of school. However, despite these discouraging statistics, the report asserts that the "Arab countries have shown the fastest improvements in female education of any region"⁵¹. These were brought about by consistent investments in education over the past few decades. Yet, unlike these quantitative improvements, the consistent investments have failed to enhance education's quality. The mismatch between labor market needs and the outputs of the educational systems persists⁵². Rote learning which characterizes education in most Arab countries fails to develop skills such as problem-solving, analytical thinking or other soft interpersonal skills needed in the labor market. Arab world education continues to lack the appropriate mechanisms to develop and use intellectual capital. Thus, unlike its developed-country counterparts, the institution of education in the Arab world continues to be ill-equipped to support knowledge creation and innovation.

Another factor that hinders the emergence of innovation in the Arab world, particularly its science-based high-technology version, are the thin levels of R&D spending. These are reflected in the Gross Expenditure on Research and Development (GERD) as a percentage of the Gross Domestic Product (GDP) for various countries. Comparing GERD/GDP for some Arab world countries (Table 2.2) with the higher 2009

⁵⁰ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

⁵¹ Ibid.

⁵² Ibid.

forecasts⁵³ for some of their developed (Table 2.3) and BRIC (Table 2.4) peers presents a telling story.

For example in Egypt, the most populous Arab country, the GERD/GDP ratio stands at 0.23% while in Saudi Arabia, Arab world's largest economy, it is a mere 0.05%⁵⁴. Not surprisingly, the above ratios contrast with those of the world's most advanced economies. For example, the GERD/GDP ratios for the U.S., Germany and Japan, three G8 members, are 2.7%, 2.4%, and 3.4% respectively (Table 2.3). These ratios need to be approached with caution since Germany has the best export economy in technology intensive goods of the three countries. This is due to the structure of Germany's educational system that is comprised of a high ratio of technical education and work-study to other higher education forms. The GERD/GDP ratios for the Arab world countries also perform poorly in comparison with those of the BRIC countries that range between 0.8% and 1.4% (Table 2.4). Similar to many other non-BRIC developing countries, the thin levels of R&D spending over many decades have deprived the Arab world countries from developing the necessary foundations in basic and applied science to support the emergence of science-based high-technology innovations.

The GERD/GDP ratios for some of the developing countries of the Arab world, some of the developed countries and those of the BRIC countries are shown in tables 2.2, 2.3 and 2.4 on the next page.

⁵³ 2011 Global R&D Funding Forecasts, Advantage Business Media, accessed on May 23, 2012, <http://www.battelle.org/aboutus/rd/2011.pdf>

⁵⁴ The UNESCO Science Report: The Current Status of Science Around the World, accessed May 21, 2012, <http://unesdoc.unesco.org/images/0018/001899/189958e.pdf>

Table 2.2 GERD/GDP ratio for Some Arab World Developing Countries for 2007⁵⁵

Arab world developing Countries	Bahrain	Egypt	Jordan	Lebanon	Qatar	Saudi Arabia
GERD/GDP ratio	0.04%	0.23%	0.34%	0.30%	0.33%	0.05%

Table 2.3 Forecast for GERD/GDP ratio for Some Developed Countries for 2009⁵⁶

Developed Countries	Canada	Germany	Japan	Sweden	United Kingdom	United States
Forecast GERD/GDP ratio	1.8%	2.4%	3.4%	3.4%	1.7%	2.7%

Table 2.4 Forecast for GERD/GDP ratio for the BRIC Countries for 2009⁵⁷

BRIC Countries	Brazil	Russia	India	China
Forecast GERD/GDP ratio	0.9%	1.0%	0.8%	1.4%

In addition to GERD/GDP ratios that reflect an emphasis on basic and applied science research, the total number of patents, both filed and approved, is commonly used as a measure for innovation. The World Intellectual Property Organization⁵⁸ provides comprehensive statistics on the total number of patent applications filed and approved by country of origin from all patent offices in the world, where country of origin is defined

⁵⁵ The UNESCO Science Report: The Current Status of Science Around the World, accessed May 21, 2012, <http://unesdoc.unesco.org/images/0018/001899/189958e.pdf>

⁵⁶ 2011 Global R&D Funding Forecasts, Advantage Business Media, accessed on May 23, 2012, <http://www.battelle.org/aboutus/rd/2011.pdf>

⁵⁷ Ibid.

⁵⁸ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

as the country of residence of the first-named applicant or assignee⁵⁹. Using the statistics of the World Intellectual Property Organization, I construct three tables to compare the total number of patents filed for all the years from 2003 to 2010 for three groups of countries, namely the Arab world developing countries, developed countries, and the BRIC countries.

The first table (Table 2.5) lists the total number of patents filed by seven of Arab world's developing countries at all patent offices across the world. Four of these are the Gulf States of Bahrain, Qatar, Saudi Arabia and the United Arab Emirates that belong to the high per capita income group discussed earlier. The remaining three are Jordan, Lebanon, and Egypt that belong to the middle per capita income group. The second table (Table 2.6) lists the total number of patents filed at all patent office in the world citing a developed country as the country of origin. In this table, I include the six developed countries of Canada, Germany, Japan, Sweden, United Kingdom and the United States of America. The third (Table 2.7), presents the total number of patents filed at all patent offices that cite each of the BRIC countries as a country of origin. These three tables list absolute numbers of patent applications filed that do not account for the differences in population sizes between the countries selected.

Even a quick glance at the total number of filed patents listed in the three tables reveals the much lower numbers for Arab world's developing countries in comparison with their thousands of multiples for their developed and emerging peers. While acknowledging the effect of differences in population sizes, the low total numbers of filed patents for the Arab world's developing countries partly arise from low investments in

⁵⁹ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

research and development that the GERD/GDP ratios and persistent thin R&D investment levels discussed earlier reflect.

Table 2.5 Patent Applications Filed by Some Arab Developing Countries⁶⁰

Economy	Small Economies			Large Economies			
Type	High Per Capita Income	Middle Per Capita Income		Middle Per Capita Income	High Per Capita Income		
Country / Year	Bahrain	Jordan	Lebanon	Egypt	Qatar	Saudi Arabia	United Arab Emirates
2003	1	43	13	508	2	130	26
2004	2	58	6	406	13	147	45
2005	2	62	15	459	5	209	32
2006	3	111	18	40	2	234	72
2007	3	113	8	620	6	401	70
2008	2	70	23	551	5	316	77
2009	8	90	21	539	7	397	86
2010	6	64	38	684	8	804	113

⁶⁰ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

Table 2.6 Patent Applications Filed by Some Developed Countries⁶¹

Size of Economy	Small Economies		Large Economies			
Country / Year	Canada	Sweden	Germany	Japan	United Kingdom	United States
2003	14,770	12,293	111,916	485,270	39,862	300,979
2004	19,056	13,859	121,876	510,047	40,444	327,744
2005	19,963	14,229	127,968	529,593	41,603	378,581
2006	21,996	15,835	133,237	517,380	42,105	400,933
2007	22,662	17,662	135,911	508,114	43,702	431,480
2008	22,106	19,044	142,228	509,727	44,484	422,489
2009	21,898	17,288	134,503	463,291	42,496	392,044
2010	23,360	17,249	138,430	461,888	42,595	415,648

Table 2.7 Patent Applications Filed by the BRIC Countries⁶²

Size of Economy	Smaller Economies		Larger Economies	
Country / Year	India	Russia	Brazil	China
2003	5,327	25,631	4,258	58,801
2004	6,470	23,976	4,728	68,972
2005	7,741	24,701	4,763	97,834
2006	9,220	29,091	4,791	129,167
2007	10,310	28,807	5,182	161,187
2008	11,258	29,303	5,317	204,065
2009	11,755	27,049	5,054	241,374
2010	5,720	30,367	4,118	307,293

Again by using the statistics of the World Intellectual Property Organization, I construct three additional tables (Tables 2.8, 2.9, and 2.10) that take into account

⁶¹ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

⁶² Ibid.

population sizes. These list the number of resident patent filings per million of population for all the years from 2003 to 2010 for the same countries and groups of countries included earlier in the previous tables. As Table 2.8 shows, numbers of resident patent filings per million of population are missing for the three Arab world countries of Bahrain, Qatar and the United Arab Emirates. This could be due to having very small values, as their respective small absolute numbers of patent applications filed (Table 2.5) seem to suggest. Similarly missing are the numbers for several years for Lebanon possibly due to the many years of instability and civil war that this country has witnessed.

Reflecting a similar pattern to that identified for the absolute numbers of patent applications filed, the ratios listed in Table 2.8 for the remaining Arab world countries are lower than those for countries in the other two groups. The difference is largest with Japan which, as Table 2.9 shows, boasts even much higher ratios than those of its developed peers. Again, as with the absolute total numbers of patent applications filed, the ratios for Arab world countries are lower than those for the BRIC countries (Table 2.10). The only exception is India which has ratios that are equal to, or even lower than, some of the listed Arab world countries. Conversely, although India is at same level as many Arab world countries in resident filings per million population, its size results in this translating into a growing base for innovation in some sectors including software, pharmaceuticals and medical care.

Tables 2.8, 2.9, and 2.10 that respectively list the number of resident patent filings per million of population for all the years from 2003 to 2010 for some countries of the Arab world, some developed countries and the BRIC countries are shown on this page and the next.

Table 2.8 Number of Resident Filings per Million of Population for Some Arab World Countries⁶³

Economy	Small Economies			Large Economies			
Type	High Per Capita Income	Middle Per Capita Income		Middle Per Capita Income	High Per Capita Income		
Country / Year	Bahrain*	Jordan	Lebanon	Egypt	Qatar*	Saudi Arabia	United Arab Emirates*
2003	-	4.84	-	6.90	-	2.51	-
2004	-	7.94	10.51	5.24	-	3.49	-
2005	-	9.05	11.1	5.77	-	4.95	-
2006	-	13.55	13.91	2.82	-	4.80	-
2007	-	10.42	-	6.71	-	5.02	-
2008	-	8.64	-	6.14	-	-	-
2009	-	10.14	-	6.15	-	-	-
2010	-	7.44	-	7.46	-	10.49	-

* No listing for this country of origin

⁶³ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

Table 2.9 Number of Resident Filings per Million of Population for Some Developed Countries⁶⁴

Size of Economy	Small Economies		Large Economies			
Country / Year	Canada	Sweden	Germany	Japan	United Kingdom	United States
2003	124.04	337.76	579.32	2804.49	342.91	650.79
2004	163.49	307.83	587.13	2883.63	320.34	646.78
2005	160.40	279.48	586.48	2879.79	296.11	702.84
2006	169.13	269.37	582.84	2716.58	288.54	742.76
2007	151.56	276.23	581.68	2610.13	284.90	800.28
2008	151.93	276.48	599.68	2584.96	269.13	760.86
2009	150.18	235.09	584.34	2315.14	258.65	732.60
2010	133.40	234.14	575.83	2276.03	248.96	782.97

Table 2.10 Number of Resident Filings per Million of Population for the BRIC Countries⁶⁵

Size of Economy	Smaller Economies		Larger Economies	
Country / Year	India	Russia	Brazil	China
2003	3.22	172.68	20.31	44.06
2004	3.72	159.78	21.53	50.76
2005	4.31	165.17	21.00	71.71
2006	5.12	195.68	20.27	93.30
2007	5.60	193.56	21.20	116.14
2008	5.64	195.22	21.32	146.89
2009	6.29	180.46	20.29	172.07
2010	-	202.62	13.88	218.98

Despite the general low levels of R&D spending, patent filing and patents per million of population in the Arab world, there are some R&D-dependent sectors, such as

⁶⁴ Ibid.

⁶⁵ World Intellectual Property Indicators, 2011 edition, website accessed on May 23, 2012, <http://www.wipo.int/ipstats/en/statistics/patents/>

information technology and pharmaceuticals, that are relatively well developed in some countries of the Arab world. With respect to information technology, in Jordan for example, an initial impetus in 1999 by King Abdullah II of Jordan and continued support from the Information and Communication Technology Association of Jordan, INTAJ⁶⁶, established in 2000, and The King Abdullah II Fund for Development⁶⁷ has given rise to a thriving IT sector. Currently, Jordan is home to many technology companies and startups that benefit from a relatively large pool of skilled Jordanian engineers and technicians. Several of Jordan's technology companies provide outsourcing services to US companies in the multi-media, computer and e-gaming industries. Among other prominent examples is Rubicon Holding Group⁶⁸ that provides outsourcing services to MGM studios.

The pharmaceuticals industry is another sector that relies on R&D which is relatively well developed in several Arab countries⁶⁹, such as Egypt⁷⁰, Jordan⁷¹ and Saudi Arabia⁷². The pharmaceuticals sector in Jordan emerged in the early 1960s as an export-oriented industry that currently exports its pharmaceutical products to over 60 countries

⁶⁶ The Information and Communication Technology Association of Jordan, INTAJ, website accessed on August 7, 2012, <http://www.intaj.net/node/69>

⁶⁷ King Abdullah II Fund for Development, web accessed on August 7, 2012, <http://www.kafd.jo/>

⁶⁸ Rubicon Holding Group, website accessed on August 7, 2012, <http://www.rubiconholding.com/>

⁶⁹ The outlook for pharmaceuticals in the Middle East and North Africa, May 29, 2012, Espicom Business Intelligence, web accessed on August 7, 2012, http://www.espicom.com/ProdCat2.nsf/Product_Alt_URL_Lookup/outlook_pharmaceuticals_middle_east_north_africa_2015?OpenDocument

⁷⁰ The pharmaceutical market: Egypt, May 14, 2012, Espicom Business Intelligence, web accessed on August 7, 2012, <http://www.espicom.com/egypt-pharmaceutical-market>

⁷¹ Competitive position of key industries in Jordan: Pharmaceuticals, 2007, Jordan national competitiveness observatory, web accessed on August 7, 2012, <http://www.jnco.gov.jo/static/pdf/chapter3.pdf>

⁷² Saudi pharmaceuticals sector review, a report by the National Commercial Bank of Saudi Arabia, January 29, 2011, web accessed on August 7, 2012, <http://www.qomel.com/The%20Saudi%20Pharmaceutical%20Sector%202011.pdf>

around the world⁷³. Possibly the largest and most internationalized company is Hikma Pharmaceuticals Plc.⁷⁴, public limited company. Since its founding it has grown into a global pharmaceutical player through several acquisitions in the US, Europe, the Arab world, Africa and Asia⁷⁵. Among other milestones, in 1996, Hikma became the first Arab pharmaceutical company to receive FDA approval and, in 2005, it became listed on the London Stock Exchange⁷⁶. In addition to its R&D laboratories in Amman, Jordan, Hikma has other laboratories in the US, Europe and India⁷⁷.

⁷³ Competitive position of key industries in Jordan: Pharmaceuticals, 2007, Jordan national competitiveness observatory, web accessed on August 7, 2012, <http://www.jnco.gov.jo/static/pdf/chapter3.pdf>

⁷⁴ Hikma Pharmaceuticals Plc., website accessed on August 7, 2012, <http://www.hikma.com/en/about-hikma.aspx>

⁷⁵ Our history, Hikma Pharmaceuticals Plc., web accessed on August 7, 2012, <http://www.hikma.com/en/about-hikma/our-history.aspx>

⁷⁶ Ibid.

⁷⁷ Ibid.

2.2. Political Background

During most of its modern history, the Arab world has suffered from a steady stream of foreign occupations, wars and conflicts. The Arab Revolt (Khalidi, Anderson, Muslih, & Simon, 1991) of the years 1916-1918 that brought the Ottoman occupation to an end marked the beginning of the French mandate in Syria and Lebanon (Longrigg, 1958) as well as the British mandates of Mesopotamia (Iraq), and of Jordan and Palestine (Fieldhouse, 2006). These mandates ended in 1946, 1932 and 1947 respectively. The Balfour declaration in 1917 (Mathew, 2011), the Arab revolt in Palestine (1936-1939) (Sufian, 2008), and the Balfour declaration's implementation as the UN partition plan for Palestine (Karmi, 2011) were critical milestones in the initiation of the Arab-Israeli conflict (Khalidi, 1985) that continues to this day. Besides the 1948, 1956, 1967 and 1973 Arab-Israeli wars⁷⁸, several other wars drove shock waves across the Arab world. These include the civil war in Lebanon (1975-1990)⁷⁹, Iran-Iraq war (1980-1988) (Parasiliti, 2003), Israel-Lebanon war (1982)⁸⁰, the Iraqi invasion of Kuwait (1990) and the Gulf war (1991) (Parasiliti, 2003), Iraq war (2003-to-date)⁸¹, 2006 Israel-Lebanon war⁸² and the Israel-Gaza war (2008-2009)⁸³. Moreover, December 2010 marks the beginning of protests and revolutions across the Arab world that have become known as the Arab Spring (Anderson, 2011).

⁷⁸ Arab-Israeli Wars. Encyclopedia Britannica Online, 2012. Web 07 June 2012, <http://www.britannica.com/EBchecked/topic/31439/Arab-Israeli-wars>

⁷⁹ Krayem, Hassan, The Lebanese Civil War and the Taif Agreement, American University of Beirut, Web accessed on June 8, 2012, <http://ddc.aub.edu.lb/projects/pspa/conflict-resolution.html>

⁸⁰ Arab-Israeli Wars. Encyclopedia Britannica Online, 2012. Web 07 June 7, 2012, <http://www.britannica.com/EBchecked/topic/31439/Arab-Israeli-wars>

⁸¹ Iraq War. Encyclopedia Britannica Online, 2012. Web 07 June 2012, <http://www.britannica.com/EBchecked/topic/870845/Iraq-War>

⁸² Lebanon. Encyclopedia Britannica Online, 2012. Web 07 June 2012, <http://www.britannica.com/EBchecked/topic/334152/Lebanon#toc279121>

⁸³ Cordesman, A. H. (2009), The "Gaza War": A Strategic Analysis, csis.org/files/media/isis/pubs/090202_gaza_war.pdf

Colonial occupations, conflicts and wars that have persisted for over a century in the Arab world have created continuous instability that has hindered the development of formal institutions conducive to private enterprise and entrepreneurship. Among others, these include effective systems of regulation, the rule of law, educational systems, health systems, and social safety nets. Nowhere is the effect of political instability on the economic sphere more pronounced than in Palestine where the hostile institution of the Israeli occupation and hundreds of roadblocks and checkpoints impose severe restrictions on the everyday lives of Palestinians, the movement of people and goods and, consequently, on their business activities, dwarfing Palestinian economic growth and development ⁸⁴.

The persistent political instability has also affected not only the development of proper formal institutions but also the building and even existence of physical infrastructure in many of the war-ravaged Arab countries such as Iraq or the Gaza strip. These require time, effort and huge funds to be rebuilt and constructed. Perhaps the causality runs in the opposite direction as well where weak formal institutions and the lack of proper infrastructure contribute to political instability. More recently, the Arab Spring countries have seen their revenues from various sectors, especially tourism, diminish. These Arab countries find their resources being stretched at the seams to meet the social, economic and political demands of their revolting citizens.

The Arab Spring has shattered many long-held Western stereotypes regarding the peoples of the Arab world and the myth of their economic prosperity. Apart from

⁸⁴ Occupation, Not Culture, Is Holding Palestinians Back, August 3, 2012, a New York Times article by the prominent Palestinian businessman Munib R. Masri, web accessed on August 4, 2012, http://www.nytimes.com/2012/08/03/opinion/occupation-not-culture-is-holding-palestinians-back.html?_r=1&emc=eta1

authoritarian regimes and the lack of political freedom, other main causes for the Arab Spring protests include an absence of, or poor, economic growth and development, high inflation rates, wealth distribution inequalities, corruption by a narrow elite, loss of dignity, injustice and high levels of poverty and unemployment. As mentioned, these ailments are further exacerbated by the demographic factor of a large youth segment and huge job seekers' bulge forecast for the year 2020. Given the critical role that innovation plays in economic growth and development, identifying potential innovation-enabling policies, tools and mechanisms has become the main focus of many policy makers in the Arab world and beyond as reflected in the main theme of 'Job Creation' at the October 2011 World Economic Forum in Jordan⁸⁵.

⁸⁵ World Economic Forum 2011: Arab World Needs Better Jobs, Investment, (2011), Reuters on Huffington Post, accessed on June 8, 2012, http://www.huffingtonpost.com/2011/10/22/world-economic-forum-arab_n_1026345.html

2.3. Cultural Background

Citizens in the Arab world countries share a common culture and values. The culture and values are rooted in the literary works of the Arab language and the teachings of Islam, the religion of nearly 91% of Arab citizens⁸⁶. In contrast to individualism that characterizes Western cultures, the interests of the community and collectivities take precedence in the Arab world. Values such as generosity, collaboration, lending support to family members, neighbors, friends and strangers and trust are held in high regard in Arabic literature and Islam. Arab citizens continue to be identified more based on their roles within, and contributions to, communities, clans or families than for their own individual merits. Thus, social capital and trust play major roles in social and business relations in the Arab world countries. As Zahra asserts, “Arab Middle East national and organizational cultures are grounded in trust and enduring personal relationships” (Zahra, 2011). This seemingly stands at odds with Edward C. Banfield (1958) and Francis Fukuyama’s (1995) assertion that trust focused overwhelmingly on kinship can be dysfunctional for the economy as a whole.

The above values remain deeply ingrained in the psyche of Arab citizens and continue to shape their collective identity despite a long history of colonialism. Edward Said (1985) uses the term orientalism to denote the Western body of ideas and clichés and system of representation of the Orient that differs from those used by Arab nationals. Colonialism was followed by decades of autocratic rules that continued to enjoy Western patronage and funding even though it no longer involved outright control. The various political systems that arose from these autocratic regimes denied citizens many basic

⁸⁶ Mapping the global Muslim population: A report on the size and distribution of the world’s Muslim population, 2009, Pew Forum on Religion and Public Life, accessed on June 7, 2012, http://www.pewforum.org/uploadedfiles/Orphan_Migrated_Content/Muslimpopulation.pdf

rights including democracy and freedom of speech and expression. These freedoms might also be constrained by the collectivist orientation that characterizes Arab societies. The undemocratic governance structures at the national level have been mirrored within organizations which also have “autocratic leaders at the helm of these organizations who mold their companies’ decision-making processes in ways that perpetuate their control” (Zahra, 2011).

Besides their negative effects at the organizational level, decades of colonialism, persistent dictatorships, wars and conflicts have, to varying degrees across the region’s countries, stunted the development of Arab world citizens, societies and economies. Based on metrics that include life expectancy, literacy rates and Gross Domestic Product (GDP) per capita, UNDP’s 2009 Arab Human Development Report⁸⁷ classifies the Arab countries into the following three groups: a high human development group, a medium human development group, and an unclassified group. This latter group includes war-ravaged Iraq and the failed state of Somalia that has not been assigned a human development index.

The 2005 human development index for the high human development group ranges between 0.891 and 0.821 while the index for the medium human development group ranges between 0.773 and 0.558. For the same year, the average human development index for the Arab countries is 0.699. This compares with indices of 0.743 for the world, 0.916 for the thirty-four members of the Organization for Economic Co-

⁸⁷ Arab Human Development Report 2009, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/contents/2009/annex1-e.pdf>

operation and Development (OECD)⁸⁸ which are mostly developed countries, and 0.691 for all developing countries⁸⁹.

Table 2.11 below compares the 2005 human development indices for the Arab world with those for several other groups of countries.

Table 2.11 Human Development Indices for Several Groups of Countries⁹⁰

Human Development Index (HDI) 2005						
Arab World Countries	World	OECD	High-Income OECD	All Developing Countries	East Asia and the Pacific	Latin America and the Caribbean
0.699	0.743	0.916	0.947	0.691	0.771	0.803

The long decades of colonial and authoritarian rule have also negatively affected the way Arabs view and value their own citizens' abilities, skills and accomplishments. Underestimation of the know-how and skills of Arab nationals, particularly in comparison to those of Western nationals in the Arab world, is commonly reflected in job positions, salaries and related benefits. Similarly, skills, services and products of local companies are undervalued vis-à-vis their western peers as reflected in assessments of tenders, bids and proposals for local projects. This characteristic Arab negative self-assessment represents one of the factors that have led to the prevalence of the 'expatriate' phenomenon in the Gulf States. Other contributing factors to this widespread 'expatriate' phenomenon in the Gulf States include small populations, the lack of local citizens who

⁸⁸ Organization for Economic Cooperation and Development, website accessed on May 28, 2012, http://www.oecd.org/document/25/0,3746,en_36734052_36761800_36999961_1_1_1_1,00.html

⁸⁹ Arab Human Development Report 2009, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/contents/2009/annex1-e.pdf>

⁹⁰ Ibid.

possess specialized skills in particular sectors, e.g. oil and gas, the availability of large oil revenues and these countries' determination to catch up rapidly in a very short period of time. Low or non-existent oil and gas revenues limit the prevalence of expatriates in the other two Arab world-country groups.

The specificities of the Arab world contexts discussed in this chapter reflect many differences with the contexts of the developed and BRIC countries in which the NSI literature is grounded. As already mentioned, in addition to many 'essential' institutions that are either missing or weak in the Arab world contexts several strong hostile institutions exist. Due to the macro-micro interplay, these differences at the institutional macro level in the Arab world result in divergences at the micro level of the organizations that operate in these contexts. My early observations in the field and results of the iterative data analysis and literature search process that I discuss in Chapters 6 and 7 provide support for the above assumption. These findings reveal Arab world NSI 'observed' foundational constructs that diverged from the developed-country NSI 'theorized' constructs. These divergences are also reflected in some of the streams of literature focused on developing countries that I review in Chapter 3.

3. LITERATURE REVIEW

3.1 Introduction

As this literature review demonstrates, the national system of innovation (NSI) literature and its foundational constructs that are grounded in developed-country contexts diverge from those that emerged in this research which is conducted in the developing-country contexts of the Arab world. Perhaps it is not surprising that the foundational constructs that emerge in research conducted in the developing world, and especially the Arab world, are quite different.

This literature review begins with a broad working definition of innovation and a typology that delineates innovations based on process criteria and outcome criteria. It then covers three observations found in the mainstream innovation literature and traces the emergence of the systems of innovation and the national system of innovation (NSI). Focusing on the developed-country NSI, I summarize the literature on NSI's theoretical roots, genesis and evolution, main theoretical contribution, foundational constructs, versions, and other contributions and limitations.

The largest part of this literature review elaborates more fully on the foundational constructs that have ultimately emerged in the research that follows as particularly relevant to innovation and to NSI in the Arab world contexts. Besides sharing a focus on formal institutions with the developed-country NSI literature, the foundational constructs that have emerged as critically important to innovation in the Arab world context include a corporate culture of empowerment, dynamic capability building and social capital.

3.2 Broad Working Definition of Innovation

I advance the following working definition for innovation: *any newly developed and diffused institutional, social, organizational or business model, process, product or service that has been broadly adopted within a certain community, industry, country or the world*. This definition is broader than conventional definitions of innovation that have been used by many scholars. Although earlier definitions reflect a broadening of the scope of innovation over the years, conventional definitions still do not encompass the bulk of innovations or “hidden innovation” (NESTA, 2006).

Among the early definitions of innovation was that proposed by Richard R. Nelson and Nathan Rosenberg who defined innovation as “the processes by which firms master and get into practice product designs and manufacturing processes that are new to them whether or not they are new to the universe, or even to the nation” (Nelson & Rosenberg, 1993). Kevin Morgan defines innovation “in the broad sense to include product, process and organizational innovation in the firm as well as social and institutional innovation at the level of an industry, region and nation” (Morgan, 1997). A more recent and still broader definition has been used by Bengt-Åke Lundvall. This scholar defines innovation as “a process encompassing diffusion and use as well as the first market introduction” (Lundvall, 2007).

My proposed working definition builds on and further elaborates on these definitions. It is broad on a multitude of dimensions including: sources and technology, context development, boundaries, actors, domains and types. Its breadth intends to transcend the common association of innovation with developed countries, and also to encompass the majority of innovations that employ low- and medium-technology (LMT).

These include LMT innovations in manufacturing, organizational, services and social innovations that NESTA has termed “hidden innovation” (NESTA, 2006). This term encompasses innovations that originate in the BRIC countries as well as in other developing countries.

With respect to boundaries, this broad working definition encompasses notions of both closed and open innovation systems that reflect respectively innovations emerging within the firm’s boundaries and outside them, explained in more detail in Section 3.3 below. While accepting the premise that a firm does not innovate in isolation (Edquist, 1997; Morgan, 1997; Tether & Tajar, 2008), the proposed working definition acknowledges not only private sector actors but also those from the public sector and civil society. It also encompasses organizational innovations (Morgan, 1997) as well as those in products and processes, social and institutional (Morgan, 1997).

This broad working definition is intended to allow for varying degrees of novelty: totally new or disruptive, new to the local, regional or national market, or even just new to the firm. Moreover, it encompasses radical, incremental, combinative (Penrose, 1959) and re-combinative (Kogut & Zander, 1992) or architectural innovations (Henderson & Clark, 1990) all reflecting Schumpeter’s (1934) notion of new combinations. It also includes ad hoc innovations (Gallouj & Weinstein, 1997), that emerge from the cooperation between a firm and one of its clients; network ad hoc (de Vries, 2006), innovations that result from the cooperation of many actors, alternatively termed as “organizational-cooperation” (Tether & Tajar, 2008); and cross-sector innovations such as public private partnerships and co-operatives. Moreover, it encompasses distributed innovation processes (Coombs, Harvey, & Tether, 2003; Miles, 2000) that correspond to

Henry Chesbrough's notion of open innovation (Chesbrough, 2003a; Chesbrough, 2003b; Graham, 2008; Laursen & Salter, 2006; Su, Tsang, & Peng, 2009) and efforts to harness "collective creativity" (Chesbrough & Appleyard, 2007).

This proposed working definition adopts the systems perspective (Freeman, Clark, & Soete, 1982) in which systems are envisioned as complex and "characterized by co-evolution and self-organizing" (Lundvall, 2007) (which I detail in Section 3.3 below), and innovation as an "intricate interplay between micro and macro phenomena" (Lundvall, 2007). While acknowledging that some innovation types overlap and, hence, are not mutually exclusive, in two tables on the next page I present a typology of innovations based on process criteria (Table 3.1) and on outcome criteria (Table 3.2).

Table 3.1 Types of Innovations Based on Process Criteria

Process Criteria	Innovation Type
Flow	Linear Chain-linked (Kline & Rosenberg, 1986)
Organizational boundaries	Closed innovation system: Within firm only Semi-closed innovation system: Firm-University-Government (Mowery & Oxley, 1995) Open innovation system: Transcends firm boundaries to include multiple organizational and/or individual actors (Chesbrough, 2003a; Chesbrough, 2003b; Chesbrough & Appleyard, 2007; Graham, 2008)
Actors involved	Firm members Firm and client members: Ad hoc innovation (Gallouj & Weinstein, 1997) Multiple organizational and individual actors: Network ad hoc (de Vries, 2006), Organizational-Cooperation (Tether & Tajar, 2008), Distributed innovation (Coombs et al., 2003; Miles, 2000)
Combinatorial types	New combinations (Schumpeter, 1934) Re-combinative/architectural (Henderson & Clark, 1990) Combining characteristics of two or more products or services (Gallouj & Weinstein, 1997) Splitting up an existing product or service (Gallouj & Weinstein, 1997)

Table 3.2 Types of Innovations Based on Outcome Criteria

Outcome Criteria	Innovation Type
Novelty	Totally new, disruptive (Christensen, 2001) New to local, national or regional market New to the firm
Degree of variance from existing state	Radical (Schumpeter, 1934) Incremental (Schumpeter, 1934)
Source & technology content	Science-based, high-technology (Mowery & Oxley, 1995) Non-science-based, low- and medium-technology (LMT) that are hidden (NESTA, 2006)
Economic sector	Manufacturing Services (Gallouj & Weinstein, 1997; Miles, 2005)
Focus/Domain	Product Process Organizational (Morgan, 1997; Tether & Tajar, 2008) Institutional (Morgan, 1997) Social (Dees, 1998; Mair & Martí, 2006; Peredo & McLean, 2006; Seelos & Mair, 2005) Multi-domain: Public Private Partnerships & cooperatives

3.3 Mainstream Innovation Studies Literature – Three Observations

A literature review of the mainstream innovation studies reveals three main observations that are related to 1) the evolution of the innovation literature; 2) the literature's narrow focus; and, 3) its theoretical grounding. The literature on innovation seems to have evolved through three phases. Margaret Graham asserts that these are open innovation, predominantly closed innovation and finally open innovation arrangements (Graham, 2008). Open innovation (Chesbrough, 2003a; Chesbrough, 2003b; Chesbrough & Appleyard, 2007; Graham, 2008) refers to “the pooling of knowledge for innovative purposes where the contributors have access to the inputs of others and cannot exert exclusive rights over the resultant innovation” (Chesbrough & Appleyard, 2007). Historians of technology Graham, Lamoreaux, and Usselman have shown that open innovation was the standard approach to innovation in the United States until the 1930s, making the closed approach of the mid-20th century the exception rather than the rule.

In the early open phase, the literature treats individual innovations as being developed in the open market by a single individual innovator or entrepreneurial inventor. These innovations represent the focus of much of Joseph Schumpeter's work on entrepreneurship (Schumpeter, 1934, 1939). The closed innovation phase arose out of concerns for secrecy, both commercial and military, and was perpetuated by a policy supporting ‘big science’, defense preparedness, and international competition during the era of the Cold War. Innovations were wholly or partially state-funded and developed in government laboratories and in corporate R&D laboratories of large private sector organizations, except in Germany and Japan where lack of a military sector led to private sector funding coordinated by the government. These innovations, often addressed in

Schumpeter's later work (1942) and extensively studied by Alfred D. Chandler (1990) were generally believed to adhere to a 'linear model' in which the primary source was science, and the process was largely self-contained.

In the third phase that emerged in the latter part of the 1900s, the literature emphasizes a "systems perspective" (Freeman, 1974) and the process of innovation is depicted as evolving into an open market form where networks of smaller specialized firms predominate. This phase is represented by the systems of innovation concept that is expressed in several models (Section 3.3). The most widely diffused and adopted model of the systems of innovation concept is the national system of innovation (NSI) (Lundvall, 1992; Lundvall et al., 2002; Nelson, 1993). This NSI model is mainly focused on science-based high-technology innovations in developed-country contexts.

A second general observation concerning the mainstream innovation studies literature relates to the literature's narrow focus. The literature is narrowly-focused on science-based, formal R&D, high-technology innovations in the manufacturing sector in developed countries even though this type of innovation only constitutes between 2.5% and 3.0% of value added even in these advanced economies (Tether & Tajar, 2008; von Tunzelmann & Acha, 2005). Mainstream innovation studies ignore most innovations that the UK's National Endowment for Science, Technology and the Arts has termed "hidden innovation" (NESTA, 2006). Hidden innovation encompasses low- and medium-technology (LMT) innovations in manufacturing as well as organizational, social, and service innovations. The inclusion of hidden innovation is thus consistent with Schumpeter's open and broad analyses and his notion of "new combinations" (1934).

A third observation concerning the mainstream innovation studies literature relates to the theoretical grounding of the innovation literature. Because innovation denotes change, it stands in marked contrast to dominant literatures of organization studies and strategic management which have until recently tended to emphasize stability (Hargadon & Douglas, 2001). Most strategic management literature is grounded in dynamic economics (Nelson & Winter, 1982; Teece & Pisano, 1998) and institutional and neo-institutional theories (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Powell & DiMaggio, 1991) that maintain stability. By contrast, the innovation literature is most closely related to the resource-based (Barney, 1991; Kraaijenbrink et al., 2010; Penrose, 1959) and knowledge-based (Grant, 1996; Nonaka, 1994; Spender, 1996a) perspective from which change arises.

Combining under one umbrella two such seemingly incompatible perspectives as innovation and institutions (Nelson, 2008; North, 1990; Scott, 1995), NSI (Lundvall, 1992) achieves an important synthesis of stability and change. Besides integrating the literatures on innovation and institutions, my literature review touches upon the literatures of business groups and business associations in developing countries (Doner & Schneider, 2000; Granovetter, 2005; Khanna & Fisman, 2004; Khanna & Yafeh, 2007; Leff, 1978) since business groups play a central role in substituting missing institutions in weak institutional contexts. Innovation is interdisciplinary to such a degree that it is necessary to choose just a few streams on which to focus (Fagerberg, 2005). Hence, I consciously exclude from my discussion related literatures such as that on the “institutional entrepreneur” (Garud et al., 2002; Greenwood et al., 2002; Lounsbury,

2002) and research that extends or builds around this notion (Lounsbury & Crumley, 2007; Vermeulen et al., 2007).

3.4 Emergence of the Systems of Innovation Concept

Following decades of a closed innovation stage that was marked by state-funded big science driven by military needs during World war II and the years of the cold war, a new stage of open innovation, but this time with a systems perspective (Freeman et al., 1982) on innovation emerged. The resulting shift in theory occurred as a response to changes in the environmental context of the 1970s and 1980s. Elements that stimulated this shift included the fast-paced advances in technology, the convergence of several technologies and growing globalization. These elements shifted the basis of competitive advantage from traditional tangible resources to the more intangible resources of knowledge and learning. In addition to these elements, empirical research findings as well as theoretical contributions supported this shift.

A stream of empirical research findings consistently highlighted innovation as a ubiquitous and ongoing activity (Fagerberg, Mowery, & Nelson, 2005) and indicated that organizations do not innovate in isolation (Edquist, 1997). Findings further indicated innovation as a process that is socially embedded (Granovetter, 1985) and socially constructed (de Vries, 2006) by several actors (Edquist, 1997; Morgan, 1997; Pavitt, 2005; Tether & Tajar, 2008) which some scholars refer to as providers (Coombs et al., 2003; de Vries, 2006). Research findings also showed innovation as complex and interactive (Edquist, 1997; Fagerberg, 2005), cumulative (Johnson, Edquist, & Lundvall, 2003), and inherently uncertain (Fagerberg, 2005).

This uncertainty associated with innovation persisted despite its partial reduction by regulation, public procurement and secured funding of big science by governments of U.S.S.R., the U.S., England and Canada during the closed innovation stage. In contrast to

the earlier linear, unidirectional, model that dominated conceptualization of innovation in the closed era, empirical research findings also revealed innovation as a process that involved two-way interactions between its different stages (Kline & Rosenberg, 1986) of development, diffusion, absorption, adoption, use (Johnson et al., 2003) and testing in the open market. These findings allowed innovation to be acknowledged as a process that is neither fully automatic nor fully deliberate (Lundvall et al., 2002) with no simple “best practice” innovation model to follow (Johnson et al., 2003; Pavitt, 2005).

Further, theoretical contributions also supported the shift in theory. These contributions included Freeman’s (1974) taxonomy of systems, evolutionary theory (Nelson & Winter, 1982) and the chain-linked model (Kline & Rosenberg, 1986). Besides advancing innovation as a “coupling process”, Freeman’s taxonomy (Freeman, 1974, 1982) categorized systems on the basis of technological, industrial and sectoral characteristics. Freeman’s contribution challenged innovation’s conceptualization as an act performed by a single entrepreneur or firm and invited scholars to think of innovation as a system.

While evolutionary theory highlighted innovation as a process, the chain-linked model emphasized innovation’s interactivity and its non-military sources. Mostly non-science-based, these non-military sources are represented in consumer feedback particularly for complex products (Rosenberg, 1982; von Hippel, 1988), user-producer interaction (Lundvall, 1985) as well as know-how or craft as opposed to, or in addition to, formal knowledge. Increasingly, the language of economic sociology became more prevalent, prompting several scholars (Hodgson, 2006; Nelson, 2008; Nelson & Nelson,

2002; Nelson & Sampat, 2001) to study extensively both formal and informal institutions including “habits, conventions and routines” (Morgan, 1997).

As a result, innovation increasingly came to be perceived as a complex interactive process “between firms and the basic science infrastructure, between the different functions within the firm, between producers and users at the interfirm level and between firms and the wider institutional *milieu* – and that this process should be conceived as a process of *interactive learning* in which a wide array of institutional mechanisms can play a role” (Morgan, 1997; italics in the original). Innovation further came to be understood “in the broad sense to include product, process and organizational innovation in the firm as well as social and institutional innovation at the level of an industry, region and nation” (Morgan, 1997).

The systems of innovation literature rapidly grew to encompass several ‘system of innovation’ models including the following: technological (Carlsson & Jacobsson, 1994; Stankiewicz & Carlsson, 1991), sectoral (Breschi & Malerba, 1997; Malerba, 2002), regional (Braczyk, Cooke, & Heidenreich, 1998; Cooke, Gomez Uranga, & Etxebarria, 1997; Malmberg & Maskell, 1997) and regional innovation complexes (Florida, 1995; Saxenian, 1994). The most widely diffused and adopted of these models is the national system of innovation (NSI) (Edquist, 1997; Edquist & McKelvey, 2000; Freeman, 1987; Lundvall, 1992; Nelson, 1993; Niosi, Godin, & Manseau, 2000) which this thesis takes as its foundation. The following section summarizes NSI’s theoretical roots, genesis and evolution. It also reviews NSI’s main theoretical contribution and its foundational constructs of knowledge, learning and institutions. The section also presents NSI’s three versions as well as other theoretical contributions and limitations.

3.5 The National System of Innovation (NSI)

3.5.1. Theoretical Roots

According to Freeman (2004) and Lundvall (2007), NSI's theoretical roots could be traced back to the German economist Friedrich List. In 1841, List challenged Adam Smith's economic theory by focusing his analysis on the development of productive forces rather than on the allocation of scarce resources (Lundvall, 2007; Lundvall, 1985). In the catch-up strategy that he drafted for Germany, List called for a 'national system of production' and highlighted the government's role in creating and supporting national institutions and infrastructure which he asserted should be directed towards promoting Germany's "mental capital" (Lundvall, 2007). As a result of adopting List's economic arguments, perceived as controversial at the time, Germany achieved huge economic success.

This economic success is reflected in the work of Johan Peter Murmann (2003) who covers the emergence and development of the synthetic dye industry in Germany during the period from 1850–1914. Murmann's study pays particular attention to the co-evolution of dye firms with particular institutions – the education system and the patent system – in the context of a national innovation system which formed the political, social and legal business environment of that era. Some of the phenomena which Murmann's work addresses include the emergence of the industrial research lab, the evolution of German patent law, the refocusing of the German university system, and the funding for research and education by German governments.

3.5.2. *Genesis and Evolution*

The three scholars who have received the most credit for shaping the NSI literature are Bengt-Åke Lundvall, Christopher Freeman and Richard R. Nelson. These scholars performed research that was foundational for NSI including coining the phrase ‘the innovative capability of the national system of production’ by the Innovation, Knowledge, and Economic Dynamics (IKE) group at Aalborg University of which Bengt-Åke Lundvall was a member. Other seminal research projects included international comparisons between the national styles of innovation management conducted by the U.K.’s Science Policy Research Unit (SPRU) at the University of Sussex, headed by Christopher Freeman and comparisons between American systems of science and technology and those of other countries conducted by Richard R. Nelson and other U.S. scholars (Lundvall et al., 2002).

Freeman and Lundvall each give the other credit for NSI’s earliest related work (Sharif, 2006), Lundvall (2004) crediting Freeman’s 1982 unpublished paper *Technological Infrastructure and International Competitiveness* and Freeman crediting Lundvall’s booklet, *Product Innovation and User-Producer Interaction* (Lundvall, 1985). Freeman wrote his paper in his capacity as advisor to the OECD Ad-hoc Group on Science, Technology and Competitiveness. There he explicitly uses the term ‘national systems of innovation’, and endorses the qualitative economics of List’s ‘national systems of production’, which argues for an active government role and identifies a wider range of factors affecting innovation than most recognized at the time. Owing to its departure from the tenets of neoclassical economics, Freeman’s paper was perceived as

so controversial that the OECD chose not to publish the paper; its circulation was consequently limited to the unpublished paper until 2004 (Freeman, 2004).

For his part, Freeman asserts that the first ever published work which explicitly used the full term ‘system of innovation’ was that of Lundvall (Lundvall, 1985). The first detailed articulation of the NSI concept appeared in Freeman’s book *Technology, Policy, and Economic Performance: Lessons from Japan* (1987). This work focused on the role of the Japanese developmental state, represented by Japan’s Ministry of Industry, Trade and Investment (MITI), in creating institutional and contextual factors that resulted in a ‘developmental gap’ between Japan and other competing nations. Freeman’s work led to several new lines of research including Giovanni Dosi’s edited book *Technical Change and Economic Theory* (1988), four chapters of which were devoted to the NSI concept.

All of these preliminary works came together in two comprehensive works on NSI that were later acknowledged to be the most important works in NSI’s development and diffusion. These are Lundvall’s *National Systems of Innovation* (1992) and Nelson’s *National Innovation Systems: A Comparative Analysis* (1993). Published a year apart, these two complementary works each focused on specific themes and approaches; Lundvall’s (1992) book was theoretical while Nelson’s (1993) book contained empirical case studies about a group of countries. Lundvall’s theory (1992) placed innovation, learning and user-producer interaction at the center of economic analysis (Lundvall, 2007) while Nelson (1993) based his empirical analysis on the systemic interdependencies within fifteen separate countries. Together these two works stimulated a large body of systems of innovation literature. In addition to numerous scholarly

papers, there were several books (Edquist, 1997; Edquist & McKelvey, 2000; Niosi et al., 2000).

Meanwhile NSI thinking also had an effect in the realm of policy, starting with the OECD's Technical/Economic Program meeting held in Montreal in 1991. This in turn led to the diffusion of the concept among other such influential policy institutions as the European Commission, UNCTAD and the U.S. Academy of Science. The NSI's conceptual framework went on to be widely adopted by many developed and developing countries, and in 2001 Sweden even formed a central government institution named for NSI: *The Systems of Innovation Authority* VINNOVA (Johnson et al., 2003; Lundvall et al., 2002).

3.5.3. Main Theoretical Contribution of the NSI Research

By promoting an evolutionary theory (Nelson & Winter, 1982) emphasizing innovation as a process, the NSI research stream contributed to the emergence of a new ‘neo-Schumpeterian’ school of economics. This school recognized as central Schumpeter’s view of capitalism as “an *evolutionary* process driven by technical and organizational innovation; a process in which firms face a greater degree of *uncertainty* and *instability* than is ever admitted in neo-classical theory; a process in which social *institutions* other than the market play a major role” (Morgan, 1997; italics in the original).

By placing innovation at the center of economic analysis NSI made the major theoretical contribution of bridging the long-dominant divide between economics and innovation. According to Lundvall, NSI succeeded in promoting two important theoretical shifts: from the allocation of scarce resources to knowledge creation and growth, and from a static to a dynamic condition (Lundvall, 2007). Together these shifts constituted a complete departure from the traditional neoclassical economics view of innovation as an anomaly exogenous to the economic process. Its contribution built on earlier attempts by economists to integrate innovation into economic analysis including work by Paul Romer (1990), Albert Hirschman (1958), Eric Dahmén (1970), Israel Kirzner (1973) and of course Joseph Schumpeter (Schumpeter, 1934, 1939). According to Fagerberg, Schumpeter attempted to develop an innovation-driven theory of economic change as a complement to the dominant neoclassical economic theory (2002) while Richard R. Nelson and Sidney Winter presented their evolutionary theory (1982) as a replacement for neoclassical theory.

3.5.4. NSI ‘Theorized’ Foundational Constructs

NSI for developed countries rests on three foundational constructs. These are: 1) knowledge; 2) learning; and, 3) institutions. For Lundvall “knowledge is the most important resource, and learning is the most important process” (1992). Both constructs are also rooted in the strategic management research stream which explores the internal resources and capabilities of firms and locates sources of competitive advantage within them (Barney, 1991; Penrose, 1959; Teece & Pisano, 1998; Wernerfelt, 1984). Meanwhile, the knowledge-based view (Grant, 1996; Nonaka, 1994; Spender, 1996a) extending Barney’s (1991) work, places knowledge at the center of the analysis and perceives it as the firm’s *raison d’être* and its most strategic resource. The two elements of knowledge (Blackler, 1995; Nonaka & Takeuchi, 1995; Polanyi, 1962; Spender & Grant, 1996) and learning (Argyris & Schön, 1978; Arrow, 1962; Brown & Duguid, 1991; Fiol & Lyles, 1985; Levitt & March, 1988; Lundvall, 1985; Rosenberg, 1982) represent micro-level constructs of the NSI of developed countries.

The third ‘theorized’ NSI construct of institutions (Baumol et al., 2007; DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Nelson, 2008; North, 1990; Scott, 1995) reflects the macro-level elements of NSI in the developed-country contexts. In these contexts, institutions are mostly formal. Examples include industrial R&D; intellectual and property rights laws that protect ownership and promote innovation including a patent system; anti-trust systems; a proper-functioning legal system to govern and settle commercial disputes and perform arbitration; funding of basic and advanced research and development; flexible labor markets; trade regulations and laws governing enterprise set up and functioning including bankruptcy laws; as well as educational systems.

These institutions also include deep capital markets; venture capital availability; a well-monitored and regulated banking system able and willing to provide firms with credit at relatively low interest rates; social welfare; and social safety nets. Baumol, Litan and Schramm (2007) categorize institutions into four sets. The first set would facilitate setting up, operating and exiting private enterprises. The second set would reward entrepreneurs for their efforts. The third set would discourage criminal and rent seeking behavior and the fourth would ensure the continuity of incentives to entrepreneurs. I discuss institutions in more detail in subsection 3.7.2. In addition to the formal institutions listed above, NSI's latest version, which is the national innovation and competence building system (NICS) (Lundvall, 2002; Lundvall et al., 2002), alludes to the importance of the informal institution of social capital and emphasizes competence building. I devote the next subsection to discussing the three versions of NSI.

3.5.5. *NSI Versions*

Three different versions of NSI have emerged over time: a U.S. version (Mowery & Oxley, 1995); an Aalborg version (Andersen & Lundvall, 1988); and, a more recent extension of the latter, the national system of production, innovation and competence building version (Lundvall, 2007; Lundvall et al., 2002). These versions differ along several dimensions. The U.S. version focuses narrowly on science and R&D. The Aalborg version includes both science and non-science innovations. The U.S. version adopts a macro-view and represents a “broadening of earlier analyses of national science systems”(Johnson et al., 2003). These characteristics of the U.S. version are reflected in the definition advanced by Mowery and Oxley who perceive NSI to include “the public agencies that support and/or perform R&D; a nation’s universities, which may perform research and play an important role in the training of scientists and engineers; the firms within an economy that invest in R&D and in the application of new technologies; any public programmes intended to support technology adoption; and the array of laws and regulations that define intellectual property rights” (Mowery & Oxley, 1995).

The U.S. version is also driven by an intellectual property or monopoly perspective as reflected in the areas that both Nelson and Mowery were naturally drawn to extend their work in the 1990s. Given these characteristics, the U.S. version resembles the ‘predominantly closed’ system of innovation dominated by corporate in-house R&D labs that prevailed in the U.S. from before world war II until the 1980’s. This intense focus on R&D and science-based sources limits this version to developed countries that possess large economies and strong science bases such as the U.S., the U.K., Germany and Japan.

The Aalborg version's advocates have combined a macro view and a micro approach that focuses on knowledge and learning and on the modes by which the latter takes place in economic systems (Johnson et al., 2003). Lundvall affirms that “the innovation process may be seen as an intricate interplay between micro and macro phenomena” and hence that systems are complex and are “characterized by co-evolution and self-organizing” (2007). This version perceives innovation as a “continuous cumulative process involving not only radical and incremental innovation but also the diffusion, absorption and use of innovation” (Johnson et al., 2003).

Thus, the Aalborg version defines innovation broadly to reflect “besides science and R&D, interactive learning taking place in connection with ongoing activities in procurement, production and sales” (Johnson et al., 2003). Lundvall (2007) asserts that, by fully adopting Schumpeter's notion of innovation as “new combinations” (Schumpeter, 1934), these are combinations of knowledge drawn from different sources (Lundvall, 1992) and in particular knowledge that a firm collects while interfacing with its suppliers and customers which this scholar refers to as user-producer interaction (Lundvall, 1985). Hence, the Aalborg version resembles the open innovation system that scholars such as Chesbrough have described (Chesbrough, 2003a; Chesbrough, 2003b; Chesbrough & Appleyard, 2007; Graham, 2008).

Due to its scope and broader definition of innovation, the Aalborg version more aptly fits economies that, although developed, are small and characterized by weak science bases like the Nordic countries (Johnson et al., 2003; Lundvall et al., 2002). This version's advocates argue that it is the most appropriate model for enhancing economic development efforts in developing countries. Besides adopting the Aalborg version, this

thesis also subscribes to its re-defined and more recent version of the national innovation and competence building system (NICS) version (Lundvall et al., 2002).

Drawing on findings of the Danish DISKO project (Table 1.1), NICS places greater emphasis on people, organizations and competence building. In a more recent elaboration aimed at clarifying its boundaries, Lundvall (2007) envisions NICS as possessing a core and a wider institutional set-up. This scholar affirms that the “*core of the innovation system* is thus *firms in interaction with other firms and with the knowledge infrastructure*” and that the wider set-up includes “*the national education systems, labour markets, financial markets, intellectual property rights, competition in product markets and welfare regimes*” (Lundvall, 2007; italics in the original).

Table 3.3 on the following two pages compares the three NSI versions.

Table 3.3 Differences between the Three NSI Versions (1 of 2)

NSI version Criteria	U.S. Version (Nelson, 1993)	Aalborg Version (Lundvall, 1992)	NICS version (Lundvall et al., 2002)
View	Macro	Macro & Micro	Macro & Micro
Focus	Narrow	Broad	Broad
System Type	Closed Partially closed	Open	Open
Extension of	National Science Systems (Mowery & Oxley, 1995)	Taxonomy of Systems (Freeman, 1974)	Aalborg extension based on Danish DISKO project
System Structure	Firms-Universities- Government (In-house labs)	Firms Suppliers Customers	Core: firms & knowledge Infrastructure Wider Institutional set-up
Supporting Institutions	IPR regulations & laws	Various regulations & laws	National education systems Labor markets Financial markets Product markets IPR regulations & laws Welfare regimes
System Characteristics	Unidirectional flows	Multi-directional Complex	Complex Co-evolution Self-organizing
Scope	Radical innovations Incremental innovations	Diffusion, Absorption & Use of innovations Incremental innovations Radical innovations	Diffusion, Absorption & Use of innovations Incremental innovations Combinations
Sources of Innovation	R&D and Science	Practice Knowledge Learning R&D and Science	Practice Knowledge Learning

Table 3.3 Differences between the Three NSI Versions (2 of 2)

NSI version Criteria	U.S. Version (Nelson, 1993)	Aalborg Version (Lundvall, 1992)	NICS version (Lundvall et al., 2002)
Innovation Types	High-technology	Medium-technology Low-technology High-technology	Medium-technology Low-technology
Perception of Innovation Process	Mostly linear	Chain-linked Continuous cumulative process	Chain-linked Intricate interplay between macro & micro phenomena Continuous cumulative process
Central Activities	Research & Development Training of professionals Technology adoption	Interactive Learning from procurement, production & sales User-Producer Interaction Combining & re-combining of knowledge	Interactive Learning Competence Building Interactive Learning Combining & re-combining of knowledge
Central Organizational Actors	Public agencies Public programs Universities Firms	Firms Suppliers	Firms Knowledge Infrastructure
Central Individual Actors	Scientists Engineers	Staff Customers	Various heterogeneous individuals
Sectors	Manufacturing	Services Manufacturing	Services Manufacturing
Presents Best Fit with Economy Type/s	Developed Large Strong science bases (e.g. U.S.)	Developed Small Weak science bases (e.g. Nordic countries) Developing	Developing Developed Small Weak science bases (e.g. Nordic countries)

All NSI references from this point onward would reflect the Aalborg and NICS versions.

3.5.6. Other Contributions and Limitations

In addition to its major contribution of placing innovation at the center of economic analysis and bridging the gap between economics and innovation, NSI makes three other contributions. These are related to its 1) national level of analysis; 2) systemic perspective; and, 3) key elements of knowledge and learning. First, NSI's national level of analysis has enabled its use as an analytical tool or macro level lens to identify the critical factors that underlie competitiveness and economic development (Lundvall et al., 2002). This has created a common ground for policy analysts and institutions (Bessant & Dodgson, 1996) that has facilitated narrowing their differences and finding solutions to the practical problems they faced (Lundvall et al., 2002). Using the NSI framework has made it possible for policy analysts to visualize, design and implement innovation-supporting policies and macro-structures within the targeted institutional set-ups.

Second, the systems perspective enabled the integration of several foundational, yet seemingly unrelated or remotely related, contextual and institutional factors under the NSI label. Among others, these factors include general education, legal system, property rights laws, financial system, cultural dimensions such as diversity and amenities (Florida, 2002a, b), geographic economics (Porter, 1998; Porter, 2000; Saxenian, 1994), formal and informal institutions (Murmann, 2003; Nelson & Nelson, 2002; Nelson & Sampat, 2001), path dependency, social factors and the importance of embeddedness (Granovetter, 1985). Finally, unlike more traditional tangible resources, NSI's non-tangible resources of knowledge and learning represent inimitable, rare, and highly valued sources of competitive advantage within the new turbulent and swiftly evolving global economic landscape.

Despite the contributions discussed above, NSI has limitations that result in four literature gaps. These gaps reflect the lack of the following: 1) an agreed upon unit of analysis; 2) a broad approach that goes beyond the narrow focus on science-based high-technology innovations; 3) a fine-grained articulation of innovation's micro-dynamics in developed countries; and, 4) an understanding of innovation's macro and micro elements in developing countries. As already discussed, this thesis focuses on the fourth NSI gap and attempts to address it by studying innovation in the developing countries of the Arab world.

To address the first gap, NSI scholars have yet to develop an agreed-upon unit of analysis. Second, despite noted efforts in NSI's recent version (Lundvall, 2007; Lundvall et al., 2002), the innovation and NSI literatures retain their narrow focus on science-based high-technology innovations in manufacturing (de Vries, 2006; Gallouj & Weinstein, 1997; Santamaría, Nieto, & Barge-Gil, 2009; Tether & Tajar, 2008; von Tunzelmann & Acha, 2005). This is critical particularly given that these innovations account for only between 2.5% and 3% of value added in the U.K. (Tether & Tajar, 2008) and in the Organization for Economic Co-operation and Development (OECD) countries (von Tunzelmann & Acha, 2005). The small share of value added of science-based high-technology innovations in developed countries draws attention to the need to acknowledge the bulk of innovations that employ low- and medium-technology that have thus far remained "hidden" (NESTA, 2006).

Hidden innovation includes low- and medium-technology (LMT) industries that "still make up the largest part of the manufacturing industries in OECD countries" (Santamaría et al., 2009). It also includes organizational (Tether & Tajar, 2008) and social innovations as well as innovations in services (Gallouj & Weinstein, 1997; Miles, 2005). Service innovations are of particular significance since "services constitute the bulk of advanced economies, and the only

part of most of these that is growing in terms of value added and employment” (Tether & Tajar, 2008) and account for about seventy percent of employment (de Vries, 2006). A first step to address this limitation would be the adoption of a broader definition that encompasses hidden innovation (NESTA, 2006) and which reflects the broad and open scope of Schumpeter’s analyses (Gallouj & Weinstein, 1997) of “new combinations” (1934). The working definition that I have advanced in section 3.2 represents an attempt to articulate such a broad definition.

Thirdly, while undoubtedly making a contribution, NSI’s national level of analysis also represents a limitation. While it is useful as a macro-level analytical tool, this level of analysis has proved to be too abstract to enable a rich and fine-grained depiction of innovation’s micro-dynamics in developed countries on which NSI focuses. This focus on developed and, to a lesser extent, BRIC countries gives rise to the fourth limitation. Given the differences between the institutional set-ups of developed and developing countries, NSI’s focus on developed countries limits its potential and ability to provide an understanding of innovation’s macro- and micro-dynamics in developing countries. However, the NICS version emphasizes areas such as social capital and competence building that could provide some understanding of innovation in developing countries.

As the literature review shows, NSI’s limitations became evident as soon as early observations in the field diverged from the NSI ‘theorized’ foundational constructs that I had specified a priori from the extant NSI literature that focuses on developed countries. These observations prompted changes in the interview format as well as in the research question (Section 3.6 below). These, in turn, enabled capturing fine-grained data from the fieldwork. Given the observed divergences I attempted to make sense of the data collected by continuously iterating between various research streams and the data. This iterative process ultimately resulted

in the emergence of some Arab world NSI ‘observed’ foundational constructs relating to different research streams than had previously been included.

The research streams that emerged from the iterative data analysis and literature search process as relating most closely to the Arab world constitute much of this literature review chapter (Section 3.7). To highlight the relatedness point, I introduce my research question about innovation in the Arab world at this point (Section 3.6 below) instead of following the customary practice of introducing it at the end of the literature review chapter.

3.6 Main Research Question

The research initially attempted to answer the general research question of: *How does an idea (invention) get developed to become a fully commercialized innovation in the non-BRIC developing Arab world context?*

I conducted the first few pilot interviews in a pre-designed semi-structured interview format and posed the more detailed questions (Appendix I) with the use of an interview guide (Appendix IV). In conducting these interviews, I remained open and flexible with regards to the specified a priori NSI ‘theorized’ foundational constructs. Openness and flexibility in conducting the interviews enabled early observations that diverge from these NSI ‘theorized’ foundational constructs to emerge and also enabled the initially posed research question to evolve into a more articulated research question which I list below in Figure 3.1.

Figure 3.1 Main Research Question

How is innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential?

3.7 Foundational Constructs of NSI in the Arab World Contexts

3.7.1. Introduction

As mentioned above, early observations in the field diverged from the NSI ‘theorized’ foundational constructs that had been specified a priori from developed-country NSI’s literature. These observations revealed the following with regards to NSI in the Arab world contexts: 1) qualitatively distinct nature of institutions from those in developed-country contexts; 2) low relevance of the constructs of knowledge and learning; and, 3) central roles played by the informal institutions of social capital and trust. These observed differences prompted me to adopt an unstructured interview format and to revise my research question. These in turn enabled me to collect more fine-grained data concerning the research context and the five innovation mini-cases. In attempts to make sense of this fine-grained, yet divergent, data, I conducted a fresh research of the literature to search for research streams that would provide more convincing theoretical grounding and explanation of the data, prompting the iterative data analysis and literature research process discussed in the previous section.

Besides the literatures on institutions, innovation, NSI and NICS, I explored the research streams concerning resources, capabilities, competencies, dynamic capabilities building, social capital, trust, corporate entrepreneurship, empowerment and autonomy. After several data analysis and literature research iterations, the following Arab world NSI ‘observed’ foundational constructs emerged: 1) institutions; 2) culture of empowerment; 3) dynamic capabilities building; and, 4) social capital. As Table 4.4 below shows, while institutions lie at the macro-level of analysis, the remaining three ‘observed’ constructs lie at the micro-level.

Table 3.4 Levels of Analysis of the Arab World NSI Observed Foundational Constructs

#	'Observed' Construct	Level of Analysis
1	Institutions	Macro-Level
2	Culture of Empowerment	Micro-Level
3	Dynamic Capabilities Building	Micro-Level
4	Social Capital	Micro-Level

I construct Table 3.5 on the next two pages to compare the NSI 'theorized' foundational constructs (first page of table) and the Arab world 'observed' foundational constructs (second page of table) by listing some examples for each of the 'theorized' and 'observed' foundational constructs and scholars who address them. An overlap seems to emerge for both constructs of institutions and social capital. To facilitate the comparison of institutions, I group them into the following six categories: 1) R&D; 2) labor market; 3) funding sources; 4) regulations and laws; 5) competition; and, 6) governance. Conducting a comparison of these six groups of institutions reveal that while institutions were important in both contexts, the nature of institutions as a factor in innovation emerged as qualitatively different in the Arab world contexts from those that prevailed in more developed contexts. By contrast, social capital (shaded in Table 3.5) that overlaps with NICS's area of emphasis of social capital emerged as the only construct that appeared to be similar in both the developed and developing-country contexts.

Table 3.5 on the next two pages contrasts the developed-country NSI 'theorized' foundational constructs with the Arab world NSI 'observed' foundational constructs.

Table 3.5 Theorized vs. Observed Arab World NSI Foundational Constructs (1 of 2)

Arab World NSI	Foundational Constructs					
‘Theorized’ (Specified a priori from the developed-country NSI literature)	<u>Institutions</u> (Baumol et al., 2007; Cuervo-Cazurra & Genc, 2008; Dimaggio & Powell, 1983; Khanna & Palepu, 1997; Meyer & Rowan, 1977; Nelson, 2008; North, 1990; Scott, 1995) -R&D: high industrial R&D spending, high number of patents per capita -Labor market: Flexible labor market regulations -Funding sources: Deep capital markets, venture capital, angel investors -Regulations & laws: Flexible regulations, bankruptcy laws, independent legal system, property & patent law -Competition: competitive markets -Governance: strong, low level of corruption	<u>Knowledge</u> -Tacit knowledge (Polanyi, 1962; Spender & Grant, 1996) -Knowledge creation, sharing, integration & utilization (Grant, 1996; Johnson et al., 2003; Nonaka, 1994; Spender, 1996b) -Knowing (Orlikowski, 2002; Weick, 1995) -Absorptive capacity (Cohen & Levinthal, 1990)	<u>Learning</u> -Learning-by-doing (Arrow, 1962) -Learning-by-using (Rosenberg, 1982) -Learning-by-interacting (Lundvall, 1985) -Learning-by-producing (Lundvall & Johnson, 1994) -Interactive learning (Gallouj & Weinstein, 1997; Kogut & Zander, 1996; Levitt & March, 1988; Morgan, 1997)			<u>Social Capital</u> Emphasized in the National innovation and competence building system (NICS) (Lundvall et al., 2002)

Table 3.5 Theorized vs. Observed Arab World NSI Foundational Constructs (2 of 2)

Arab World NSI	Foundational Constructs					
‘Observed’ (Observed from conducting field research in the Arab world & from iterating between data & theory)	<u>Institutions</u>			<u>Culture of Empowerment</u>	<u>Dynamic Capabilities Building</u>	<u>Social Capital</u>
	<p>(De Soto, 2000; Karmi, 2011; Khalidi et al., 1991; Khalidi, 1985; Zahra, 2011), UNDP Arab Human Development Report for years 2002⁹¹ and 2009⁹²</p> <p>-R&D: low R&D spending/low number of patents per capita, strong IT skills, sector in Jordan</p> <p>-Labor market: mismatch between education output and market needs, low quality of education</p> <p>-Funding sources: shallow capital markets, limited funding sources</p> <p>-Regulations & laws: missing regulations, bureaucracy, red tape, lengthy procedures, restrictive borders, custom formalities, occupation roadblocks</p> <p>-Competition: low competitiveness, control of economies by militaries, ruling regimes, monopolies</p> <p>-Governance: weakened by corruption, wars and conflicts, occupation</p>			<p>-Organizational culture (Schein, 1983, 1984, 1985, 1990, 1996)</p> <p>-Empowerment, Corporate entrepreneurship & autonomy (Borch, Huse, & Senneseth, 1999; Yiu & Lau, 2008; Zahra, Nielsen, & Bogner, 1999)</p>	<p>-Intermediary process (Borch et al., 1999; Yiu & Lau, 2008)</p> <p>-Resource management process (Sirmon, Hitt, & Ireland, 2007)</p>	<p>-Social capital, trust and networks (Ahlstrom & Bruton, 2002; Augier & Teece, 2009; Bruton, Dess, & Janney, 2007; Hagel & Brown, 2005; Peng & Heath, 1996; Sirmon et al., 2007)</p>

⁹¹ Arab Human Development Report 2002, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

⁹² Arab Human Development Report 2009, United Nations Development Program, website accessed on May 21, 2012, <http://www.arab-hdr.org/publications/contents/2009/annex1-e.pdf>

As the comparison of the six categories of institutions in the developed and Arab world contexts shows (Table 3.5), the Arab world institutions fare relatively badly in comparison to those of the developed-countries that, in general, support free enterprise and innovation. Table 3.6 below identifies weak, missing and hostile institutions in the Arab world contexts.

Table 3.6 Weak, Missing and Hostile Institutions in the Arab World Contexts

#	Institution Category	Assessment
1	R&D	Weak Some pockets of strength exist (e.g. ICT and pharmaceuticals sectors)
2	Labor Market	Weak (mismatch between education output and market needs)
3	Funding Sources	Historically weak Becoming stronger (recent developments: e.g. Riyadh ⁹³ and Oasis 500 ⁹⁴)
4	Regulations & Laws	Missing (e.g. bankruptcy laws) Hostile (e.g. red tape, custom formalities, occupation roadblocks)
5	Competition	Weak (e.g. low competitiveness) Hostile (e.g. control of economy by militaries)
6	Governance	Weak (e.g. corruption)

Besides the innovation literature, Table 3.7 below provides a list of the research streams within each of the Arab world NSI ‘observed’ foundational constructs.

⁹³ Riyadh Enterprise Development, a member of The Abraaj Capital Group, website accessed on May 20, 2012, <http://www.abraaj.com/content/riyada-enterprise-development-1>

⁹⁴ Oasis 500, website accessed on August 9, 2012, <http://www.oasis500.com/>

Table 3.7 Integrated Literatures and Research Streams

Main Concept	Related literatures and Research Streams
Innovation	Systems of Innovation National System of Innovation (NSI) National Innovation and Competence Building system (NICS)
Institutions	Institutions
Culture of Empowerment	Organizational Culture Autonomy Corporate Entrepreneurship Empowerment
Dynamic Capabilities Building	Resource-based view Resources Competencies Capabilities Dynamic capabilities building
Social Capital	Social Capital Trust Business Groups in Developing Countries

Having reviewed earlier the research streams related to innovation (Section 3.2 through Section 3.5) and advanced the main research question (Section 3.6), I devote Section 3.7 below to review the various strands of research that emerged as related to the Arab world NSI ‘observed’ foundational constructs as follows: institutions in subsection 3.7.2; culture of empowerment in subsection 3.7.3; dynamic capabilities building in subsection 3.7.4; and, social capital in subsection 3.7.5. In subsection 3.7.6, I highlight areas overlap and provide a summary.

3.7.2. Institutions

Institutions reduce uncertainty by creating “stable expectations of the behavior of others” (Hodgson, 2006). Scholars argue that the capabilities and capability building that are perceived as central for economic development “depend on institutions, i.e. on the political, social and economic arrangements of society” (Johnson et al., 2003). For innovation, viewed as a learning process, institutions “create “framework conditions” that stimulate agents within and outside the organization to engage in interactive learning” (Lundvall & Nielsen, 2007; quotations in the original).

Despite general agreement as to their importance, no single definition for institutions has achieved scholarly consensus. Although most innovation and systems of innovation scholars associate institutions with “particular concrete entities, as the Supreme Court of the United States [...] or the Bank of England” (Nelson, 2008), some view them as “somewhat abstract variables, like the consistency and perceived justice of the rule of law in a society” (Nelson, 2008). Definitions advanced by scholars from various disciplines include: “habits of thought” (Veblen, 1899), “the way the game is played” (Schotter, 1981), and “governing structures” (Williamson, 1985). Other definitions include: “the sets of habits, routines, norms and laws that regulate the relations between people and thus shape human interaction and learning” (Johnson, 1992) and the “durable systems of established and embedded social rules that structure social interactions, rather than rules as such. In short, institutions are *social rule-systems*, not simply rules” (Hodgson, 2006; italics in the original) that “depend for their existence on individuals, their interactions, and particular shared patterns of thought” (Hodgson, 2006).

Similarly perceiving them as “patterned human interaction” (2001), Nelson and Sampat define institutions as “standard social technologies” or “how knowledgeable people act and

interact where the effective coordination of interaction is key to accomplishment” (2001). In a later work, Nelson (2008) differentiates social technologies from institutions by qualifying them as those that are internal and external to the firm. Nelson redefines social technologies as the behavioral and internal structures within organizations that are “self-institutionalized” in three ways: 1) they are self-reinforcing due to their familiarity; 2) they are self-supporting due to existing as part of systems; and, 3) they tend to progress over time through accumulated experience being shared (Nelson, 2008). While he defines institutions as the “structures and forces that mold and hold in place prevalent social technologies” and provide “the broad background conditions under which technological advance can proceed” (Nelson, 2008).

Perhaps the most widely adopted definition of institutions seems to be North’s “rules of the game”(1990) that, in a more expansive form, he says are the “humanly-devised constraints that structure human interaction” (North, 1996). Scott (1995) advances a framework that categorizes institutions as regulatory, normative and cognitive where regulatory institutions refer to the laws and regulations, normative to institutions such as professional standards, and cognitive to those related to culture that have been socially constructed over time and are difficult to change. While categorizing them as either formal or informal, North asserts that institutions are “composed of formal rules (statute law, common law, regulations), informal constraints (conventions, norms of behavior, and self imposed codes of conduct), and the enforcement characteristics of both” (North, 1996; parentheses in the original). As per North’s definition, Scott’s regulatory and normative categories represent formal institutions while cognitive institutions are informal.

The literature lists a multitude of institutions as constituting and defining the degree of development of an institutional environment. Well-developed formal institutions include, among

others, industrial R&D, intellectual and property rights laws that protect ownership and promote innovation including a patent system, anti-trust systems, a well-functioning legal system to govern and settle commercial disputes and perform arbitration, funding of basic and advanced research and development, flexible labor markets, trade regulations and laws governing enterprise set up and functioning including bankruptcy laws as well as educational systems. Other well-developed formal institutions include deep capital markets, venture capital availability, well-monitored and regulated banking system which is able and willing to provide firms with credit at relatively low interest rates and social welfare and social safety nets.

Baumol, Litan and Schramm (2007) identify four sets of ‘essential’ institutions. These are the sets of institutions that would: 1) facilitate setting up, operating and exiting private enterprises; 2) ensure rewarding entrepreneurs for their efforts; 3) discourage criminal and rent seeking behavior; and, 4) ensure the continuity of incentives to entrepreneurs. Private enterprise supporting institutions include bankruptcy laws, a well-functioning financial system to facilitate funding, as well as a flexible labor market that would enable them to grow their business. Institutions within the second set include the rule of law as well as property and patent laws. Institutions within the third set include the government institutions that would discourage criminal as well as rent seeking behavior. Finally, institutions within the fourth set include effective anti-trust laws and openness to trade.

Based on this review, a typology of institutions and examples of the different types are presented in Table 3.8 below.

Table 3.8 Typology of Institutions

Scholars & Examples	Types of Institutions				
	Internal to Organization	External to Organization			
(Nelson, 2008)	Social Technologies	Concrete/Physical	Abstract/Non-Physical		
(North, 1996)	-	-	Formal (Formal Rules)		Informal (Informal Constraints)
(Scott, 1995)	-	-	Regulatory	Normative	Cognitive
Examples	Behavioral and internal structures	U.S. Supreme Court Bank of England Infrastructure (e.g. roads, broadband connections)	Legal System Banking System IPR	Professional Standards	Social Capital Trust Social values Social norms

In efforts to enhance economic growth, governments and policy-related entities embark on initiatives to design and implement policy tools that would create, shape and strengthen institutions. However, Nelson questions whether these entities have the ability or latitude to achieve these goals since “institutions evolve rather than being largely planned” and that “institutional change, and its influence on economic activity, is much more difficult to direct and control than technological change” (2008). The latter is partially due to the systemic character of the institutional set-up that implies that a change in one of its interrelated elements results in changes in the others (Johnson et al., 2003).

Nevertheless, some scholars argue that “government intervention should be oriented primarily at shaping the overall structure of production and the institutional set-up so that these promote self-organized learning and thereby reduce the need for fine-tuning and detailed

intervention into the economy” (Lundvall & Johnson, 1994). In addition to the challenges mentioned above, this argument seems to overlook the fact that “rapid economic progress in different eras requires different sets of particular supporting institutions” (Nelson, 2008). Following Schumpeter, Nelson (2008) asserts the need to: 1) study the economy in a disaggregate fashion by examining the economy’s various sectors and their respective dynamics; and, 2) account for the long waves or eras of the economy, each of which have been driven by a small set of technologies or industries.

These challenges and dynamics are expected to play out more acutely in developing countries primarily due to the “institutional gap” (Johnson & Lundvall, 1992) that exists with their developed peers. Although advanced with developed countries in mind, the assertion that “prevailing institutions often are drags on economic productivity and progressiveness” (Nelson, 2008) may apply equally, if not even more, to developing countries. Emerging and developing countries in general are hampered by such institutional deficits as “an imperfect contracting environment, less developed market mechanisms, an inefficient judiciary, unpredictable and burdensome regulations, heavy bureaucracy, political instability or discontinuity in government policies” (Cuervo-Cazurra & Genc, 2008).

In Table 3.5, I group institutions into the following six categories: 1) R&D; 2) labor market; 3) funding sources; 4) regulations and laws; 5) competition; and, 6) governance to facilitate highlighting the qualitative differences between developed-country institutions and those of the Arab world countries. These categories of institutions reflect the many missing and weak ‘essential’ institutions from the Arab world contexts as well as the strongly hostile institutions that these contexts possess, reviewed in Chapter 2, that hinder the functioning of free enterprise and the emergence and diffusion of innovation.

As discussed in Section 2.1, the Arab world lags far behind both the BRIC as well as the developed countries in R&D spending, total number of patents filed as well as number of patents per million of population. The labor market in the Arab world suffers from a mismatch between education output and market needs that reflects the low quality of education. By contrast, developed countries enjoy high education quality and flexible labor market regulations. Among other obstacles that budding entrepreneurs and startups face in the Arab world are the extremely limited funding sources due to the region's shallow capital markets, limited venture capital availability and the scarcity of angel investors. These factors contrasts with developed countries' deep capital markets, availability of venture capital and a high number of angel investors that are willing to provide funding for entrepreneurs and startups.

In developed countries, an independent legal system and many regulations and laws support free enterprise and innovation. By contrast, the legal system in the Arab world, in many instances, lacks independence, the regulations are lengthy and bureaucratic, and the laws, such as property and patent laws or missing bankruptcy laws, pose many challenges to organizations and individuals alike (Section 2.1). In contrast to the competitive markets of the developed countries, the Arab world markets lack competitiveness that, in many instances, is due to the control of militaries and monopolies by the state, ruling regimes or a small circle of cronies associated with an autocratic leader (Section 2.1). Finally, while the developed-country contexts are characterized by strong governance structures, governance in the Arab world is weakened by corruption and continuous wars and conflicts (Section 2.2). The above qualitative differences in institutions reflect 'institutional voids' and 'institutional hindrances' that create a large 'institutional gap' between the Arab world contexts and developed-country contexts.

If the presence of these “institutional voids” (Khanna & Palepu, 1997) and “institutional hindrances” (Cuervo-Cazurra & Genc, 2008) are taken into account, developing-country stakeholders have the opportunity to create institutions that match their own context and while diverging from those of developed countries. A variety of institutional alternatives exists and selection among them could depend on human purpose and beliefs of what is feasible and what is appropriate (Nelson, 2008). In fact, Khanna and Palepu (2006) point to the many developing-country organizations that have built successful ‘intermediaries’ businesses by treating these institutional voids as opportunities rather than as obstacles.

While strong and well-developed formal regulatory and normative institutions may have relegated informal cognitive institutions to a marginal role in developed-country contexts, David Ahlstrom & Garry Bruton (2002) contend that the opposite might be true in developing countries where formal regulatory and normative institutions are missing, weak or, worse still, obstructive. In emerging markets, networks that leverage informal institutions such as personal trust and informal agreements (Peng & Heath, 1996) represent critical tools to overcome the imperfections in the formal capital, labor and product markets (Khanna & Palepu, 1997). Unlike their peers in developed contexts, companies in emerging markets need to “adapt their strategies to fit their *institutional context* – a country’s product, capital and labor markets; its regulatory system; and its mechanisms for enforcing contracts” (Khanna & Palepu, 1997; italics in the original). These scholars assert that diversified companies, or business groups, fill the ‘institutional voids’ in their developing context by imitating the functions of institutions in more advanced economies.

Along similar lines, Cuervo-Cazurra and Genc assert that the disadvantage of being based in a country with weak institutional environment and governance can develop into a unique capability and a distinct comparative advantage in developing-country firms when they

internationalize into other developing countries (Cuervo-Cazurra & Genc, 2008). Developed-country multinational enterprises that lack this distinct capability are left with only three strategy choices: adapt their strategies to fit developing-country institutional contexts, shape these contexts, or stay away (Khanna, Palepu, & Sinha, 2005).

Due to their weak, missing and strongly hostile institutions, the Arab world contexts possess similar ‘institutional voids’ and ‘institutional hindrances’ to those of the BRIC-country contexts. These similarities render the ‘institutional gap’ between these two groups of countries narrower than between the Arab world countries and the developed countries. As such, the BRIC-country literature reviewed above has the potential to provide valuable insights to this research. One such insight concerns the specific capabilities organizations in developing-country contexts develop to maneuver their institutional contexts, fill institutional voids, and overcome institutional hindrances that would enable them to survive and innovate (Cuervo-Cazurra & Genc, 2008; Khanna & Palepu, 1997). This insight would indicate that, similar to the BRIC-country contexts, organizational capabilities and dynamic capabilities building could play central roles in the Arab world contexts.

Another insight linked to the above is the importance of networks that leverage the informal institutions of social capital and trust that organizations in developing countries use as tools to overcome the various institutional imperfections in their contexts (Khanna & Palepu, 1997). This insight points to the potential roles that, similar to dynamic capabilities, networks and the informal institutions of social capital and trust could play in contexts where ‘essential’ and well-developed formal institutions are absent, weak or hostile.

The early field observations of my research in the Arab world contexts as well as the iterative data analysis and literature research process seem to support the above two BRIC-

country literature insights for which I provide evidence in the chapter on findings (Chapter 6). As Table 3.5 shows, both dynamic capabilities building and social capital emerged as Arab world NSI ‘observed’ foundational constructs. As discussed earlier, competence building and social capital are two areas that are emphasized by the developed-country national innovation and competence building system (NICS). These overlaps seem to indicate that the Arab world findings of this research have the potential to advance a contribution to the NSI literature and to the broader strategic management literature on the developed, BRIC and developing-country contexts.

In the next subsection I review the literature related to the culture of empowerment, and I devote the two that follow to review the dynamic capabilities building literature and related research streams, and the literature on social capital and trust.

3.7.3. Culture of Empowerment⁹⁵

This subsection starts by providing a quick review of Edgar Schein's (1983, 1984, 1985, 1990, 1996) concept of organizational culture and the central role that the entrepreneur or leader plays in creating, managing and preserving it. The subsection then provides detailed reviews of the literatures on empowerment, corporate entrepreneurship and autonomy.

Edgar Schein asserts that organizational culture is a “social force that is invisible yet very powerful” and that it is one of the most stable organizational forces (1996), referred to as social technologies or institutions within the organization (Nelson, 2008; Nelson & Sampat, 2001). Schein further contends that “culture is to a group what personality or character is to an individual [...] culture guide[s] and constrain[s] the behavior of members of a group through the shared norms that are held in that group” (1985). Organizational culture lies at three levels: 1) observable artifacts; 2) values; and, 3) basic underlying assumptions (Schein, 1990). This scholar cautions that culture can neither be deciphered from the visible artifacts nor from the values but rather by studying the invisible, taken for granted, and preconscious underlying assumptions (Schein, 1984, 1990).

Schein advances the following definition of organizational culture: “the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration – a pattern of assumptions that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (Schein, 1983). This definition acknowledges the effect of the internal organizational factors as well as those that are external to the firm on the creation and development of the organizational culture that are reflected in the activities related to internal integration and external adaptation.

⁹⁵ This construct encompasses organizational culture, empowerment, corporate entrepreneurship, and autonomy

With respect to the strength and degree of internal consistency of the culture, Schein perceives them as shaped by the following factors: 1) stability of the group; 2) length of time the group has existed; 3) intensity of the group's experiences of learning; 4) mechanisms by which the learning has taken place; and, 5) strength and clarity of the assumptions held by the leaders (Schein, 1990) who play a central role in its development and management (Schein, 1983, 1985). Schein clarifies that these leaders differ from those belonging to the management culture of the "executives" that represent CEOs of bureaucratic organizations that possess hierarchical structures who perceive enhancing short-term financial returns as their main mission and believe that systems and processes are the best tools to achieve it (Schein, 1996). This management culture of the "executives", along with that of the "engineers" that similarly focuses on systems and machines, clashes with the culture of the "operators" that focuses on people. By contrast, due to possessing a similar focus, the management culture of entrepreneurs and founders is more aligned with that of the "operators".

While affirming that "culture is learned" (Schein, 1996), this scholar argues that founders, entrepreneurs, and leaders use different mechanisms for creating, embedding, and preserving the culture. Among the mechanisms that they use at the culture creation stage are the: 1) critical incidents during which norms are formed; and, 2) acting as role models. For embedding the culture, however, Schein (1996) identifies: 1) primary embedding mechanisms; and, 2) secondary articulation and reinforcement mechanisms, with several mechanisms falling within each of these two categories (shown in Table 3.9).

Those mechanisms that fall within the first category focus on people and their management, i.e. human resource management mechanisms, seeking to motivate, train, coach and empower them. By contrast, those mechanisms that fall within the second category focus

predominantly on systems, routines, processes and organizational structures. For preserving organizational culture, Schein compares contrasting socialization techniques that could have three kinds of outcomes: 1) custodial orientation where a new recruit learns to conform; 2) creative individualism that promotes creativity and autonomy despite socializing a new staff member to the pivotal culture assumptions; and, 3) rebellion that reflects a total rejection of the central assumptions of the organizational culture (Schein, 1996).

I construct Table 3.9 below based on Schein (1996) to reflect the mechanisms that fall within the two categories of embedding mechanisms.

Table 3.9 Organizational Culture Embedding Mechanisms

Category	Mechanisms
Primary embedding mechanisms	<ul style="list-style-type: none"> -What leaders pay attention to, measure and control -How leaders react to critical incidents and organizational crises -Deliberate role modeling and coaching -Operational criteria for the allocation of rewards and status -Operational criteria for recruitment, selection, promotion, retirement and excommunication
Secondary articulation and reinforcement mechanisms	<ul style="list-style-type: none"> -The organization's design and structure -Organizational systems and procedures -The design of physical space, façade and buildings -Stories, legends, myths and symbols -Formal statements of organizational philosophy

Schein (1996) cautions that leaders need to be cognizant of dysfunctional cultural elements that need to be unlearned and use different tactics to redirect the evolution of the culture toward the direction that would facilitate achieving its mission and goals. Such tactics would include filling key positions within the organization with members who hold the desired

underlying assumptions, rewarding the adoption of the new direction whilst punishing adherence to that which is undesired, as well as creating emotionally charged rituals and developing new symbols around the desired assumptions with the use of the embedding mechanisms (Table 3.9).

As mentioned, organizational culture is a very powerful social technology or internal institution that a leader could use to enhance organizational performance by redirecting managerial focus towards people. A central part of which would be to create a culture of empowerment within the organization since “Empowerment is regarded as providing a solution to the age-old problem of Taylorised and bureaucratic workplaces where creativity is stifled and workers become alienated, showing discontent through individual or collective means” (Wilkinson, 1998). In this research, I follow the lead of the 1990 special issue of the *Strategic Management Journal* in treating empowerment within the firm, intrapreneurship (Mintzberg, 1989; Pinchot, 1985), and corporate entrepreneurship (Burgelman, 1983a), that is perceived as “an induced empowerment process” (Sundbo, 1999), as equivalents. In reviewing the related literatures, I use the term employed by the work in question.

In contrast to the expert system of R&D departments of high-technology firms, empowerment addresses the role of entrepreneurship for dynamic capabilities building (Augier & Teece, 2009; Sirmon et al., 2007; Teece, 2007; Teece, Pisano, & Shuen, 1997) and the impact of social empowerment (Putnam, 1993). The empowerment system (Kanter, 1983) on which medium- and low-technology firms rely enables them to “grow and develop competitive advantage” (Sundbo, 1996). Underlying this system are the two elements of power and control that give rise to two views of empowerment: 1) as a relational construct; and, 2) as a motivational construct (Conger & Kanungo, 1988).

The first view focuses on power and control that inhere in the dependence and interdependence of actors, rendering empowerment to connote the sharing or delegation of authority, participatory management and the decentralization of decision-making (Burke, 1986; Kanter, 1983). In addition to the above characteristics, the second view encompasses the “enabling” of individuals through personal efficacy and self worth (Conger & Kanungo, 1988; Neilsen, 1986; Whetten & Cameron, 1984). These characteristics of the relational and motivational empowerment constructs align with managerial cognition and hierarchy identified as central elements for dynamic capabilities building and social capital.

Following Peter Drucker (1985) who asserts that empowerment could be organized and managed, Jon Sundbo views the empowerment system as an “organized process” (1996) through which the firm’s employees are engaged as corporate entrepreneurs in the innovation process. According to the motivational view, it is “a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information” (Conger & Kanungo, 1988). The identification of conditions is one of five suggested stages of the empowerment process with those conditions potentially including bureaucratic and highly centralized organizational climate, authoritarian supervisory style, a reward system that does not encourage innovation and competence, and restrictive job designs (Conger & Kanungo, 1988).

Table 3.10 below presents the two views of empowerment and their respective dimensions.

Table 3.10 Dimensions of the Two Views of Empowerment

View Dimension	Relational Construct	Motivational Construct
Advocates	(Burke, 1986; Kanter, 1983)	(Conger & Kanungo, 1988; Neilsen, 1986; Whetten & Cameron, 1984)
Underlying Elements	Power & Control inhering in actors' dependence & interdependence	Power & Control inhering in actors' dependence & interdependence Enabling of individuals
Features	Sharing or Delegation of Authority Participatory Management Decentralization of Decision-Making	Sharing or Delegation of Authority Participatory Management Decentralization of Decision-making Personal Efficacy Self-Worth
Mechanisms	Decentralization	Five-stage process

Before turning to the works that use the term corporate entrepreneurship, I note that corporate entrepreneurship emerged in the literature as one of the internal mechanisms for dynamic capabilities building (subsection 3.7.4). According to Danny Miller, corporate entrepreneurship embodies the notion of entrepreneurship within the firm (Miller, 1983) and represents the “process by which individuals - either on their own or inside organizations - pursue opportunities without regard to the resources they currently control” (Stevenson, Roberts, & Grousbeck, 1989), advocating the role of entrepreneurship as firm behavior (Covin & Slevin, 1991).

This view connotes that “for corporate entrepreneurship to become a meaningful conduit for a corporation’s value creation activities, it cannot be confined to a specialist function within the organization” (Phan, Wright, Ucbasaran, & Tan, 2009). Thus, corporate entrepreneurship plays a fundamental role in promoting a firm’s success through giving rise to product and process innovations (Burgelman, 1983b; Burgelman, 1991; Miller, 1983) and to achieving high

performance (Covin & Slevin, 1991; Lumpkin & Dess, 1996; Peters & Waterman, 1982; Yiu & Lau, 2008; Zahra & Covin, 1995). Several scholars assert that a strong link has been established between corporate entrepreneurship, innovation and performance (Kuratko, Montagno, & Hornsby, 1990; Lumpkin & Dess, 1996; Miller, 1983; Yiu & Lau, 2008; Zahra & Covin, 1995).

The corporate entrepreneurship concept witnessed an evolution through the following three iterations or streams (Lassen & Nielsen, 2009): 1) an individual-based understanding (Pinchot, 1985); 2) the impact of corporate entrepreneurship behavior (Burgelman, 1985, Zahra, 1991, 1996); and, 3) a holistic entrepreneurship philosophy of innovation in the organization (Covin & Slevin, 1991; Covin & Miles, 1999; Lassen & Nielsen, 2009; Lumpkin & Dess, 1996). The holistic philosophy research stream encompasses “processes and practices supporting exploration and innovation” (Lassen & Nielsen, 2009). This exploration conflicts with exploitation efforts of existing knowledge. In other words, it reflects the duality of forces of creative destruction (Schumpeter, 1934) with controlled adaptation that are respectively represented in bottom-up and top-down decision making processes.

Corporate entrepreneurship encompasses three dimensions: 1) innovation (Zahra, Filatotchev, & Wright, 2009); 2) corporate venturing (Burgelman, 1983c; Narayanan, Yang, & Zahra, 2009); and, 3) strategic renewal (Guth & Ginsberg, 1990). Its innovation dimension is reflected in corporate entrepreneurship’s definition as “the activities a firm undertakes to stimulate innovation and encourage calculated risk taking throughout its operations” (Zahra et al., 2009). While, its corporate venturing dimension refers to market expansion or the creation of new businesses (Covin & Slevin, 1991; Lumpkin & Dess, 1996) that differs from its two other dimensions by “its focus on the various steps and processes associated with creating new

businesses and integrating them into the firm's overall business portfolio" (Narayanan et al., 2009).

The strategic renewal dimension of corporate entrepreneurship refers to business changes or the creation of value through new combinations of resources (Guth & Ginsberg, 1990). Rooted in the resource-based and knowledge-based views and aligning with the discussion on the resource management process of dynamic capabilities building (subsection 3.7.4), corporate entrepreneurship is viewed as a resource capital configuration process (Borch et al., 1999). In the context of emerging countries, "corporate entrepreneurship, as an internal organizational transformation and resource configuration mechanism, is a very important mediator" (Yiu & Lau, 2008). Hence, corporate entrepreneurship is perceived as a critical element in the efforts of firms to revitalize, reconfigure resources, and transform into competitive market-oriented firms (Zahra, Ireland, Gutierrez, and Hitt, 2000).

Aligning with the literatures reviewed on dynamic capabilities building (subsection 3.7.4) and social capital (subsection 3.7.5), resource capital could also be derived from external networks that a firm is a member of. In the contexts of emerging countries, networks play a major role and various corporate entrepreneurship activities determine "whether firms can realize the benefits from different resource capital" (Yiu & Lau, 2008). As these scholars assert, "the strategic value of those generic resource capital obtained from the external networks could not be realized without going through a transformation process that turn these resource capital into specific industry or form uses. Thus, the model suggests that corporate entrepreneurship serves as the intervening mechanism between network resource capital and firm performance. In this sense, a network can be conceptualized as a resource capital acquisition means, while corporate

entrepreneurial activities can be regarded as a resource capital configuration process (Borch et al., 1999)” (Yiu & Lau, 2008).

In the resource capital configuration process of strategic renewal the “formal and informal CE [corporate entrepreneurship] activities can enrich a company’s performance by creating new knowledge that becomes a foundation for building new competencies or revitalizing existing ones” (Zahra et al., 1999) with organizational learning playing a crucial role (Dess et al., 2003). In the context of developed countries, a study of a Danish small bank, that used organizational learning as an intermediate variable, confirmed the long-term effect of empowerment on innovation capability particularly in terms of building competencies and institutionalizing learning within the bank (Sundbo, 1999). Taking into account the experimental and acquisitive forms (Zahra et al., 1999) of organizational learning that are respectively gained from the experiences of the firm and those of others, some scholars contend that both forms are “a key aspect of CE” (Phan et al., 2009) while other scholars contend that the experimental form is of higher relevance than the acquisitive form (Zahra et al., 1999).

Table 3.11 on the next page presents the various features of the three dimensions of corporate entrepreneurship.

Table 3.11 Features of the Three Dimensions of Corporate Entrepreneurship

CE Dimension Features	Innovation	Corporate Venturing	Strategic Renewal
Advocates	(Zahra et al., 2009)	(Covin & Slevin, 1991) (Burgelman, 1983c)	(Guth & Ginsberg, 1990)
Focus	Internal	External	Internal
Area of Focus	Operations	Markets	Resources
Process	Innovation	Venturing	Organizational transformation Resource capital configuration
Goals	New products New services	New businesses Market expansion	Value creation Knowledge creation New competencies Revitalize existing competencies Business changes
Mechanisms	Stimulate innovation & encourage calculated risk taking	Various steps & processes of creating new businesses & integrating them into firm's overall business portfolio	Experimental & acquisitive organizational learning External networks (as resource capital acquisition means)

Following on the positive relationship that has been established in the literature between corporate entrepreneurship and a firm's performance (Zahra & Covin, 1995, Yiu & Lau, 2008), some scholars argue that "It is mandatory for businesses in developing countries to consider adopting organizational processes that facilitate entrepreneurial attitudes, thinking and behavior" (Sebora, Theerapatvong, & Lee, 2010), highlighting the central roles that decentralized organizational structures could play in achieving these goals. However, "The ability to embrace two opposing forces" (Lassen & Nielsen, 2009), that is at the heart of the holistic entrepreneurial philosophy of innovation, needs to be created and managed as part of efforts to foster entrepreneurial behavior (Burgelman & Sayles, 1986) and to stimulate empowerment or corporate entrepreneurship (Drucker, 1985; Kanter, 1983; Peters & Waterman, 1982). In line

with discussions of its central role in dynamic capabilities building and social capital, managerial cognition could possibly represent the main driver for laying the foundations for and promoting empowerment within the organization.

These efforts entail “freeing organizational members – both individuals and teams – to operate outside an organization’s existing norms and strategies where they can think and act more independently” (Lumpkin, Cogliser, Schneider, 2009). Put differently, they involve promoting autonomy since “the motor of corporate entrepreneurship resides in the autonomous strategic initiative of individuals at the operational level in the organization” (Burgelman, 1983c). Characterized by “independent thinking and action” (Lumpkin, Cogliser, & Schneider, 2009), autonomy is defined as “the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion [...] In an organizational context, it refers to action taken free of stifling organizational constraints [...] Throughout the process, the organizational player remains free to act independently, to make key decisions, and to proceed” (Lumpkin and Dess, 1996). As discussed above, decentralized organizational structure as well as an organizational culture of empowerment would facilitate this sought for autonomy and empowerment within the organization.

Perceived not only as an antecedent but, more critically, as a fundamental component of corporate entrepreneurship, two types of autonomy are identified: structural and strategic. Structural autonomy (Gulowsen, 1972) refers to “the extent to which a group has control or can make decisions about factors within the work environment” (Lumpkin et al., 2009). By contrast, strategic autonomy refers to “the extent to which a group has control over ends” (Lumpkin et al., 2009). Structural autonomy and strategic autonomy relate to a lower and a higher level of autonomy respectively with the strategic autonomy possessing the ability to facilitate knowledge

creation, transfer and application (Janz & Prasarnphanich, 2005). This renders strategic autonomy more relevant to empowerment and corporate entrepreneurship than its structural peer.

Table 3.12 below presents the various features of the two autonomy types.

Table 3.12 Features of the Two Types of Autonomy

Autonomy Type Features	Structural Autonomy	Strategic Autonomy
Advocates	(Gulowsen, 1972)	(Lumpkin et al., 2009)
Influence Level	Lower	Higher
Influence Type	Technical	Strategic
Area of Influence	Work environment	Goals
Scope	Decisions regarding tasks & how work is done	Key decisions Knowledge creation Knowledge transfer Knowledge application

While some authors contend that decentralization and flat organizational structures are not synonymous with autonomy (Lumpkin et al., 2009; Lumpkin & Dess, 1996), others examine the role of flat organizational structures and decentralization in corporate entrepreneurship processes. Decentralization is defined as “the extent to which power over decision making in the organization is dispersed among its members” (Mintzberg, 1979). Hence, some scholars call for “reinforcing an innovation-supporting culture and providing the organic structures (characterized by decentralized authority and informal relations between participants) that facilitate innovation development” (Sebora et al., 2010; parentheses in the original). The call by these scholars highlights the importance of an organizational culture of empowerment and a non-hierarchical organizational structure for enhancing organizational performance and enabling innovation.

In its support, other scholars highlight the successful “Creation of new contexts in which the formerly known segregation between areas, and the well-known rules and routines, were broken down” (Lassen & Nielsen, 2009). This lends support to the assertion by Deborah Dougherty and Cynthia Hardy who, based on empirical findings, recommend that mature organizations need to “reconfigure their systems of power to become capable of sustained innovation” (Dougherty & Hardy, 1996). Relevant to these contexts, empirical findings reveal that managers and employees enjoy closer relationships in smaller firms (Sebora et al., 2010). The above empirical findings and arguments highlight the complementary effect of an organizational culture that promotes empowerment, autonomy, informal relations and creativity to a decentralized organizational structure and managerial cognition in promoting empowerment and innovation within the organization.

Among the other potential mechanisms to stimulate corporate entrepreneurship are openness and networking, empowerment of customers, a firm’s strategy, rewards, presence and support of a top entrepreneur, and other practical instruments such as idea procurement. These are reflected in the five dimensions used to capture corporate entrepreneurship variance: management support, work discretion, reward and reinforcement, time availability, and job and organizational boundaries (Hornsby et al., 2002). Research results that showed job boundaries to correlate negatively with all other four factors (Sebora et al., 2010) were confirmed in the follow-up qualitative interviews of top managers who asserted that job boundaries represent “limiting factors on entrepreneurial activity in their companies” (Sebora et al., 2010).

The holistic entrepreneurship philosophy of innovation envisions corporate entrepreneurship as a resource capital configuration process for innovation, corporate venturing and strategic renewal. In contrast to views that limit its role to a certain function or department,

this philosophy perceives corporate entrepreneurship as a firm-wide process in which all employees are engaged. As such, corporate entrepreneurship is a process that could be stimulated, managed and supported within the organization through several mechanisms.

Table 3.13 below synthesizes the various mechanisms that could be used to stimulate, manage and support corporate entrepreneurship.

Table 3.13 Mechanisms to Stimulate, Manage and Support Corporate Entrepreneurship

Mechanisms	Descriptions
Management Cognition (Leadership Style & Support)	<ul style="list-style-type: none"> -Non-authoritarian management style -Participatory management -Sharing or delegation of authority - Presence and support of top entrepreneur
Organizational Strategy	<ul style="list-style-type: none"> -Various members participate in making strategic decisions
Organizational Structure	<ul style="list-style-type: none"> -Non-bureaucratic and decentralized organizational structure -Organic structures -Smaller firms
Decision-making Powers & Work Discretion	<ul style="list-style-type: none"> - Strategic decisions regarding goals -Decentralization of decision-making - Flexible, non-restrictive job designs -Decisions regarding tasks and how work is done
Corporate Culture	<ul style="list-style-type: none"> -Informal organizational culture/ informal relations between participants -Smaller -Openness and networking
Reward System	<ul style="list-style-type: none"> -Reward Systems that encourage innovation and competence

The above review for the literatures on organizational culture, empowerment, corporate entrepreneurship and autonomy reveal the importance and overlap of the following three elements: 1) a non-authoritative leadership or managerial role; 2) a non-hierarchical

organizational structure; and, 3) a corporate or organizational culture that would promote empowerment, autonomy and creativity. These literatures seem to indicate that each of these three organizational elements is important in and of itself but, more critically, that it complements and supports the other two, revealing their interdependent relationship in enabling innovation within organizational boundaries and thus in enhancing organizational performance.

These three features seem to provide some guidance regarding some of the tools that organizations in developing countries, including those in the Arab world, could use to overcome the institutional gap, void, and hindrances in their contexts (Cuervo-Cazurra & Genc, 2008; Johnson & Lundvall, 1992; Khanna & Palepu, 1997) due to the weak, missing and even hostile institutions (Table 3.5) that characterize these contexts. As the literature on the BRIC-country contexts highlighted, organizations build special capabilities that would help them maneuver in such challenging contexts. Thus, I devote the following subsection to review the literature on dynamic capabilities building.

3.7.4. Dynamic Capabilities Building

In the resource-based view of strategic management, dynamic capabilities building is an important source of competitive advantage. While the strategic management literature has oscillated between the organizational and industry levels of analysis (e.g., Porter, 1980), the growth in scholarly work on the resource-based view (Barney, 1991; Kraaijenbrink et al., 2010; Penrose, 1959) and knowledge-based view (Grant, 1996; Nonaka, 1994; Spender, 1996a) has moved the focus back down to the organizational level. This “resource-based theory” (Barney, Ketchen, & Wright, 2011; Crook, Ketchen Jr, Combs, & Todd, 2008), traceable to Edith Penrose (1959), owes its resurgence in the last two decades to Jay Barney’s (1991) piece on firm resources. Given the assumptions of heterogeneously distributed resources and imperfect resource mobility (Qi, 2011; Sirmon et al., 2007), Barney (1991) highlighted valuable, rare, inimitable and non-substitutable resources as the firm’s sources of sustained competitive advantage. This body of literature has more recently emphasized less hierarchy and more networking by focusing on competitive advantages that are derived from networks and from more flexible organizational structures (Augier & Teece, 2009).

The resource-based theory encompasses the notions of resources, capabilities and competencies that many scholars use interchangeably. By contrast, other scholars perceive these three notions to fall within a hierarchy (Galunic & Rodan, 1998; Henderson & Cockburn, 1994) in which resources are viewed as generic (Amit & Schoemaker, 1993), capabilities as high-level routines (Winter, 2003), and competencies are placed at a higher level than the specialized capabilities held by individuals within the firm (Galunic & Rodan, 1998). By contrast, Hagel and Brown assert that the common use of competencies has been limited to technology and

production skills (Hagel & Brown, 2005). To facilitate synthesis, I use these three notions interchangeably in this thesis.

Competencies are defined as “combinations of inputs and knowledge-based resources” that display ‘*social and institutional qualities*’ (Galunic & Rodan, 1998; italics in the original). Resources are defined as the “bundles of tangible and intangible assets, including a firm’s management skills, its organizational processes and routines, and the information and knowledge it controls” (Barney, Wright, & Ketchen Jr, 2001). Examples of tangible resources include financial, human, and physical resources, while those for intangible are talent, intellectual property, networks and brands (Hagel & Brown, 2005). Some resources, such as reputation, derived from trust, patents and unique knowledge (Crook et al., 2008; Teece, Pisano, & Shuen, 1990), are perceived as strategic resources.

According to Dorothy Leonard-Barton, core capability possesses four dimensions: 1) employee knowledge and skills; 2) technical systems; 3) managerial systems; and, 4) the values and norms associated with all three (Leonard-Barton, 1992). With respect to functions that they perform, capabilities fall into three categories: 1) those that perform basic functional activities “e.g., brand management” (Amit & Schoemaker, 1993); 2) those that effectuate dynamic improvements to firm activities (Hayes & Pisano, 1994); and, 3) those that comprise “metaphysical strategic insights” (Collis, 1994) that enable the identification of the intrinsic values of resources, their effective deployment, and the development of new resources and strategies (Collis, 1994; Henderson & Cockburn, 1994).

Capabilities could also be technological. Falling into the three categories of: production, investment and innovation, these technological capabilities relate to: 1) “productive efficiency and in the ability to adapt operations to changing market circumstances”; 2) “project costs and in

the ability to tailor project design to suit the circumstance of the investment”; and, 3) “the ability to improve technology or to develop new products or services that better meet specific needs” (Dahlman, Ross-Larson, & Westphal, 1987). While “innovation, investment then production” (Dahlman et al., 1987) represents the development sequence in developed countries, this sequence is often reversed in developing countries that oftentimes purchase technology and use production capability to develop the other two capabilities of investment and innovation.

Resources, including those that are strategic, are continuously mobilized in the form of capabilities “for the delivery of distinctive value in excess of cost” (Hagel & Brown, 2005). To create such a distinct value, organizations use combinative capabilities (Kogut & Zander, 1992) or architectural competence that develops and integrates effectively the more basic component competencies (Henderson & Cockburn, 1994) to create architectural innovation (Henderson & Clark, 1990). Architectural competence encompasses both the architectural knowledge (Henderson & Clark, 1990b), such as the communication channels and problem-solving strategies, as well as the other organizational characteristics, such as the managerial systems and corporate culture (Henderson & Cockburn, 1994).

Since not all of the economic value of the strategic resources is captured by owners (Amit & Schoemaker, 1993; Crook et al., 2008), some scholars have attempted to study the empirical link between resources and firm performance (Teece et al., 1990). These scholars view firm performance as consisting of two stages: value creation and value appropriation (Helfat et al., 2007). In a meta analysis of 125 studies, Crook, Ketchen and Combs (2008) show that the resource-performance link is stronger for performance measures that are not affected by potential value appropriation, and in contexts where resources meet the resource-based theory’s four criteria of valuable, rare, inimitable and non-substitutable.

The value of resources and capabilities is context-dependent (Collis, 1994; Ferrell, 2004; Madhavan & Grover, 1998). This lends credence to the notion of dynamic capabilities (Teece et al., 1997). Besides overcoming the “static” nature of resources, the notion of dynamic capabilities moves the focus beyond hierarchy and the boundaries of the firm to leverage resources from external networks. As such, dynamic capabilities are defined as “the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environment” (Teece et al., 1997). More recent definitions emphasize dynamic capabilities as a purposeful activity to modify a firm’s resource base (Helfat et al., 2007).

Capabilities are enhanced when used, shared or applied and hence could be built, not necessarily by outspending rivals on R&D but, “through a process of continuous improvement and enhancement that may span a decade or longer” (Prahalad & Hamel, 1990). These improvements involve interactive organizational learning and problem-solving (Morgan, 1997) that attempt to bridge the gaps between actual and potential performance, similar to the Japanese concept of *Kaizen*. The repertoire of organizational learning mechanisms include: learning-by-doing (Arrow, 1962), learning-by-using (Rosenberg, 1982), learning-by-interacting (Lundvall, 1985) and learning-before-doing (Pisano, 1994).

Other than asserting that it is constituted of organizational routines or that it is embedded in them (Nelson & Winter, 1982; Winter, 2003), most literature on resource-based view and resource-based theory has treated capabilities building as a black box. To address this shortcoming, several scholars have more recently attempted to identify the micro-foundations of sustainable firm performance and dynamic capabilities building (Gavetti, 2005; Sirmon et al., 2007; Teece, 2007). In an early attempt, Makadok (2001) identifies two causal mechanisms for creating economic rents: resource picking and capability-building. Teece disaggregates dynamic

capabilities into three capacities: 1) sensing and shaping opportunities and threats; 2) seizing opportunities; and, 3) managing threats and effectuating transformations through continuous orchestration of tangible and intangible firm assets (Teece, 2007). Giovanni Gavetti (2005) asserts that organizational routines represent only one of three interlinked factors, with the other two being: managerial cognition and organizational hierarchy.

Several scholars highlight the significance of managerial tacit knowledge and skills in the effectiveness of leveraging processes (Sirmon et al., 2007), capability development and integration as well as in dealing with discontinuities (Adler, 2001; Eisenhardt & Martin, 2000; Penrose, 1959; Tschannen-Moran, 2001). Management's role translates in its ability to "consolidate corporatewide technologies and production skills", "empower individual businesses to adapt quickly to changing opportunities" and to facilitate leveraging a few core competencies that are physically embodied by core products to result in "What seems to be an extremely diversified portfolio of businesses" (Prahalad & Hamel, 1990).

Since managerial cognition is shaped by experience which is mostly reflected in the hierarchical level, the ability of managers to interpret events varies according to their respective positions within the hierarchical structure (Gavetti, 2005). Perceiving the latter as strongly intertwined with managerial cognition and routines, this author concludes that "The more refined understanding of the capability development's causal structure strongly suggests a central role for hierarchy" (Gavetti, 2005). David J. Teece (2007) cautions that the cognitive micro-foundations of the sensing and shaping capacity pose the risk of restricting this capacity to a few creative individuals within the firm. To overcome this potential vulnerability, organizations purposefully embed sensing, scanning, learning, interpretative, and creative processes (Teece, 2007), possibly by creating an organizational culture of empowerment and adopting

decentralized organizational structures (subsection 3.7.3), since extensive hierarchical structures impede the proper functioning of these capacities and processes (Teece, 2007).

Decentralized organizations that have greater local autonomy are perceived as more prepared to respond to exogenous shocks created by changes in markets and technologies (Teece, 2007; Teece et al., 1997). In fact, “*Enterprises with strong dynamic capabilities are intensely entrepreneurial. They not only adapt to business ecosystems, but also shape them through innovation and through collaboration with other enterprises, entities and institutions*” (Teece, 2007; italics in the original). As the above indicates, the dynamic capabilities theory is increasingly moving away from its earlier emphasis on large organizations’ dominant behavioral and organizational foundations to broader behavioral foundations and more flexible organizational structures (Augier & Teece, 2009).

Focusing externally on the external environment’s levels of uncertainty and munificence while emphasizing the role that managers play, David G. Sirmon, Michael A. Hitt and R. Duane Ireland advance a resource management process model composed of the following three stages: 1) structuring the resource portfolio; 2) bundling resources to build capabilities; and, 3) leveraging capabilities to exploit market opportunities (Sirmon et al., 2007). The model lists the following subprocesses for the first stage: acquiring, accumulating and divesting; for the second: stabilizing, enriching and pioneering; and, for the third stages: mobilizing, coordinating and deploying.

Table 3.14 below lists the three main components of the resource management process and their respective subprocesses. This table is adapted from a table provided in Sirmon et al. (2007).

Table 3.14 Resource Management Process: Components and Subprocesses

Component	Subprocesses	Description
Structuring (Management of firm resources)	Acquiring	Acquiring resources from outside the firm
	Accumulating	Developing resources internally
	Divesting	Divesting existing resources
Bundling (Combining firm resources to create or alter capabilities)	Stabilizing	Making incremental improvements to existing capabilities to keep them up to date
	Enriching	Extending current capabilities
	Pioneering	Creating new capabilities that would address the competitive context
Leveraging (Application of capabilities to create value for customers and wealth for owners)	Mobilizing	Identifying the capabilities needed to support capability configurations necessary to exploit market opportunities
	Coordinating	Integrating the identified capabilities to create effective and efficient capability configurations
	Deploying	Using the capability configurations to implement a chosen leveraging strategy

Based on assessing its dynamic competitive environment, a firm would identify a fit between its bundled capability configurations and its environment and use any of three strategies to effectively leverage them. These are the resource advantage, market opportunity, and entrepreneurial leveraging strategies (Sirmon et al., 2007). The first of the leveraging strategies of resource advantage looks internally by leveraging a firm's existing distinctive competencies (that use bundled capability configurations) to create a value for customers that exceeds those of competitors. The second strategy directs its attention to the external environment by identifying market opportunities then leveraging relevant existing capability configurations to exploit them. In contrast, the entrepreneurial leveraging strategy "involves developing capability configurations to provide new goods and/or services that require new markets" (Sirmon et al., 2007). While the first two strategies work well in environments with relatively low levels of

uncertainty and high levels of munificence, these scholars maintain that the entrepreneurial leveraging strategy is the one which is the most likely to create value for customers in extremely uncertain and low munificence environments.

Features of the three leveraging strategies that reflect the fit between the bundled organizational capabilities and the environment are presented in Table 3.15 below.

Table 3.15 Leveraging Strategies Based on Fit between Bundled Organizational Capabilities and the Environment

#	Leveraging Strategy	Focus and goal	Tools	Target	Best for environments with relatively
1	Resource advantage	Internally to create more value for customers	Existing bundled capability configurations	Current customers	Low uncertainty High munificence
2	Market opportunity	External to identify market opportunities	Existing bundled capability configurations	Current market	Low uncertainty High munificence
3	Entrepreneurial	Internally and externally to provide new products and services	Develop new capability configurations	New markets	High uncertainty Low munificence

Internal networks that are based on internal social capital and trust, heavy investments in technology infrastructures, and managerial relational skills are critical for the success of the resource management model. The managerial relational skill enables building internal social capital that would “evolve over time and through the development of trust” (Sirmon et al., 2007). While warning of putting “too much stock on incentives and opportunism and too little stock on trust, culture, and leadership” (2009), Mie Augier and David J. Teece assert that “the

manager/entrepreneur must articulate goals, help evaluate opportunities, set culture, build trust, and play a critical role in the key strategic decisions” (2009).

Similar to Sirmon, Hitt and Ireland (2007), Augier and Teece (2009) address the interplay between the macro and micro elements by focusing on the role of management in economic growth and development, aided by the dynamic capabilities framework. These scholars argue that entrepreneurial management is critical for capability building that would enable earning Schumpeterian rents due to the inbuilt ability to continuously innovate (Augier & Teece, 2009). Thus, these authors contend that organizations would not only adapt but, could even, shape their environments (Augier & Teece, 2009). Focusing on the interplay between capability strengths and weaknesses in dynamic environments, some scholars assert that the “strength and weakness sets change significantly over time in markets where competition is more intense, thereby undermining the durability of competitive advantage” (Sirmon, Hitt, Arregle, & Campbell, 2010). It follows that achieving temporary advantage is more difficult than originally assumed (Sirmon et al., 2010).

Similar to Augier and Teece, who emphasize the “strategic, organizational, and human resource decisions made by management” (2009), other scholars shed light on the possibility for organizations to shape the institutional environments and the opportunity of turning a disadvantage into an advantage. Cuervo-Cazurra & Genc (2008) argue that the weak governance and institutional set-ups of developing countries, considered a disadvantage, could in fact be turned into an advantage. The need to continuously maneuver the disadvantageous conditions and environments develops a unique capability among developing-country organizations and their managers that they leverage when internationalizing into other developing countries. Given that such contexts would usually be characterized by monopolies and corruption, this argument

and its supporting findings are interestingly at odds with the argument that advocates highly competitive markets as a dynamic capability building source. In fact, these seemingly paradoxical arguments lend support to the notion that the value of resources and capabilities are highly context-specific (Amit & Schoemaker, 1993; Brush & Artz, 1999; Miller & Shamsie, 1996).

Mechanisms for dynamic capabilities building identified in the literature could be external to the firm (Table 3.16) or internal (Table 3.17). Among those mechanisms that are external are two, not purposeful, that relate to the environmental context. Scholars who advocate “competition leads to competence” (Barney & Zajac, 1994) argue that the environmental context as a source of capabilities building is quite significant as the co-evolution of technologies and institutions (Teece, 2007), firms and markets (Augier & Teece, 2009) and firms, technologies and institutions (Murmann, 2003) exhibit. Advancing the other extreme, several scholars (Augier & Teece, 2009; Teece, 2007) assert that strategy within the dynamic capabilities paradigm shapes rather than adapts to the competition reflecting the weak governance and hostile institutional environments argument discussed above.

The other four external mechanisms are purposeful and include: 1) *providing outsourcing services* enables building the people-embodied skills that otherwise would be built by the outsourcing firms (Prahalad & Hamel, 1990); 2) *forming strategic alliances* (Prahalad & Hamel, 1990; Sirmon et al., 2007) for the purpose of internalizing partner skills. Sirmon et al. assert that “strategic alliances can be especially valuable for learning new knowledge in environments of low munificence” such as emerging markets that lack both technical and managerial knowledge (Sirmon et al., 2007). The Japanese companies in particular have successfully used strategic alliances to “learn from Western partners who were not fully committed to preserving core

competencies of their own” (Prahalad & Hamel, 1990); 3) *offshoring* (Hagel & Brown, 2005); and, 4) *networks* that overcome focus on internal resources and dynamically build and leverage trust (Hagel & Brown, 2005) and within which accelerated learning could occur.

Table 3.16 lists the external mechanisms for building capabilities that were identified from the literature and the firm agency associated with each of these mechanisms.

Table 3.16 External Mechanisms of Dynamic Capabilities Building Identified in the Literature

#	External Mechanism	Agency
1	Weak governance and institutional environments (Cuervo-Cazurra & Genc, 2008; Khanna & Palepu, 1997)	Not Purposeful
2	Competitive Context/ strong institutional environment (Barney & Zajac, 1994; Teece, 2007)	Not Purposeful
3	Providing Outsourcing Services (Hagel & Brown, 2005; Prahalad & Hamel, 1990)	Purposeful
4	Strategic Alliances (Prahalad & Hamel, 1990; Sirmon et al., 2007)	Purposeful
5	Offshoring (Hagel & Brown, 2005)	Purposeful
6	Networks/dynamic trust building (Hagel & Brown, 2005)	Purposeful

By contrast, all the internal mechanisms identified in the literature are purposeful and include: 1) *R&D* (e.g.,Prahalad & Hamel, 1990), a formal, science-based and highly structured activity and the most commonly acknowledged and used internal mechanism; 2) *managerial mindset, vision, cognition and strategy*; 3) *organizational structure/architecture*; 4) *organizational culture*; 5) *empowerment (or corporate entrepreneurship)*; 6) *social capital and*

trust; 7) internal networks; 8) reallocation of staff; 9) organizational learning; and, 10) financial incentives.

Perceiving managerial mindset, alternatively referred to as vision, conception or strategy, to determine structure, Prahalad and Hamel contend that “senior management should spend a significant amount of its time developing a corporatewide strategic architecture that establishes objectives for competence building” (1990). Senior management would perceive the firm as “a portfolio of competencies versus a portfolio of businesses” for widening the domain of innovation (Prahalad & Hamel, 1990) or as “an incubator and repository for difficult-to-replicate cospecialized assets” (Augier & Teece, 2009). Besides the organizational structure, another source of competitive advantage is corporate culture (Barney, 1986), that promotes empowerment, corporate entrepreneurship and autonomy and relies on social capital and trust and internal networks.

Empowerment or corporate entrepreneurship functions as “a resource capital configuration process (Borch et al., 1999)” (Yiu & Lau, 2008; citation in the original) of the strategic renewal of firms. Zahra asserts that the “formal and informal CE [corporate entrepreneurship] activities can enrich a company’s performance by creating new knowledge that becomes a foundation for building new competencies or revitalizing existing ones” (Zahra et al., 1999). As a resource capital configuration process (Borch et al., 1999), dynamic capabilities building is best viewed as an intermediary process in achieving high performance for the firm (Yiu & Lau, 2008).

Social capital and trust (Augier & Teece, 2009; Hagel & Brown, 2005; Sirmon et al., 2007) are fundamental components not only of empowerment but also of internal networks of employees. Internal networks are part of organizational routines in which capabilities are

embedded (Collis, 1994), supporting the need for “creating internal organizational systems with rewards and incentives that also support the creation of organizational identification and loyalty” (Augier & Teece, 2009). Internal networks are also impacted by the reallocation of human skills that embody core competencies within the organization despite top management’s scarce attention to this mechanism (Prahalad & Hamel, 1990). Another internal mechanism is financial incentives (Augier & Teece, 2009). While perceiving organizational routines to be composed of structure and processes (Collis, 1994), these processes involve interactive organizational learning and problem-solving (Morgan, 1997), e.g. *Kaizen*, that are critical for dynamic capabilities building and innovation.

I list the internal mechanisms of dynamic capabilities building, all purposeful, that are identified in the literature in Table 3.17 below.

**Table 3.17 Internal Mechanisms of Dynamic Capabilities Building
Identified in the Literature**

#	Internal Mechanism	Agency
1	R & D (e.g., Prahalad & Hamel, 1990)	Purposeful
2	Managerial Mindset/Organizational Conception/Vision/Strategy (Augier & Teece, 2009; Gavetti, 2005; Prahalad & Hamel, 1990; Sirmon et al., 2007)	Purposeful
3	Organizational Architecture/Structure (Gavetti, 2005; Prahalad & Hamel, 1990)	Purposeful
4	Corporate Culture (Augier & Teece, 2009; Barney, 1986; Collis, 1994)	Purposeful
5	Empowerment (Corporate Entrepreneurship, Autonomy & Empowerment) (Borch et al., 1999; Yiu & Lau, 2008; Zahra et al., 1999)	Purposeful
6	Social Capital (Augier & Teece, 2009; Hagel & Brown, 2005; Sirmon et al., 2007)	Purposeful
7	Internal Employee Networks (Collis, 1994; Sirmon et al., 2007)	Purposeful
8	Reallocation of Human Skills (Prahalad & Hamel, 1990)	Purposeful
9	Incentives (Reward System) (Augier & Teece, 2009)	Purposeful
10	Organizational learning and problem-solving (Morgan, 1997)	Purposeful

The literature reviewed in this subsection on dynamic capabilities building, similar to that on empowerment (subsection 3.7.3), emphasizes the three organizational features of 1) managerial mindset, cognition and strategy; 2) organizational structure; and, 3) corporate culture. In addition it emphasizes the role of: 4) empowerment, of which social capital and trust as well as internal networks represent fundamental components. Similar to the literature on empowerment, emphasizing these features highlight them as central elements in laying the foundations for dynamic capabilities building and innovation.

Also, similar to the empowerment literature, this literature lends support to the arguments that: 1) organizations could shape their contexts (Augier & Teece, 2009); and, 2) organizations in developing countries dynamically build specific capabilities to maneuver their challenging institutional contexts (Cuervo-Cazurra & Genc, 2008; Khanna & Palepu, 1997). Due to their missing, weak or hostile formal institutions, the roles played by the informal cognitive institutions of social capital and trust and networks are enhanced in these weak governance and weak institutional contexts (Ahlstrom & Bruton, 2002; Bruton et al., 2007; Peng & Heath, 1996), that organizations then leverage and turn into competitive advantages in their efforts to survive, thrive and innovate in these contexts. Thus, I devote the following subsection to review the literature on social capital and trust.

3.7.5. *Social Capital*⁹⁶

While acknowledging the crucial roles they play in developing countries (Ahlstrom & Bruton, 2002; Bruton et al., 2007; Peng & Heath, 1996), the informal cognitive institutions of social capital and trust are gaining significance in developed countries. Robert D. Putnam argues that social capital is increasingly “coming to be seen as a vital ingredient in economic development around the world” (1993). This is partly due to the escalating social costs signaling that the ‘social glue that underlies informal institutional constraints is dissolving” (North, 1996).

Hence, “The social capital embodied in norms and networks of civic engagement seems to be a precondition for economic development, as well as for effective government” (Putnam, 1993). Social capital could replace formal institutions that are missing or support those that are weak. James S. Coleman asserts that “Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible” (1988). Social capital also has the potential to create new institutions or overcome existing formal institutions that are hostile. According to Putnam, social capital ‘serves as a kind of collateral for men and women who are excluded from ordinary credit or labor market” (1993).

Fukuyama asserts that “a nation’s well-being, as well as its ability to compete, is conditioned by a single, pervasive cultural characteristic: the level of trust inherent in the society” (1995). However, in line with Banfield (1958), Fukuyama cautions from trust based overwhelmingly on kinship such as that developed in “familistic” societies that experience “difficulties in creating large organizations that go beyond the family” rendering state intervention to create globally competitive firms (Fukuyama, 1995). Perceiving social capital as “the willingness and capability of citizens to make commitments to each other, collaborate with

⁹⁶ This construct encompasses social capital and trust

each other and trust each other in processes of exchange *and* interactive learning” (Lundvall, 2006; italics in the original) highlights the significance of its various dimensions to innovation.

Concrete personal relations and networks of relations, rather than market or hierarchical relations, underlie social capital (Adler & Kwon, 2002) that is characterized by embeddedness (Granovetter, 1985). Social capital is “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit” (Nahapiet & Ghoshal, 1998). It “inheres in the structure of relations between actors and among actors. Social capital is not lodged in either the actors themselves or in physical implements of production” (Coleman, 1988), rendering organizations as ‘corporate actors’ and their internal and external relations as the elements that constitute social capital. The substance of social capital is goodwill and “its *effects* flow from the information, influence, and solidarity such goodwill makes available” (Adler & Kwon, 2002; italics in the original). It is a multidimensional phenomenon (Woolcock, 1998) reflected in the “features of social organization, such as networks, norms and trust, that facilitate coordination and cooperation for mutual benefit” (Putnam, 1993). Hence, social relations are the sources from which trust is generated, expectations are established and norms are created and enforced.

Since “stocks of social capital, such as trust, norms, and networks, tend to be self-reinforcing and cumulative”, the supply of these resources “increases rather than decreases through use and which (unlike physical capital) becomes depleted if *not* used” (Putnam, 1993; italics and parentheses in the original). Through “investment in building their network of external relations, both collective actors can augment their social capital and thereby gain benefits in the form of superior access to information, power, and solidarity; investing in the development of their internal relations, collective actors can strengthen their collective identity and augment their

capacity for collective action” (Adler & Kwon, 2002). Other characteristics of social capital include being appropriable, convertible, substitutable, complimentary to other resources and a “collective good” (Adler & Kwon, 2002).

Besides lubricating social life (Putnam, 1993), social capital and trust have tangible and critical effects on groups and societies. For example, “a group within which there is extensive trustworthiness and extensive trust is able to accomplish much more than a comparable group without that trustworthiness and trust” (Coleman, 1988). Similarly, “A society that relies on generalized reciprocity is more efficient than a distrustful society” (Putnam, 1993). Confidence in efficacy of formal institutions can support trust in economic transactions between strangers. Within organizations, “the trustworthiness of organizational leaders generate the trust behaviors that ultimately add value and enable an organization to compete successfully” (Caldwell & Hansen, 2010). Trust is perceived as a competitive advantage (Barney & Hansen, 1994; Caldwell & Hansen, 2010; Nahapiet & Ghoshal, 1998; Schoorman, Mayer, & Davis, 2007) since it leads to constructive dialogues and compromises (Pruitt, 1981), fosters cooperation and collaboration within and between organizations (Lundvall et al., 2002; Uzzi, 1997) as well as innovation (Lundvall, 2007; Lundvall et al., 2002).

The “networking capitalism” (Putnam, 1993) or the “*network*” paradigm (Morgan, 1997; italics in the original) represent embodiments of social capital and its dimensions. Focusing on developed countries, Morgan contends that lacking a “robust networking culture, that is the disposition to collaborate to achieve mutually beneficial ends” (Morgan, 1997) could result in poor economic performance. This is exemplified in European Union’s “Less Favored Regions” that, in addition to suffering from a relative absence of physical infrastructure, qualified labor and research and technological activity, “seem to have little or no social capital on which they

can draw” (Morgan, 1997), echoing Banfield’s (1958) argument in the *Moral Basis of a Backward Society*. Morgan’s (1997) argument aligns with the assertion that weak regulatory and normative institutions increase reliance on informal cognitive institutions (Ahlstrom & Bruton, 2002; Bruton et al., 2007; Peng & Heath, 1996), possibly in such contexts as those of the BRIC and Arab world countries.

Several works from Asian emerging markets and China recognize the value of social capital and networks affirming that “the role of social capital and social networks may, in fact, be more important in emerging economies than in mature economies” (Bruton et al., 2007). While highlighting the institutional voids in developing-country contexts, Khanna and Palepu assert the criticality of good corporate governance by a local company to ensure that it lives up to its commitments to all stakeholders enabling it to “acquire a reputation that is invaluable in its dealings with constituents” (Khanna & Palepu, 2006). In such a situation, the micro-level element of corporate governance seems to support or fill the gap created by the weak or missing institutional governance at the macro-level.

I present the various dimensions of social capital in Table 3.18 below.

Table 3.18 Dimensions of Social Capital

Feature/Dimension	Description
Advocates	(Adler & Kwon, 2002; Coleman, 1988; Nahapiet & Ghoshal, 1998; Putnam, 1993; Woolcock, 1998)
Foundational elements	Embeddedness (Granovetter, 1973, 1985) Social relations (as opposed to market & hierarchical relations)
Embodiments	Norms & Values
Manifestations	Networking capitalism (Putnam, 1993) Network paradigm (Morgan, 1997)
Components	Network structure Individual & corporate actors Internal & external social relations
Substance	Goodwill Trust Commitments
Institution Type	Informal cognitive
Critical Roles	Replaces missing formal institutions Assists in overcoming existing hostile formal institutions
Mechanisms	Coordination Cooperation Information sharing Reciprocity & Exchange
Effects	Norms created Expectations established Access to information, influence & solidarity Interactive learning

Social capital's dimension of trust (Fukuyama, 1995, 1997) is a particularly valuable and unique resource since it cannot be bought (Arrow, 1974) but rather has to be earned (Morgan, 1997). Two main approaches to trust are identified in the literature. These are: 1) an economic approach; and, 2) a behaviorally-oriented approach. The economic approach assumes trust would only result from setting up effective governance mechanisms through legal and contractual

arrangements that ensure against opportunism and encourage behaving in a trustworthy manner (Williamson, 1975, 1985), assuming that a level of trust in the efficacy of the governance mechanisms exists. In contrast, the behaviorally-oriented approach is founded on the premise that “most exchange partners are trustworthy [...] and thus that trust in exchange relationships-even without legal and contractual governance protections-will be common” (Barney & Hansen, 1994).

This thesis subscribes to the behaviorally-oriented approach and, hence, reviews its definitions and models. Possibly the most commonly used definition of trust is the one advanced by Charles F. Sabel and popularized by Jay B. Barney and Mark H. Hansen (1994): “the mutual confidence that no party to an exchange will exploit the other’s vulnerability” (Sabel, 1993). In a more elaborate definition that highlights both individuals and organizations, trust is defined as “the psychological willingness of a party to be vulnerable to the actions of another party (individual or organization) based on positive expectations regarding the other party’s motivation and/or behavior (Ferrell, 2004; Mayer, Davis, & Schoorman, 1995)” (Pirson & Malhotra, 2011; citations and parentheses in the original).

Trust has “potentially varying dimensions along which different stakeholders base their trust” (Pirson & Malhotra, 2011). Although many scholars merge trust and trustworthiness within an aggregate construct of trust, Barney and Hansen (1994) distinguish between them by pointing out that trust represents an attribute of the relationship between exchange partners whereas trustworthiness, which represents a competitive advantage, relates to the attribute of an exchange partner. The value of trust in different types of economic exchanges are: 1) weak form trust ; 2) semi-strong form trust; and, 3) strong form trust that reflects trustworthiness (Barney & Hansen, 1994).

The first two forms arise from the structure of an exchange: the weak form trust emerges when exchange vulnerabilities are absent while the semi-strong form trust results from imposing legal and contractual governance mechanisms. By contrast, the strong form trust (or principled trust) emerges from the values, principles and standards of the exchange partners that are derived from the history, culture, or the key individuals associated with each exchange partner (Barney & Hansen, 1994). In most instances, the strong form trust represents a source of competitive advantage due to its governance cost advantages and/or the opportunities that only this form, and not the other two, could make available to its partners (Barney & Hansen, 1994).

Roger C. Mayer, James H. Davis and F. David Schoorman (1995) advance an integrative model of organizational trust that builds on the link between trustworthiness and trust. These scholars identify the following three perceived trustworthiness dimensions of an exchange partner that determine the level of trust: 1) ability; 2) benevolence; and 3) integrity. Ability is defined as “that group of skills, competencies, and characteristics that enable a party to have influence within a specific domain”; benevolence as the “extent to which a trustee is believed to want to do good to the *trustor*, aside from an egocentric profit motive”; and, integrity as relating to the “trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable” (Mayer et al., 1995; italics in the original). Emphasizing that the level of trust leads to willingness to take on risk, these scholars highlight the critical role of context in this process.

While recognizing the need for a model that would reflect multi-levels and cross-levels of analysis as well as multi-directionality, the same scholars, in a paper more than two decades later (Schoorman et al., 2007), emphasize two elements for building trust within organizations that align with the assertions related to managerial cognition and hierarchy discussed earlier for dynamic capabilities building (subsection 3.7.3). First, they emphasize the central role that “trust

in the management team” plays “since it is this level of trust that will govern the strategic actions of the organization (Cyert & March, 1963; Simon, 1957)” (Schoorman et al., 2007; citations in the original). Second, they argue against the strong control systems that agency theory advocates as risk management tools within an organization since they perceive them to “inhibit the development of trust” and undermine trust-building within organizations (Schoorman et al., 2007), indicating that decentralized organizations would promote the development of trust more than centralized organizations.

While distinguishing between interpersonal trust and organizational trust, Michael Pirson and Deepak Malhotra (2011) conduct empirical research that unearth clear differences with regards to the dimensions of trustworthiness that pertain to these two types of trust. These differences are reflected in a framework of trust and its trustworthiness dimensions that builds on the work of others (Lewicki & Bunker, 1996; Mishra, 1996; Sitkin & Roth, 1993) and expands the original three trustworthiness dimensions of Mayer et al.’s model (1995) to six. Based on literature review and empirical findings, these scholars retain the original dimensions of benevolence and integrity, disaggregate the dimension of ability into two: managerial competence and technical competence (Madhavan & Grover, 1998), and add two dimensions: transparency and identification (Lewicki & Bunker, 1996).

Table 3.19 on the next page compares the trustworthiness dimensions that are included in the original integrative model of organizational trust framework (Mayer et al., 1995) and its modified version (Pirson & Malhotra, 2011), and lists their respective definitions.

Table 3.19 Original and Modified Integrative Model of Organizational Trust

Framework/	Original Integrative Model of Organizational Trust (Mayer et al., 1995)	Modified Integrative Model of Organizational Trust (Pirson & Malhotra, 2011)
Trustworthiness Dimensions		
Ability (Managerial Competence & Technical Competence)	Ability “That group of skills, competencies, and characteristics that enable a party to have influence within a specific domain” (Mayer et al., 1995)	Managerial Competence “The organization’s ability to make strategic decisions and manage stakeholder relationships” (Pirson & Malhotra, 2011)
		Technical Competence “The organization’s ability to deliver high-quality products and services” (Pirson & Malhotra, 2011)
Benevolence	“The extent to which a trustee is believed to want to do good to the <i>trustor</i> , aside from an egocentric profit motive” (Mayer et al., 1995)	“The organization’s concern for their stakeholders’ well-being” (Pirson & Malhotra, 2011)
Integrity	Relates to “a trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable” (Mayer et al., 1995)	“An organization’s general tendency (or propensity) to act fairly and ethically” (Pirson & Malhotra, 2011)
Transparency	-	“The perceived willingness to share trust-relevant information with vulnerable stakeholders (e.g., Mishra, 1996; Tschannen-Moran, 2001)” (Pirson & Malhotra, 2011; citations in the original)
Identification	-	“The understanding and internalization of the interests and intentions of the other party, based on shared values and commitments” (Lewicki & Bunker, 1996)

Pirson and Malhotra (2011) use these six trustworthiness dimensions to advance a framework of stakeholder-specific trust that takes into account the following two aspects: 1) the depth of relationships with the organization, i.e. whether shallow or deep; and, 2) the locus, i.e. whether the stakeholder is internal or external to the firm. These authors test their model by using original survey data of four different stakeholder groups from 1,298 respondents from four

organizations. Their research findings show that stakeholders possessing shallow relationships with the organization base their trust on perceptions of integrity, whereas those possessing deep relationships base it on benevolence. The findings also show that while internal stakeholders base their trust on managerial competence, external stakeholders base it on technical competence.

An insight from the research of these scholars is that “the decision to trust others—even in relationships that are not particularly intense—may be more personal and more relevant to one’s self-identity than is typically assumed” (Pirson & Malhotra, 2011). This reflects the emergence of identification as an independent component of trust. Another finding from the research relates to transparency that emerges as more critical for stakeholders who possess shallow, rather than deep, relationships with the organization and for employees than for investors. The authors interpret these results by contending that “whereas transparency may be most *needed* by those who lack first-hand information regarding the organization (e.g. those in shallow or external relationships), it may be most *valued* by those who have the most at stake in their relationships with the organization (i.e. those in deep, internal relationships)” (Pirson & Malhotra, 2011; italics and parentheses in the original).

The literature reviewed in this subsection points to the importance of social capital and trust in developed, emerging market and developing country contexts alike at three levels: individual, organizational and national. At the individual level, trust is discussed as a necessary lubricant for social life that replaces other forms of capital and, hence, facilitates achieving goals otherwise unattainable. At the organizational level, focusing externally, social capital and trust emerge as important elements of a firm’s reputation, networks in which it is a member, and its performance. Focusing internally, trust in the management team, the managerial competence and

decentralized organizational structure seem to promote trust building within firms, aligning with the importance of elements identified in the literatures on the culture of empowerment (subsection 3.7.3) and dynamic capabilities building (3.7.4).

At the national level, social capital and trust underlie the effective functioning of formal contracts and institutions that exist in developed-country contexts. As the literature on NSI in developed countries asserts, social capital and trust are also important elements for interactive learning and innovation. In the BRIC-country contexts, the informal cognitive institutions of social capital and trust in emerging markets support or fill the vacuum created by the weak and missing formal contracts and institutions. This emerging market literature insight has the potential to contribute to this research given the narrower ‘institutional gaps’ between the BRIC-country contexts and the Arab world contexts characterized by weak, missing and strongly hostile institutions that I have discussed in chapter 2.

3.7.6. Summary

To facilitate the use of the literatures on the Arab world ‘observed’ foundational constructs reviewed in the above four subsections for discussion and analysis of the research findings, I synthesize and aggregate the important elements identified in these literatures in Tables 3.5, 3.6 and 3.20. I use the six categories of institutions in Table 3.5 of: 1) *R&D*; 2) *labor market*; 3) *funding sources*; 4) *regulations and laws*; 5) *competition*; and, 6) *governance*, to compare the theorized formal institutions in the developed-country contexts (on the first page of the table) with those observed in the Arab world country contexts (on the second page of the table). To further clarify and facilitate discussions and analysis of Arab world NSI’s macro-micro interplay, I use Table 3.6 to identify weak, missing and hostile institutions in the Arab world contexts.

As for the other three Arab world NSI ‘observed’ foundational constructs of a culture of empowerment, dynamic capabilities building, and social capital, Table 3.20 below synthesizes and aggregates the main elements identified in these literatures reviewed in subsections 3.7.3, 3.7.4, and 3.7.5 above. I also attempt in the same table to clarify the links between the external mechanisms and internal mechanisms of dynamic capabilities building and the other three ‘observed’ constructs. To further facilitate the use of the table, I aggregate the external mechanisms identified in the literature into three groups, and the internal mechanisms into five groups. Also, based on the literature review, I aggregate the four overlapping organizational features of: 1) managerial mindset, cognition, and strategy; 2) organizational structure; 3) organizational culture; and, 4) empowerment under the culture of empowerment, highlighting it as possibly the most critical internal mechanism of dynamic capabilities building.

Table 3.20 Aggregated Mechanisms and Arab World NSI Foundational Constructs

Mechanism			Arab World NSI 'Observed' Foundational Constructs
E x t e r n a l	1	Governance and institutional environment: - Weak (Cuervo-Cazurra & Genc, 2008; Khanna & Palepu, 1997) - Competitive/strong (Barney & Zajac, 1994; Teece, 2007)	Institutions
	2	Networks, dynamic trust building & alliances (Hagel & Brown, 2005; Prahalad & Hamel, 1990; Sirmon et al., 2007)	Social Capital*
	3	Outsourcing & offshoring (Hagel & Brown, 2005; Prahalad & Hamel, 1990)	
I n t e r n a l	1	R & D (e.g., Prahalad & Hamel, 1990)	
	2	Culture of Empowerment (Borch et al., 1999; Schein, 1990; Yiu & Lau, 2008; Zahra et al., 1999) - Organizational culture, loyalty & reward system (Augier & Teece, 2009; Barney, 1986; Collis, 1994) - Managerial cognition, vision & strategy (Augier & Teece, 2009; Gavetti, 2005; Prahalad & Hamel, 1990; Sirmon et al., 2007) - Strategic architecture, structure & decision-making powers (Gavetti, 2005; Prahalad & Hamel, 1990)	Culture of Empowerment**
	3	Social capital, trust & internal networks (Augier & Teece, 2009; Collis, 1994; Hagel & Brown, 2005; Sirmon et al., 2007)	Social Capital*
	4	Reallocation of human skills (Prahalad & Hamel, 1990)	
	5	Organizational learning, problem-solving, continuous improvements, <i>Kaizen</i> (Morgan, 1997)	

* This construct includes the notion of trust.

** This construct includes the notions of organizational culture, corporate entrepreneurship and autonomy.

The reviewed literatures in the above four subsections reveal macro and micro-level divergences for the BRIC countries (Ahlstrom & Bruton, 2001; Ahlstrom & Bruton, 2002;

Bruton et al., 2007; Cuervo-Cazurra & Genc, 2008; Khanna & Fisman, 2004; Khanna & Palepu, 1997; Khanna & Palepu, 2006; Khanna et al., 2005; Khanna & Yafeh, 2007) from developed countries. Scholars assert that divergences at the macro-level drive, as well as are driven by, divergences at the micro-level, reflecting NSI's macro-micro interplay. As discussed, the weak institutional contexts and governance structures of the BRIC countries impose hurdles on organizations that operate in these contexts. To survive, thrive and innovate, organizations develop context-specific micro-level capabilities to maneuver the various hurdles imposed by their weak contexts. Some of these micro-level capabilities in turn have the potential to shape the macro-level factors within these contexts. Accordingly, a culture of empowerment and dynamic capabilities building emerge as critical factors in the developing-country contexts. In addition, several scholars argue that the informal cognitive institutions of social capital and trust play more central roles in such contexts to compensate for the weak or missing formal institutions.

The narrower 'institutional gaps' between the BRIC-country contexts and the Arab world contexts characterized by weak, missing and strongly hostile institutions (Table 3.6) point to the potential of these emerging market literature insights to contribute to our understanding of innovation in the Arab world contexts and to developing an Arab world NSI framework. The BRIC-country literature seems to indicate that, in such contexts as those of the Arab world countries, organizations dynamically build micro-level capabilities that play the following four roles vis-à-vis the missing, weak or hostile macro-level institutions: 1) fill the void created by the missing institutions (Coleman, 1988; Khanna & Palepu, 2006); 2) support weak institutions (Coleman, 1988); 3) overcome hostile institutions (Cuervo-Cazurra & Genc, 2008; Khanna & Palepu, 1997), 4); and, in some instances shape contexts by creating new institutions altogether (Augier & Teece, 2009; Khanna et al., 2005; Teece, 2007).

4. METHODOLOGY

4.1 Methodological Approach

To meet the research objectives, an exploratory qualitative case study research methodology (Yin, 1994) is used. According to Robert K. Yin, “case studies are the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context” (Yin, 1994; quotations in the original). This methodology employs purposive or theoretical sampling (Eisenhardt, 1989; Patton, 2002) of “examples of polar types” (Eisenhardt, 1989) that facilitate learning “a great deal about issues of central importance to the purpose of the inquiry” (Patton, 2002). In contrast to random sampling that leads to generalizations, Eisenhardt asserts that purposive sampling of case studies could fill “theoretical categories”, generate a novel theory or ‘replicate or extend emergent theory’ (1989).

Given that innovation is a process with various dynamic settings that need to be characterized, a retrospective longitudinal study with a historical perspective is conducted (Langley, 1999). The case selected is an embedded case with several units of analysis (Yin, 1994) or mini-cases (Eisenhardt, 1989). Such case studies provide rich information since “even though a case study might be about a single public program, the analysis might include outcomes from individual projects within the program” (Yin, 1994; italics in the original). This means that differentiation within the case could result from the different units of analysis (mini-cases of innovation), its context (the respective actors’ level of analysis and the intended market) and its subunits of analysis (the various actors as well as the technologies involved).

The selected embedded case is Aramex. Within it five innovation mini-cases are chosen, each representing a unit of analysis. One of the mini-cases is an organizational innovation, the

Federal Structure, another is a social innovation, Ruwwad, and three are service innovations, Shop and Ship, Personalized Delivery Services, and Third Party Logistics. The embedded case and the five innovation mini-cases are described in greater detail in Chapter 5. The chosen methodology and the selection of the “distinct information-rich” case of Aramex, widely acknowledged as an “exemplar of good practice”, resulted in a nuanced and in-depth understanding and the emergence of insights (Patton, 2002). These facilitated “inductive theorizing” (Eisenhardt, 1989; Glaser & Strauss, 1967) and the generation of a novel theory.

4.2 Case Selection and Access Negotiation

Driven by the overarching objective of developing a better understanding of innovation in the Arab world, I conducted a screening process of potential cases in Jordan during the months of July and August of 2009, nine months ahead of conducting the field research. Having identified six cases from the private and public sectors as well as civil society, I used an Interview Recruitment Letter (Appendix II) to contact top management to set up meetings. Upon meeting each executive of a potential organization to study, I briefed him on the purpose of the research and clarified my objectives for the meeting: to learn more about the company and to learn whether they would be willing to be included in my work. By the end of this screening process, I narrowed down the six cases to two: IrisGuard Inc.⁹⁷ and Aramex⁹⁸. As potential innovation case studies, these companies differ sharply in their complexity and the level of science and technology employed in their services and products.

Given its one main product, IrisGuard is less complex than Aramex which has a multitude of services and products. Methodologically, this makes IrisGuard a standard single case study, while Aramex is an information-rich embedded case with several mini-cases and units of analysis. As for technology, IrisGuard's main product is based on advanced science and employs the highly specialized Iris-Recognition technology. By contrast, the innovative transportation and logistics services of Aramex, despite relying on an internally-developed sophisticated information technology platform, are not science-based nor do they use highly specialized technology. Aramex's low- and medium-technology innovations therefore fall under the "hidden innovation" umbrella. I provide brief descriptions of IrisGuard and Aramex below.

⁹⁷ IrisGuard, website accessed on May 29, 2012, http://www.irisguard.com/pages.php?menu_id=4

⁹⁸ Aramex, website accessed on May 29, 2012, <http://www.aramex.com/aboutus/default.aspx>

IrisGuard is recognized as the world leader in large scale Iris biometric systems. It provides comprehensive end-to-end Iris Recognition-technology software and hardware solutions for such applications as security, banking and others. IrisGuard manufactures the front-end cameras, the back-end iris recognition servers as well as the middleware or the application programmer interface (API) that ties them all together. IrisGuard has a global presence and operates from its offices in Jordan, Switzerland and the United Arab Emirates and a research laboratory in the U.K. In 2002 IrisGuard deployed the world's first and largest Iris Recognition Homeland Security solution (Iris Expelle Tracking System®) for all national sea, land and air ports in the United Arab Emirates. Claiming to be the most effective border system in the world and recognized as the largest and most searched Iris database in use, this deployment won the Abu Dhabi Award for Technical Excellence and was featured on the National Geographic channel in March 2007⁹⁹.

In 2008, IrisGuard employed its advanced technology product and expertise in a different application, in banking. As reported by Business Week, BBC¹⁰⁰ and National Geographic, IrisGuard deployed the world's first Iris Recognition banking solution, iBank Suite®, at the 54 branches, 190 automatic teller machines and 96 points of sale of the Cairo Amman Bank in both Jordan and Palestine. The deployed iBank Suite® solution enabled the bank's clients to access their accounts and conduct all types of transactions including withdrawing cash, depositing cash or cheques and/or making transfers without using any bank cards or IDs. In recognition of its

⁹⁹ National Geographic: Surveillance, The IrisGuard U.A.E. system, video accessed on May 29, 2012, <http://www.youtube.com/watch?v=0eXzgxcHIOM>

¹⁰⁰ BBC World: Its All In The Eye, The IrisGuard Cairo Amman Bank, video accessed on May 29, 2012, <http://www.youtube.com/watch?v=S-qqUY8DPj0&feature=related>

accomplishments, IrisGuard was awarded the Frost & Sullivan Entrepreneurial Award¹⁰¹ for the year 2009.

The other case, Aramex PJSC, referred to throughout this thesis as Aramex¹⁰², is a leading global logistics and express transportation solutions provider, such as FedEx and DHL, UPS and TNT, that is known for its innovative services. Established in Jordan in 1982, Aramex became, in January 1997, the first Arab-based company to be listed on NASDAQ. Aramex returned into private ownership when, in 2002, it was acquired by Abraaj Capital, the Arab world's largest private equity company that delisted it from NASDAQ. In June 2005, three years after its acquisition, Abraaj Capital turned Aramex into a public company by listing it on the Dubai Financial Market. Among other critical milestones (Appendix III), Aramex was a founding partner of the Business Optimization Consultants that later evolved into Maktoob.com. The latter developed the largest Arabic language portal that, in August 2009, was acquired by Yahoo! for US\$ 175 million. Aramex was also the first Arab world company to publish a sustainability report.

Aramex has a broader portfolio of innovative services than its competitors. Its services evolved, over its thirty years of operations, from express wholesale delivery into comprehensive supply chain solutions. In between, they evolved from express retail in 1984, to multiple product offering in 1985 and value added services in 1997. From its multitude of services three were selected for this research: Shop and Ship, Personalized Delivery Services, and Third Party Logistics. To take account of Aramex's full range of innovations, the remaining two mini-cases selected for study are its organizational innovation of the Federal Structure, and the social

¹⁰¹ Frost & Sullivan Award Reinforces IrisGuard's Outstanding Entrepreneurial Ability, The Gaea Times, March 10, 2009, <http://blog.taragana.com/pr/frost-sullivan-award-reinforces-irisguards-outstanding-entrepreneurial-ability-467>

¹⁰² Aramex, website accessed on May 30, 2012, <http://www.aramex.com/aboutus/default.aspx>

innovation of The Arab Foundation for Sustainable Development” Ruwwad¹⁰³. During the screening process in July and August 2009, I visited Ruwwad and received a tour of all its facilities, as well as detailed briefings by its regional director and educational fund coordinator and had conversations with some staff members, volunteers and stakeholders including children and teens.

I ultimately chose to research Aramex over IrisGuard for several reasons. IrisGuard is a single case, while Aramex as an embedded case that is more information-rich, would enable inductive theorizing and the possible generation of new theory. Although seeming to present a unique case of an Arab world science-based high-technology innovation, such a classification for IrisGuard would be difficult to justify. This is because its R&D activities originate in its research laboratory which is staffed by non-Arab scientists and is located in the well-developed institutional context of the U.K. The latter set-up contrasts sharply with Arab world’s hostile institutional environments that stifle innovation. By contrast, Aramex’s innovations rely on local talent and originate within, and in spite of, the Arab world’s hostile institutional environments. Besides representing a more appropriate Arab world innovation case, Aramex’s low- and medium-technology innovations present the opportunity to explore the under-researched “hidden innovation” area, holding out the possibility of advancing a potentially significant contribution to innovation studies.

I communicated my decision to Aramex CEO in early January 2010 and initiated my field research in Jordan in early March 2010. I initially selected the three mini-cases of Federal Structure, Shop and Ship, and Ruwwad which are respectively organizational, service and social innovations. However, midway through my field research I sensed the need for richer service

¹⁰³ The Arab Foundation for Sustainable Development (Ruwwad), website accessed on May 29, 2012, <http://www.ruwwad.jo/>

innovation data, and added the two service innovations of Personalized Delivery Services and Third Party Logistics. Given their emergence in Dubai as well as management from there, I travelled to the United Arab Emirates to conduct the related field research.

4.3 Ethical Considerations

This research adheres to the McGill University Policy on the Ethical Conduct of Research Involving Human Subjects¹⁰⁴ that includes an ethics approval from the Research Ethics Board. Some of the forms used to conduct this research include: Interview Guide (Appendix IV), Agreement to Conduct Research (Appendix V) and Consent to be Interviewed (Appendix VI).

¹⁰⁴ For more information on the Ethics review process at McGill University refer to:
<http://www.mcgill.ca/researchoffice/compliance/human/>

4.4 Operationalization and Data Collection

When operationalizing my research, I took note of Eisenhardt's assertion that "a priori specification of constructs can help to shape the initial design of theory-building research" (1989). From the extant NSI literature, I identified four foundational constructs. These NSI 'theorized' constructs are 1) institutions; 2) knowledge; 3) learning; and, 4) social capital. Initial field work involved conducting semi-structured pilot interviews with the use of a pre-designed interview guide (Appendix IV) and research questions (Appendix I). I conducted the first interviews as pilots both to test the appropriateness of the questions posed and also to find out whether the responses seemed to match the prevalent NSI theory. While conducting this initial work, I kept in mind Eisenhardt's insight regarding the possibility for the research question to evolve during fieldwork. I treated the NSI 'theorized' foundational constructs as tentative and remained open and flexible regarding their importance within the emerging theory.

An open and flexible interviewing style as well as the retrospective study methodology I used were aimed at capturing the unfolding events and interactions during the development of each innovation. The information that the interviewees communicated to me during the semi-structured interviews soon deviated from the NSI 'theorized' foundational constructs. Institutions emerged as qualitatively distinct, and knowledge and learning emerged as less relevant in the Arab world contexts than in those of developed countries. Early observations also highlighted the critical roles that the informal institutions of social capital and trust play in the Arab world contexts. To facilitate the identification of NSI's constructs in Arab world's contexts, I adopted an unstructured interview format for conducting further fieldwork and data collection.

This flexibility in modifying the interview format reflects the appropriateness of the selected research strategy in addressing the research question while maintaining research quality.

Balancing four elements would ensure the research quality. These elements are: 1) generalizability, i.e. external validity; 2) internal validity, i.e. strength of the cause and effect relationship; 3) construct validity, i.e. measurement of accuracy; and, 3) reliability (Yin, 1994). These elements could be balanced through research method selection and triangulation. The research method selection for this thesis was shaped by the two challenges of the under-theorized and under-researched Arab world contexts and the process nature of innovation (subsection 4.1). As mentioned above, the selected research methodology proved effective in detecting and facilitating the required methodological changes during fieldwork to ensure the validity and quality of the research.

In terms of triangulation, four types are discussed in the literature. These are investigator, methodological, data and theory triangulation (Patton, 2002). In this thesis, I use both data triangulation and theory triangulation. I triangulated data from various primary and secondary sources. I collected primary data in face-to-face interviews and mini-focus groups that I conducted with various respondents from Aramex, its clients, Ruwwad staff, volunteers and other stakeholders. This was triangulated with data from other primary sources such as field notes of observations (Maanen, 1979), thoughts and impressions that attempted to “push thinking” of “What am I learning?” (Eisenhardt, 1989). Other primary data sources included site visits and communications by email and phone. All primary data was also triangulated with data from secondary sources. These sources included: publicly and non-publicly available sources such as annual reports, news articles, online websites, social media sites as well as internal PowerPoint presentations to board of directors meetings and periodic corporate conferences and meetings (Appendices XI and XII).

I also triangulated different theories. Literatures that diverge from those related to the NSI ‘theorized’ foundational constructs emerged from an iterative data analysis and literature research process. These research streams include theories of social capital and trust, corporate entrepreneurship and empowerment. I triangulated these literatures with the NSI-related theories and research streams on innovation, system of innovation and national system of innovation, neo-institutional theory, knowledge-based view and learning. This triangulation of theories resulted in a literature review that evolved to differ fundamentally from the earlier developed-country NSI-based version

I paid particular attention to enhance generalizability through research context selection. The five mini-cases were selected to represent low- and medium-technology innovations, namely organizational, social and service innovations. Besides this broad mini-case selection, the selection of the research context included the three relatively different Arab world contexts of Jordan, Lebanon and the United Arab Emirates (Chapter 2). Despite belonging to the middle per capita income group (Table 2.1), the institutional set-ups of Jordan and Lebanon are quite different. Jordan represents one of the more politically stable Arab world countries. Hence, its institutional set-up enjoys a relatively low uncertainty level. By contrast, due to a prolonged civil war and repeated conflicts with Israel (Appendix III), Lebanon is perceived as one of the most politically unstable Arab world countries. Hence, its institutional set-up is characterized by high uncertainty. Belonging to the high per capita income group, the United Arab Emirates enjoys political stability as well as sizeable oil revenues. These factors have enabled it to attract talent and organizations from more advanced economies and, in recent years, to invest heavily in physical infrastructure, education, information technology and telecommunications (Zahra, 2011).

Other measures were also used to enhance the validity and reliability of this thesis. The following measures were used to enhance the internal validity: 1) the selection of the five mini-cases within a single case limits confounding or the interference of other variables as potential alternative causes; 2) implementing the bulk of fieldwork within a relatively short period of time controls for history, or effects of major events, and maturation, or gaining new knowledge or experiences that could alter the views or recollections of interviewees; 3) using the same unstructured interviewing format to conduct all the interviews and focus groups limits instrumentality; 4) I approached all interviewees in the same manner and attitude by showing them interest in their stories and respect for their opinions and experiences in order to facilitate gathering fine-grained data and to limit experimenter bias; also, 5) strict selection and monitoring of translators and transcribers and their work to limit experimenter bias. These measures attempt to enhance the strength of cause and effect by attempting to control or limit potential bias or alternative explanations to the generation and evolution of the five innovations mini-cases studied within the single embedded case of Aramex.

I used pattern matching throughout the different stages of my research to enhance construct validity. In the case selection and pre-design stage, I conducted some pilot interviews in July and August of 2009. In the design stage, I specified a priori NSI ‘theorized’ foundational constructs from the existing developed-country NSI literature and used these ‘theorized’ constructs to design an interview guide and adopt a semi-structured interview format. In the fieldwork stage, I used the pre-designed interview guide to conduct the initial pilot interviews at the onset of my fieldwork in March 2010. When a ‘discriminant validity’ was revealed by these pilot interviews represented by a lack of a ‘pattern match’ between the ‘theorized’ constructs and

early observations in the field, I adopted an unstructured interview format to facilitate the identification of the more relevant constructs for innovation in the Arab world contexts.

In the analysis stage, the iterative data analysis and literature research process through which I ultimately identified the Arab world's NSI 'observed' foundational constructs was in fact a pattern matching exercise to match my collected data with the relevant streams of research, i.e. convergent validity. During this pattern matching exercise, I revised my earlier version of the literature review to integrate and review the research streams related to the Arab world NSI 'observed' foundational constructs. In thesis writing, I based my main arguments, reporting of findings, and their related discussions and analysis on the divergent matched patterns for the Arab world countries from those of developed countries that I identified during my fieldwork and analysis stages. In support of my arguments and discussion, I tried to demonstrate that my measures have both convergent and discriminant validity by providing a chain of evidence for my findings.

With respect to enhancing reliability, I included several measures: 1) conducting some pilot interviews in July and August of 2009 and a few more at the onset of my fieldwork in March 2010; 2) seeking the consent of all interviewees through reviewing and signing a prepared consent form (Yin, 1994) attached in Appendix VI; 3) digitally recording, translating, and transcribing interviews in English¹⁰⁵, in abidance with the case study protocol, with the help of a select group of Arab undergraduate students at McGill and Concordia universities; 4) using specific criteria to select these translators and transcribers (discussed below) and closely monitoring and reviewing their work; 5) I translated and transcribed the three interviews of Fadi

¹⁰⁵ A major part of the translation and transcription expense was funded by the McGill University Center for Strategy Studies in Organizations, website accessed on June 13, 2012, <http://www.mcgill.ca/desautels/research/centres/ssso/>

Ghandour, Aramex Founder and CEO, to internalize the fine-grained data these interviews contained.

I used three, equally important, criteria in selecting transcribers. The first criterion was fluency in both written Arabic and English. The second criterion is diligence, patience and comprehensiveness, since each hour of recording time took an average of four to five hours to translate and transcribe. Besides encouraging transcribers to refer back to me for any unclear word or concept, I reviewed the first one or two interviews done by each transcriber before sending the next interview to be transcribed. To further ensure quality, I reviewed all transcripts for clarity and comprehensiveness. The third criterion is confidentiality. To ensure the research's ethical considerations, transcribers gave their consent to abide by the highest ethical standards of professionalism and confidentiality.

4.5 Summary of Fieldwork Conducted

A total of 37 interviewees were included in the study with some interviewees interviewed more than once while others were included in mini-focus groups. I conducted a total of 41 face-to-face interviews, 3 phone interviews and 4 mini-focus groups. The first three face-to-face interviews were conducted on August 9 and August 11, 2009 as pilot interviews. The bulk of the fieldwork was conducted between March 7, 2010 and April 6, 2010. Among the interviewees who gave more than one interview were: Aramex CEO (4 interviews), Ruwwad Regional Director (4 interviews), Chief Sustainability and Competitiveness Officer at Aramex (2 interviews), 3rd Party logistics facility manager (1 interview + 1 mini-focus group), and the Dubai Station manager (1 interview + 1 mini-focus group).

Additionally, 10 site visits/observations were conducted, six in Dubai in the United Arab Emirates and four in Amman, Jordan. The Aramex site visits in Dubai included Jebal Ali Warehouse, the Third Party Logistics ‘Garments-on-Hangers’ facility, Dubai Station, Dubai Banking Department, Dubai Airport Hub and the Sharjah Call Center. The site visits in Amman included the following: Shop and Ship Center Amman, Ruwwad (in August 2009 and in March 2010) and ‘Ateka Bint Zeid’ Public School. The details of fieldwork conducted are provided in Appendix VII.

4.6 Data Coding and Analysis

As already mentioned, early observations in the field diverged from the NSI ‘theorized’ foundational constructs and resulted in modifying the interview format to an unstructured format that enabled collecting rich and fine-grained data. Given the observed divergences from the NSI ‘theorized’ foundational constructs and developed-country NSI literature, a simultaneous iterative data analysis and literature research process emerged. After several iterations, some ‘observed’ NSI foundational constructs and related theories that are relevant to the Arab world contexts stood out. Hence, data coding evolved as an iterative process. A preliminary coding table is provided in Appendix VIII.

I listened to each of the interviews at least three times with the more important ones up to six times. Through listening and re-listening to all the interviews within each innovation mini-case, I was able to discern the critical elements and patterns within each as well as to identify some cross-case patterns. These newly identified patterns along with discussions with colleagues led me to perform further data and theory iterations. I researched intensively the literature on dynamic capabilities building, trust, and macro-micro interplay. I also revisited my transcripts and notes where, now given these new lenses, I identified many more references related to the notion of dynamic capability building including mentions of specific related documents and activities.

This, in turn, led me to contact Ghandour, Aramex Founder and CEO, brief him on the progress of my thesis and inquire about some of the mentioned documents and activities. Besides sharing documents, Ghandour provided me with details of the context of related activities as well as an additional important event that was not previously mentioned by any of the interviewees. Furthermore, Ghandour entrusted me with this event’s related confidential documents.

Comprehensive lists of Aramex and Ruwwad documents are attached in Appendix XI and Appendix XII respectively. Based on the above, I added new codes to my original coding list (Appendix VIII) to enable capturing references to dynamic capabilities building in my data. The new codes combined the following words into one category: competency, competencies, capability, capabilities, development, developing and building.

Iterating between the literature review, transcripts and documents aided by the NVivo analysis software enabled me to conduct further content analysis and to identify patterns and new codes. For example, I was able to identify in my embedded case and five mini-cases patterns of dynamic capability building, and what I define as its external and internal mechanisms. I was able to identify the nesting of the construct of empowerment within my newly discovered construct of dynamic capabilities building. Some of the codes for external mechanisms included the following: alliance/s, network/s, ecosystem, outsourcing and back office.

Among others, codes related to internal mechanisms included the following: management, leadership, vision, strategy, organizational structure, federal structure, corporate culture, culture, freedom, autonomy, decision-making, team, teamwork, team spirit, compensation, incentive, profit-sharing, move, moving, promotion, promoted, expatriate, learning, Kaizen, improvements. I attach a comprehensive list of codes for institutions as well as for dynamic capabilities building in Appendix IX and Appendix IX respectively. In continuously iterating between researching, writing, and pondering, a larger picture of how events and the various notions and constructs of NSI fit together gradually formed in my mind, and this I strove to project within my thesis. Through this iterative data analysis and literature research process, the “observed” constructs ultimately emerged.

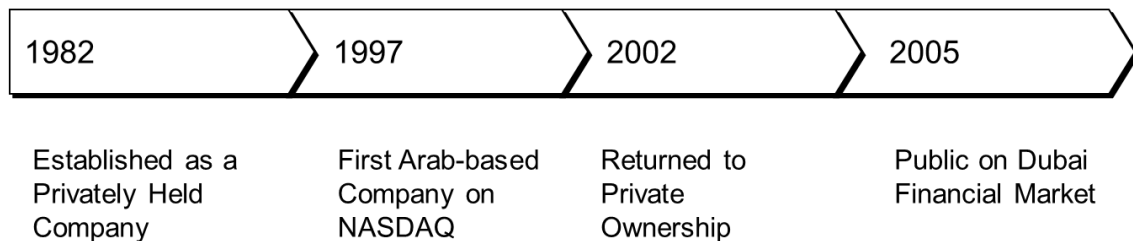
To ensure the validity and quality of analyzing the complex process data, I adopted Anne Langley's narrative strategy (Langley, 1999) to assist me in processing the events and communicating my findings. This enabled a better interpretation and sensemaking (Weick, 1995) of the innovation processes under study. I also sought to avoid misinterpretation of the data by getting feedback from the interviewees as well as confirming their consent to use direct quotations.

5. THE EMBEDDED CASE AND FIVE MINI-CASES

5.1 The Embedded Case: Aramex

Aramex¹⁰⁶ is a leading global logistics and express transportation solutions provider that is known for its innovative services. Established in Jordan in 1982, Aramex became, in January 1997, the first Arab world-based company to be listed on NASDAQ. Aramex returned to private ownership when acquired by Abraaj Capital, Arab world's largest private equity company in 2002. Three years, after its acquisition and its delisting from NASDAQ, Abraaj Capital turned Aramex into a public company again by listing it on the Dubai Financial Market. Figure 5.1 below displays the evolution of Aramex's ownership.

Figure 5.1 Timeline of Aramex's Ownership¹⁰⁷



In 2009 Aramex reported¹⁰⁸ having 8,100 employees in 310 offices in 200 major cities across the world with most of its revenues generated within the Arab world. According to its 2010 annual report it is a youthful organization, with 81% of its employees aged between 18 and

¹⁰⁶ Aramex, website accessed on May 30, 2012, <http://www.aramex.com/aboutus/default.aspx>

¹⁰⁷ Copied from Investors Presentation for first quarter 2012 and 2011, Aramex, website accessed on June 13, 2012, <http://www.aramex.com/news/item.aspx?id=2c1b4c29-1c63-4e06-8023-8c071ba91f3b>

¹⁰⁸ Annual Report 2009, Aramex, accessed on June 13, 2012, <http://www.aramex.com/content/uploads/100/55/36361/ARAMEXAnnualReport2009Eng.pdf>

40¹⁰⁹. Aramex's financial results for 2009 are as follows: total revenues of US\$ 534 million, total assets of US\$ 560 million, and a net income of US\$ 50.2 million.

In the following two tables, I provide some key financial and non-financial indicators for Aramex for several years ranging between 2004 and 2011. Table 5.1 lists key financial indicators and Table 5.2 provides some of the non-financial indicators.

**Table 5.1 Some Financial Indicators for Aramex
(In Thousands of US Dollars)**

Year	2004	2005	2006	2007	2008	2009	2010	2011
Financial Indicator								
Total Revenues	188,714	232,458	371,290	485,629	566,259	533,816	602,207	678,751
Gross Profit	85,906	109,860	168,748	227,511	282,587	301,660	324,017	368,932
Net Income	12,955	20,255	25,924	33,092	40,106	50,171	55,563	57,599
Net Income (%)	6.9%	8.7%	7.0%	6.8%	7.1%	9.4%	9.2%	8.2%
Total Assets	76,724	119,549	411,749	455,967	502,452	560,426	622,572	678,751
Total Liabilities	40,301	71,653	99,157	106,084	119,181	125,951	137,630	170,907
Total Shareholders Equity	36,425	47,896	312,592	349,883	383,254	434,475	484,942	507,844

¹⁰⁹ Annual Report 2010, Aramex, accessed on June 13, 2012,
<http://www.aramex.com/content/uploads/100/55/44233/Annual-Report-2010.pdf>

Table 5.2 Some Non-Financial Indicators for Aramex

Year	2005	2006	2007	2008	2009	2010	2011
Non-Financial Indicator							
Number of Offices	-	-	307	309	309	310	310
Number of Cities	-	-	195	200	200	200	200
Total Number of Employees	4,002	6,031	6,600	7,607	8,101	8,675	10,295
Number of Locally Hired Management	-	-	-	255	277	338	-

Aramex competes with FedEx, DHL, UPS and TNT but differs from these competitors in several aspects. First, it possesses an ‘asset light’ business model that contrasts with its competitors’ ‘asset heavy’ model which entails ownership of planes, ships, and other transportation equipment. Second, diverging from the more common hierarchical organizational structure, Aramex is organized according to a federal structure that has succeeded in combining the benefits of both centralization and decentralization. Aramex operates its service delivery teams and other services according to a one-stop-shop model that has recently been further modified in a follow-up segmentation project. Moreover, it has developed a corporate culture that promotes and rewards corporate entrepreneurship, autonomy and innovation. This corporate culture is unique in the Arab world and therefore rewards talent.

Aramex follows an unusual human resource policy for its region, hiring locals of each country in which it operates. While more than 45% of its employees are under the age of 29, and

81% under the age of 40¹¹⁰, most of the staff members who joined during its formative years in the 1980's remain on the team. Besides holding an Annual Leader's Meeting, held since 1985, Aramex convenes frequent regular steering meetings for all its country management teams in which new strategies and ideas are discussed, debated and, if approved, rolled out to other locations. The above characteristics might be common in many developed-country organizations but they are uncommonly found in Arab world companies, providing Aramex with several competitive advantages over its peers in the region.

Besides enhancing efficiency and productivity, these elements of organization and operation afford its staff the flexibility and autonomy to make decisions at the front-line and to capitalize on their own diverse skills and tools to provide customized solutions to various clients. The overarching organizational innovation that is credited with combining these operating elements is the Federal Structure, the organizational innovation mini-case under study here (Table 1.3). This federal structure has created the platform for the generative innovation process from which all the other innovations, including the ones under study here, concatenate.

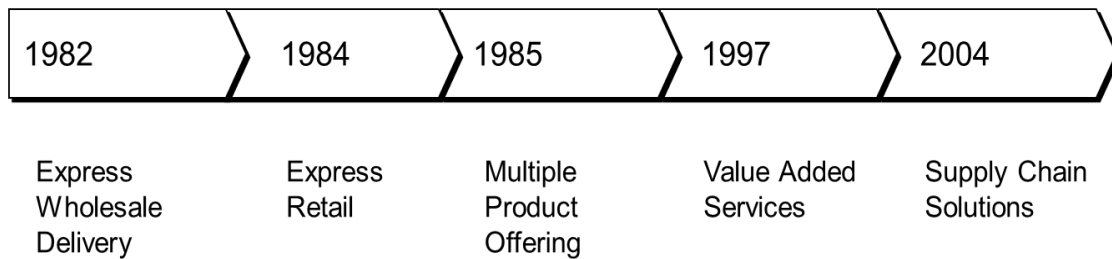
A third difference is Aramex's continuously evolving portfolio of innovative services that offer services well beyond the scope of its competitors' traditional express, freight forwarding and logistics services. Over three decades, Aramex's services have evolved from express wholesale delivery into what it terms "comprehensive supply chain solutions", having passed through the earlier stages of express retail in 1984, multiple product offering in 1985 and value added services in 1997¹¹¹. Boasting the fastest growth and the highest profit margins that Aramex achieves, these innovative services include three of the mini-cases studied here. These

¹¹⁰ Annual Report 2010, Aramex, accessed on June 13, 2012, <http://www.aramex.com/content/uploads/100/55/44233/Annual-Report-2010.pdf>

¹¹¹ Investors Presentation for first quarter 2012 and 2011, Aramex, website accessed on June 13, 2012, <http://www.aramex.com/news/item.aspx?id=2c1b4c29-1c63-4e06-8023-8c071ba91f3b>

are Shop and Ship, Personalized Delivery Services, and Third Party Logistics for the fashion industry (Table 1.3). Figure 5.2 below displays the evolution of Aramex's services over its lifespan.

Figure 5.2 Evolution of Aramex's Services¹¹²



Another difference is the fact that Aramex identifies itself as a socially responsible company that allocates at least 1% of pre-tax profits in each country to socially responsible projects and causes. It encourages and rewards employee engagement in the communities where it operates through supporting sports, education, entrepreneurship and literacy. Among its most ambitious corporate social responsibility projects is the community intervention project of 'The Arab Foundation for Sustainable Development (Ruwwad)'. Initiated in the year 2005 and now being rolled across the Arab world, Ruwwad is a public-private partnership that engages stakeholders from the public and private sectors as well as civil society. This social innovation represents the fifth innovation mini-case studied here (Table 1.3).

¹¹² Copied from Investors Presentation for first quarter 2012 and 2011, Aramex, website accessed on June 13, 2012, <http://www.aramex.com/news/item.aspx?id=2c1b4c29-1c63-4e06-8023-8c071ba91f3b>

Focusing on the Arab world context for business projects a gloomy yet perplexing picture. As discussed earlier in Chapter 2, endless wars and conflicts continue to send shock waves across the Arab world. Various stifling regulatory, geographic and logistical limitations continue to create high entry barriers and to hinder the development of healthy competitive markets. Several sector-specific limitations persist, including the following: monopolies by government or cronies of the ruling regime; physical and regulatory restrictions imposed by national borders; complicated, bureaucratic and lengthy customs clearance procedures and high customs taxes in most of the Arab countries except in the Gulf States. Other limitations include the imposition of specific ‘postal’ taxes on the handful of players in this sector including in the tax-free Arab world countries of the Gulf States.

Until recently, the biggest hurdle for companies like Aramex in this sector is applying for and getting a ‘postal license’. This obligatory requirement that precedes setting-up and launching the operations of a company in this sector has specifically been designed to protect the monopolies in this sector across the Arab world. These limitations continue to deter other logistics and transportation provider companies from operating in the Arab world and have forced others to shut down their operations at an early stage. By contrast, Aramex has continued its operations and services with high flexibility and reliability. Over the years, Aramex’s resilience and reliability in the face of each new war or crisis endowed it with significant credibility and unmatched reputation that boosted its business and propelled its growth, revenues and profits.

Among other milestones (Appendix III), Aramex remains, to date, the only Arab company to have ever been listed on NASDAQ (initially listed in 1997 but chose to de-list in 2002). In his book, *The World Is Flat*, New York Times columnist Thomas Friedman cited

Aramex as an example of companies that benefit from what he called the flattening of the world¹¹³. This came into full view with the Business Optimization Consultants, the startup which Aramex co-founded, that later evolved into Maktoob.com. Having created the largest Arabic language internet portal, Maktoob.com was acquired in August 2009 by Yahoo! for US\$ 175 million¹¹⁴. Moreover, Aramex pioneered annual sustainability reporting among Arab companies in 2006 and, with its 2010 integrated financial and sustainability annual report, set a new benchmark for sustainability in the Middle East¹¹⁵.

¹¹³ <http://www.cceia.org/resources/transcripts/5134.html> accessed January 25, 2010.

¹¹⁴ All Aboard: Google Bus Seeks Start-Up Ideas, New York Times article accessed September 28, 2011, http://www.nytimes.com/2011/09/29/world/middleeast/all-aboard-google-bus-seeks-start-up-ideas.html?_r=3&ref=middleeast

¹¹⁵ Aramex sets sustainability benchmark with region's first integrated annual report, Aramex, website accessed on June 13, 2012, <http://www.aramex.com/news/item.aspx?id=9d46cdec-5c90-4eee-aecb-001a775f72f1>

5.2 The Five Mini-Cases

5.2.1 Organizational Innovation: Federal Structure

After its formative years in the 1980's, Aramex became a more complex organization. The need soon arose for an organizational form that would sustain and enhance Aramex's success and growth while simultaneously maintaining its flexibility and facilitating its complex and multidirectional interactions. Due to the rigidity of the commonly employed hierarchical structure its CEO conducted an active search for an alternative. Aramex founder and CEO, Fadi Ghandour, who holds a political science degree and lacked any previous business experience, educated himself on business issues mainly by reading extensively and by attending presentations of leading business thinkers. Among others, like Peters and Waterman and Colvin and Slevin, Ghandour was especially influenced by Peter Drucker (1985) who advocated corporate entrepreneurship. This thinking in turn led to the generative innovation process from which the other Aramex innovations concatenated. The various elements of this innovation have provided and continue to provide all Aramex staff members with the flexibility, decision-making power and autonomy that facilitate performing their tasks and making strategic decisions but more critically enable them to maneuver and overcome the various institutionally imposed challenges of their region. The process by which the company arrived at this combination of structure and operating practice extended over decades.

Continuing his avid consumption of various business materials, Ghandour discovered readings that offered a potential alternative organizational form to the standard hierarchy: the HBR article by Charles Handy entitled: 'Balancing Corporate Power – A New Federalist Paper' (Handy, 1992) and Tom Peters book 'Thriving on Chaos: Handbook for a Management

Revolution’ (Peters, 1987). Another factor that influenced his thinking at the time was the ongoing discussions that accompanied the formation of the European Union.

Drawing on these influences, Ghandour drafted a document in 1992 in which he outlined his vision for Aramex as well as the organizational federal structure with its underlying concept of subsidiarity¹¹⁶ and presented it to his top managers during that year’s annual meeting. After several months of internal discussion, a federal structure was adopted. This organizational form continues to undergo continuous refinements as business needs change and variations occur within the context. Complementary to this structure, in 1993/1994 Aramex embarked on a reengineering project that had six pillars. One of the pillars, focused on reassessing the Aramex processes, resulted in designing, adopting and institutionalizing a ‘team-based’ one-stop-shop model.

According to this model, the existing functionally-grouped teams were rearranged into new teams, each of which would provide all the various services needed by its clients. Continuously re-enforced by a supportive corporate culture, both of the above elements enhanced the autonomy and the decision-making ability of all Aramex staff. Besides cutting through bureaucratic and time-consuming processes such as seeking decisions from a geographically distant and detached central authority, these elements enabled staff members to leverage and integrate their in-depth local knowledge of both the context and the clients’ needs into prompt and timely decisions. Additionally, they gained the flexibility to design and implement tailored solutions to the specific, and ever-changing, needs of their respective clients. As part of the continuous efforts to assess and refine its federal structure, operations and

¹¹⁶ Subsidiarity is a concept that comes from the EU and involves delegation of authority to the lowest possible level of an organization capable of handling the matter. While ownership is the main issue for a subsidiary, authority and its delegation are the main issues for subsidiarity. Meaning of subsidiarity on Wikipedia, website accessed on June 13, 2012, <http://en.wikipedia.org/wiki/Subsidiarity>

competitiveness, a follow-up segmentation project later rolled out across the Aramex group in 2009 and 2010.

5.2.2 Service Innovation I: Shop and Ship¹¹⁷

This innovation emerged during the Lebanese war years of the 1980's when many districts were cut off from each other, and the Beirut airport experienced prolonged shut downs. The resulting severely constrained movements of Lebanese citizens and business operations created many severe shortages in services and products. In order to maintain its operations, Aramex assigned a team within each of the divided districts. Mail bags would then be relayed from one area or district to the next by the teams who would meet at the cross-fire border lines. To transport deliveries out of Lebanon, Aramex used the helicopter flights between Beirut and Cyprus that took off from the small coastal airport of "Halat".

One critical business service that was interrupted by the closure of Beirut airport was the ability to send the clearing documents of local banks to their corresponding banks in Europe and the U.S. Given the uninterrupted Aramex delivery services, it did not take long before almost all banks entrusted Aramex with the transportation and delivery of their most important documents to their destinations abroad. Similarly, the growing shortage of various medicines led many patients to request that Aramex buys them on their behalf from abroad and deliver them in Lebanon. A similar shortage in text books led some bookstores to request that Aramex buys and delivers them from abroad. Yet another shortage was flowers. With the prolonged years of war, both the number and types of ad hoc requests grew and evolved into a new line of business that Aramex rolled out across the Arab world.

¹¹⁷ Shop and Ship, Aramex, website accessed on June 13, 2012, <http://www.shopandship.com/default.aspx>

Originally modeled as a catalogue-business type service and dubbed ‘Shop the World’, the service was later expanded and modified under the banner ‘Shop and Ship’. This enhanced version of the original service was designed to leverage the proliferation of the internet and online shopping and to enable the purchasing of merchandise from anywhere in the U.S. or Europe and, more recently, from China. Nominal fees are charged for membership in the service and at least one address (U.S., U.K. or China) is assigned for each customer. Since not all U.S., European or Chinese companies are willing to ship their products to the Middle East, this service allows Middle East customers to purchase merchandise and request a local shipment to their designated address in the country of origin. From there, the purchases are shipped, cleared through customs and delivered to customers in their respective home countries. In addition to providing accessibility to the Chinese market and products, Aramex has recently joined forces with the Master Card credit card company to further enhance the payment process and to provide Shop and Ship clients with the additional benefit of receiving discounts when using Master Card to pay for their purchases.

Shop and Ship is one of Aramex’s fastest growing services and it boasts a high profit margin. The growth has mostly occurred in the Gulf States of Saudi Arabia, the United Arab Emirates, Qatar, Bahrain, Kuwait and Oman. The types of merchandise that are ordered are electronics, music CDs, car wheels, clothes and books. The service is managed from both Amman and Dubai and continues to evolve with changes in the market and customer demands. Interestingly besides the recently added China address and the collaboration with Master Card, in July 2011, Shop and Ship launched an application for iPhone and iPad¹¹⁸.

¹¹⁸ Shop and Ship, website accessed on July 14, 2011, <http://itunes.apple.com/ae/app/shop-and-ship/id448828267?mt=8&ls=1>

5.2.3 Service Innovation II: Personalized Delivery Services

This service was initiated with Citibank in Dubai in the early 1990's and was rolled out several years later to almost all banks in the Gulf Cooperation Council (GCC) and the Levant regions. Personalized Delivery Services is one of the services that have experienced high growth and high revenue. The original idea for this service innovation came from the client: Citibank. In the mid 1980's, Aramex was still a very small operation with an unknown brand name and reputation. One of its earlier staff members/salesmen in Dubai was going door to door soliciting business from companies in downtown Dubai that were more price- than brand-sensitive. Although most of the business of Aramex at that time was coming from these small companies, the salesman was aware of the potential for serving larger businesses and knocked on their doors as well.

The salesman regularly visited Citibank where he briefed the mailroom staff on Aramex's services and over the years managed to develop a good rapport with them. After several years, this paid off when Citibank decided to entrust Aramex with the delivery of a small and relatively insignificant part of its business. While small and insignificant, the domestic internal mail deliveries between its head office in Dubai and its branch in Abu-Dhabi represented a critical test of the reliability and efficiency of Aramex's services. By providing a consistent and reliable service, Aramex succeeded in gaining the trust of Citibank which then invited it to take over a larger and more sensitive business: the delivery of the credit cards issued to Citibank's clients.

The sensitive nature of the item to be delivered dictated the design and development of a new service to ensure that the credit cards would be personally hand-delivered to the clients in whose names they were issued. To satisfy this condition, credit card deliveries are subject to more stringent logistics and requirements than those of other documents or parcels. The process

by which credit cards are delivered has evolved over the years. Although the process gets customized according to the requirements of the issuing bank, in essence it involves contacting clients to specify the date, time and venue for delivery and then, upon delivery, to verify their respective identities, record their ID information on certain forms and document their acknowledgment of receipt by getting their signatures. The design, development and evolution of the service relied on mutual trust and close collaboration between Aramex and its first client: Citibank. Underlying these was the unusual degree of autonomy that the Aramex staff enjoyed enabling them to continuously tailor and refine the service to meet Citibank's evolving needs. Later, Aramex rolled out the service to other banks which had varying requirements.

5.2.4. Service Innovation III: Third Party Logistics¹¹⁹

Another service for which the initial impetus came from the client, Majid Al-Futtaim Fashion (MAFF)¹²⁰, was Third Party Logistics for the fashion industry. The client wanted to create a regional distribution center to replace its Netherlands distribution center. MAFF is the Gulf Cooperation Council (GCC) sole agent of seven fashion brands: Mexx, Liz Claiborne, Juicy Couture, Fat Face, Jane Norman, Monet & Co. and Lucky Brand that are sold through tens of its stores across the GCC countries. The distant geographical location of their Netherlands distribution center negatively affected the business by imposing long lead times for stocking and replenishing stocks to their various stores in the GCC countries. In contrast to other industries, the fashion industry cycles are very short rendering companies with long lead times to incur substantial losses. On average, fashion brand retailers launch a new line every month and

¹¹⁹ The full name of the service is Third Party Logistics for the Fashion Industry but, for brevity, I will refer to as 'Third Party logistics'.

¹²⁰ Majid Al-Futtaim Fashion (MAFF), website accessed on June 14, 2012, <http://www.majidalfuttaimventures.com/content-maf%20fashion-8.aspx>

replenish stocks on a daily basis. By comparison, the auto industry launches new models only once a year.

The fashion industry has both a time- and product-sensitive nature. More specifically, its short lead times, the many variants of each item (e.g. sizes, colors), the unique handling requirements (e.g. tagging, hanging, ironing), and limited delivery windows render the commonly-used warehousing and logistics systems unsuitable for this industry. Hence, the standard systems need to undergo many major as well as minor modifications to enable them to handle the fashion industry's business in an efficient and seamless manner. A critical part of these modifications involves integrating the systems with those of the client to ensure that operations are based on real time data as well as to effectuate prompt and accurate reconciliation of numbers and types of products handled between distribution center and the client's various stores. Hence, distribution or Third Party Logistics represents a very critical function in the fashion retailers' value chain that could very well make or break their businesses.

Even though Aramex lacked the knowledge, expertise and experience of the Third Party Logistics fashion retail business, MAFF decided to entrust it with the service. The target was to design, develop and operate a distribution center for the Gulf States from Aramex's warehousing facility in Jebel Ali in Dubai that would use the "garment-on-hanger" model and a fashion industry-tailored Third Party Logistics warehousing and logistics system. Given how critical to the core business of MAFF is the Third Party Logistics of its seven brands to its large number of stores, this is a decision that entailed a huge risk and reflected the level of trust conferred by MAFF on Aramex. The main reasons for this trust arose from Aramex's track record of reliable and efficient services, local know-how, leverage and strong business reputation in the Arab world, i.e. the social capital that Aramex possessed.

To facilitate setting-up the distribution center, MAFF hired a consultant who had accumulated the critical knowledge and skills from his involvement in their Netherlands distribution center. Due to local-specific factors such as customs clearing and other regulations, the Dubai distribution center was not an exact replica of the one in Netherlands but the role of the consultant was still critical in its design and development. To get the business, Aramex signed a contract with MAFF that later proved to be disadvantageous in terms of both logistics and revenue. Over the course of two years, Aramex attempted to re-negotiate the contract terms but was only able to do so after a management change at MAFF took place in late 2009. This led to signing a more balanced contract a few months later.

5.2.5 Social Innovation: Ruwwad

In early 2005, Aramex CEO embarked on an initiative that was more ambitious than all previous Aramex corporate social responsibility activities. In Ghandour's words, Ruwwad is a "social intervention in a marginalized community"¹²¹ that seeks to create a "tangible developmental impact in Jabal Al-Natheef and especially among its youth"¹²². Jabal Al-Natheef's population is ethnically and religiously diverse with the youth representing its largest segment. Besides the high levels of poverty and unemployment, many important community services such as a child-care center, a social community center and sports or recreational spaces were absent. Similarly missing were, up until recently, almost all basic services such as electricity, water, a health clinic, a post office and a police station. The only exception was the

¹²¹ Interview with Fadi Ghandour, Aramex Founder & CEO and Ruwwad Founder & Chairman, March 7, 2010

¹²² Interview with Fadi Ghandour, Aramex Founder & CEO and Ruwwad Founder & Chairman, Ten-minute movie of the Arab Foundation for Sustainable Development (Ruwwad)

provision of public schools though these were housed in rundown buildings and had capacities that fell below the number of pupils enrolled.

In order to meet the urgent needs of the community and build trust and credibility, identification of needs through dialogue with various community entities and inhabitants was immediately initiated and related implementation quickly followed suit. Following a heated internal debate at Aramex, the decision was taken to spin the initiative off as a separate entity to enable other potential businesses to participate. By the fourth quarter of 2005, The Arab Foundation for Sustainable Development (Ruwwad) came into being though without losing the full engagement and support of Aramex. Although explicitly stating empowerment as its main goal, several elements including the comprehensiveness and integration of its programs indicate its ultimate sustainable community development goal. Ruwwad's dynamic model engages an increasing number of active participants from all three sectors: public, private and civil society and most importantly from the targeted local community. This 'multi-stakeholder network' has proved thus far to be successful in solving many persistent and complex problems while simultaneously building human capabilities and community capacity.

In collaboration with the Jordanian government, Ruwwad was able to bring into the community many of the missing basic services such as a police station, a health clinic and a post office. Beyond these basic services, Ruwwad's three continuously evolving umbrella programs of child development, youth empowerment and community development are creating new realities within Jabal Al-Natheef's community. Besides generating hope and empowering the various community constituencies, Ruwwad is enabling the creation of concrete opportunities for community members to lead fuller lives, realize far-fetched dreams, and pursue more fulfilling professional careers. Among its sub-programs is the Moussab Khourma Education Fund that

provides scholarships for the youth to pursue their college education in return for four weekly hours of community service. Another is the youth enrichment sub-program that provides workshops for the youth in English and financial literacy, among others.

6. FINDINGS AND ANALYSIS

6.1 The Story of Aramex's Evolution and Innovation

The findings of my research on innovation at Aramex and the five mini-cases reveal that Aramex has succeeded where many other local as well as foreign competitors had failed in the challenging Arab world contexts. Aramex's success arises from an overarching organizational culture of empowerment that promotes, supports and celebrates corporate entrepreneurship, through autonomy, broad decision-making powers, creativity, freedom of expression and respect for and diversity of various sects, ethnicities and opinions, all interwoven with social capital and trust. This organizational culture of empowerment contrasts sharply with the governance cultures at the national and organizational levels in the Arab world countries where authoritarian, paternalistic and undemocratic types of governance and management prevail (Section 2.3) even to this day, despite the ongoing Arab uprisings demanding change. This culture also contrasts with the paternalistic relationships that dominate within clans, tribes, extended families and even the smallest family unit. Aramex has provided, and continues to provide, a rare opportunity for young and motivated Arabs to break away from the political and societal chains that hinder them from fulfilling their full potentials.

The role of Fadi Ghandour, Aramex Founder and CEO, as a non-authoritarian and democratic leader, in creating this culture of empowerment is more than instrumental and cannot be overstated. Over three decades, Ghandour deliberately made careful selections of strategies, structure, organizational culture embedding mechanisms (Table 3.9), and human resource policies. Through these sets of strategy, structure, culture embedding mechanisms and human resource policies, Ghandour along with the non-authoritarian management team that he built over the years were able to develop, attract and retain talent. This body of talent has in turn

created and embedded an organizational culture that supports a stream of incremental improvements, referred to as kaizen. Put differently, Ghandour leveraged culture as a powerful organizational resource and turned it into a competitive advantage. Not all dynamic capabilities lead to innovation, but Aramex's culture of empowerment has become an internal dynamic capabilities building system able to turn contextual challenges into opportunities for innovation.

Aramex's culture of empowerment is deliberately reflected in an 'asset-light' business model focusing on investing in social capital rather than physical assets. This business model contrasts with the 'asset-heavy' business models of its competitors who have chosen to own trucks and planes, and even in some instances airports. Though the unfamiliar choice of an 'asset-light' business model was initially the reason Aramex failed to raise funds from Arab investors in 1996 it was also the reason it succeeded in becoming the first Arab world company to be listed on NASDAQ in 1997.

By listing on NASDAQ, Aramex made large gains in reputation, credibility and branding particularly in the Arab world. For this reason, I refer to this stage of Aramex's evolution as the branding & regional expansion stage. It represents the third of five stages of evolution that I identify for Aramex (Table 6.1): 1) *formation*; 2) *professionalization*; 3) *branding & regional expansion*; 4) *consolidation*; 5) *diversification & global expansion*. In its evolution through these five stages, Aramex's culture of empowerment became increasingly embedded while its strategy and structure evolved in response to changing contextual factors in the Arab world and beyond. Aramex built its capabilities and allocated resources according to the evolving context/strategy/structure sets in such a way that it was able to continuously develop and diffuse innovative products and services to meet the needs of clients in existing and new markets to fulfill its strategy of growth and expansion.

In Table 6.1 on the next five pages, I summarize the characteristics of Aramex's five stages of evolution in strategy, structure, capabilities and services. To construct this table, I have used various data sources and reports for Arab world contexts, Aramex and Ruwwad, as well as information and criteria presented in Chapters 2, 4 and 5, Appendix III, Figures 5.1 and 5.2, and Tables 3.5 and 3.20.

Table 6.1 Evolution of Aramex's Strategy, Structure, Capabilities and Services (1 of 5)

Stage (Years) & Organizational Culture	Macro and Micro Elements					
	Context (Macro-level)	Organizational Culture			Resources/Capabilities (Macro-& Micro-levels)	Services (Outcomes)
		Strategy (Micro-level)	Structure (Micro-level)	Culture (Micro-level)		
Formation (1982-1992) 'Entrepreneurial'	<u>Arab World Context:</u> -Economic: closed economies, hostile to business & free trade -Political: several wars and conflicts -Arab-Israeli conflict (1920 to-date) -Civil war in Lebanon (1975-1990) -Lebanon war (1982) -Iran-Iraq war (1980-1988) -Iraqi invasion of Kuwait (1990) -Gulf war (1991) -Cultural: colonialism & decades of autocratic rule stunted human development & created low self-esteem, expatriates in Gulf states <u>World Context:</u> -Fall of Berlin wall (1989), triumph of capitalism, World Bank and IMF spread of free market economy model including to Arab countries -European Union Federation discussions	-Customer-centric strategy -‘Asset-light’ business model -Provides outsourcing services to 2nd tier US express operators (Burlington Northern, Emery & Airborne) -Provide outsourcing services to FedEx, 30% of Aramex revenue (in 1987)	-Startup, no real structure, makeshift arrangement -Offices in Amman & few Arab countries & partnered with small local delivery companies in several Arab countries -Processing operations in JFK in NY, USA & Heathrow in London, UK -Hub: Amman → Bahrain (1983) → Dubai (1985)	-Entrepreneurial -improvisation based on local knowledge and trial & error is the norm -no clear systems or procedures -informal -Social capital & trust -diversity of opinion -freedom to express opinion -broad decision-making -improvised responses based on local circumstances, situations & events -driven by personal determination & resolve to succeed	-Staff and management: -Experienced and skilled TMA team in freight forwarding (mid 1980's) -Young local staff in Arab countries where Aramex offices exist -Networks: -Created own regional network: partnered with small local delivery companies in several Arab countries -Member of Airborne's Overseas Express Carriers global network (1990) -IT: -Used Airborne's FOCUS tracking-and-tracing system	-Express wholesale delivery -Express retail -Multiple product offering (e.g. initiation and early stages of Shop and Ship; Visa application service)

Table 6.1 Evolution of Aramex's Strategy, Structure, Capabilities and Services (2 of 5)

Stage (Years) & Organizational Culture	Macro and Micro Elements					
	Context (Macro-level)	Organizational Culture			Resources/Capabilities (Macro-& Micro-levels)	Services (Outcomes)
		Strategy (Micro-level)	Structure (Micro-level)	Culture (Micro-level)		
Professionalization (1992-1997) Culture of 'Empowerment'	<u>Arab World Context:</u> -Economic: pressure by World Bank & IMF to move towards more open economies, corruption, monopolies, business environment remain hostile to business & free trade -Political: -Arab-Israeli conflict (1920 to-date) -Cultural: colonialism & decades of autocratic rule stunted human development & created low self-esteem, expatriates in Gulf states <u>World Context:</u> -Washington consensus: drive by World Bank and IMF to spread of free market economy model including to Arab world through market liberalization, privatization; world bodies such as World Trade Organization	-Customer-centric strategy -‘Asset-light’ business model -Provide outsourcing services to FedEx until it grows organically in Arab world (1996) -Cash-constrained: Airborne acquires 9% of Aramex (1996) -Cash-constrained: fails to raise funds from regional investors , Aramex lacks physical assets much valued by these investors, prepares to list on NASDAQ (1996)	-Federal Structure (1992) internal discussion, followed by its adoption (1992) -Reengineering project (1993/1994): one-stop-shop, multi-functional teams, mini-Aramexes created -Set up offices in Paris, Hong Kong, London (1992-1996) -Starts acquiring stakes in regional partners (1996)	-Culture of empowerment: strategic autonomy, entrepreneurial, broad decision-making powers, social capital and trust , sectarian diversity, freedom to express opinion -improvisation based on local knowledge and trial & error remain as norm -Ghandour's 1992 document -Non-authoritarian leadership & management -Federal Structure & Reengineering: no bureaucratic legacy systems to struggle with internally	-Staff and management: -High retention & loyalty of staff and management , including many of TMA team -Most staff are young locals in all of its subsidiaries -Networks: -Own regional network: buying stakes in small local delivery companies in several Arab countries -Member of Airborne's Overseas Express Carriers global network (1990) -IT: -Starts building its own tracking-and-tracing system InfoAxis (1996)	-Multiple product offering (Express, Freight, initiation and early stage of Personalized Delivery Services)

Table 6.1 Evolution of Aramex's Strategy, Structure, Capabilities and Services (3 of 5)

Stage (Years) & Organizational Culture	Macro and Micro Elements					
	Context (Macro-level)	Organizational Culture			Resources/Capabilities (Macro-& Micro-levels)	Services (Outcomes)
		Strategy (Micro-level)	Structure (Micro-level)	Culture (Micro-level)		
Branding & Regional Expansion (1997-2002) Culture of 'Empowerment'	<u>Arab World Context:</u> -Economic: contexts remain challenging and hostile, corruption, monopolies -Political: -Arab-Israeli conflict (1920 to-date) -Cultural: colonialism & decades of autocratic rule stunted human development & created low self-esteem, expatriates in Gulf states <u>World Context:</u> -Washington consensus: drive by World Bank and IMF to spread of free market economy model including to Arab world through market liberalization, privatization; world bodies such as World Trade Organization	-Customer-centric strategy -‘Asset-light’ business model -Goes public: Lists on NASDAQ to raise funds for expansion and growth strategy (1997) -Substantial gains in credibility & reputation	-Federal Structure (since 1992) -Reengineering (since 1994) -Operating in 120 locations in 33 countries	-Culture of empowerment: strategic autonomy, entrepreneurial, broad decision-making powers, social capital and trust , sectarian diversity, freedom to express opinion -Ghandour's 1992 document -Democratic & non-authoritarian leadership & management -Federal Structure & Reengineering: no bureaucratic legacy systems to struggle with internally	-Staff and management: -High retention & loyalty of staff and management, including many of TMA team -Most staff are young locals in all of its subsidiaries -Networks: -Acquires some small local delivery companies in several Arab countries -Member of Airborne's Overseas Express Carriers global network (1990) -IT: -Continues to build its own tracking-and-tracing system InfoAxis (since 1996)	-Multiple product offering (Express, Freight) -Value-added services (e.g. early stages of Shop and Ship, Personalized Delivery Services, Visa application service)

Table 6.1 Evolution of Aramex's Strategy, Structure, Capabilities and Services (4 of 5)

Stage (Years) & Organizational Culture	Macro and Micro Elements					
	Context (Macro-level)	Organizational Culture			Resources/Capabilities (Macro-& Micro-levels)	Services (Outcomes)
		Strategy (Micro-level)	Structure (Micro-level)	Culture (Micro-level)		
Consolidation (2002-2005) Culture of 'Empowerment'	<u>Arab World Context:</u> -Economic: contexts remain challenging and hostile, corruption, monopolies -Political: wars and conflicts - Arab-Israeli conflict (1920 to-date) - Iraq war (2003 to-date) -Cultural: colonialism & decades of autocratic rule stunted human development & created low-self esteem	-Customer-centric strategy -‘Asset-light’ business model -Returns to private ownership: gets acquired by regional PA firm Abraaj Capital, de-lists from NASDAQ (2002) -2002-2003 period of discipline & realizing efficiencies -Airborne acquired by DHL (2004)	-Federal Structure (since 1992) -Reengineering (since 1994) -Acquires local companies, new business lines (e.g. InfoFort)	-Culture of empowerment: strategic autonomy, entrepreneurial, broad decision-making powers, social capital and trust, sectarian diversity, freedom to express opinion -Ghandour's 1992 document - Democratic & non-authoritarian leadership & management -Federal Structure & Reengineering: no bureaucratic legacy systems to struggle with internally	-Staff and management: High retention & loyalty of staff and management, including many of TMA team - Most staff are young locals in all of its subsidiaries -Networks: Acquires local delivery companies in several Arab countries - Leads former Overseas Express Carriers alliance under Global Distribution Alliance (GDA) (2004) , use InfoAxis for all members in alliance -IT: Aramex Tracking-and-tracing system InfoAxis goes live (2004) no legacy systems to struggle with	- Multiple product offering (Express, Freight, Logistics) - Value-added services: (e.g. Shop and Ship, Personalized Delivery Services , warehousing, customs clearance and distribution, early stages of Third Party Logistics) -New business lines (e.g. InfoFort) -Social Innovation (e.g. Ruwwad)

Table 6.1 Evolution of Aramex’s Strategy, Structure, Capabilities and Services (5 of 5)

Stage (Years) & Organizational Culture	Macro and Micro Elements					
	Context (Macro-level)	Organizational Culture			Resources/Capabilities (Macro-& Micro-levels)	Services (Outcomes)
		Strategy (Micro-level)	Structure (Micro-level)	Culture (Micro-level)		
Diversification & Global Expansion (2005- 2012) Culture of ‘Empowerment’	<u>Arab World Context:</u> -Economic: contexts remain challenging and hostile, corruption, monopolies -Political: several wars and conflicts -Arab-Israeli conflict (1920 to-date) -Iraq war (2003 to-date) -Lebanon war (2006) -Gaza war (2008/2009) -Arab uprisings (2010 to-date) -Cultural: colonialism & decades of autocratic rule stunted human development & created low-self esteem	-Customer-centric strategy -‘Asset-light’ business model -Goes public on Dubai Stock Exchange (2005), private equity firm Abraaj Capital exists -Product diversification -Global expansion (East Asia, Africa)	-Federal Structure (since 1992) -Reengineering (since 1994) -Segmentation project (2009/2010) -Several acquisitions of non-regional companies (e.g. Irish & UK partner Two-Way (2006), acquisitions in Turkey, East Asia & Africa (2010 to-date)	-Culture of empowerment: strategic autonomy, entrepreneurial, broad decision-making powers, social capital and trust , sectarian diversity, freedom to express opinion -Ghandour’s 1992 document -Democratic & non-authoritarian leadership & management -Federal Structure, Reengineering & Segmentation: no bureaucratic legacy systems to struggle with internally	-Staff and management: -High retention & loyalty of staff and management, including many of TMA team -Most staff are young locals in all of its subsidiaries -Networks: -Leads former Overseas Express Carriers alliance under Global Distribution Alliance (GDA) (2004) , use InfoAxis for all members in alliance -IT: -Aramex Tracking-and-tracing system InfoAxis (live since 2004) no legacy systems to struggle with	-Multiple product & value-added product offering: Express, Freight, Logistics, Supply-chain solutions (2004) & Consultancy (2009) (e.g. Shop and Ship, Personalized Delivery Services, Third Party Logistics (2004)) -New business lines (e.g. InfoFort) -Social Innovation (e.g. Ruwwad)

To present the evolution stages of the five innovation mini-cases, I develop the following five figures to show the evolution of: Aramex's organizational structure (Figure 6.1); the Shop and Ship service (Figure 6.2); the Personalized Delivery Services (Figure 6.3); the Third Party Logistics service (Figure 6.4); and, Ruwwad, the social innovation mini-case (Figure 6.5).

Figure 6.1 Evolution of Aramex's Organizational Structure

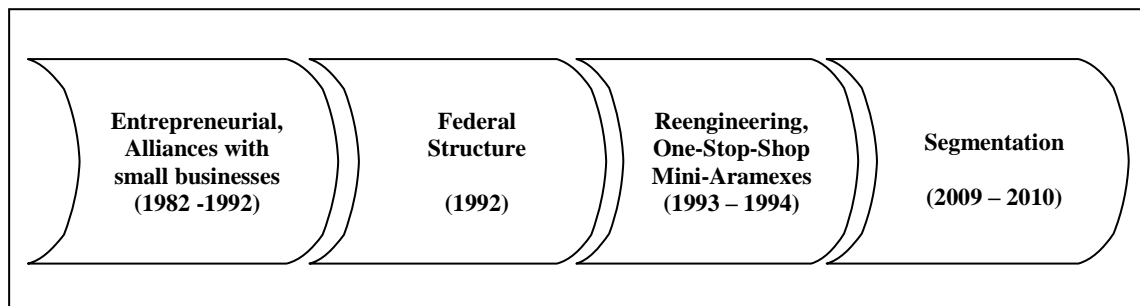


Figure 6.2 Evolution of the Shop and Ship Service

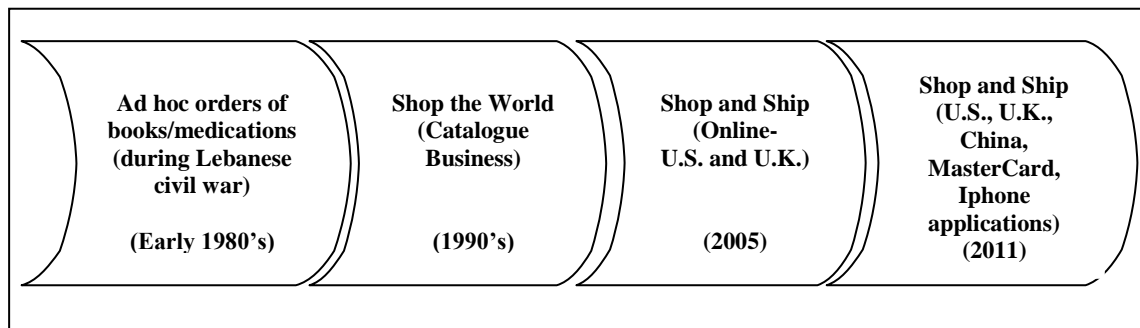


Figure 6.3 Evolution of the Personalized Delivery Services

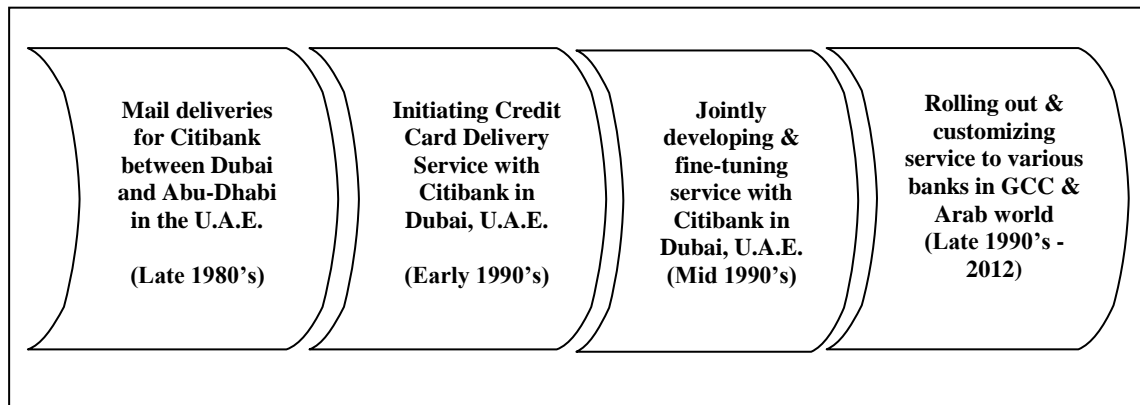


Figure 6.4 Evolution of the Third Party Logistics Service

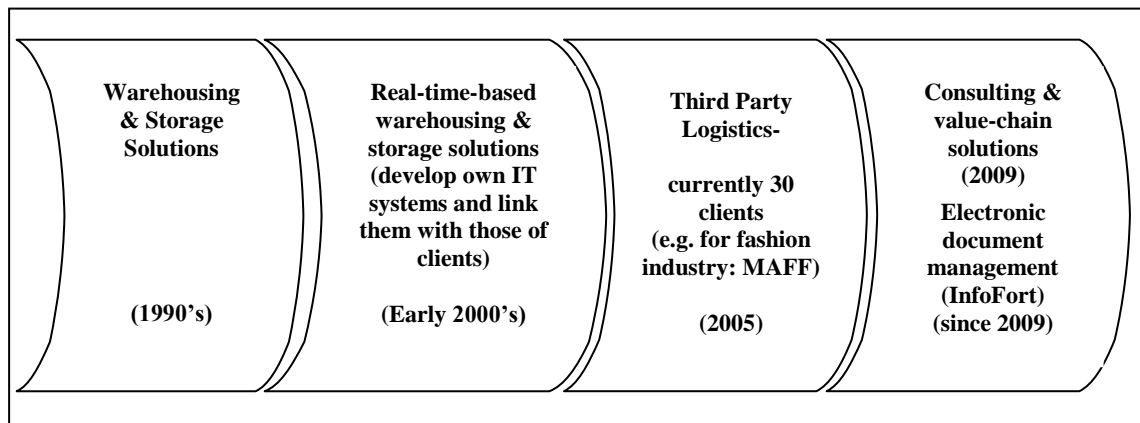
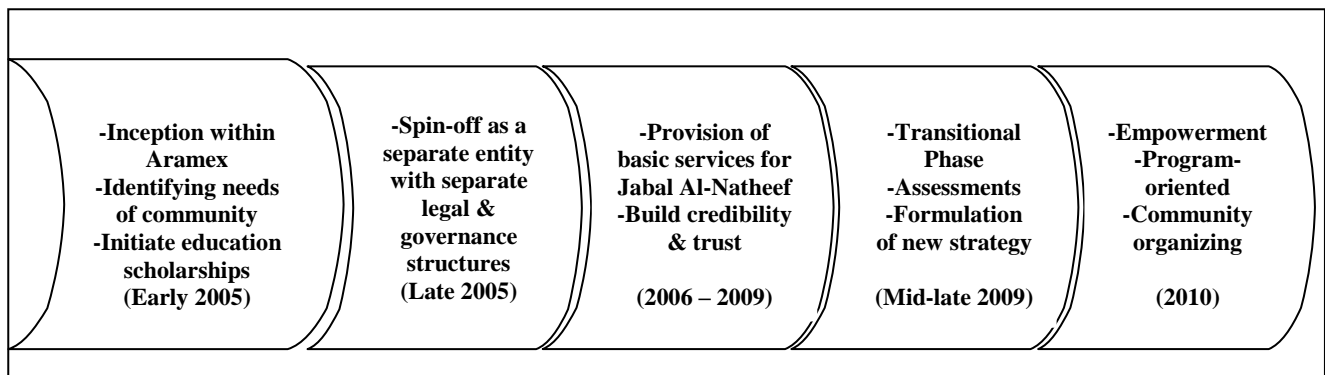


Figure 6.5 Evolution of Ruwwad



In the remainder of this chapter, I first provide my findings concerning the external institutional environment, i.e. the Arab world contexts, and Aramex's internal environment, i.e. Aramex's organizational culture of empowerment. I then present my empirical findings concerning the co-evolution of Aramex's strategy, structure, capabilities and services. These findings concerning the external and internal contexts are intended to provide perspective on the macro-level challenges and Aramex's micro-level response.

I organize my research findings in Section 6.2 of the Arab world's challenges and opportunities according to the six categories of institutions presented in Table 3.5: 1) R&D; 2) labor market; 3) funding sources; 4) regulations and laws; 5) competition; and, 6) governance. In Section 6.3, I present my findings concerning Aramex's culture of empowerment including its elements related to corporate entrepreneurship, autonomy, creativity, diversity, and social capital and trust. In Section 6.4, I link findings concerning the co-evolution of Aramex's strategy, structure, capabilities and services throughout its five evolution stages. Finally, I devote Section 6.5 to discussing and analyzing the findings presented in this chapter.

6.2 Arab World's Challenges and Opportunities

While the Arab world's contexts impose challenges on organizations that operate in them, these challenges can become opportunities for organizations that possess the necessary capabilities. As discussed in Chapter 2, some of the challenges imposed by Arab world's contexts include heavy control of the economies by governments and monopolies that result in a lack of competitiveness in Arab world markets. This lack of competitiveness is further complicated by stifling regulations and laws, bureaucratic and lengthy procedures, red tape, restrictive borders, and custom clearance formalities, all restricting the movement of people and goods and in turn limiting trade and the growth of these markets.

As has also been discussed, the Arab world suffers from weak governance, corruption, and a resulting lack of social capital. Further, a mismatch between the output of the education system and the needs of the labor market combine with an attitude that underestimates local talent. These pose barriers to local employment despite the large young populations of the region. The above institutional challenges affect both the organizations in the Arab world and its people. The continuous difficulties and challenges that Arab citizens are faced with provide a partial explanation of the spate of revolutions that began in Tunisia in December 2010 and continue to engulf the Arab world. Even Samar Dudin, Ruwwad Regional Director and Head of Programs, who lives in one of the more progressive Arab countries, says:

"As a citizen who is living in Jordan, I feel heavy with government" (March 31, 2010)

Summing up the effect of such macro-level challenges on the micro-level dynamics at the organizational level, Fadi Ghandour, Aramex Founder and CEO and Chairman of Ruwwad, says:

“These [Arab] countries have competitive issues that affect the companies that operate in them.....because if the country is not competitive, the companies have to do so much more [to compensate for this shortcoming] ... ” (March 31, 2010)

“...back in the eighties when, as dominant as governments are today, they were even much more dominant [...] Every post office [public postal services] thought we were competing with them [...] in our industry, you needed to get what is called a postal license [...] this is monopoly for the [public postal services] that was a massive struggle for us... absolutely” (March 21, 2010)

“...our partner in Egypt was thrown in jail once because the postal authority told about him before we had a license. They told him: “You don’t have a license, so you go to jail [...] ... [In Jordan] they told us we needed to get the postal license...but we operated for ten years before that... they went to sleep and woke up ten years later ...and again they would say: “hey you need a license”so they finally licensed us only 7 or 8 years ago” (March 22, 2010)

Ghandour continues:

“We had all sorts of ways and means and shapes...we just operated there were always grey areas, and we found them... the law was always grey, and we lived in grey areas. If it said you need a license to be a courier company we’ll say: “ We are not a courier company, we are a freight-forwarder [...] so why is a freight-forwarder allowed and a courier company not allowed? So, I am a freight forwarder” (March 22, 2010)

When licenses were granted, postal taxes were imposed. Ghandour again:

“Do you know that we are one of the few companies in the Gulf that pay taxes... postal taxes.....companies in the Gulf are generally not taxed...our industry is taxed ...no one else gets taxed...In Dubai we pay 10% taxes...[...] also here [in Jordan], in Lebanon there is a tax now, in Syria there is a tax now, in Egypt there is still a tax..in Algeria there is a tax” [...] Very difficult...people don’t know how difficult it has been, specifically in this business. And, that is why I have no competitors. There are no Arab competitors to Aramex. There is DHL, there is Federal Express, there is UPS and there is TNT. There isn’t a single [Arab] company [...] there were many companies in the Arab world that tried and failed” (March 22, 2010)

“A persisting challenge is the inability of the Arab market, [that is] if we want to continue to focus on the Arab market, to open up its borders to the free movement of goods. This is a huge issue. Customs...customs formalities not only customs duties. These are not unified markets. This is a constant challenge for us [...] It [borders and related customs issues] restricts growth of these markets. It restricts the competitiveness of these markets. [...] ... [There are] constant challenges... bureaucratic challenges” (March 31, 2010)

“Aramex is a “nation-less” company...because we don’t have a home market. Where is our home market? UPS and Federal Express have a home market [that encompasses] their core business. They make their money out of the U.S market. Aramex’s core market, home market [Jordan], is smaller than any of our other markets. We don’t have a base, we are

literally everywhere [...] Part of the reason why Aramex is where it is today is that it has historically been so difficult for anyone to come and do business here...and we cracked it, meaning: we kept at it until we were able to do what we are doing. We tried every which way [...] when the big companies come and look at this market they say: “What are all these complications?” They say: “Why should we do business here? Let us leave this market” ...” (March 22, 2010)

Mazen Kloub, Aramex Logistics Operations Manager, since promoted to Regional Supply Chain Manager - GCC, explains how borders and custom formalities have the potential to negatively impact the operation of the **Third Party Logistics** business on a daily basis:

“The customs here in Jebal Ali [in Dubai] are open for 24 hours but the problem is when you clear stocks at the customs [...] sometimes they ask you to go for inspection. So they would open the trucks and inspect and this creates delays for us. It delays the whole cycle. If we are late beyond the delivery window [set by the shopping malls] then we start paying penalties because we can only deliver on the following day” (March 28, 2010)

Despite all the macro-level challenges, Ghandour asserts:

“We created a borderless entity. That’s what it is [...] if the original pan-Arabists look [at Aramex], they will say: “this is how Arabism should look like: no borders [...] everybody moves [freely] ..[...] We were always flying at 30,000 feet in the Arab world. Meaning: you never see a border” (March 22, 2010)

“We unified the Arab world, when it is not unifiable...” (March 31, 2010)

When asked to explain Aramex's success in its difficult context, Ghandour responds:

"Nothing stopped me....nothing...I stopped at nothing ... I never took "no" for an answer...It is very simple. That is the ultimate secret. Which means: wherever I saw [an obstacle] in front of me...I would say: "either there is a way around it or I can knock it off" ...that's it...it is as simple as that....there is no sophistication about it" (March 22, 2010)

Even Ruwwad, the non-profit entity, faced institutional and bureaucratic challenges. In its 2009 annual report, Ruwwad reports the delays faced with its libraries' project funded by Anna Lindh foundation:

"This effort took longer than expected because of the bureaucratic process that was needed to approve the signs and the printing of the brochures by government officials [...] The effort of talking to them also required a lot of time"

Mayssoun Barhouma, the Representative of the Ministry of Labor office at Ruwwad, affirms:

"The bureaucracy that is prevalent here in Jordan means that things get postponed and postponed and postponed and then get forgotten. This is what really happens" (March 24, 2010)

Drawing a comparison between working with the public sector and with other sectors, Kefah Adnan, Ruwwad Community Empowerment Officer, explains:

“Even if you are working with schools, the UNRWA schools are easier to work with [while] public schools have many procedures, such as getting approvals [...]. Partnership with the government is harder and more tiring than with the other partners”
(March 24, 2010)

Both the morning and the evening shift headmistresses of Ateka Bint Zaid public school, one of the schools renovated by Aramex and Ruwwad, confirm that the challenges of bureaucracy continue even in the course of performing their jobs.

One headmistress, Wassila, says:

“Fundamentally, no activities can go ahead without approval from the ministry [since the school is] a governmental institution” (April 5, 2010)

Buthaina, the other headmistress even admits that they are in fact breaking the rules by giving interviews:

“Even the conversation we’re having with you now should get approval” (April 5, 2010)

The former headmistress of the same school, Rabiha, says:

“I had no authority. But, I broke many rules, since we were working for the public benefit. My rule breaking didn’t affect the education process. Sometimes rules, routine and bureaucracy impose obstructions... they limit people’s ambitions” (April 4, 2010)

Such challenges imposed by the public sector affect the credibility of Arab world governments and prevent them from building social capital and trust with Arab citizens. As Mayssoun

Barhouma, Representative of the Ministry of Labor at **Ruwwad**, asserts:

“People always doubt the credibility of the public sector [...] they tell us that they hope that we are not going to note their requests then disappear. They want us to be credible because they simply don’t trust issues related to the public sector” (March 24, 2010)

Wars and conflicts too have shaped Aramex’s attitude, orientation and expectations. Ghandour gives one example of macro-micro interplay which shows how serious difficulties can nevertheless create opportunities for prepared organizations:

“Civil unrest in many places... wars... these were defining issues for us. Saddam’s entry into Kuwait was defining for us. The Lebanese civil war was defining for us. It created an amazing amount of dedication and innovation. When the airports in Beirut were closed for such a long period of time, we shipped by ship via Cyprus. It’s weird at Aramex, the way our brain functions today [is that] whenever there’s a crisis, we would say: “We’ve seen that before”. There isn’t mass panic [...] Saddam’s invasion of Kuwait was critical for us, because it did two things. One: it was a massive crisis, of course, because a large operation of Aramex was taken over. The airports were closed, everything was under threat. Yet, again no employees were let go. And, we found different ways. It got us to understand how important it is to serve our clients. [Second]: I can also tell you that the brand of Aramex started becoming visible in the region because we stuck around. Our competitors packed their bags and ran away” (March 31, 2010)

The Iraqi war became a defining event for Aramex, according to Ghandour:

“Clients started viewing us as: “this company is serious, visible on the ground”. Khaled Shoman [the late Deputy Chairman and Deputy General Manager of Arab Bank, for decades the Arab world’s largest bank], may his soul rest in peace, called me and met with me to request our services, although up until then they were not giving us work [...] For the Arab Bank, the most important client in Jordan, to actually call us to see how we can help them in times of crisis.... that has massive amount of value...” (March 31, 2010)

Aramex also built credibility with its internal stakeholders at such times. Aramex did not lay off any of its employees during this crisis. In addition, it accommodated them and their families in hotels in Amman, Jordan, until the situation improved.

The civil war in Lebanon provided another example, as Ghandour recalled:

“If you go to Beirut, you should ask how Aramex unified East and West Beirut. Life in Beirut during the [Lebanese] civil war revolved around Aramex. A car would park here [at one side of the crossfire line] and another on the other side. The snipers were there shooting people. Then they’d take a break...so, our people would say: “the snipers stopped, let’s pass the shipments’...” (March 31, 2010)

In a reflection of the micro-level capabilities that organizations develop to combat macro-level challenges, Aramex devised a special system to enable its employees to commute within the Christian-dominated East Beirut and the Muslim-dominated West Beirut and to exchange parcels

across these two combating parts of the Lebanese capital. Asma Zein, Aramex Lebanon Country Manager, since promoted to Regional Manager for Lebanon and West Africa, explains:

“We allocated groups [...] each group was located in the area in which they [its members] lived so they can freely operate. Each group was responsible for securing its points. [These are the] points at which the exchange of pouches occurred” (March 16, 2010)

Speaking of the origins of the **Shop and Ship** service, Asma Zein recalls that wartime conditions created many different opportunities to provide clients with special services that could be extended when calm returned:

“The [Lebanese] civil war was at its peak [...] there was high demand by the people for very important items [...] there were no more university books [...] Also the Lebanese market was lacking a lot of medications, so clients started to contact us to request us to buy for them [from abroad] specific medications [...] We also started special services such as flower delivery on certain occasions [...] We used to pay on behalf of the clients without taking any prepayments. Only upon delivery we used to get the payment for the package being delivered” (March 16, 2010)

Two other examples of critical services that Aramex provided during the Lebanese civil war were to carry passports and do visa applications for would-be travelers at foreign embassies in Syria, Jordan and Cyprus, and even to handle reconciliation services for the banking system, as Zein says:

“We opened post office boxes in Paris, London and in New York [...] our mailing addresses became the mailing addresses for all the banks in Lebanon [...] we used to deliver to all the banks in Lebanon [...] Otherwise, the banking sector in Lebanon would not have been able to operate with foreign banks [...] now we still have 90% of the domestic business of the banking sector, because we gained their loyalty [during the civil war years]” (March 16, 2010)

During the 2006 Israeli war on Lebanon, Aramex enhanced its social capital and credibility considerably by managing free of charge the warehouses containing aid supplies and thus preventing corruption. Three delivery companies (Aramex, DHL and TNT) cooperated and Asma Zein managed the project:

“I had with me 15 volunteers from Aramex, and we spent four months in the warehouse, at the port in very bad conditions. We did the segregations, the line of collections, and the pallets. We did the packaging. We were managing 600 employees per day: 300 in the morning and 300 in the evening. We would prepare the boxes and we implemented a system in which trucks would depart every single morning to go distribute the aid supplies all over Lebanon” (March 16, 2010)

Among other challenges is the general prejudice of Arab investors against service businesses.

Ghandour recalls that in the 1990s he needed to raise liquidity:

“All the Arabs that I approached [as potential investors] would say: “Where are the buildings? Where are the assets?” I would tell them: “There are no buildings, or assets, there are clients” ... ” (March 31, 2010)

In the end, the listing on NASDAQ that Ghandour accomplished instead raised both Aramex's credibility in its home region and its brand awareness and equity among businesses and individuals alike.

Ironically even its lack of equity and brand awareness led to developing strengths. First, it enabled Aramex to create a great team. As Ghandour told it:

“A big challenge for us was to be able to attract people, by the way, because we had no brand. This is why we ended up recruiting young boys, which was the best thing. So, a failure in brand, brought us Hussein Hachem, Osama Fattaleh, Iyad Kamal... all the superstars in Aramex today are a product of being young kids who didn't know what they were doing, so they ended up in Aramex... and look at that... a miracle!” (March 31, 2010)

Once the company was on this track to personnel development it discovered, as Safwan Tannir, Aramex Chief Freight Officer, commented, *“generations of desperate Arabs wanting to prove themselves. The reservoir of human resources was bottomless”* (March 29, 2010)

Having to operate so close to the ground and on a relatively small scale also provided Aramex with the opportunity to develop a large client base among small and medium-sized businesses. One of the earliest employees in Dubai, Jatheendranath Puthalath (Jeetu), currently General Manager for Express and Domestic in Dubai, single-handedly created this niche market for Aramex. Ghandour recalls:

“Charlie [a previous Aramex manager in Dubai] hired Jeetu and told him: “listen, we’re unable to make an entry among the big companies. What we want you to do is to go around the small stores in downtown Deira. All those that have half a shipment, a quarter of a shipment, who don’t care what our name is.... [Ask them]: “How much do they [the competitors] charge you? Here is 20 dirhams less’ and get their business’....”

(March 31, 2010)

In an interview in Dubai, Jeetu recalled how he went from one door to the next to create higher awareness of Aramex and to capture business, but he refrained from taking the credit for creating the SME niche market for Aramex.

Once encountered in special circumstances, the challenges imposed by the Arab world contexts offered Aramex the chance to turn its unconventional approach into competitive advantages. The main organizational feature that allowed it to do this was its organizational culture of empowerment. The findings for Aramex’s culture of empowerment are presented in Section 6.3 below.

6.3. Aramex's Culture of Empowerment

The findings of my research reveal Aramex's culture of empowerment as a very powerful force that enables dynamic capabilities building leading to innovation. Particular features of this culture include strategic autonomy and corporate entrepreneurship, including broad decision-making powers. This culture of empowerment was mobilized by the federal structure that Ghandour and his team envisioned, developed, and adopted in 1992 that was further re-enforced in a reengineering project implemented in 1993/1994 and a recent *Segmentation Project* in 2009/2010.

The strategic autonomy afforded to Aramex's federal structure subsidiaries provided Aramex with agility and flexibility they needed to maneuver the contextual and institutional challenges of the Arab world. As Table 6.1 shows, Aramex's federal structure co-evolved with its strategies during its stages of professionalization, branding & regional expansion, consolidation as well as diversification & global expansion to implement a customer-centric strategy. Osama Fattaleh, former COO of Aramex, explains the uniqueness of Aramex's comprehensive system by highlighting the complementarities between its different components:

"In our industry DHL attempted to do it [...] but they don't have this unique selling proposition, they don't have all of the empowerment that we have, they don't have the multi-functionality, the industry specialization, bits & pieces of it. Nobody has it up until this moment in time" (March 9, 2010)

As already mentioned, Ghandour's role, as a democratic and non-authoritarian leader with strong relational skills, in creating and sustaining this organizational culture of empowerment cannot be overstated. Ghandour's leadership style enabled him to embed, and institutionalize

several core values within Aramex. Samar Dudin, Ruwwad Regional Director and Head of Programs, describes Ghandour's special entrepreneurial style:

"[Fadi] runs his companies with a clear understanding of what it takes to make people motivated, accountable and at the same time responsible and beneficiaries of a system [...] he has all of these entrepreneurial elements: being a risk-taker, an agitator, an activator, challenging the status-quo etc." (March 31, 2010)

Hussein Hachem, Aramex CEO for the Middle East and Africa, attributes several Aramex core values including trust, freedom of opinion, broad decision-making, as well as informal dynamics, to Ghandour's leadership style:

"[Fadi] has a very creative mind. [...] He thinks differently. [This triggers us] to challenge and to think a bit differently. Fadi was never a control freak. He always wanted to give people the chance and opportunity as far as he trusts you. If he doesn't trust you, it becomes the complete opposite. If he knows that a person is working and trying hard, he'll give him the space. We fight with him. We challenge each other. We shout and scream... all the company... very dynamic environment" (March 29, 2010)

In contrast to most other Arab world organizations this dynamic style permeates dealings of all Aramex managers and staff. While discussing the development of the ***Third Party Logistics*** innovation mini-case, as Abed Shaheen, Managing Director of InfoFort and Aramex former Regional Supply Chain Solutions Manager, has said, this non-authoritarian leadership style has gone well beyond Ghandour, as seen in the approach of Hussein Hachem Aramex CEO for the Middle East and Africa:

“Hussein gave us the freedom and at the same time he believed in what we were telling him. He listened to what we said. And both of us were extremely quick in decision-making [...] It was only among us, and up to us, what we wanted to do. We had the freedom to operate whichever way we wanted. We experimented, we made many mistakes and we messed up a lot. We didn’t do everything perfectly from the first time. But that was the only way to learn [...] without the right team in place and the freedom to think and implement things, we wouldn’t have accomplished anything” (March 29, 2010)

Part of these values, culture and dynamics is due to the youthfulness of the Aramex staff. As already mentioned, Aramex is a young organization with 81% of its employees aged between 18 and 40¹²³ (Section 5.1). Having over four-fifths of the employees of an organization in the Arab world under the age of 40 is far from common, as Shaheen reminds us:

“We didn’t have someone who was 50 years old telling us that that is the only way it can be done, which was the case for our competitors” (March 29, 2010)

Besides the young average age of its staff, Aramex used other human resource management internal mechanisms and policies to create and embed a culture of empowerment among its staff and management that I provide findings of below.

As a start-up, Aramex was naturally dominated by an entrepreneurial, non-authoritarian and democratic managerial mindset and leadership style during Aramex’s formation stage. However, as the company grew in size and complexity through the 1990’s and 2000’s, embedding a culture

¹²³ Annual Report 2010, Aramex, accessed on June 13, 2012, <http://www.aramex.com/content/uploads/100/55/44233/Annual-Report-2010.pdf>

of empowerment became the result of deliberate efforts by Ghandour and his management team. One defining effort was memorialized in a 1992 document that Ghandour presented at that year's annual meeting. This document initiated an internal dialogue regarding Aramex's leadership and managerial style, corporate strategy, organizational structure and corporate culture, among others. Internal dialogue has continued around these issues for many years and the impact of this document persists to this day. These dialogues and impact came up repeatedly, at the beginning of my field work. Numerous interviewees insisted that I include Ghandour's 1992 document in my study.

One such interviewee was Jumana Hussein, former Consultant with Andersen Consulting and team member of the 1993/1994 **Reengineering Project** of the **Federal Structure**. Jumana Hussein recalls:

"So, when I read this document, it blew my head away; "what?" I came from Andersen, and Andersen writes such stuff about values, about culture. But Andersen was an American company that talks about culture..... but I found this company in the middle of Amman, this small company that talks in those terms! So, I was able to realize that there is something extremely special about this company." (March 10, 2010)

Aramex's culture of empowerment was so different from cultures at other organizations in the region and Ghandour's 1992 document so influential that Jumana Hussein declined to participate in the late Rafic Hariri's high-profile Solidaire project in downtown Beirut, Lebanon, that she had originally been eager to work on. No matter that Aramex was a small company with

a low brand image and equity while the Solidaire project was arguably one of the most visible projects in the Arab world at the time. Jumana Husseini recalls:

“Actually, before Aramex’s project, I was really trying hard for a couple of months to go on the Solidaire project in Beirut. I was trying very hard with the partner: Maher Kadduora. He kept telling me it is impossible. Then I heard that there might be a possibility, so they told me start on the Aramex project then you will go to the Solidaire project. Later, when they told me that they might need me on the Solidaire project, I told the team leader Hussam Khoury: “You know something... there is something very special about this project [Aramex]. I really want to see it through.” (March 10, 2010)

Another interviewee who brought up Ghandour’s 1992 document was Osama Fattaleh, former COO of Aramex, who worked at the Aramex New York station at the time. While discussing the **Federal Structure**, Fattaleh states:

“It is not an ON/OFF button. This is an evolution not a revolution. There were discussions about global trends, local trends, competitive landscape... all of these were considered.... I wasn’t there [at the time] but I’m sure there was an extensive work done on this. Did Fadi give you a document about corporate culture? [...] I thought it was an amazing document [...] that talks a lot about these [elements].”
(March 9, 2010)

Ghandour’s 1992 document contained a comprehensive analysis of the context, competition, future vision and the tools to use to achieve them, including characteristics of a corporate culture and a proposed organizational structure. For Ghandour these propositions originated in years of

reading, researching and pondering triggered in the mid 1980's by acquiring a team of personnel in freight forwarding, more experienced than any one at Aramex at the time, including Ghandour himself. The document provides as a line of demarcation between the first stage of Aramex's evolution: the formation stage (1982-1992) and the other four stages (Table 6.1) with respect to retaining and embedding the culture of empowerment despite the adoption of a different organizational structure in 1992. In fact, though some might have feared otherwise, the federal structure then adopted at Aramex further embedded the company's culture of empowerment.

The following excerpts from the document reveal Ghandour's firm rejection of the highly bureaucratic institutional environment of the Arab world:

"Managing Horizontally Not Bureaucratically: Let me be blunt here: bureaucracy is a proof of backwardness, laziness and corruption of the mind. In Aramex, bureaucracy is a bad word and it will be abolished, no two ways about it"

"If any of you finds bureaucracy necessary then Aramex is not the place for you"

"In a world and a business like ours, bureaucracy causes delays in decisions, in solving vital problems, in recognizing and catching vital phenomena. It has no purpose but to protect one's job"

"Have An Open Door: Always have an open door and encourage your people to come to you to discuss anything they want with or without an appointment. Keep your mind and your door open to anything and anyone, you will benefit. Once you do that listen, listen and listen. Do not talk and preach all the time, it is important to listen and then act on what you have heard, you will gain credibility"

“Tell him [the employee] what you expect from him. Give him the message and the vision clearly. Demonstrate trust and knowledge, show passion and care for him. Then ask him to do anything and he will. Finally, give him credit for the work he did. Let him sign his own reports. Let the people involved know that your team did it. You will gain your people’s trust and you will have loyal, hardworking team players”

All subsequent annual meeting presentations, discussions and, more importantly, Ghandour’s actions supported the espoused managerial style and culture. In fact, research findings indicate that these core values became deeply ingrained in Aramex’s corporate culture as well as in other internal mechanisms of dynamic capabilities building. Complementarities between the internal mechanisms and the core values resulted not only in creating social capital and trust within Aramex but more critically in building distinct capabilities, a comprehensive dynamic capabilities building system that encourages learning and innovation, and a ‘winning’ Aramex team that Ghandour perceives as his top accomplishment:

“If you ask me today what my biggest success is, what I consider as my biggest achievement in Aramex, [I would say]: It is building the team [...] There isn’t anything like it in the world...” (March 31, 2010)

Among many interviewees who credited Ghandour’s unique leadership abilities and managerial skills with creating internal social capital and trust within Aramex, Safwan Tannir, Aramex Chief Freight Officer, put it concisely:

“Fadi’s refined and humble nature enabled us all to bond together. He has a style that combines kind-heartedness, charisma, decency, and a kind of “you can trust me, say

whatever you want to me”. He has this kind of thread or glue that puts things together and makes things alright. And it works, whether I’m more experienced than him or less experienced than him” (March 29, 2010)

Ala Shaban, another former consultant with Andersen Consulting, who spent two years at Aramex in 1993/1994 working on the **Reengineering Project**, spoke as an outsider:

“Very casual, very transparent, very open door policy, no bureaucracy, anybody can meet Fadi anybody can meet Hazem [2nd most senior executive at the time] [...] Anyone could knock on their doors and talk to them” (March 11, 2010)

“We felt we were one team. We never felt that we were the Andersen team and that they were the Aramex team [...] their [Fadi and Hazem’s] doors were wide open [...] we didn’t feel there were any barriers between us. It was very easy to communicate [with them]. It was a joint effort” (March 11, 2010)

Jaffer Ali, Aramex Regional Operations Manager, based in Dubai, explains further:

“You can say simply: “respecting the people”. It feels like a family. If I go to Cairo, I don’t feel like a stranger [...] there are no barriers. There is no hierarchy like other places. There is open communications, anybody can go directly to any VP or any CEO” (March 30, 2010)

Asma Zein also cites the respect for diversity and the racism-free environment at Aramex. Given the decades of civil war in Lebanon that were characterized by sectarian conflict, Zein's evidence is of high significance:

“During the civil war, Aramex was the only company that was able to operate everywhere in Lebanon in spite of the different sectarian groups within the company [...] at Aramex all of our employees know that under this umbrella everybody is one [everybody is equal], there are no sectarian or political groups under this umbrella. And I think this is really what we have succeeded in doing: in giving birth to a society within Aramex that is free of racism” (March 16, 2010)

Aramex's former COO, Osama Fattaleh, recalls that many of these values already existed within Aramex's corporate culture prior to 1992, but were firmly institutionalized by the federal structure that was adopted in 1992/1993. Fattaleh explains:

“Even before all of this [1992 document], the discussion about the core values of decentralization, of empowerment, of the front line, of valuing creativity was there. The structure that came about is because we had such a culture. It is the manifestation of the culture. Meaning: they fed off of each other [...] Driving all of this was a corporate culture which has empowerment of the front line, diversity, creativity, believing in people and training them and rewarding them” (March 9, 2010)

Aramex's culture of empowerment encourages the emergence of innovation by promoting and rewarding creativity, conferring decision-making and risk-taking powers and building capabilities. Hussein Hachem, CEO for the Middle East and Africa, highlights:

“It is a unique culture, it allows people to be creative, to take decisions, to be a risk-taker, to be adventurous, and literally to explore themselves and explore their capabilities. Because we don’t set limits, we don’t frame someone’s dream. A lot of ideas come from the people on the ground. They would say: “Why don’t we do this in this manner?” We don’t say no. We don’t tell him: “You’re not allowed to think” [instead] we say: “We’ll take this idea and try it” If it works, we will implement it on a global basis [...] So, the whole culture is about encouraging people to challenge. What do they challenge? They challenge the current process that we have now in the company so we can do things better and keep improving. So, there’s a lot of continuous criticism going on, and a very open democratic platform, that has literally very little bureaucracy. It is a flat platform that will allow people to challenge anything and come forward with ideas”
(March 29, 2010)

“It’s about the extra mile and the extra effort because [the Aramex] people believed in it. Because they were challenged, they challenged themselves, they challenged the market, and they challenged the fact that we come from this region: the “underdogs” [in comparison with Aramex’s competitors which are mainly non-Arab, such as DHL]. Nobody [Arab organizations included] took us seriously. So, we built and built and built. We were competitive enough to prove ourselves and move forward” (March 29, 2010)

In the above statement, Hachem highlights the derogatory assessment and underestimation that Arab citizens and organizations receive from their fellow Arabs and organizations particularly when they compare them with Western citizens and organizations. As discussed in the cultural

background (Section 2.5) of the Arab world contexts (Chapter 2), this phenomenon originated in this region's many decades of colonization by Western powers. But as Hachem's statement shows the derogatory assessment has triggered Aramex to achieve what was only made possible by the overarching culture of empowerment, federal structure, and human resource management policies at Aramex, unique among organizations in the Arab world.

The culture of empowerment invests in people so they can achieve their full potential. Both Aramex and Ruwwad have one central human management policy, to hire young local Arabs, train them and reallocate them within Aramex or between Aramex and Ruwwad and other entities owned by Aramex such as InfoFort. As Safwan Tannir, Aramex Chief Freight Officer, mentioned already, by adopting the policy of hiring local staff and management Aramex discovered an endless reservoir of young and local talent. This local staff hiring policy is quite different from the common human resource management policy of Aramex's competitors, such as DHL, who hire expatriates in almost all positions. The common practice for Aramex's competitors is to hire Western expatriates in managerial positions and to hire expatriates from East and South East Asia in more junior and low-skill positions.

According to Ghandour and his colleagues, due to having a majority of non-local staff and managers, competitors would flee from the region during wars or conflicts and would shut down their operations. More often than not, these competitors would leave behind most of their junior and low-skilled Asian workers without any sources of income or means of protection or travel to their respective Asian countries. Citing the Iraqi invasion of Kuwait, Hussein Hachem emphasizes, by contrast, how Aramex took good care of its employees, ensuring their safe travel

out of Kuwait and paying for their hotel accommodations along with their families in Amman until the situation in Kuwait was more stable.

The policy of hiring local staff and managers has paid off for Aramex. Local know-know and uninterrupted physical presence of the local staff and managers enabled Aramex to maintain its operations during the wars and conflicts that, more often than not, drove shock waves and heightened uncertainty throughout the Arab world. Unlike those of its competitors, Aramex's uninterrupted operations fulfilled much-needed services in the most dire of circumstances. This enabled Aramex to build social capital, acquiring the trust and the loyalty of corporate and individual clients throughout the Arab world. These elements in turn furthered Aramex's goals of gaining more market share, growth, and geographic expansion as well as enhancing Aramex's financial performance and profitability. The findings also revealed similarities between Aramex and Ruwwad with regards to this local staff hiring policy despite the varying missions and operations that these two dissimilar entities have. The results were not necessarily the same, however. In the marginalized community of Jabal Al-Natheef, while **Ruwwad** also adopted and consistently abided by the policy of hiring most of its staff from the local community, the local people could be quite hostile, not necessarily valuing the community benefits. Raghda Butros, Ruwwad former Director, asserts:

“We had a policy which I insisted on, even though I knew it would add difficulties, but I really and still do believe in it, which is to hire as many people as possible from the local community [...] it is the right thing to do, but it is a very difficult thing [...] The skills were simply not available in the community. For example, the administrative director, the operations director, these were not there. My idea was that eventually the students [of the

Moussab Khourma Educational Fund] will become the staff, and this started to happen before I left [...] When I hired people from the community I really thought that the level of sympathy and empathy would be high, but [they were] the least empathic [...] this was a problem that I continuously faced, people [from the community] being very unsympathetic to one another, and at some stages quite hostile” (March 17, 2010)

This lack of sympathy was confirmed by Fadi Ghandour, Ruwwad Chairman and Aramex Founder and CEO, as well as by Samar Dudin, Ruwwad Regional Director and Head of Programs. Butros, Ghandour and Dudin explained that the very harsh conditions and the years of marginalization that the individuals of Jabal Al-Natheef’s community and those of similarly marginalized communities have been subjected to create deep resentments and psychological baggage that these individuals find extremely hard to overcome particularly when dealing with people who have undergone similar sufferings.

Oftentimes, these feelings of resentment and psychological baggage underlie office conflicts and discrimination exercised in the selection of program participants. As findings indicate, Ruwwad makes every effort to constructively resolve these conflicts knowing full well that these are but a glimpse of the complex issues that plague Jabal Al-Natheef’s community. Ruwwad continues to retain its local-community staffing policy as one of the tools it uses to stimulate active community participation and empowerment. In fact, Ghandour asserts that, in the case of one particular Ruwwad staff member, the hardships faced by the members of Jabal Al-Natheef community erupted in him many strong and negative emotions that turned into a constant depression that negatively affected his performance on the job. Once relocated at Aramex, this

staff member was able to get over his depression in a fairly short period of time and to perform his assigned job in a satisfactory manner.

Nevertheless, Ruwwad former Director, Raghda Butros, considers hiring local staff as important to ensure the sustainability of the **Ruwwad** initiative:

“I used to hire at my JABA [Jordan American Business Association] days, really up and coming fresh graduates, people who have a clear future, [but] those people don’t stick around. You are building a process. The most important factor in it is relationships. You cannot every year get new people and rebuild relationships’ (March 17, 2010)

Another human resource management policy that Aramex adopts and implements is training, an area that received attention in Ghandour’s 1992 document. Asma Zein, sheds light on some of the on-the-job training for new Aramex recruits:

“[New employees] enroll in a three month intensive training program and also another three months of observation [on-the-job training] in the office [...] At the beginning of the training we teach them about team work and about our culture: that there are no ethnic groups, no political parties. [We tell them:] “Your job is to be very active and very generous with your society and with your colleagues” [...] so, it takes a lot of time to make them good team members” (March 16, 2010)

Providing an example of how Aramex socialized a core team of twenty Majid Al-Futtaim Fashion (MAFF) workers that it took on board as a part of the **Third Party Logistics** project for its client MAFF, Mazen Kloub, Regional Supply Chain Manager - GCC, explains:

“They were even afraid to ask. We had to introduce team building activities, tickets for the most liked person – things to promote a positive culture so that they won’t be afraid. It paid off. Not to mention the problems which they had among them because of the previous corporate culture they were in” (March 28, 2010)

In addition to this initial training, Aramex conducts product-related training for newly launched products or services. While discussing the efforts related to the 1993/1994 **Reengineering Project**, Fattaleh, former COO of Aramex, explains:

“[There is] plenty of training behind it, plenty of product-related training, soft skills training, team building [...] a combination of internal and external. Hard product training was internal and maybe team building external [i.e. the 1993/1994 re-engineering project of Andersen Consulting]” (March 9, 2010)

While discussing the **Shop and Ship** service, Iyad Kamal, Aramex COO, asserts:

“We do have training material. We continuously update our training material. We have online training on Shop and Ship. We have online training for all our products. Two years ago, we did a customer service training program specifically for the Shop and Ship. We went to every station and trained them on the processes in JFK, and we are upgrading that material now” (March 14, 2010)

Hussein Hachem discusses the executive training that the American University of Beirut has designed specifically for Aramex:

“Every year we send around fifty people [...] it is a specialized course for Aramex [that focuses on] leadership. It has Dr. Najjar and six [or] seven others. [It consists of] three-day modules, for twenty one days [...] this is the third year [we send people]” (March 29, 2010)

As with Aramex, training is taken as seriously at **Ruwwad**. Among other examples of the serious efforts at Ruwwad to provide effective training for the staff, Raghda Butros, Ruwwad former Director, mentions:

“We selected a young lady with a special education degree to run the nursery, and we sent her to Germany to do a month of training on how to run kindergartens’ (March 17, 2010)

Emphasizing both the policy of hiring local staff as well as the criticality of training, Samar Dudin, Ruwwad Regional Director and Head of Programs, explains:

“Out of 28 employees, we have 24 who are from the local community [...] a learning process takes place, where they are first of all exposed to more training, to more workshops and to more interaction. They understand that now is the time for them, despite the scarcity [of resources], to give [back] and to learn how they can organize, give [back] and benefit” (March 22, 2010)

Following her appointment in 2009 as Ruwwad Regional Director, Samar Dudin initiated several assessment studies that focused on Ruwwad’s status, programs and accomplishments. These culminated in the formulation and approval by the board of a new action plan for Ruwwad for

2010. Commenting on a related staff training workshop that is specifically designed as part of the implementation efforts of the action plan, Dudin explains:

‘The whole objective is to create a shift in the mindset of the employees, from a service-driven model to an empowerment-model [that] builds on the assets. You have to find the opportunities. You need to actually be quite entrepreneurial in tapping into people’s abilities. This is how you motivate change in them’¹.

Aramex also reallocates staff within Aramex and between Aramex and Ruwwad and other entities associated with Aramex such as InfoFort. Findings indicate that reallocations of staff and management at Aramex emerge in the course of job promotions, expatriation as well as in setting up new business lines or entities. Several of the interviewees mentioned moving from one geographical location to others within Aramex over the course of their careers. For example, while discussing the 1994 **Reengineering Project**, Osama Fattaleh, former COO of Aramex, mentions that he came from New York to become the Amman Station Manager, while Safwan Tannir, Chief Freight Officer, spent five years at Aramex in Amman before moving to manage its office in New York and six years later, in 1996, moving back to Aramex in Dubai.

Rather than moving West, Hussein Hachem moved East before moving back to the Arab world to join Aramex’s Dubai office, from where he currently manages, as Aramex CEO of the Middle East and Africa, the CEOs of the Levant, Gulf and Africa regions:

“I finished AUB [American University of Beirut], then went to Amman for 6 months, then went to [set-up and manage an Aramex office in] Kuwait [...] I went to Sri Lanka in 1998 [...] then came to Dubai” (March 29, 2010)

Findings also reveal reallocations of management to set up new entities, of which I provide two examples. The first is of Abed Shaheen currently Managing Director of InfoFort, a separate business entity fully owned by Aramex, who formerly was Regional Supply Chain Solutions Manager at Aramex whose role was instrumental in setting up the **Third Party Logistics** business line including that of the fashion industry. Shaheen explains:

“Aramex bought InfoFort in 2005. It was a box storage company. They put boxes in the warehouse similar to the warehousing [business we had before developing the Third Party Logistics] but it was specifically for documents, for papers. I joined InfoFort one year ago from Aramex. When I joined InfoFort, we started transitioning the company from being a box storage company into information management. I am repeating the same thing I did over there – moving away from storage into supply-chain solutions and 3rd party logistics and here moving away from storage and physical archiving of paper into information management” (March 29, 2010)

Another example involved Raghda Butros, Ruwwad’s founding Director, who was hired as Aramex Corporate Social Responsibility Manager until a separate legal structure was created for **Ruwwad**. Butros clarifies:

“[Fadi Ghandour] offered me the position of Aramex CSR [corporate social responsibility] manager. For one year, I worked on this [the Ruwwad concept] as well as on other things, since Aramex was expanding its CSR such as putting into motion the process of sustainability reporting that Aramex launched a couple of years later” (March 17, 2010)

The same overarching culture of empowerment, federal structure, and human resource management and policies at Aramex, that constitute core elements of Aramex's comprehensive dynamic capabilities building system, applies to the social innovation mini-case, **Ruwwad**.

Raghda Butros, Ruwwad former Director, points to its culture of experimentation:

"It is all about experimenting, because you need to know where you can make your largest impact. And that would help you shape your future programs" (March 17, 2010)

Seeking continuous learning, experimenting and making incremental improvements are efforts that Aramex had purposefully and consistently pursued for decades. Ghandour sums them up as Kaizen, the Japanese concept of continuous improvement:

"The concept of Kaizen, which means that something that starts looking in one way would end up looking in a different way. This process should be allowed. You shouldn't be drunk with your success. Drucker was influenced a lot by Schumpeter who spoke about entrepreneurship and creative destruction, which is actually purposeful. You would say: "this makes us the most money so we need to find a way to create something else that makes us more money, because we're going to kill it or somebody else is going to come and encroach on it". We have one skill doing this, but we need another set of skills as we change, and the market place changes. This is stuff we were thinking about from the early days. Early days meaning 90's" (March 22, 2010)

In his annual PowerPoint presentation to Aramex managers in 1992 Kaizen was one of the key focal concepts. Ghandour has a particular approach to PowerPoint presentations at annual

meetings. These presentations to Aramex managers and leaders meetings as well as leaders retreats are not delivered as 20 or 30-minute presentations. Rather, each slide introduces a concept or an issue that is used to initiate discussion among the attendees around that concept. It can take anywhere from several hours to a full day to complete such a presentation.

Jaffer Ali, Aramex Regional Operations Manager who, back in the 1980's, was the first Aramex employee in the United Arab Emirates, also highlights continuous learning at Aramex:

“The annual meeting is like going to class. [Fadi Ghandour] will teach us [...] and people will sit and listen [...] we learned a lot [...] we used to say: “Aramex is a college, you can learn and earn”...” (March 30, 2010)

Fadi Ghandour himself lacked any formal business training. Annual meetings and executive meetings, therefore serve as a chance for manager education as well as for communication and planning. Ghandour explains:

“I studied political science. I didn't want to be a businessman or an entrepreneur. I had no idea I was going to fall into this. So, I had to read” (March 31, 2010)

Furthermore, management education is a communal practice. Hussein Hachem, Aramex CEO for the Middle East and Africa, describes practices at Aramex which are common in Western high technology companies but rare in the Middle East:

“We have executive committee meetings four times a year, plus we're always online working together” (March 29, 2010)

In further recalling the 1993/1994 period that he spent at Aramex working on the **Reengineering**

Project, Shaban asserts that the key features of the corporate culture including team spirit, teamwork and internal employee networks were purposefully institutionalized through daily meetings held at the office in Amman:

“Fadi and his team of around 30 to 40 members [...] would have a daily morning meeting [...] every day they would talk about the issues that they have, the concerns, the problems. I think this creates an open communication culture, a sense of comfort, a sense of listening [to] everyone’s concerns, [listening to their] problems. [They debate:] “how can we make it better?”..” (March 11, 2010)

Aramex and Ruwwad seek to create empowerment beyond their own boundaries among external stakeholders. Among the main capabilities **Ruwwad** seeks to build by developing and leveraging its ecosystem, or network of stakeholders, is the empowerment of all stakeholders in its targeted community and particularly the youth. This goal is driven by a strong belief at Aramex. Safwan Tannir, Aramex Chief Freight Officer, highlights Aramex’s motivation to empower external stakeholders. In discussing the motivation to encourage or empower entrepreneurs to create jobs, Tannir links job creation to preventing rebellion by unemployed youth, foreshadowing the tsunami of revolutions that spread across the Arab world nine months later beginning in December 2010:

“Give the opportunity for the private sector to show you how they could employ the human capital that is being thrown every year in the labor market and they don’t have work because no one is creating new jobs for them. That’s why there are these entrepreneurs. If he [Fadi] thinks there’s an entrepreneur to be found, he would encourage him so he could set-up a business and employ Arabs, because we need that. Otherwise, those youth would graduate and revolt on the streets, unbelievable, a ticking

bomb really” (March 29, 2010)

Citing the institutional efforts Aramex undertakes as a private sector entity towards its goal of empowerment, Raji Hattar, Aramex Chief Compliance and Sustainability Officer and Ruwwad former Interim Director, clarifies:

“We have formulated a [corporate social responsibility] strategy at Aramex that focuses on six pillars: youth empowerment and education, sports, entrepreneurship, emergency relief, sports and environment” (March 23, 2010)

Elaborating on the youth empowerment and education pillar of Aramex’s strategy, Samar Dudin, Ruwwad Regional Director and Head of Programs, asserts:

“[Fadi] has that very powerful notion [...] that was also absent [from the common discourse] because so many people from the private sector use CSR [corporate social responsibility] for marketing purposes. But the truth is, if you do not create impact on the ground, change does not happen” (March 31, 2010)

On empowering the teachers of Jabal Al-Natheef’s community schools through training, Dudin explains:

“We really are extremely concerned with the teachers, we bring them here once a month, we give them a workshop. We ask them what kind of workshops do they need, we bring them, they are exposed to trainers who focus on inquiry-based learning, or psycho-social support through creative arts, they listen to new theories, this motivates people” (March 22, 2010)

The empowerment of external stakeholders builds social capital and trust. Hussein Hachem,

Aramex CEO for the Middle East and Africa, asserts that social capital and trust function better than legal contracts in the Arab world contexts. One example that Hachem provides is the trust that Aramex developed with truck drivers in Dubai in the United Arab Emirates that enabled it to build the largest ‘owner-operator’ transportation trailer fleet in the Gulf States without signing any formal contracts or making major fixed asset investments:

“[Our competitors] never understood the mentality of the driver. For them, the driver is a thief... why? because they don’t trust him. In contrast, we feel sorry for the driver. [We believe] he is overworked and he just wants to [make a living]. He is a driver and his father is a driver and his grandfather was a driver. He reacts negatively because he has been abused in the relationship. And what binds me and the driver is common interest and trust, nothing else. There is no contract. If he is happy and if he is able to get his load on time, and he is treated properly, fairly, and is paid on time, he will come” (March 29, 2010)

Another example that Hachem provides is Aramex’s plans to change the trade cycle in Africa by, among other factors, building and leveraging social capital and trust:

“We will reduce the trading cycle from 70 working days to 12. [The trader] in Africa does not trust the banking system. He flies, pays cash, picks the order, fills the container, gets the bill of lading and then leaves. If we give him a facility next to him, he will see the product, place an order, and he will use a local transporter: Aramex, because we are going to use an owner-operator model in Africa. The drivers who will deliver to him will be [for example] his neighbor’s son and his cousin” (March 29, 2010)

A trust-based relationship and cooperation figure prominently in the *Third Party Logistics* service that Aramex and its client Majid Al-Futtaim Fashion (MAFF) have developed in the fashion business. Mazen Kloub, Aramex Logistics Operations Manager who has since been promoted to Regional Supply Chain Manager - GCC, asserts:

“It [trust] was proven in difficult times. He [MAFF manager] stood by his word and I stood by ours [...] this is how the trust was developed” (March 28, 2010)

Highlighting the importance of having credibility and a good business reputation and track record, Raji Hattar, Aramex Chief Compliance and Sustainability Officer and former Interim Director of Ruwwad, argues:

“You choose the trusted partners. You don’t choose partners then look for the trust”
(March 24, 2010)

The assertion by many scholars that trust increases with use is supported by the findings.

Mohammad Shoaib, Majid Al-Futtaim Fashion (MAFF) Manager, affirms:

“Both parties are building good relations with each other. [The] trust factor is there now. We are increasing the trust. We trust Aramex [and] Aramex trusts us. And things are going smoothly” (March 28, 2010)

This mutual trust came to full bloom when Aramex requested a renegotiation of the original contract with Majid Al-Futtaim Fashion (MAFF) that has, over a period of a few years, proved to be disadvantageous to Aramex. Interestingly, it took the two parties only fifteen days to conclude the new contract as both confirm:

Kloub states: *“We didn’t negotiate. [It was based on] trust... seriously”*

And, Shoaib agrees: “*Yes, trust*”

Kloub affirms: “*Mutual trust. He [Shoaib] believes that we want to support him and I believe that he wants to support us as well*” (March 28, 2010)

And once trust is gained, it represents a competitive advantage. Abdo Darwish, former Citi-banker who supervised the collaboration with Aramex on the development of the ***Personalized Delivery Services***, rejects any suggestions by staff at his new bank to move the business to Aramex’s competitors. Darwish asserts:

“*I said: “I’m sorry, I will go only with a trusted company: Aramex”..*” (March 28, 2010)

While confirming this trust, Jatheendranath Puthalath (Jeetu), Aramex General Manager for Express and Domestic in Dubai and former Aramex salesman who secured Citibank account and supervised ***Personalized Delivery Services*** on Aramex’s side, provides a reason:

“*They trusted us because of the flexibility of our people*” (March 30, 2010)

Unlike the rigidness that characterizes competitors’ services, service delivery, and the attitude of their staff, Aramex’s flexibility and the strategic autonomy of its staff have consistently enabled custom-tailoring the services to meet their clients’ needs and provide for their best interests, adding value to their respective businesses. Despite being a different kind of an enterprise, findings from the social innovation mini-case of Ruwwad reveal a similar emphasis on the importance of building social capital, trust and credibility with external stakeholders. Since its inception, ***Ruwwad*** has engaged in a continuous dialogue with the various stakeholders and leaders of the community of Jabal Al-Natheef in order to identify their needs, and to gain credibility and trust. Raghda Butros, Ruwwad’s former Director, recalls:

“*Other than the focus groups [that] we had, I spent time with people, a whole year. We had*

a process of engagement. [...] identifying the needs and building trust simultaneously....spending time and authentically trying to get to know the people” (March 17, 2010)

Raji Hattar, Aramex Compliance and Sustainability Officer and Ruwwad former Interim Director, asserts that:

“We needed to build trust and credibility [...] some people would come and claim that they want to fix and develop [this and that] but don’t deliver. But we were coming in to stay, to do something in the community, and to get the trust of the people. So we went to the minister of education [...] and got his approval to fix one of the schools [...] when the people saw we were not asking for anything in return and that we don’t have any candidates in the elections, we started gaining their trust” (March 23, 2010)

Highlighting **Ruwwad**’s efforts to build social capital and trust during its first four years, Samar Dudin, Ruwwad Regional Director and Head of Programs, asserts:

“The first four years were about creating unavailable services in the marginalized community [...] and building trust with the community. Building trust in the community was a very important dimension of how the services were rolled out and what kinds of programs were initiated” (March 15, 2010)

As with Aramex, building social capital and trust by **Ruwwad** is an ongoing and continuous process as Kefah Adnan, Ruwwad Community Empowerment Officer, explains:

“By 2007, we had come a long way but it was still improving. It is similar to how you would increasingly trust a friend with the passage of time and with the experiences

throughout a relationship.... how fruitful was the relationship. All of these elements build trust” (March 24, 2010)

However, the process of building trust is not an easy process, as Raghda Butros, Ruwwad former Director, affirms:

“One of the hardest but most rewarding things was building trust with the people in the community [...] because trust building entails really wanting to understand and really understanding and really engaging” (March 17, 2010).

In fact, Jabal Al-Natheef community set some conditions for **Ruwwad**. Ghandour provides one example:

“One of the conditions the kids set for us when we started this operation [Ruwwad] was that “having boys and girls in the same hall is not allowed”. But if you go now to Ruwwad you can see the boys and girls together. Why did they allow us to have girls and boys together? because they trust us... because they know we made a difference... because there is now the confidence that this is the place where “our freedom and our principals will not be challenged”... ” (March 31, 2010)

Kefah Adnan, Ruwwad Community Empowerment Officer, elaborates:

“We had a hard time regarding mixing both genders in many of our activities due to the nature of the local community as a closed [conservative] Eastern society. As an institution we paid extra attention to respecting Eastern values such as in terms of behavior or clothing, we would give immediate feedback” (March 24, 2010)

According to Adnan, two factors underlie the many suspicions held by the community members of Jabal Al-Natheef as well as **Ruwwad**'s continued trust building difficulties in 2007, two years after its inception. These are the funding sources and the underlying motivation for funding:

“Most of the people who work in the library are from the local community. Also the young woman who works with me, who was just here, is from the local community. But that is not enough to build trust. What’s important is who gave the money, the one who is funding... what does he want? That is the big question [...] I feel one of the reasons for our success is that our funding comes from the private sector. This is a very good thing. Maybe it was strange initially, it raised many suspicions but now it has become well-accepted [It would be rejected] if we get funding from USAID [...] we have a [Palestinian] refugee camp here and also there are many religious people in the community who wouldn’t want to work with anything related to USAID [which is perceived to be related to Israel]” (March 24, 2010)

Two headmistresses of one of the schools renovated by **Ruwwad** in Jabal Al-Natheef narrate how Aramex gained their trust. On the one hand, Buthaina asserts:

“They [Ruwwad] are committed to the school. When we ask for something they don’t come and investigate: why? and where? It is clear to them. If we ask for renovations, they come and do them. If we need prizes for the students, they provide us with them. There is trust” (April 5, 2010)

While Wassila concurs:

“You feel they are here to work. They have a great will to come and help out. They are willing to cooperate” (April 5, 2010)

Nevertheless, despite the best of intentions and efforts, building social capital, trust and credibility can fail in some instances. Kefah Adnan, **Ruwwad** Community Empowerment Officer, provides an example stemming from renovations that Aramex provided to some homes in the community that were far from safe or healthy for inhabitants:

“Because the houses are too old, you renovate today but after a couple of months they get ruined again and you get blamed for it. So instead of gaining trust, you end up losing it”
(March 24, 2010)

Mayssoun Barhouma, Labor Office Representative of the Ministry of Labor at **Ruwwad**, provides an example of the loss of trust that resulted from Ruwwad divesting its service-oriented, non-developmental programs:

“Previously, the relationship between the community members and Ruwwad exhibited very high levels of trust because there were certain services such as direct assistance. When you give someone direct assistance you gain people [...] but suddenly if that assistance is not there anymore and you want to do development instead, you want to provide work opportunities....some aspects of the relationship deteriorates” (March 24, 2010)

Dudin, Ruwwad Regional Director, reminds of the solid foundation that was created due to the trust built with the community and highlights its critical role for **Ruwwad** in the future:

“Now, we are focusing a lot on Jabal al Natheef’s vertical development, the depth of it. Since, it is important that we retain that sense of trust with our constituency. It is important

that we leverage it to achieve the impact we would like to see in the future [...] Initially, our transaction with them [community stakeholders] was building trust, communication, spreading our name in the area” (March 15, 2010)

Raghda Butros, **Ruwwad** former Director, points out that trust is not unidirectional but rather bidirectional:

“It is a very mutual process. It is not only that I had to gain their trust, they also had to gain mine. It is a mutual process. It is an ongoing process, a never ending process, but it is a key element” (March 17, 2010)

Butros further asserts that this process was particularly difficult with the youth beneficiaries of the educational fund:

“[The students] did many tricks. The process of trust building with the students was one of the hardest processes since their initial intentions were to take advantage of us [...] they thought they will take the money and leave” (March 17, 2010)

Butros explains that the above represented a main challenge for the educational fund. This prompted Ruwwad to reassess the criteria for granting the scholarships and to monitor more closely the use of the funds granted as well as the performance of the youth beneficiaries at their respective colleges and universities. This reassessment and fine-tuning process took many months that extended a few months after Samar Dudin was appointed as Ruwwad Regional Director and Head of Programs in 2009. Several fine-tuning measures were undertaken. For example, to facilitate monitoring of the beneficiaries’ studies, memoranda of understanding were signed between Ruwwad and many universities and colleges according to which these educational institutions commit to providing Ruwwad with performance reports of enrolled

students who are beneficiaries of Ruwwad's educational fund. Beneficiaries are made aware of these agreements during the scholarship granting process.

The mini-cases I studied here are only a few among many examples of the learning, continuous improvements and innovations at Aramex. However, the federal structure mini-case is distinct from all other innovations at Aramex, including the other four mini-cases studied. Based on the research findings, the federal structure is an important tool that further embeds and sustains Aramex's culture of empowerment. It is also an important component of the comprehensive system that enables dynamic capabilities building at Aramex and the generation of innovations. The federal structure is the main platform from which innovations emerge. The natural prevalence of an entrepreneurial culture at Aramex during its formation stage was followed by purposeful and conscious effort to retain and embed a culture of empowerment within the larger and more professionalized Aramex during its other evolution stages. This entailed a careful development, selection and implementation of strategies, structure, capabilities and human resource policies throughout these stages. In the subsection below I provide my research findings for the co-evolution of Aramex's strategies, structure, capabilities and services.

6.4 Co-evolution of Aramex's Strategy, Structure, Capabilities and Services

During its formation stage as a start-up, Aramex devoted most of its efforts to ensuring its survival by providing outsourcing services for American couriers that didn't have any presence in the Arab world. Yet, Aramex's strategy was to build its own brand, as Ghandour asserts:

"We started with the concept of establishing our own company to be an outsourcing arm ...and building our own brand" (March 22, 2010)

However, as the much larger and complex Aramex ventured into its second decade of existence in the early 1990's, the need for a well-articulated strategy and structure increasingly became evident. Hence, in the 1992 document, Ghandour went to great lengths to provide a nuanced and an articulate analysis of the global and regional context, the main competitors and the tools that would enable Aramex to compete with these competitors and succeed. Ghandour's vision of Aramex that he articulated in this document took four hours to present at that year's annual meeting. Ghandour recalls:

"I told people at Aramex: "this is what we're going to look like, this is our culture, this is our organizational structure". It was the original blueprint of me stating ... to my managers and my leaders what I would like us to become [...] This company is a result of that document, if you want to talk planning. I said: "this is how we want to look"... and it took fifteen years. This is the only document in this company we stuck to" (March 31, 2010)

The overall strategy of Aramex is formulated based on customer centricity, as Ghandour emphasizes:

"Customer centricity means you have to do things where the client is. You can't wait for

Fadi Ghandour who is in the central office to ask him any questions when it relates to how you formulate your [local] strategies...” (March 22, 2010)

Despite this autonomy regarding local strategies, the formulation of Aramex’s overall strategy is a collaborative exercise that engaged staff from across Aramex. For example, in six leaders’ retreats in 2005, more than 200 Aramex leaders were engaged in re-assessing and devising Aramex’s vision, core values, purpose, mission and strategy. The results from these six retreats were compiled and communicated to all leaders at Aramex. Among the many results, I list a few below.

The leaders of Aramex perceived the following as Aramex’s purpose:

“To provide and innovate logistics solutions for the needs of businesses and individuals’

“To constantly enhance the supply chain”

“To become a consultant for innovation, implementation and growth”

“Enabling and facilitating regional and global trade and commerce”

In terms of Aramex’s mission:

“To be recognized as the 5th global logistics express and transportation service provider by 2008”

“To be Asia’s largest supply chain provider by 2008”

“To operate the largest trucking network in the region by 2008”

“To reduce our customers’ logistics costs by 10%”

Based on the core values, purpose and mission, an overall strategy was formulated that addressed the following seven dimensions: 1) geography; 2) people; 3) technology; 4) products/operations; 5) brand/marketing; 6) alliances; and, 7) financial performance. Tasks identified within these dimensions were then assigned to specific managers to follow-up on and build related capabilities and initiate the targeted areas and business lines. It is interesting to note that since this strategy exercise was conducted in 2005, Aramex has achieved almost all of its intended strategic objectives. Among these are the two innovation mini-cases studied here of *Third Party Logistics* and *Personalized Delivery Services* as well as the *Segmentation Project* of the *Federal Structure* mini-case discussed in this thesis.

A main strategy that Aramex adopted in its formation stage and during most of its professionalization stage is to provide outsourcing services to companies that did not have any presence in the Middle East such as Burlington Northern, Emery and Airborne. Between 1987 and 1996, FedEx alone was the source of 30% of Aramex's revenues. Ghandour explains:

"We started with the concept of establishing our own company to be an outsourcing arm ...and building our own brand..." (March 22, 2010)

Through providing outsourcing services, an external mechanism of dynamic capabilities building, Aramex gained most of its basic technical knowledge of the courier business. By serving as the outsourcing arm of Airborne in particular, and being part of its alliance, Aramex benefited from its high exposure to Airborne's business and gained even more intricate technical details of the business. I provide further details and supporting evidence when I address strategic alliances and networks below. During its diversification & global expansion stage and

consolidation stage respectively, Aramex further developed this strategy and external mechanism of ‘providing outsourcing services’ into the distinct capabilities of **‘Third Party Logistics’** and **‘Personalized Delivery Services’**, two of the mini-cases under study. With regards to **Third Party Logistics** in the fashion industry, Mazen Kloub, Aramex Logistics Operations Manager who has since been promoted to Regional Supply Chain Manager - GCC, explains:

“Our client Majid Al-Futtaim had a distribution hub in the Netherlands and they used to ship from everywhere in the world to that hub [...] what we did is that everything started coming here instead of passing through the Netherlands [...] We integrated our systems with those of the client through a shared data base [...] So, now we offer them a comprehensive solution where they have a center where all resources are centralized which made it easier [for them] to manage, faster and less costly” (March 28, 2010)

With regards to **Third Party Logistics** in general, Abed Shaheen, Managing Director of InfoFort (a fully owned subsidiary of Aramex) and Aramex former Regional Supply Chain Solutions Manager, recalls:

“We started with an empty [warehousing] facility. We had a few clients [...] then we saw this [Third Party Logistics] opportunity in the market. We started building our systems [...] our IT systems were all developed in-house. It was all our internal innovation. We looked at the gaps that the clients had with the other service providers, and we were able to get the right tools and the right systems to develop them internally, to better serve our clients” (March 29, 2010)

As for **Personalized Delivery Services**, Mohammed Hamdan, Aramex Global Delivery Solutions Manager, explains:

“The banks were interested in removing this service from their daily activities by outsourcing it to someone else who would meet their requirements [...] their main concern is that, whether it is a credit card, cheque book, or an automatic teller machine card, it should be delivered to the designated person [...] The banks are benefiting a lot from this service because they reduce the number of visitors to the branches [...] it has massive savings for the banks. So, this is one of the ways that we add value to our clients’ businesses” (March 25, 2010)

By providing these outsourcing services, Aramex was able to learn and gain knowledge through technology transfer as well as to develop industry-specific capabilities. However, providing outsourcing services have their challenges. In the case of **Third Party Logistics** for Majid Al-Futtaim Fashion (MAFF), Mazen Kloub, Aramex Regional Supply Chain Manager - GCC, explains:

“The main challenge was the knowledge transfer. [It] was very difficult because there was a huge amount of data to handle in a short time. The learning curve technically started from zero and needed to reach an acceptable level in a very short period of time [...] The warehouse management system was capable [of handling generic logistics requirements]. But the fashion business in particular is different. We had to re-configure many parts of the warehouse management system to make it capable of handling these particular [fashion industry] requirements” (March 28, 2010)

Kloub also highlights the role of a Mexx-appointed consultant in facilitating parts of the process:

“Majid Al-Futtaim got a consultant [Mike] from Mexx who had the vision to replicate the same concept of the distribution center here. He developed the documents [...] He gave us his recommendations” (March 28, 2010)

However, despite the advantage of the consultant’s knowledge and expertise, the processes of learning and capabilities building remained as huge challenges, as Kloub explains:

“When we first started we didn’t know general figures, for example, when you calculate capacities. While if you ask me now to process 100,000 pieces I can tell you how many people you need depending on the value-added services, because now I have the time standards. While before I didn’t have the time standards, I didn’t know. So, he [Mike] used to tell us that this would take you that many people and that would take you that much time. We took these for granted. However, when we first started the operation, we were way beyond the time standards which he gave us. The reason is that these standards were for people who were mature in the industry [...] it took us time to learn” (March 28, 2010)

More critically, the capabilities built through providing the outsourcing services gave rise to some defining opportunities. Aramex was able to move from providing a warehousing service to designing and delivering comprehensive value-chain solutions of its Third Party Logistics and Personalized Delivery Services. In the case of **Third Party Logistics** in general, Abed Shaheen explains:

“It was a strategic shift. We shifted from storage into supply-chain solutions. With regards to storage, you take the goods from the clients and just store them. [When] they tell us they want a pallet or a box we give it to them. In the supply-chain solutions, in contrast, you think about the whole value chain. [You assess how to] create value across the whole chain [...] to ensure that your client sells more” (March 29, 2010)

Specifically with regards to **Third Party Logistics** for Majid Al-Futtaim Fashion (MAFF), Mazen Kloub, Aramex Regional Supply Chain Manager - GCC, asserts that:

“Nobody has done such a solution here in this region. Initially, there was very high risk for the client because it hasn’t been done here before” (March 28, 2010)

Hussein Hachem, Aramex CEO for Middle East and Africa, explains how **Third Party Logistics** has come to include an initial consulting role and highlights the potential of rolling this evolved service across the region:

“Now we’re doing consultancy. For example, for Al Naghi [a large business group in Saudi Arabia] we’re sending a team of three to meet with them and to come up with a document that will show them the value we could add [to their business]. Once they see the value, they’ll say: “OK, we will adopt this model”...” (March 29, 2010)

Similarly, Mohammed Hamdan, Aramex Global Delivery Solutions Manager, asserts that **Personalized Delivery Services** have transcended providing a service to designing and developing solutions that add value to the business processes of the banks they serve:

“We get involved with the process of the bank itself whereby we study what they are doing and we provide suggestions to change some processes that would [in turn] improve the service that we provide to the client [...] We consult for our clients for free. I am an industrial engineer and a process engineer. That is why I was the one dealing with the clients with regards to the processes [...] this is how we have gained high loyalty from the clients [...] we provide them with a comprehensive solution” (March 25, 2010)

Another main strategy and an external mechanism that Aramex used to punch above its weight throughout the five stages of its evolution is strategic alliances and networks. These alliances served the following three purposes: 1) extend Aramex’s market reach; 2) facilitate Aramex’s operations; and, 3) facilitate knowledge transfer and learning of sector-specific technical knowledge. During the formation stage, Aramex partnered with many small and medium-sized organizations across the Arab world and beyond. These alliances served the first two purposes above. Referring to an early partner in Egypt and others in the Gulf States, Ghandour provides a glimpse of these Arab world alliances:

“We bought him [Aramex’s partner in Egypt] out eventually...we outgrew him.. we became a corporation [...] but the original people who worked with us, as our partners, in different parts of the Gulf were small and medium sized companies that were willing to do business with us... we were like a [makeshift] shop in the early days...” (March 22, 2010)

Beyond the Arab world, its strategic alliance with Airborne in particular was defining for Aramex in more than one dimension. First, the significance of its alliance with Airborne with

regards to facilitating Aramex's operations cannot be overstated, as Ghandour explains:

“A key milestone in our history is when we convinced Airborne to provide us with their tracking and tracing system which was called ‘FOCUS’. Key.... Because that brought us, first of all, email before anyone has heard of email in the Arab world or in the developing world. Second, it brought us the ability to have a shipment management system that is automated, that is connected globally, and that is in real-time. We didn’t have to spend money. Airborne gave us their technology free of charge because we were delivering their packages and they wanted visibility of the packages. So, we ended up using it for our own packages traveling within our own system. Transformational [...] Our landscape changed. We became a global company right then and there because of the availability of ‘FOCUS’. That’s the day when the fax machine became obsolete for Aramex” (March 31, 2010)

Second, the alliance with Airborne enabled Aramex to learn the intricacies of the courier business and to gain many critical skills. In particular, the information technology skills that Aramex gained through technology transfer from its exposure and use of Airborne's tracking and tracing system 'FOCUS' provided it with a template from which it was later able to develop its own web-based tracking and tracing system 'InfoAxis', as Ghandour points out:

“From there on [after using FOCUS], eventually the internet came up [and] we built our own system” (March 31, 2010)

“It [the technology of Aramex's tracking and tracing system] is not off the shelf. It is a core competency for us. We have not outsourced that at all. Everything that we've done is based on our experience with other companies that we've worked with, and then we built

our own system that is different from theirs. Web-based, cheaper to use, no legacy systems’ (March 7, 2010)

As pointed earlier, despite their benefits, alliances do not come without their own share of disadvantages. Ghandour uses Aramex’s alliance with Airborne to explain:

“Airborne restricted our growth. It was a paradox of course. They helped us tremendously but at the same time they would say: “Why do you have a station in Hong Kong? Why do you have a station in New York?” We had to... I spent a very long time balancing a very important client and a partner, and an alliance partner, between our ambition to grow in areas they were in, while maintaining their happiness...I spent a lot of time cajoling Airborne, while they were cursing me [...] I was maneuvering, heck a lot of maneuvering. Airborne was an interesting challenge, a paradox [...] when Airborne was acquired by DHL, by the way, Aramex was celebrating. Imagine when your biggest client exits you celebrate [...] the big brother vanished, suddenly the ceiling above our heads was removed. So, we looked up and saw the sky. We didn’t see it before” (March 31, 2010)

Beyond the opportunity to expand geographically, Airborne’s exit in 2004 created the critical opportunity for Aramex to regroup the Overseas Express Carriers (OEC) network. Created in 1990, this network was led by Airborne and used its tracking and tracing system ‘FOCUS’. In a meeting that he called in London, Fadi Ghandour was able to convince most of the original forty alliance members to regroup in an Aramex-led alliance, Global Distribution Alliance (GDA). Instead of Airborne’s FOCUS, the GDA alliance would use Aramex’s ‘InfoAxis’ tracking and

tracing system and the Amman Aramex station in Jordan as the back office for the operations of the various alliance members (Appendix III).

Even though **Ruwwad** is a very different kind of enterprise, the findings similarly show that forming a network of various entities and stakeholders was fundamental for Ruwwad in its dynamic capabilities building efforts. In fact, Ruwwad relies heavily on its network partners to design, develop and implement its development-oriented programs. These network partners hail from the public and private sectors, civil society and most importantly from the targeted community of Jabal Al-Natheef. Samar Dudin, Ruwwad Regional Director and Head of Programs, asserts that the Ruwwad model is premised on:

“Building multi-layered partnerships between the government, civil society, private sector, different activists, and entrepreneurs in different areas” (March 15, 2010)

While highlighting the main objectives of **Ruwwad**, Dudin articulates its partnership with the local community and its dynamics:

“As an organization, I am here to evolve with the community, to partner with the community, to think with the community, to find solutions with the community, and to empower through education and through a youth-centric model [given that the youth represent] the most vibrant part of this community” (March 22, 2010)

“The partnership with the different community players was rolled out through the services available [including] the partnership with the youth [...] So, when you look at our strategic objectives, you will find that we are out there to develop Ruwwad’s ecosystem” (March 15, 2010)

Raji Hattar, Aramex Chief Compliance and Sustainability Officer and Ruwwad former Interim Director, clarifies the rationale behind the **Ruwwad**'s network-based model:

“As Ruwwad we believe we need to partner with other stakeholders because we have limited knowledge of [specific areas]. When we worked with Anna Lindh Foundation to set-up the kids’ libraries, the Anna Lindh Foundation had the knowledge and the know-how [...] and, we could do the implementation. Although we have some know-how, we are not up to the level of such an NGO. When we worked with the Royal Film Commission, they have the know-how in film-making while we don’t have this knowledge. So, we believe when we work with NGOs, that it is something that complements what we have [...].. complementarity [...] This is the beauty of the ecosystem. You have a partner who has partners who are already your partners. It is a mutual benefit. It is not that I am only benefiting from my ecosystem, I benefit, someone is benefiting from me, and we are both benefiting a 3rd person” (March 24, 2010)

Besides the Anna Lindh Foundation which he refers to as a key partner, Hattar mentions some of the other stakeholders in **Ruwwad**'s network that are critical for the child development program and particularly with regards to the libraries' project:

“Jordan River Foundation, we’ve worked with them on a few things [besides the Libraries’ project]. They remain a partner with us. [...] The Amman Municipality, we work with them for Al Balad theatre [...] We are also working with the Royal Film Commission and the Jordanian Library Foundation” (March 24, 2010)

Among many other network partners that include the labor office of the Ministry of Labor at **Ruwwad**, Dudin mentions the legal aid office that provides pro-bono legal services to the community:

“Ali Al Zubi legal aid center [...] in the beginning they used to only do consultations. They would advise the person what to do. Now, because of the number of cases they receive, they are also doing representation. So they actually go out of their way to represent for free” (March 15, 2010)

Hattar elaborates further on the advantages of **Ruwwad**’s network and also mentions the Global Distribution Alliance (GDA), Aramex’s alliance network:

“We share partners [and] we share knowledge, and it is a mutual benefit for everyone. It creates strength. Since, on your own, as an NGO, you have a limited level of strength. But, when you have partners, your strength goes way beyond everything else. Even at Aramex this is what we do. We partner. We don’t have offices across the network [or] across the world. We have partners all over. We are running a network: the GDA. It gives us the strength and gives us the reach to Vietnam, Uganda, where we would have never reached unless we had partnered there” (March 24, 2010)

In discussing the process of building **Ruwwad**’s network with Jabal Al-Natheef’s community and its importance, Dudin asserts:

“The ecosystem is being developed, since we see it as a community organizing process to identify the constituencies in the community to create a consistent dialogue with them, to negotiate shared interests and values and to empower youth to become recognized change agents. And by that I mean that youth and the process of participation are central

to all discourse and dialogue we have conducted so far with our community stakeholders'
(March 15, 2010)

In discussing how **Ruwwad** leverages its network of stakeholders to build capabilities, Dudin explains:

"The third program is community empowerment that focuses on creating social services through partnerships' (March 15, 2010)

Dudin also highlights the important role of **Ruwwad**'s network stakeholders in empowering the community's youth and building their capabilities. She provides several examples:

"We also created a very small communication module, since the youth wanted a better understanding and training of communications. [They wanted to know more about] how to present, what communication is, what active listening is [...] We also created several other efforts related to digital literacy with an initiative called 7iber.com, they are bloggers. And now, we chose a group of them [stakeholders] to work through an initiative called Global Change Makers on identifying communication tools that might help the youth in areas related to advocacy. For example, radio journalism with "radio Al Balad", "Interruptions", and "Ta'aleeleh". We are collaborating with all these entrepreneurs who have those initiatives that are related to giving youths a voice"
(March 15, 2010)

"Part of the programs is to work on transformational learning [...] it's an eye opener. For example, we did a workshop in the youth enrichment program called "preparatory

workshop to employ child literature as a tool for learning”, and we worked a lot on the visual literacy. And we got them a leading photographer [...] for two days she talked to them about photography and about how the stimulation created by photography differs from that created by the print [...] We also had a personal and social growth workshop, so we got [...] a leading creative arts therapist, [...] a leading voice therapist, [...] and someone who associates sports and body with the visual arts. In the workshops, we try to introduce alternative means and alternative methods ... [and through] Inquiry-based learning that focuses more on critical thinking and the ability to reflect, meta-cognition”
(March 15, 2010)

Dudin emphasizes the learning experiences and the sustainability impact of building the capabilities of the youth that its network of stakeholders provides:

“We create shared experiences. Our staff and the youth go through these transformational learning experiences to enhance their community service. So in terms of sustainability and social enterprise, they keep asking me, how did you create the long-term sustainability? I tell them that if we need to employ people to do the work we do here in the Foundation [Ruwwad] we will need four times the number of employees that we have now. But because we capitalize a lot not only on making the youth central in this process of providing the services [and] implementing the programs but also on being part of the learning that takes place, as they become more interested in the community service. So, the students who work in the library, for example, have gone through several workshops to enhance their community service in the library. Students who work in sports have gone through a [similar] process...” (March 15, 2010)

The adoption of the ***Federal Structure*** marked the beginning of Aramex's professionalization stage, including its two main follow-up projects: ***Reengineering*** (during the professionalization stage) and ***Segmentation*** (during the diversification & global expansion stage). The ***Federal Structure*** is a major example of innovation, learning and continuous improvements at Aramex. The findings show that the federal structure as the empowerment platform from which all innovations at Aramex emerge. It forms a major component of the comprehensive dynamic capabilities building system and a tool through which the other internal mechanisms are leveraged and implemented towards building capabilities and generating innovations. Hussein Hachem affirms:

“[The federal structure] is the source of entrepreneurship, and the source of innovation and creativity. Since, the structure itself will enable these [...] that is where the knowledge base is. The model keeps us going. That is why people stay [at Aramex], because it is interesting. It is not boring” (March 29, 2010)

However, Aramex neither addressed the issue of an organizational structure nor selected this particular structure during its formation stage. Ghandour clarifies:

“At the beginning we were a small entrepreneurial company, we had no idea what an organizational structure meant” (March 22, 2010)

In the mid of 1980's Aramex hired a seasoned and experienced team of freight forwarding experts who had lost their jobs due to the divestment of Trans Mediterranean Airlines (TMA), a Lebanese freight forwarding company. When this team of seasoned personnel joined Aramex,

the need arose to search for an organizational structure that would ensure keeping bureaucracy at a minimum level in order to encourage autonomy, broaden decision-making powers and empowerment, all core values of Aramex's corporate culture. Ghandour recalls:

"Being a young entrepreneur starting a company like mine and bringing in some people with more experience... could have been part of the reason [of opting for a federal structure]. My brain was continuously thinking of how to manage people with experience. How do you make sure that they work properly, leverage their capabilities with the least restraints possible, without losing control at the same time [...] because for years, it didn't make sense to me...I could not come up with a traditional [hierarchical] structure....fill in the boxes' (March 22, 2010)

In search for an answer, Ghandour embarked on a 'reading' journey. Among the many business journals and books he read, Ghandour stumbled on two readings that significantly influenced his thinking with regards to the organizational structure that would best fit Aramex: the HBR federalist article by Charles Handy (1992) and Tom Peter's book 'Thriving on Chaos' (1987). Ghandour recalls:

"It was a revelation [...] everything fell into place after that [...] We started understanding what it means [...] you create your own structure the way you feel it works for you. That's when we said the federation fits, since you're global and local at the same time, you empower people, you put decisions at the front line. All this made sense"
(March 22, 2010)

This new understanding was reflected in Ghandour's 1992 document, as the following excerpt reflects:

"We are a flat organization where every manager is involved with his front liners. Our top management is the same. We are not in the army, yet we are all soldiers in direct contact with the field where the battle is fought"

"The flat organization allows us to react faster to change, and to take and change decisions faster. It keeps us in touch with the market and gives our people confidence in, and accessibility to, the decision making process"

Ghandour's 1992 document initiated and sustained extensive discussions within Aramex regarding its organizational structure, corporate strategy and culture, among others. Continuous discussions over the period of several months led to the agreement on and adoption of a federal structure in its initial version. Besides hiring the Trans Mediterranean Airlines (TMA) team, two other factors seem to have pushed towards the adoption of this federal structure. Both factors are linked to macro-level elements within the Arab world institutional set-ups and hence contribute to the examples of the macro-micro interplay advanced in this thesis. The first of these factors is the lack of capital and the financial constraints that Aramex continuously found itself burdened with due to its regional growth and expansion needs. Hussein Hachem explains:

"The federal corporate structure fell into place. I don't think we could have managed better, because we never had the proper financial resources or the layers and layers to control everybody. So we allowed it to be a free-flow, because that model was the best

model to suit a company like us [...] Who would do what we did? We opened [the office in Kuwait] with zero capital” (March 29, 2010)

The second macro-level factor that favored the adoption of the **Federal Structure** is the exogenous shocks of wars and conflicts. More specifically, the continuous wars and conflicts in the Arab world has created a generation of resilient young men and women who were struggling to survive and who were hungry to succeed in order to improve their own circumstances and living standards as well as those of their families. Hussein Hachem states:

“The environment I come from is a very hard-working environment where you have to really work hard and get things done. At least there [in Kuwait], I wasn’t being shot at [as in Lebanon]. So, if it takes me to work to prove myself, then yes [I will do it]. On a personal level, I was very hungry to prove myself and to work hard. Not only me, all the generation that was at Aramex at that time was in the same boat. Plus, Aramex gave me the opportunity to work in that federal system and do trials and errors.” (March 29, 2010)

The elements of the **Federal Structure** of empowerment and the flexibility to experiment emerge as highly significant, particularly given their absence within hierarchically structured organizations, as Fadi Ghandour asserts:

“Globally, companies were restructuring. [For example] IBM had problems because it was very bureaucratic....So, as companies were struggling to restructure and to become flexible and empowered, we actually built the organization on empowerment from day one” (March 22, 2010)

The benchmarking that the above quotation reveals represents an integral part of a continuous learning process. Ghandour recalls:

“I started benchmarking and reading about what was happening with others and looking at ourselves. Everything I read was always in my mind, something that I would learn, so that I could compare with what we were doing” (March 22, 2010)

In attempts to answer the question of how the ***Federal Structure*** enables autonomy, broader decision-making powers, empowerment and innovation, we need to look at its various features. Ghandour asserts that it is much more than a flat structure. In fact, possibly one of its most foundational features is the simultaneous decentralization and centralization. While likening it with the European Union, Ghandour explains:

“The federal structure has a basis [...] of subsidiarity” (March 22, 2010)

After our meeting on March 22, 2010, Ghandour sent me an email with a link to the following Wikipedia definition of Subsidiarity¹²⁴:

“Subsidiarity is an organizing principle stating that matters ought to be handled by the smallest, lowest, or least centralized competent authority. The Oxford English Dictionary defines subsidiarity as the idea that a central authority should have a subsidiary function, performing only those tasks which cannot be performed effectively at a more immediate or local level. The concept is applicable in the fields of government, political science, cybernetics, management, military (Mission Command) and, metaphorically, in the

¹²⁴ Subsidiarity, Wikipedia, website accessed on June 20, 2012, <http://en.wikipedia.org/wiki/Subsidiarity>

distribution of software module responsibilities in object-oriented programming.

Subsidiarity is, ideally or in principle, one of the features of federalism, where it asserts the rights of the parts over the whole.”

Raji Hattar, Aramex Chief Compliance and Sustainability Officer and Ruwwad former Interim Director, asserts that the ***Federal Structure*** entailed registering separate and independent business entities in the various countries where Aramex operates:

“We are a federation, meaning: Aramex in Palestine is registered in Palestine. Aramex in Syria is registered in Syria” (March 23, 2010)

Registering a completely independent Aramex company in each country differs from registering a subsidiary in each country of the mother company Aramex that is registered, for example, in Jordan or in the United Arab Emirates.

The ***Federal Structure*** also entails flexibility, decision at the front line, autonomy and empowerment. Ghandour highlights how these elements do not only present a best fit with Aramex’s customer-centric strategy but also facilitate it:

“Decision at the front, which means that anything that has to do with people and clients cannot be done except at the front end. So, you hire, you fire, and you manage your client relationships from where you are. You’re totally empowered. You are a local CEO. You are a local Fadi Ghandour in your market. This is what the back office will do for you. But at the end of the day you are responsible. You are the manager” (March 22, 2010)

Asma Zein, Aramex Regional Manager for Lebanon and West Africa, provides supporting evidence at the country level:

“I have the freedom to take major decisions [...] I can make any business deals on the market level and no one asks me “why?” or “how?”. I can bid for business, they [the regional management] do not tell me that you need an authorization or that you need someone to allow for this. For example, I did a large bid for P&G and [another] for the British American Tobacco. No one interfered. Their [the regional management’s] job was just to help me to get better rates from the head office [...] No one interfered [in the specifics], they were there to support, to just give me flexibility on the rates. I took another charter last month from China to Dubai: these were the ballot boxes for the Iraqi government for the elections...” (March 16, 2010)

Providing supporting evidence at the regional level, Hussein Hachem, Aramex CEO for the Middle East and Africa, asserts:

“In my region, there is a regional team that looks at the region: there’s sales, technology, delivery solutions, call centers, this will look at the requirements of the region, and then come up with decentralized solutions which we move forward with” (March 29, 2010)

Yet, these features of autonomy, flexibility, broad decision-making powers and empowerment are hardly limited to the management staff. Ghandour provides evidence at the individual level by emphasizing the link between Aramex’s customer-centricity strategy and the importance of a bureaucracy-free Aramex that is based on broader decision-making powers including to the frontline staff:

“We have no time to wait for bureaucracy to go back and forth, when [...] there is competition on the ground. I am sitting with a customer. I need to take a decision right now. Am I going to gain him? He will tell me [that] he has an offer from someone else. I need a decision. All this is pushed to the front end” (March 22, 2010)

Highlighting the back office role of the center in Amman and the support it provides to the subsidiaries including in IT, Osama Fattaleh, former COO of Aramex, explains:

“Behind the front end or the front line of what the customer sees, there’s a whole set of back office processes that enable this, making sure that the information is available to the people that serve the customers on the spot, without going back and referring back to them or to anybody else” (March 9, 2010)

Ghandour confirms:

“And all the technology was based on this fact. We want to minimize [our role at the center]. We will be the ultimate in success when we are completely not felt as a center [...] This is always paradoxical because you want to do two conflicting things at the same time: you want to be centralized, and you want to be decentralized at the same time” (March 22, 2010)

Several interviewees mentioned that there are continuous debates at Aramex to ensure the best leveraging of the advantages of federal structure’s centralization and decentralization. Beyond identifying which specific areas to centralize and which to decentralize, these debates address degrees of centralization and decentralization based on macro-level factors within the various

institutional environments as well as the micro-level elements and newly developed capabilities and skills within Aramex. These debates reflect Aramex's efforts to direct and optimize the macro-micro interplay to achieve the best results possible within the challenging contexts it operates in, a strategy that seems to have delivered its objectives. Ghandour provides some examples of the centralized elements at Aramex. These include the brand and the...:

"Buying power: We buy kilos from airlines. So, if I negotiate with British Airways as a company and I tell them I have a million kilos a year [...] it is different from having Aramex in London negotiate alone" (March 22, 2010)

Despite the above mentioned advantages, the paradoxical centralization-decentralization relationship creates daily challenges, as Osama Fattaleh asserts:

"The federal system is a very painful process that delivers wonders. [It creates] a lot of pain in our day-to-day lives. There is empowerment but at the same time you need to systemize it...with flexibility" (March 9, 2010)

And this is where the technology has its greatest impact, as Ghandour clarifies:

"Technology is the ultimate enabler of decentralized organizations [...] we were able to create technologies at very low cost that enabled us to virtually be wherever we want to be without having to build this massive technology infrastructure. [...] It created the great leap forward. Which means [that] you can actually be centralized and decentralized at the same time, which is solving a paradox of subsidiarity" (March 22, 2010)

Yet, this is neither a tension-free process nor does it fully resolve the centralization decentralization paradoxical relationship as the following anecdote that Hussein Hachem provides:

“IT [Information Technology] is a facilitator. They [Aramex central office in Amman] can’t impose on me technology and software that do not fit our model. Here is our entrepreneurship: When we faced resistance, and IT [IT department at the center in Amman] refused, we went underground and developed our own technology without telling anyone about it. We kept it [to ourselves]. When they knew about it, [our response was]: “it’s ok, we got it and this is how we’re going to do it”. Then after a year of fighting, they acknowledged that what we’ve done is good. They took the system and installed it [at the center]” (March 29, 2010)

Although it presents an extreme case, this anecdote represents, as Hachem rightly points out, a clear reflection of the empowerment, corporate entrepreneurship, and autonomy within Aramex. More specifically, the internal limitations and challenges imposed by the IT department at the center in Amman did not deter the regional office of Aramex in the United Arab Emirates from pursuing the opportunity of the **Third Party Logistics** in the fashion industry that they foresaw, envisioned and later developed into a lucrative business line: a comprehensive consulting and supply chain solutions.

Emphasizing the critical role of information technology to Aramex’s federal structure, Jumana Husseini, former Consultant with Andersen Consulting and a team member of its 1993/1994 **Reengineering Project**, explains for this first improvement of the **Federal Structure**:

“Automation was a huge challenge...” (March 10, 2010)

Commissioning this **Reengineering Project** to Andersen Consulting in 1993/1994 represents an uncommon event for Aramex, as Fattaleh clarifies:

“We rarely use consultants. And, when we use consultants we drive the discussion with them. And that’s how the whole unique [...] proposition came about” (March 9, 2010)

This driving of the discussion enabled this project, despite its initial objective of formulating an IT strategy, to result in the “unique proposition” of creating the one-stop-shop model of industry-specialized teams. Significantly, this project restructured the Aramex operations and internal processes and aligned them with the federal structure. This first improvement of the **Federal Structure** further institutionalized its various elements and core values across Aramex and enabled their reach to and implementation by the frontline staff. Ghandour clarifies:

“[It] basically created the ultimate continuation of the federal structure” (March 22, 2010)

Jumana Hussein elaborates on the strong fit that this one-stop-shop model presented with all the Aramex components including its strategy, corporate culture and federal structure:

“The more we analyzed it, the more we found an amazing fit with the vision and the mission. Moreover, we found an amazing fit with the Aramex culture [and structure] because it allows Aramex to grow in an organic way, based on the natural way Aramex grew [...] You put people in a small unit and then they grow [...] so this team is a complete unit of Aramex [which is] totally empowered” (March 10, 2010)

Ghandour explains in detail how this first ***Federal Structure*** improvement of the one-stop-shop model that is team-based and industry-specialized interweaves all the various Aramex components together and leverages their respective advantages:

“[The] one-stop-shop created a team-based organization. It actually re-enforced the continuous cellular federal structure [...] we created small mini-Aramexes in every team. [It represents] a continuation of the federation, a federation within a federation. Even in the station, even in a country, we created a mini federal structure by creating these teams and empowering them to do everything for the client. All of it revolving around customer-centricity. So we wanted each team focusing on an industry segment, to actually do everything for that industry, completely. So you are empowered, you own that segment and do everything” (March 22, 2010)

Yet besides the ‘automation’ challenges, another one arose as Osama Fattaleh, former COO of Aramex, asserts:

“So, there was a whole change management. Meaning: the one with the title of salesman express became a team member selling all of the proposition and doing not only a sales process, but also a collection process, a customer service process, invoicing process, some marketing, all combined in one team. The one who held the title of sales manager became a team leader” (March 9, 2010)

Ala Shaban, former Andersen Consulting team member, explains:

“The team building and the culture [i.e. implementation] was a huge challenge. Someone who has always been a manager, now what has he become? He only has 4-5 employees

reporting to him. He used to have 30 or 40 people reporting to him and he used to have a budget and now he has to do team building and his target is only with the customer [...] people initially resisted big time. We even went into incentives. All of this was with Jumana: how to distribute the revenue across the team. That was a big challenge as well” (March 11, 2010)

Jumana Husseini elaborates:

“As for the compensation, [...] we said the incentive scheme should be done on the basis of profit-sharing for the team. In this way, whatever the team sells, the team member will take a percentage of. So, the team member will feel he is in control of his earnings [...] He may not be able to control his salary but he is able to control the percentage [by selling more as a team]” (March 10, 2010)

As Jumana Husseini explains, this profit-sharing scheme made team-members more selective with regards to who the other team members were and to their performance, since the performance of the team as a whole determines the earnings of each member.

Aramex’s culture of empowerment with its ingrained core values of strategic autonomy, low bureaucracy, informality, diversity, respect for others’ opinions and ideas, and teamwork enabled Aramex to successfully implement this major improvement and prosper. Based on changes in the market and in customer needs that occurred during the next decade, Aramex felt the need to implement a second major improvement to its ***Federal Structure***. In 2009/2010, it commissioned Peppers and Rogers Consulting to develop and implement a ***Segmentation Project***. Iyad Kamal,

Aramex COO, explains:

“What we did was re-segmentation [...] because we are starting to offer supply chain solutions [...] the clients not only would want us to do shipping for them but also warehousing and distribution. And, since the value of that business is very big we came up with the supply chain solution system. Another example that we came up with is a service delivery team. We are very specialized with banking for example, credit cards, this is a very specialized business. So we came up with a team that is specialized in that and we offered this across the whole region” (March 14, 2010)

This segmentation was based on several criteria as Iyad Kamal, Aramex COO, writes in an email on September 8, 2010:

“Customers were segmented based on value, potential and need” (September 8, 2010)

This project resulted in defining four new client segments and aligning some internal processes to meet their specific needs. Two of these are the specific ‘supply-chain solutions’ and ‘delivery solutions’ business lines that Aramex innovated and developed. These respectively correspond with ***Third Party Logistics*** and ***Personalized Delivery Services***.

Exemplifying the macro-micro interplay, this second major ***Federal Structure*** improvement enables Aramex to provide the consulting services and custom-tailor solutions to its existing and potential clients. Osama Fattaleh, former COO of Aramex, explains:

‘So, the segmentation is longer industry-based only. We created higher end segment [...] we created a team that offers supply-chain solutions and another for delivery solutions

[...] the people who would manage [these solutions are] highly technical in processes, in EDI [Electronic Data Interchange] technology” (March 9, 2010)

Iyad Kamal, Aramex COO, writes in an email that the other two segments are:

“[an] 3. Industry Solutions Segment: Customers that move goods within and across geographies, and require direct support and expertise for custom clearance for the smooth transportation of goods being imported/exported; [and, a] 4. Business Solutions Segment: Small business or branch offices that send ad-hoc shipments that need standard servicing” (September 8, 2010)

One key element of the ***Federal Structure*** is trust. It is the glue that binds it together. Among many other documents, trust is listed in both the annual presentations of the years 1997 and 1998. In the latter, Ghandour sounds the alarm bells and focuses on innovation and trust. On one of the slides, Ghandour highlights its criticality by writing: “Alarm Bells TOGETHER IN TRUST”. More importantly, “TRUST”, is the only one word-concept that Ghandour lists in a very large font on its own on one slide that is headed with a federation title.

This emphasis on trust as an integral element of the ***Federal Structure*** and corporate culture has become widely acknowledged and deeply-ingrained within Aramex. In a 2005 leaders’ retreat meeting, all the leaders’ teams listed trust as a core value and/or as a key element of the federation. Some of these teams’ statements include:

“We are a trust-based system”

“Trust-based system”

“...treated equally, with dignity and trust”

“Value our people, trust them and respect them”

“Trust and confidence”

However, trust is not just a word that is listed under core values on Aramex’s website or on slides in annual meeting presentations. Instead, trust is a value that is deeply ingrained within the culture and is religiously practiced both with external stakeholders and internally within the organization. Hussein Hachem explains the critical role of trust within the comprehensive system that was built at Aramex that enables empowerment, strategic autonomy and the low bureaucracy environment. Hachem asserts that:

“[The federal structure] is a trust-based system.. big time... to be very frank...I manage the people, but everyone has the full freedom to go out and work. We don’t micro-manage. We don’t have the time and resources to micromanage” (March 29, 2010)

Besides the profit-sharing system implemented in the reengineering project already mentioned for the team leaders and members, Aramex has the incentive of stock options for its managerial staff. However, what seems to be the most rewarding at Aramex is the benefit of working in a flat organization that has a federal structure with low bureaucracy, high level of autonomy, and broad decision-making powers. Aramex is a flexible work place where every staff member enjoys freedom and autonomy and is encouraged to be creative and to pursue his or her ideas. As with Aramex’s culture of empowerment, this micro-level organizational environment contrasts sharply with most corporate environments of organizations in the Arab world that are characterized by being hierarchical, bureaucratic and authoritarian. Moreover, Aramex’s micro-level organizational environment also contrasts with the macro-level environment of the Arab

world's institutional contexts that are highly bureaucratic and impose a myriad of limitations and challenges on organizations as well as individuals that limit various freedoms and stifle creativity and innovation.

6.5. Discussion and Analysis

The findings of the research on the embedded case of Aramex and the five innovation mini-cases in the Arab world show that Aramex has developed, embedded and sustained a culture of empowerment and leveraged it to turn the challenges and related opportunities of the wider institutional context into competitive advantages. This culture of empowerment has been created and continues to be embedded and supported by a democratic and non-authoritarian leader and management team. Ghandour and his management team have used structure and strategy sets throughout Aramex's five stages of evolution to further embed this unique culture and sustain it. These organizational features also constitute core elements of a comprehensive dynamic capabilities building system from which innovations at Aramex emerge and concatenate.

While this overarching culture of empowerment emerges as the main internal mechanism for dynamic capabilities building, social capital and trust emerge as its main external mechanism, partly reflected in Aramex and Ruwwad's membership and leadership within their networks and ecosystems. Aramex leverages these informal cognitive institutions to maneuver Arab world's challenging contexts, enabling it to survive, thrive and even innovate. Guided by the external and internal mechanisms of dynamic capabilities building aggregated in Table 3.20, I construct Table 6.2 below to provide a visual representation of the emergence of the external mechanisms and the internal mechanisms in the five innovation mini-cases studied. I use large black dots in the table to reflect the emergence of social capital as the most salient external mechanism and culture of empowerment as the most salient internal mechanism. I also use shading to reflect 'soft' elements that are interwoven in the various features and components of the five mini-cases.

In Table 6.2., I use the following abbreviations for the mini-cases: FS for the *Federal*

Structure; SnS for *Shop and Ship*; PDS for *Personalized Delivery Services*; 3PL for *Third Party Logistics*; and, RW for *Ruwwad*. In the table, I also use an asterisk for empowerment and social capital to highlight them as two external mechanisms that emerged in the research that were not identified in the literature.

Table 6.2 Emergence of the External and Internal Mechanisms in the Five Mini-Cases

#	<u>External Mechanisms</u>	FS	SnS	PDS	3PL	RW
1	Governance and institutional environments: Weak	•	•			•
2	Providing Outsourcing Services			•	•	
3	Networks and Strategic Alliances					•
4	Empowerment*	•				•
5	Social Capital*	•	•	•	•	•
#	<u>Internal Mechanisms</u>	FS	SnS	PDS	3PL	RW
1	Culture of Empowerment	•	•	•	•	•
	Organizational Culture, loyalty	•	•	•	•	•
	Managerial Mindset/Strategy/Vision	•				•
	Federal Structure/decision-making powers	•	•	•	•	
2	Social Capital/Internal Networks					
3	Young Local Staff & Management/training/reallocation	•	•	•	•	•
4	Organizational Learning, Problem-Solving and Continuous Improvements/Kaizen → Innovation					

* Elements that emerged in the research that were not identified in the literature

All the internal mechanisms seem to be components of a comprehensive dynamic capabilities building system that promotes organizational learning, continuous improvements, Kaizen and the generation of innovations. Besides being an internal mechanism, learning and Kaizen constitute an intermediary stage in Aramex's comprehensive system that leads to innovation in the development of new services and the evolution of existing ones. The system's

components are infused with social capital and trust and driven by Aramex's culture of empowerment.

This comprehensive dynamic capabilities building system seems to have two types of components: core and supporting. As Table 6.2 shows, culture of empowerment is a core component of the system which is composed of: 1) a non-authoritarian and democratic managerial mindset, vision and strategy; 2) an organizational culture that promotes corporate entrepreneurship, broad decision-making, creativity and innovation; and, 3) a federal structure that ensures flexibility and agility. As such the system could be presented as a comprehensive empowerment system since both its core and supporting components promote empowerment. As mentioned, Aramex's non-authoritarian managerial mindset and leadership style emerges as the most critical component of the system since it seems to underlie the use and building of the other system components. This contrasts with the authoritarian and paternalistic mindset and leadership style that is prevalent in Arab world's organizational and wider national institutional contexts.

This core system component reflects the defining effect of the agency of actors who possess a non-authoritarian mindset and leadership style in shaping Aramex, its vision and mission, organizational structure, corporate culture and strategy and hence its operations and performance. The results show Fadi Ghandour, Aramex's founder and CEO, as the initial source of this agency. But more importantly, the empirical findings reveal that, through the use of various mechanisms and diverse new capabilities, Ghandour has been able to bring out and mobilize the agency of staff and management at Aramex. This agency of actors is reflected in the high levels of empowerment prevalent at Aramex which differentiate it from other organizations in the Arab world.

Aramex's non-authoritarian managerial mindset and leadership style helps reinforce participatory management and broaden decision-making powers. A major mechanism used to diffuse these elements within the organization is Aramex's corporate culture that supports and rewards openness, informal employee relations, trust, corporate social responsibility, corporate entrepreneurship, creativity and innovation. Similar to the non-authoritarian managerial mindset and leadership style, this corporate culture is at odds with the Arab world's stifling institutional context and is also uncommon among its organizations, distinguishing Aramex from other Arab world organizations.

The third core component is the federal structure that plays a foundational role in institutionalizing empowerment and corporate entrepreneurship as a holistic innovation philosophy within Aramex. As with the managerial mindset and leadership style and the corporate culture of empowerment, the federal structure represents an exception in the Arab world. Almost all organizations that operate in the region are organized according to the traditional hierarchical structure. More often than not, the rigid pre-defined roles and responsibilities of the hierarchical structure stifle rather than encourage creativity and innovation. These characteristics contrast with the dynamic and pragmatic organizational style adopted within Aramex's structure.

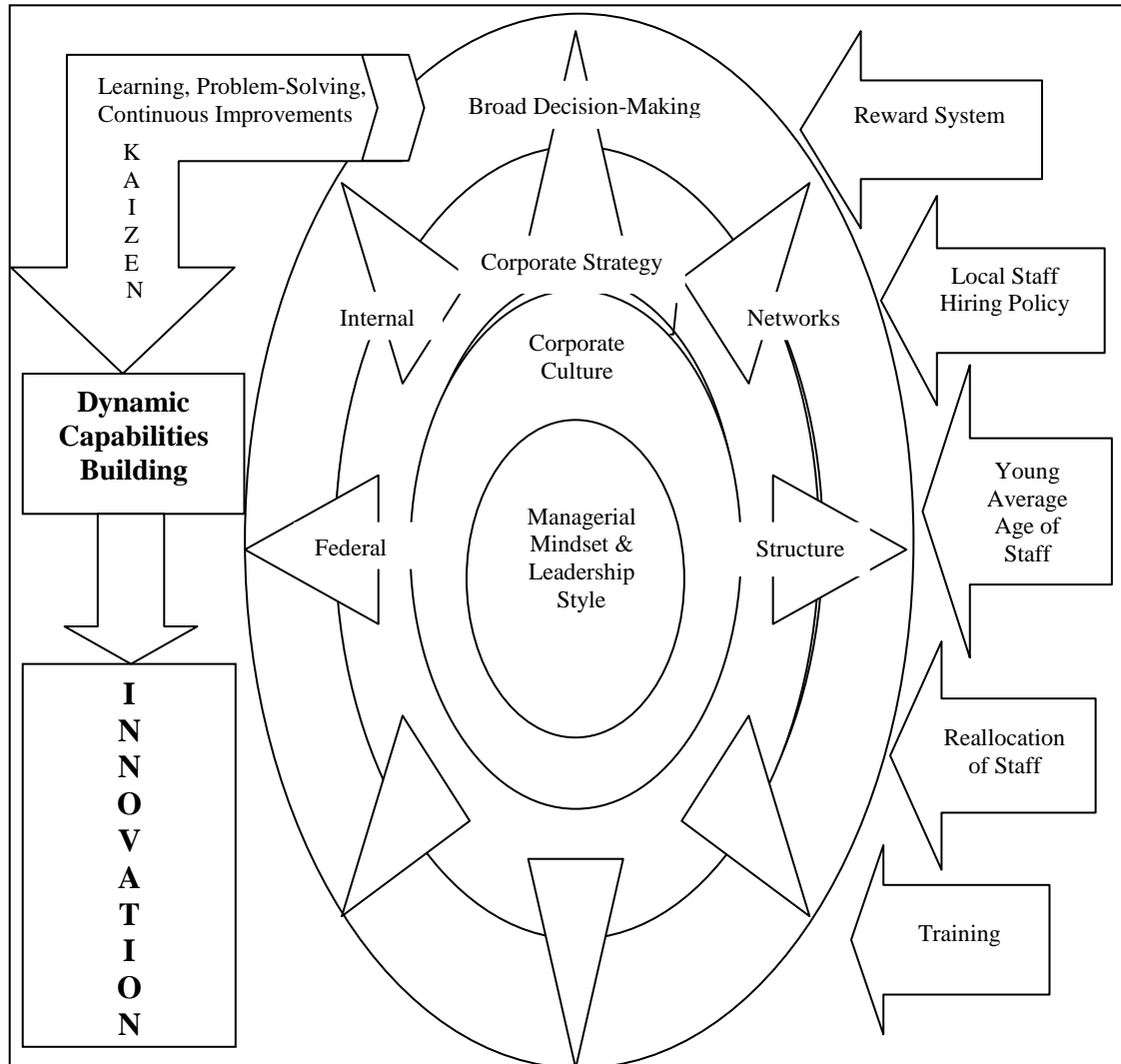
As the findings in this chapter indicate, other system components include collectively formulated corporate strategy, broad decision-making powers and a profit sharing reward system that contrast with those adopted by organizations in the Arab world. In fact, the findings reveal that the components of Aramex's comprehensive system not only contrast with features prevalent within the Arab world's contexts and organizations but also with those of Aramex's foreign competitors, such as DHL and FedEx, that operate in the Arab world. As the quotations

demonstrate, these system components render Aramex more agile and responsive to clients' needs, enabling it to gain social capital and competitive advantage over its foreign competitors.

Among other supporting internal mechanisms that distinguish Aramex from its foreign competitors in the Arab world is the policy of hiring young local staff and management, training them and reallocating them within Aramex and between Aramex, Ruwwad and other Aramex-related entities such as InfoFort. Findings indicate that the core and supporting internal mechanisms are interlinked and intertwined complementary elements of this comprehensive system with learning and Kaizen, social capital and empowerment intricately interwoven and ingrained within the system's components.

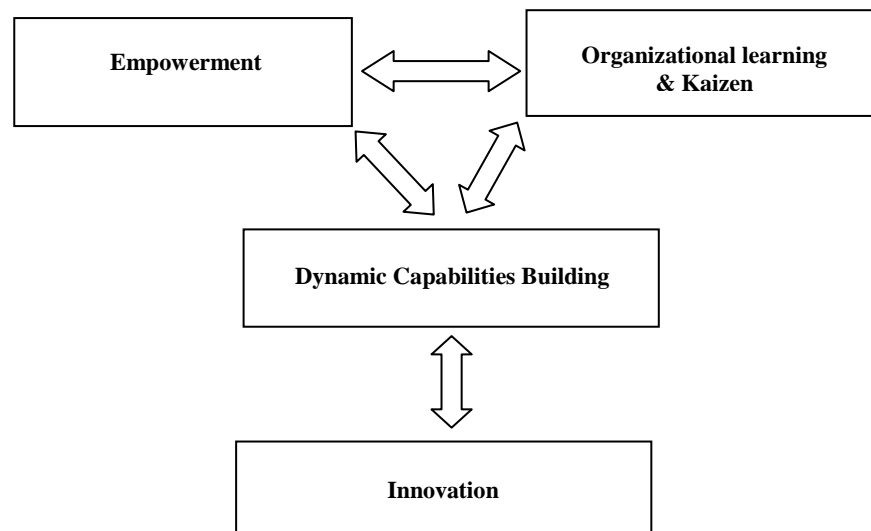
I construct Figure 6.6 below to depict Aramex's comprehensive dynamic capabilities building system and the dynamics between its core and supporting components.

Figure 6.6 Comprehensive Dynamic Capabilities Building System



Findings from my research of the five innovation mini-cases seem to reveal four stages that result in developing innovations: 1) empowerment; 2) organizational learning and Kaizen; 3) dynamic capabilities building; and, 4) innovations. These stages do not progress in one direction. Rather, there are two-way interactions between these stages. In Figure 6.7 below, I construct a model that depicts the four innovation development stages and their dynamics.

Figure 6.7 Innovation Development Stages



While the five mini-cases of the Federal Structure, Shop and Ship, Personalized Delivery Services, Third Party Logistics, and Ruwwad are examples of the fourth stage of the model, I construct Table 6.3 below that provides a specific example of a capability built by each of the internal mechanisms of Aramex’s comprehensive dynamic capabilities (or empowerment) system.

Table 6.3 Examples of Capabilities Built by Aramex's Comprehensive System

<u>Internal Mechanisms</u>	Capability	Quote Providing Example
Social Capital*	-Building trust with internal stakeholders	-Ensuring safety, travel and accommodation of staff during Iraqi invasion of Kuwait (Hachem)
Empowerment**	-Comprehensive empowerment system	-Complementarities of various components (Fattaleh)
Managerial Mindset and Leadership Style	-Filtered down from Founder and CEO to all staff at Aramex	-Building Third Party Logistics business line (Shaheen)
Corporate Strategy/Vision	-Formulated collectively	-Leaders' meetings (document)
Corporate Culture	-Informal, diversity, respect for other opinions, promotes creativity	-No sectarian discrimination or conflicts in Lebanon office (Zein)
Federal Organizational Structure (FS)	-Overcomes physical, logistical, legal and cultural limitations	-Sensitive to egos of individuals, binds them as one team (Tannir)
Teams/ Internal Employee Networks (main feature of the FS)	-Team-based model	-One-stop-shop (Husseini) -Segmentation (Kamal)
Broader Decision-Making (main feature of the FS)	-Filter down and institutionalize broad decision making powers	-Federal Structure, one-stop-shop (Ghandour, Husseini)
Reward System (main feature of the FS)	-Profit-sharing	- One-stop-shop (Husseini)
Young Staff and Management	-Flexibility, creativity	-MAFF Third party logistics (Shaheen)
Local Staff and Management Hiring Policy	-Leverage local knowledge, know-how, skills and contacts	-Hiring from Jabal Al-Natheef for Ruwwad (Butros)
Training	-Build general and product-specific skills	-Training after Ruwwad's transitional stage (Dudin)
Reallocation of Staff and Management	-Transfer built skills and leverage them to develop new services	-From Third Party Logistics at Aramex to InfoFort (Shaheen)
Organizational Learning, Problem-Solving and Continuous Improvements/Kaizen → Innovation	-Development of new services -Evolution of existing services	-Personalized Delivery Services (Hamdan, Jeetu) -MAFF Third Party Logistics (Kloub)

The capabilities that are listed in the table above represent micro-level responses to the macro-level challenges that the Arab world contexts have imposed on Aramex, reflecting the macro-micro interplay and dynamics within Arab world's NSI. Given that neither decentralization nor the presence of capabilities or building them within an organization renders innovation inevitable or ensures its continuation, only few organizations possess the ability to innovate repeatedly. It is the complementarity of its organizational culture of empowerment and federal structure that makes it possible for Aramex to take advantage of many supposedly adverse events, and routinize ad hoc emergency services into continuing service offerings.

In this chapter I have presented my findings on the embedded case Aramex and the five innovation mini-cases I studied within it. In the introduction section of this chapter and in this discussion and analysis section, I have attempted to make sense of the fine-grained data collected in my research by advancing a discussion and analysis that links the findings with the strands of literature that emerged in the iterative data analysis and literature research process as relevant to the Arab world contexts. In documenting, presenting, discussing and analyzing my findings in this chapter, I have used an organizational micro-level lens.

In Chapter 7 below, I use a broader lens by approaching my findings from a macro-level of analysis. In so doing, I attempt to use my findings from the single embedded case of Aramex and the five innovation mini-cases to arrive at some generalizations that are relevant to innovation in the Arab world contexts. More specifically, I use my research findings to inductively build a grounded theory of an Arab world national system of innovation (NSI) framework that identifies its foundational constructs and macro-micro interplay, aiming to provide an understanding of innovation's macro and micro dynamics in the developing countries of the Arab world.

7. CONCLUSION

7.1 Introduction and Discussion

The focus of the NSI literature on developed and, to a lesser extent, BRIC countries limits its ability to provide a framework to understand the macro and micro-dynamics of innovation in more typical, less dynamic developing countries. I attempt to address this NSI literature gap by studying innovation in the developing countries of the Arab world. I take as a point of departure the existing innovation and NSI literatures and start with the premise that developed-country NSI's 'theorized' foundational constructs are equally relevant in developing-country contexts. Thus, I specify a priori four foundational constructs. The first three are NSI's developed-country 'theorized' constructs of 1) (formal) institutions; 2) knowledge; and, 3) learning; plus 4) social capital, derived from the national innovation and competence building system (NICS).

Given the dearth of literature on innovation and NSI in the Arab world countries, the thesis conducts an exploratory (Yin, 1994) study. It employs a purposive or theoretical sampling (Eisenhardt, 1989; Patton, 2002) methodology to select an embedded case study that represents an "example of polar types" (Eisenhardt, 1989) and an "exemplar of good practice" (Patton, 2002). This facilitates learning "a great deal about issues of central importance to the purpose of the inquiry" (Patton, 2002) that in turn enables the generation of novel theory (Eisenhardt, 1989). Since the phenomenon is a process, a retrospective longitudinal study employing a historical perspective is used to capture the dynamics of each setting (Langley, 1999). Five innovation mini-cases have been studied within the "distinct information-rich" (Patton, 2002) embedded case of Aramex, a Jordanian-founded organization that evolved into a global logistics and

transportation solutions provider that competes with DHL and Federal Express in many parts of the world.

Early observations in the field diverged from the NSI ‘theorized’ foundational constructs. These observations prompted the replacement of the pre-designed semi-structured interview guide with an unstructured interview format to conduct the field research. With the use of this unstructured format, the research question evolved into the following: *how is innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential?* This research question and the unstructured interview format enabled the collection of fine-grained data.

To make sense of this data and analyze it, I continuously iterated between the data and various theories and research streams. During this iterative process, the data and the relevant literature evolved and some ‘observed’ foundational constructs emerged related to innovation in the Arab world context, along with their related literatures and research streams. As Tables 3.4 and 3.5 show, these ‘observed’ constructs and their respective levels of analysis are the following: 1) institutions (macro-level); 2) culture of empowerment (micro-level); 3) dynamic capabilities building (micro-level); and, 4) social capital (micro-level). Integrating the research streams related to these constructs entailed substantial revision of the earlier version of the literature review that was based on developed-country NSI.

In Table 3.5, I group institutions into the following six categories: 1) R&D; 2) labor market; 3) funding sources; 4) regulations and laws; 5) competition; and, 6) governance, and compare these six categories for the developed and the Arab world-country contexts. As Table 3.5 shows, these institution categories in the Arab world countries differ markedly from those of the developed countries. In Table 3.6, I identify weak, missing and hostile institutions in the

Arab world contexts that, in most instances, create a myriad of challenges for organizations that operate in these contexts. Emerging-country literature indicates that weak governance and institutional contexts make it necessary for organizations to build specific capabilities that enable them to maneuver within their challenging contexts. The findings of the Arab world contexts presented in Chapter 6 lend support to the above insight and further indicate that organizations in the Arab world dynamically build micro-level capabilities in order to survive, thrive and innovate.

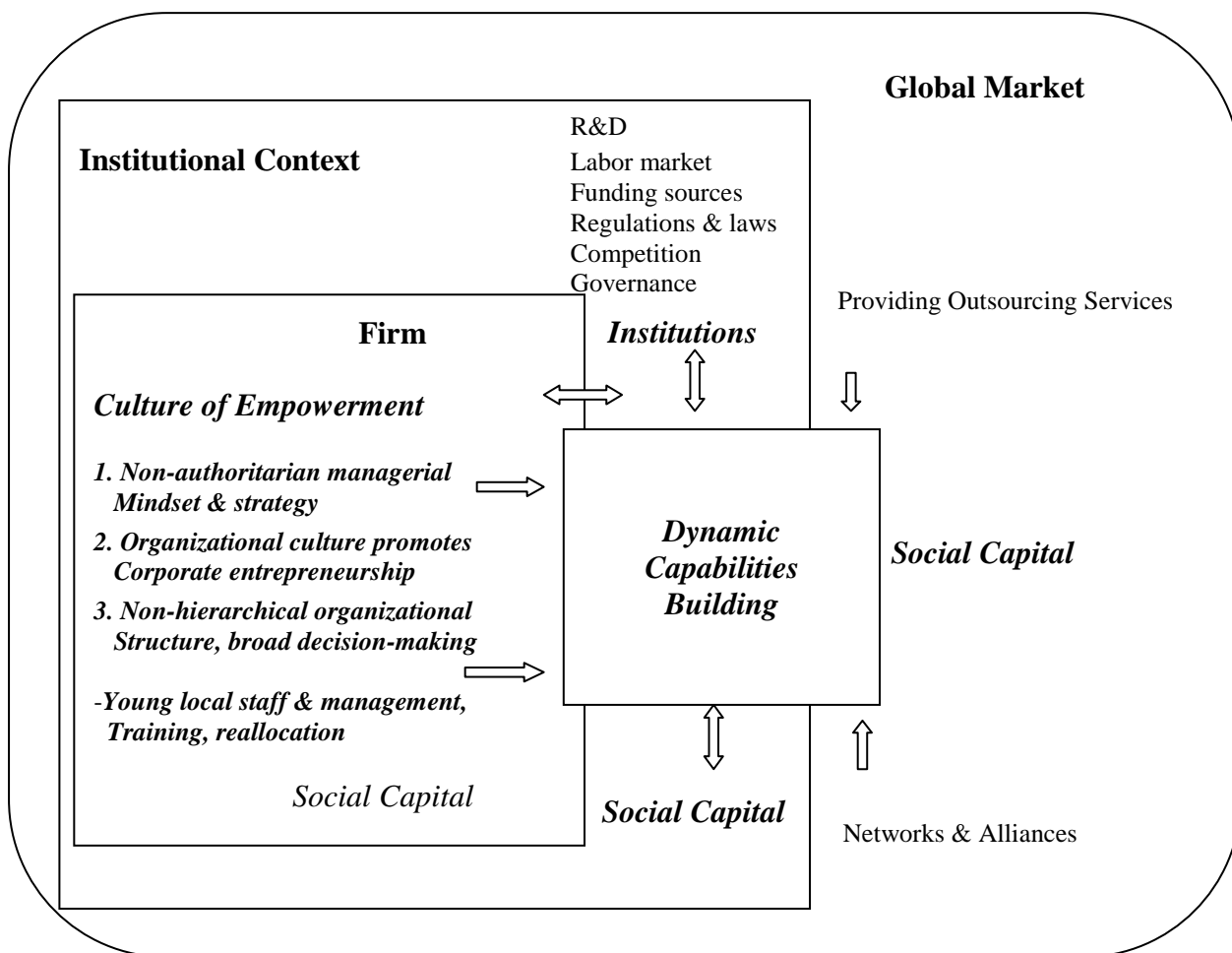
Dynamic capabilities building emerges in this research as a deliberately planned set of activities. Organizations seem to envision, design and implement several mechanisms within and beyond their borders. A review of the relevant literature reveals two types of dynamic capabilities building mechanisms: external (Table 3.16) and internal (Table 3.17) of which social capital and a culture of empowerment emerge most prominently (Table 3.20). These two mechanisms, in themselves, are turned into unique capabilities. My findings point to the culture of empowerment and social capital building as the two most critical micro-level capabilities by which organizations tackle their macro-level institutional challenges in the Arab world contexts, rendering their identification as two distinct Arab world NSI ‘observed’ foundational constructs.

Moreover, the culture of empowerment within organizations that enables them to dynamically build capabilities appears to have three core components: 1) a non-authoritarian and democratic managerial mindset, vision and strategy; 2) an organizational culture that promotes corporate entrepreneurship, strategic autonomy, creativity, diversity and broad-decision making; and, 3) a non-hierarchical organizational structure. In the mini-cases studied, critical support for these three components comes from the policy of hiring young local staff and management, training them and reallocating them across organizations. In Figure 7.1 on the next page, I

construct an Arab world NSI model that reflects the institutional and organizational level factors identified in my research. The model also attempts to depict NSI's macro-micro interplay in the Arab world.

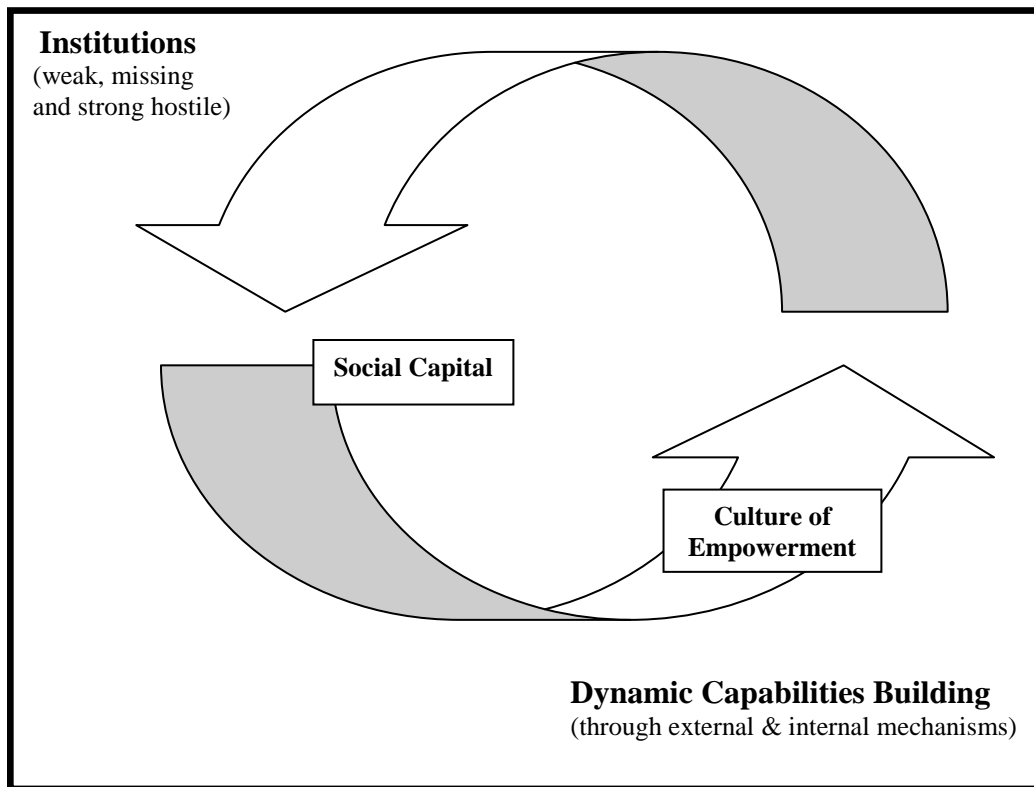
Figure 7.1 below presents the Arab world NSI model and its macro-micro interplay and dynamics.

Figure 7.1 Arab World NSI



Based on this research, I construct the model of the Arab world NSI macro-micro interplay presented in Figure 7.2 below.

Figure 7.2 Macro-Micro Interplay within Arab World's NSI



In Table 7.1 below I present some examples of this macro-micro interplay of Arab world's NSI.

Table 7.1 Examples of Arab World NSI's Macro-Micro Interplay

Institution	Encompassed Elements	Challenges/Negative Impacts	Opportunities, Mechanisms, Capabilities Built (Macro-Micro Interplay)
<i>R&D: Weak</i>	<ul style="list-style-type: none"> -Low R&D spending -Patent filings -Patent filings per million of population 	<ul style="list-style-type: none"> -Weak foundations for science-based high-technology innovations, limits innovation potential 	<ul style="list-style-type: none"> -Focus on 'hidden innovation': organizational, social and service innovations
<i>Labor Market</i>	<ul style="list-style-type: none"> -Mismatch between education system outputs & market needs 	<ul style="list-style-type: none"> -Small pool of local skilled labor 	<ul style="list-style-type: none"> -Empower local youth, train them and reallocate them within organization
<i>Funding Sources</i>	<ul style="list-style-type: none"> -Limited funding sources -Shallow capital markets -Lack of venture capital 	<ul style="list-style-type: none"> -Limits availability of capital for entrepreneurs and startups, limits innovation potential 	<ul style="list-style-type: none"> -Seek funding abroad, list on stock exchanges such as NASDAQ -Consider private equity funding -Enhance social capital, credibility & trust -Attract local talent/build great team -Develop SME business client segment
<i>Regulations & laws</i>	<ul style="list-style-type: none"> -Bureaucracy/bureaucratic procedures -Red tape, custom formalities, border complications, occupation roadblocks 	<ul style="list-style-type: none"> -Hinders proper functioning of private enterprises -Restrict organizational growth 	<ul style="list-style-type: none"> -Culture of empowerment -Develop distinct maneuvering capability -Organize as a non-hierarchical structure, e.g. federal structure
<i>Competition</i>	<ul style="list-style-type: none"> -low competitiveness, monopolies -Public post service monopolies -Postal licenses -Postal taxes 	<ul style="list-style-type: none"> -Additional costs -Restrict growth of Arab markets -Lower competitiveness of Arab markets -Restrict organizational growth 	<ul style="list-style-type: none"> -Culture of empowerment -Develop distinct maneuvering capability -Use external networks to bypass domestic monopolies and develop competitive capabilities
<i>Governance</i>	<ul style="list-style-type: none"> -Corruption -Various wars and conflicts 	<ul style="list-style-type: none"> -Disruption of normal operations/forced shutting down of businesses and offices in affected countries/cities -Additional costs 	<ul style="list-style-type: none"> -Corporate governance, build social capital, credibility and trust with external & internal stakeholders -Gain new clients -Enhance loyalty of staff -Develop new services

The findings indicate that, in this macro-micro interplay, the micro-level capabilities play the following four roles vis-à-vis the macro-level institutions: 1) fill the void created by missing institutions; 2) support weak institutions; 3) overcome hostile institutions; and, in some instances, 4) shape contexts by creating new institutions altogether. In Table 7.2, I present examples of these four roles.

Table 7.2 Four Roles of Micro-Level Capabilities vis-à-vis Macro-Level Institutions

Institution	Condition	Role of Micro-Level Capability	Examples
R&D spending	-Weak	-Support weak institution: Locate R&D labs in developed countries with strong science bases	-IrisGuard ¹²⁵ R&D lab in the UK -Hikma Pharmaceuticals Group ¹²⁶ R&D labs in Europe
	-Missing	-Fill gap of missing institution: Fill knowledge gap with social capital & trust	-MAFF awarding Third Party Logistics project to Aramex
Labor Market	-Weak	-Support weak institution: Invest in young local talent: adopt policy of hiring, training, empowering, retaining and reallocating them within organization/s	-Aramex human resource management policy -Ruwwad human resource management policy
Funding Sources	-Weak/Missing	-Support weak/fill gap/create new institution: Create local venture capital funding sources	-Riyada ¹²⁷ -Oasis 500 ¹²⁸
Regulations & Laws	-Missing laws	-Fill gap/create new institutions: Lobby government to fill gap of missing laws for delivery of services to marginalized communities	-Ruwwad lobbied government to bring essential services to Jabal Al Natheef community and creating new services
	-Hostile	-Overcome: border complications in Arab world	- Organize as a non-hierarchical structure, e.g. federal structure
Competition	-Weak	-Support/create new: Enhance competitiveness by building networks/ecosystems	-Ruwwad ecosystem -Information and Communication Technology Association of Jordan (INTAJ) ¹²⁹
	-Hostile	-Overcome monopolies by building networks/ecosystems	-Aramex GDA network
Governance	-Weak/hostile	-Support/overcome: mitigate low credibility of government by enhancing corporate governance	-Ruwwad refused to receive USAID & lobbied government for bringing services in Jabal Al-Natheef
	-Hostile	-Overcome wars and conflicts by building social capital, trust, credibility and corporate governance	-Aramex built social capital, trust & reputation with customers & staff during wars. Emergence of new services: e.g. Shop and Ship

¹²⁵ IrisGuard, website accessed on May 29, 2012, http://www.irisguard.com/pages.php?menu_id=4

¹²⁶ Hikma Pharmaceuticals Plc., website accessed on August 7, 2012, <http://www.hikma.com/en/about-hikma.aspx>

¹²⁷ Riyadh Enterprise Development, a member of The Abraaj Capital Group, website accessed on May 20, 2012, <http://www.abraaj.com/content/riyada-enterprise-development-1>

¹²⁸ Oasis 500, website accessed on August 9, 2012, <http://www.oasis500.com/>

¹²⁹ The Information and Communication Technology Association of Jordan, INTAJ, website accessed on August 7, 2012, <http://www.intaj.net/node/69>

As demonstrated by the specific examples in Table 7.2, organizations in developing countries develop micro-level capabilities that enable them not only to tackle the challenges imposed by their institutional contexts but also to turn them into opportunities for creating new services and building competitive advantages that make these organizations more competitive. The research findings thus parallel assertions by scholars focusing on the BRIC countries who maintain that organizations develop specific capabilities to perform within their own challenging markets that become a competitive advantage in new markets with challenging contexts similar to the home market. Aramex has experienced that throughout its five evolution stages including more recently while venturing into the markets of South East Asia and Africa to make acquisitions there and build a market share.

7.2 Theoretical Contributions

The thesis advances two main theoretical contributions that are closely interlinked. The first contribution relates to the scant literatures on innovation in developing-countries in general and on innovation in the developing-countries of the Arab world in particular. Apart from a growing body of literature that focuses on innovation in the BRIC countries, only a small number of studies address innovation in the developing countries. Among this small number of studies are a recent few that address innovation in the developing countries of the Arab world. But these tend to focus narrowly on social entrepreneurship¹³⁰ and social innovation¹³¹. Documenting the emergence and diffusion of social, service, and organizational innovation in the Arab world's countries builds knowledge within the scant developing-country and Arab world innovation literatures. Linking together these different innovation types in this thesis further builds knowledge in the developing-country and Arab world innovation literatures. It also extends the developing-country innovation literature beyond its current BRIC country focus.

Given that social innovation is also addressed here, the findings contribute to the embryonic Arab world social entrepreneurship literature. However, the scope of the thesis goes beyond social innovation to include two other non-science-based low- and medium-technology innovation types, namely service innovation and organizational innovation. Thus, besides building knowledge within the budding Arab world social innovation literature, the thesis extends the focus to the broader service sector. Furthermore, using the research findings to inductively build a grounded theory of an Arab world NSI creates some linkages between the

¹³⁰ Rishmawi, M. and Morris, T., 2007, Overview of Civil Society in the Arab World, Praxis Paper No. 20, accessed November 8, 2011, <http://www.intrac.org/data/files/resources/421/Praxis-Paper-20-Overview-of-Civil-Society-in-the-Arab-World.pdf>

¹³¹ Social entrepreneurship in the Middle East, 2010, A joint report by the Wolfensohn Center for Development at the Brookings Institute, The Dubai School of Government, and Silatech social enterprise in Qatar, website accessed November 8, 2011, http://www.brookings.edu/~media/Files/rc/reports/2010/04_social_entrepreneurship/04_social_entrepreneurship.pdf

different innovation types within this nascent Arab world innovation literature. The articulated Arab world NSI theory and model pave the way for future studies by potentially providing an initial platform that could be used for further exploration and testing.

The second theoretical contribution relates to the literature of the national system of innovation (NSI) and its related stream of research on the national innovation and competence building system (NICS). Inductively building a grounded theory of an Arab world NSI contributes to knowledge within the above literature based on developed and BRIC-country contexts to extend to the context of the Arab world. Knowledge is built within these literatures by defining the macro and micro foundational constructs of the Arab world's NSI of institutions, culture of empowerment, dynamic capabilities building and social capital, as well as identifying and elaborating on their encompassed elements such as strategic autonomy, corporate entrepreneurship and trust. By capturing some of the Arab world NSI's macro-micro interplay, analyzing and depicting their interwoven, interdependent and co-evolutionary nature the thesis suggests extensions to the NSI literature and NICS research stream.

In identifying the divergent Arab world NSI foundational constructs and dynamics, the thesis challenges uniform assumptions regarding the developed-country NSI's premises and its foundational constructs of (formal) institutions, knowledge and learning. Thus, it could be argued that one of the key contributions of this thesis is highlighting the need to take into account the specificities of the contexts under study. As such, the Arab world NSI theory and model proposed here could potentially provide some insights in attempts to build other developing-country NSI theories and models. The contributions provide the potential basis for comparative NSI studies between countries of the BRIC and other developing countries as well

as between developed and developing countries. Potential findings and insights from these comparative studies could further enrich the innovation, NSI and NICS literatures.

Besides these main contributions to NSI literature's fourth gap, the thesis has the potential to contribute, albeit indirectly, to NSI's other three literature gaps (Table 1.2), namely the absence of the following: 1) an agreed upon unit of analysis; 2) a broad approach that goes beyond the narrow focus on science-based high-technology innovations; and, 3) a nuanced understanding of NSI's micro-dynamics in developed-country contexts. The thesis indirectly addresses the first gap by identifying the innovation mini-cases as the unit of analysis; the second by advancing the broad innovation definition and the selection of low- and medium-technology innovations; and, the third by the alignment of the Arab world NSI's 'observed' foundational constructs with NICS's areas of social capital and competence building (discussed further below). These indirect contributions seem to indicate that the Arab world's developing-country NSI has the potential to inform even the developed-country NSI literature. Given the overlap with NICS's two areas of emphasis, NICS's related indirect contribution could be particularly promising in terms of providing some insights regarding NSI's micro-dynamics in developed countries.

Table 7.3 on the next page presents the main theoretical contributions of this thesis as well as its potential indirect contributions as they relate to NSI's four literature gaps.

Table 7.3 Main and Potential Indirect Theoretical Contributions

Gap	NSI literature Gap	Research Element	Type of Contribution	Theoretical Contributions
4 th	<i>Lack of a clear understanding of innovation's macro and micro elements in developing countries</i>	<i>Inductive building of grounded Arab world NSI theory & foundational constructs</i>	<i>Direct</i>	<i>-Developing-country innovation literature:</i> <i>-Builds knowledge within this scant literature</i> <i>-Extends it beyond its BRIC countries focus to include non-BRIC developing countries</i> <i>- Developed-country NSI literature:</i> <i>-Extends it beyond its developed and BRIC country contexts to include non-BRIC developing countries</i>
1 st	Lack of a well-defined unit of analysis	Identification of each innovation mini-case as a unit of analysis	Indirect	-Builds knowledge within NSI literature
2 nd	Lack of a broad approach that goes beyond the narrow focus on science-based high-technology innovations	Advancing a broad innovation definition & Context selection of LMT innovation mini-cases	Indirect	-Extends NSI literature to include 'hidden innovation' which encompasses the bulk of innovations that employ low- and medium technologies (LMT)
3 rd	Lack of a fine-grained articulation of innovation's micro-dynamics in developed countries	Alignment of the Arab world NSI foundational constructs with NICS areas of emphasis of social capital and competence building	Indirect	-Have the potential to provide insights to NSI's micro-dynamics in developed countries

As shown in the table above, besides social capital, another point of overlap between the Arab world's NSI and developed-country's NICS is the 'observed' foundational construct of dynamic capabilities building. This construct overlaps with NICS's emphasis on competence building. Despite receiving some attention in NICS (Lundvall, 2007; Lundvall et al., 2002),

competence building was neither identified as a NICS foundational construct nor extensively elaborated. Hence, the articulation of dynamic capabilities building within the Arab world's NSI could have the potential to inform the developed-country NICS. Social capital presents a second point of convergence between the developed-country and the Arab world's developing-country NSI models. Social capital is emphasized within NICS. Hence social capital offers the potential for the Arab world's NSI framework to inform the developed-country NSI framework.

Table 7.4 on the next page juxtaposes the foundational constructs of the Arab world NSI with those of the developed-country NSI and NICS and highlights the points of convergence and alignment (shaded) among these three models.

Table 7.4 Points of Convergence between NSI, NICS and the Arab World NSI

Models Focused on Developed Countries (and to a lesser extent on BRIC countries)		Model Focused on Developing Countries
NSI (The National System of Innovation)	NICS (The National Innovation and Competence Building System)	Arab world NSI (The Arab world National System of Innovation)
Institutions* <i>Strong, enabling</i>	Institutions* <i>Strong, enabling</i>	Institutions* <i>Missing or weak</i> <i>Strong, hostile</i>
Knowledge <i>Integral, central focus</i>	Knowledge <i>Integral, central focus</i>	
Learning <i>Integral, central focus</i>	Learning <i>Integral, central focus</i>	
	Capabilities/competence building** <i>High emphasis</i> (based on DISKO project's results)	Dynamic Capabilities building** <i>Integral, strong enabling</i>
	(Informal Cognitive Institutions) Social Capital*** <i>High emphasis</i> (based on DISKO project's results)	(Informal Cognitive Institutions) Social Capital*** <i>Integral, strong enabling</i>
		Culture of Empowerment**** <i>Integral, strong enabling</i>

* Mainly refers to formal institutions.

** Also includes the notions of resources, competencies and capabilities.

*** Also includes the notion of trust.

**** Also includes the notions of organizational culture, corporate entrepreneurship and autonomy.

Apart from the contributions to the literatures on innovation in developing countries, innovation in the Arab world, NSI and NICS, the thesis has the potential to contribute to the dynamic capabilities literature. Synthesizing the different strands of the dynamic capabilities building literature, identifying its various mechanisms, and delineating these mechanisms under the two categories of external and internal mechanisms (Chapter 3) potentially builds knowledge in the dynamic capabilities building literature. The thesis further contributes to this literature by

highlighting the applicability of the mechanisms identified in the literature within the Arab world's developing-country contexts. In so doing, the thesis extends the dynamic capabilities building literature beyond its developed and BRIC country contexts. As I discuss below, further empirical research on the internal and external mechanisms of dynamic capabilities building in the Arab world as well as in other developing countries represents a promising future research direction.

7.3 Theoretical Insights and Implications

The attempt in this research to explain *the conduct of successful innovation in the Arab world countries brought to fruition without the enabling institutions that the innovation and NSI literatures consider to be essential* has yielded some unexpected results. Most fundamentally, this thesis raises doubts on the uniformity of assumptions regarding NSI's premises and its 'theorized' foundational constructs of formal institutions, knowledge and learning as Arab world NSI's 'observed' foundational constructs of: 1) institutions; 2) culture of empowerment; 3) dynamic capabilities building; and, 4) social capital, show.

These 'different' constructs that emerged for the Arab world following an iterative data analysis and literature search reflect the context-specificity of innovation and NSI, pointing to the need for consideration of the contextual macro elements when studying innovation and NSI in various settings particularly those of developing countries, including those of the Arab world, that are characterized by weak, missing or hostile institutions (Cuervo-Cazurra & Genc, 2008; De Soto, 2000; Johnson & Lundvall, 1992; Khalidi, 1985; Khanna & Palepu, 1997; Zahra, 2011).

Linked to the above are my research results that challenge the implicit assumption that innovation would fail without the institutions considered 'essential' in the literature. Far from failing to emerge and diffuse in the absence of 'essential' institutions or when these institutions are weak or hostile (Tables 3.5 and 3.6), my research findings show that successful emergence and diffusion of innovations is possible even in the near absence of R&D spending associated with a weak science base. In addition to the possible emergence of science-based high-technology innovations, e.g. IrisGuard, through locating their R&D laboratories abroad instead of locally, thus leverage the strong science bases of developed-country contexts, the other less

acknowledged and researched innovation types emerge in the Arab world without the need to leverage the institutional contexts of developed countries. As my broad working definition reflects, these include low- and medium-technology organizational, social and service innovations, termed ‘hidden innovation’ (NESTA, 2006).

Possibly the most interesting finding of this thesis is that these different types of innovations have the potential to succeed despite the macro-level institutional voids, gaps, and hindrances (Cuervo-Cazurra & Genc, 2008; Johnson & Lundvall, 1992; Khanna & Palepu, 1997). These innovations succeed due to micro-level organizational efforts that are directed at creating, embedding, and sustaining a culture of empowerment. This organizational culture enables leveraging the informal cognitive institutions of social capital and trust and the dynamic building of micro-level capabilities needed to survive, thrive and innovate. As the examples in Tables 7.1 and 7.2 illustrate, these organizational micro-level capabilities can fill the gaps created by the missing institutions, support weak institutions, overcome hostile institutions and even, in some instances, shape the institutional context by creating new institutions, reflecting the Arab world NSI’s macro-micro interplay (Table 7.1 and Figure 7.2).

The salient emergence of the ‘soft’ elements of culture of empowerment and social capital and trust in this thesis seems to support assertions in the literature of the more central roles that informal institutions play in weak institutional contexts. In fact, the results reveal a focal role for the culture of empowerment in the Arab world contexts. As the Arab world NSI’s model exhibits (Figure 7.1), this organizational culture encompasses three core elements that contrast with those at the national and organizational levels in the Arab world, namely: 1) a non-authoritarian and democratic managerial mindset, leadership, vision and strategy; 2) a corporate culture that promotes corporate entrepreneurship, strategic autonomy, broad decision-making,

and creativity; and, 3) a non-hierarchical organizational structure that would enable agility and flexibility, that are infused with social capital and trust. The findings indicate that organizational culture in the Arab world is a resource that, if developed with and leveraged through the appropriate tools, may enable successful innovation. It remains to be seen whether the ‘Arab Spring’ events since December 2010 will lead at a national level to greater freedom, autonomy and dignity and, if so, with what consequences for the institutional context for innovation.

This main finding of a culture of empowerment is at odds with developed-country NSI’s ‘soft’ elements of knowledge and learning that appear to play less central roles than the culture of empowerment and social capital and trust in the Arab world contexts. The culture of empowerment did not seem to emerge in the literature addressing the challenges of emerging markets. By contrast, social capital and trust that are embedded in networks emerge prominently in this literature as critical elements that organizations leverage in emerging markets to tackle the challenges posed by their contexts (Bruton et al., 2007; Khanna & Palepu, 1997; Peng & Heath, 1996). Many pieces of evidence provided in Chapter 6 prove that, similar to those in the BRIC countries, Arab world organizations build and leverage social capital and trust as tools to navigate within their challenging environments and to play one or more of the roles discussed in Tables 7.1 and 7.2. For example, in contrast to some knowledge and learning arguments, many of the social and service innovation mini-case findings reveal that a dearth of specialized knowledge or skills stemming from the weak institutional Arab world contexts does not hinder collaboration. Instead, the results indicate that the informal cognitive institutions of social capital and trust fill such knowledge gaps in the Arab world contexts.

Similarly, social capital and trust emerges as an area that receives attention by the NSI scholars particularly in the latest version of the model, the national innovation and competence

building system. This overlap among the three contexts of developed, BRIC and Arab world-country contexts could potentially lead to comparative studies that contribute to the NSI literature in these three contexts. Social relations in which social capital and trust are embedded are a main feature of not only personal relationships but also business relationships in the Arab world. The examples I provide in the findings chapter on social capital both as an external and as an internal mechanism as well as the results on Ruwwad's ecosystem and Aramex's internal employee networks attest to the importance of the informal institutions in the Arab world contexts.

Although the research is an exploratory study that was initially premised on the developed-country NSI 'theorized' foundational constructs and literature, the findings provide some preliminary indications regarding several models and notions identified in the literatures related to the Arab world NSI's 'observed' foundational constructs. One such indication relates to the notion related to strategic autonomy (Lumpkin et al., 2009; Lumpkin & Dess, 1996). The research results seem to point that strategic autonomy does not originate from a flat organizational structure alone but is instead, related to the three core components of the culture of empowerment of managerial mindset, leadership and strategy, organizational culture and organizational structure (Figure 1).

Other preliminary indications of this exploratory research relate to the notions of trust, trustworthiness, the behaviorally-oriented approach to trust and the varying dimensions along which stakeholders base their trust (Barney & Hansen, 1994; Ferrell, 2004; Mayer et al., 1995; Pirson & Malhotra, 2011) in the Arab world contexts as well as to the motivational view of empowerment (Conger & Kanungo, 1988), corporate entrepreneurship that organizations could develop into a competitive advantage (Burgelman, 1983b; Burgelman, 1991; Miller, 1983;

Sundbo, 1996), and the holistic entrepreneurship philosophy of innovation (Covin & Slevin, 1991; Covin & Miles, 1999; Lassen & Nielsen, 2009; Lumpkin & Dess, 1996) that seem to be encompassed in the culture of empowerment observed in this research as an Arab world NSI foundational construct.

A related area is the resource management process model with its three strategies of resource advantage, market opportunity and entrepreneurial leveraging (Sirmon et al., 2007). The findings seem to indicate that with the increasing level of sophistication of its capabilities through its five stages of evolution, Aramex has moved from a resource advantage in its first two stages of formation and professionalization, to a market opportunity strategy in the branding & regional expansion, and consolidation stages as illustrated by the supply-chain and delivery solutions and related re-segmentation. Finally, in its current stage of diversification & global expansion that started in 2005 Aramex is increasingly adopting an entrepreneurial leveraging strategy as evidenced in combining its supply-chain capabilities with its newly developed 'owner-operator' transportation trailer model to change the trading cycle in Africa and in making acquisitions in South East Asia and Africa.

It is also possible to argue that, due to the high levels of uncertainty caused by the continuous wars and conflicts in the Arab world, Aramex has consistently used the entrepreneurial leveraging strategy to survive, and even innovate. This argument gains further validity in light of the entrepreneurial leveraging strategy's coordinating elements. These coordinating elements that include internal social capital, trust, managerial relational skills as well as technology infrastructures (Sirmon et al., 2007) represent crucial and foundational components of the culture of empowerment and Aramex's comprehensive dynamic capabilities building system that enables innovations. Given the maneuvering capability and the other micro-

level capabilities that Aramex has developed in the Arab world contexts, it would have been interesting to study the level of their success in leveraging their built capabilities in the similarly challenging markets of Africa and South East Asia with the use of the resource management process model (Sirmon et al., 2007) had I been equipped with this model, its strategies and related literature while conducting the fieldwork.

Related to the above is Aramex's role as an 'intermediary' business. As a logistics and transportation company, Aramex is a prime example of a successful intermediary business. The three service innovation mini-cases of Shop and Ship, Third Party Logistics and Personalized Delivery Services are also intermediary business lines that treated institutional voids as opportunities rather than obstacles. In addition, although neither an intermediary business nor a business line, the comprehensive dynamic capabilities building (or empowerment) system that Aramex has built could be thought of as a new way or institution and as an intermediary process within Aramex that functions as a tool to address the institutional hindrances and institutional gaps in the Arab world contexts. As discussed, the presence of capabilities or the process of building them within an organization does not render innovation inevitable or ensure its continuation. Even with the benefits of a non-hierarchical organizational structure, innovation cannot succeed without a culture of empowerment.

My findings indicate that new institutions, or to use North's definition new "rules of the game" (1990), are created within Arab world's NSI in response to the contexts of these countries that are qualitatively distinct from their developed peers. These results highlight the need to broaden the widely-adopted conception of innovation as a learning process for which institutions "create 'framework conditions' that stimulate agents within and outside the organization to engage in interactive learning" (Lundvall & Nielsen, 2007; quotations in the original). Taking

the research findings into account would entail broadening the above conception to include multi-directional processes, rather than the current unidirectional process, to create the framework conditions for learning, dynamic capabilities building and innovation.

These multi-directional processes potentially place emphasis not only on the macro-level formal institutions but also on the agency and relationships of individual actors, i.e. empowerment, as well as on the informal institutions of social capital and trust. For example, rather than continue to project actors in passive or insignificant roles, this broader conception allows highlighting the active, and even proactive, roles of various individuals. These multi-directional processes can particularly highlight the crucial roles of local actors who possess valuable local knowledge, skills and social capital. These include young and local managers and corporate entrepreneurs within Aramex that my findings revealed them as playing crucial roles in building social capital and trust and in setting the corporate culture, and hence in ensuring the organization's ability to continuously innovate. These multi-directional processes more appropriately reflect the dynamics, interplay, interdependence and co-evolution of the macro and micro contextual elements than the currently adopted conception that only accounts for a unidirectional effect of the macro-level institutions.

In line with the argument of the context-specificity of capabilities (Amit & Schoemaker, 1993; Brush & Artz, 1999; Miller & Shamsie, 1996), I argue that the interplay of the macro and micro elements, their interdependence and co-evolution in the Arab world contexts, documented and articulated in my thesis, reveal an NSI context-specificity dimension that has not thus far received its due attention. My argument also aligns with assertions related to the co-evolutions of technologies and institutions, firms and markets, as well as firms, technologies and institutions (Augier & Teece, 2009; Murmann, 2003; Teece, 2007).

This call to account for NSI's context-specificity is supported by the broad definition of innovation employed in this thesis. Besides extending the definitions advanced in the innovation literature, the working definition is sufficiently broad to transcend the limitations imposed by the narrow focus on science-based high-technology innovations. By acknowledging non-science-based low- and medium-technology (LMT) innovations, this broad definition addresses "hidden innovation" (NESTA, 2006) that have a higher probability of emerging and diffusing in contexts with weak science bases such as the developing countries. This could broaden and enrich the innovation and systems of innovation studies and literatures by enabling the inclusion of a wider range of developing countries with their diverging macro and micro elements.

7.4 Practice-Related Implications

Finally, this thesis has two practice-related implications. First, the enhanced understanding of innovation and innovation systems in the contexts of the developing countries of the Arab world may enable the envisioning, design and implementation of more relevant and effective innovation policy in these contexts. It is anticipated that this enhanced policy could reduce resource misallocation and in creating a higher performance of innovation-enabling projects. The identification of the Arab world NSI's foundational constructs and the micro-level capabilities and dynamics that enable the emergence of innovation in these challenging contexts provide insights that could prove valuable not only for Arab world policy makers but also for local and foreign organizations that operate in the Arab world.

At the national macro-level, the theoretical contributions that relate most closely to the Arab world NSI's macro-micro interplay and dynamic capabilities building can provide policy makers with a fresh perspective on innovation in the Arab world contexts. Policy makers could use these fresh innovation perspectives to assess and re-design some of the macro-level factors to create national and regional institutional set-ups that are less hostile to entrepreneurs and innovators. This can also lead to redirecting the policy focus from attempting to compete in science-based high-technology innovations to building innovative capabilities in the hidden innovations of non-science-based low- and medium-technology organizational, service and social innovations. The latter in particular, as the Ruwwad innovation mini-case shows, could prove critical in ushering in novel forms of partnerships among the three sectors to achieve the goals of sustainable community development and poverty alleviation.

Policy makers interested in launching regional innovation initiatives could also find some insights to better coordinate these initiatives from the elaborations in this thesis of the Arab

world NSI's micro-level capabilities, internal and external mechanisms that were utilized to tackle the challenges of the various Arab world contexts and the macro-micro interplay, interdependence and co-evolution. At the meso- and micro-levels, the Arab world NSI's foundational constructs and the micro-level capabilities that the research revealed could re-focus both regional and national innovation policy design and implementation on the areas and dimensions at the meso- and micro-levels with the potentially highest-impact at these levels as well as at the national and regional macro-levels.

In addition to the potential benefits that could accrue to organizations that operate in the Arab world from operating under better regional and national innovation policies, the ideas put forth in this thesis could provide these organizations with a broad view of mechanisms and tactics to better tackle the macro-level institutional challenges and to empower staff to enhance organizational performance and innovation potential.

The second practice-related implication is linked to the first. Casting more light on innovations in developing countries other than the BRIC countries creates broader awareness among developed-country venture capitalists and angel investors of opportunities beyond their traditional developed-country and BRIC country markets. These are also anticipated to provide further incentive for increasing the number of Arab venture capitalists and angel investors and re-directing a larger part of their investments back into the Arab world. In turn, these are expected to potentially increase the currently limited funding sources for entrepreneurs and start-ups in many developing countries, including those of the Arab world. As discussed in the chapter on the Arab world contexts (Chapter 2), recent developments in the Arab world, collectively known as the 'Arab Spring', have already brought about some initial changes in the dimensions discussed above. The in-depth and nuanced articulations presented in this thesis and other future

works focusing on the Arab world is anticipated to create further interest and incentives for investors to invest in the Arab world.

7.5 Research Limitations

This is an exploratory research of innovation and NSI in the Arab world contexts that studies five innovation mini-cases. One of the limitations of the research has to do with its generalizability that could be somewhat limited due to the selection of the five mini-cases from within a single organization. Another limitation arises from the thin literatures on innovation in the Arab world and developing-country NSI framework and theoretical grounding that allow for many unknowns. The guidance provided by the developed-country NSI framework and theoretical grounding has proven to be somewhat at odds with observed conditions. The missing theoretical grounding renders sense-making and data analysis more difficult.

As a result, much depends on the knowledge, research skills, analytical and interpretive abilities of the researcher, introducing the possibility that the margin of human error may be higher in this research than others for which a well-established body of literature exists. Due to the thin or missing literature, validating the theoretical grounding of the research, its findings and analysis becomes more difficult. A prime example of this limitation is the difficulty in defending the validity of the Arab world NSI ‘observed’ foundational constructs that diverged from those that are ‘theorized’ and well-established in the developed-country NSI research.

Another limitation that arises from the thin and missing relevant literatures is the general nature of the findings that fall short in addressing specific Arab world NSI related research streams, notions and models in more depth and detail as discussed in the section on theoretical insights and implications (Section 7.3). One of several other examples is Sirmon, Hitt and Ireland’s (2007) resource management process and its subprocesses (Table 3.14). Although this exploratory research provides some initial support for this model in the Arab world contexts, it lacks the detailed and in-depth findings that could yield more conclusive evidence and support

for this model in these contexts. Other examples include the behaviorally-oriented approach to trust, motivational empowerment and strategic autonomy, all important and relevant notions to this research that were identified a posteriori. As I discuss in the next section, the Arab world NSI relevant concepts and theoretical model such as these and others could provide some promising future research avenues in studying innovation and the national system of innovation in the Arab world contexts.

7.6 Future Research Directions

This exploratory study of innovation and the national innovation system in the Arab world provides a starting point for additional strands of research within the NSI and NICS literatures, strategic management and innovation. These strands address innovation and NSI in developing countries other than the BRIC countries including the developing countries of the Arab world. Studies within the NSI research stream could focus on testing the validity of ‘dynamic capabilities building’, ‘social capital’, and ‘empowerment’ as NSI foundational constructs that diverge from those commonly-acknowledged for the developed-country NSI. These ‘observed’ foundational constructs could be assessed within the context of developed countries as well as the Arab world for the non-science-based low- and medium-technology ‘hidden innovation’ types of organizational, social or service innovations.

Future studies of innovation in services in developing countries could build on the works of several scholars including de Vries (2006), Djellal and Gallouj (2005), Gallouj and Weinstein (1997), and Tether and Tajar (2008), among others. Future research could integrate the concepts of networks and communities-of-practice (Brown & Duguid, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002) as well as emerging work on collaborative communities (Adler & Heckscher, 2006). Articulating the community dimension could lead to the development of a meso-level community system of innovation focus that could address NSI’s literature gap around the micro-dynamics of innovation in developed countries.

The Arab world NSI’s two ‘observed’ constructs of social capital and dynamic capabilities building that overlap with NICS’s areas of emphasis indicate that these two constructs hold some interesting future research potential. Future research in the Arab world contexts could further benefit from the theories and studies that focus on social capital, trust,

networks and dynamic capabilities building in the BRIC countries touched upon in this thesis. Besides its potential to build knowledge within innovation research streams of other developing countries, these studies have the potential to provide valuable insights to the NCIS literature and to research focused on developed countries particularly those that possess smaller economies and weak science bases that the NICS literature already covers.

The dearth of strategic management and innovation literature on the developing countries of the Arab world and others that go beyond those of the BRIC countries presents a promising potential for future work. Individual Arab world country studies or regional comparative qualitative and/or quantitative studies could be conducted to assess and further build on the inductively built Arab world NSI grounded theory, model and the ‘observed’ foundational constructs articulated in this thesis. Alternatively, potential future studies of innovation in the Arab world could focus on one of these ‘observed’ foundational constructs by thoroughly testing it and building knowledge within its research line. These studies could extend the research streams of each of the ‘observed’ constructs further by linking its findings to those documented in the developed countries, BRIC countries or other developing countries.

A particularly interesting avenue to follow is that of dynamic capabilities building. As already mentioned, this is due to its salient results within the Arab world contexts, its related growing body of literature that focuses on the BRIC countries, and identified overlap with developed-country NICS’s area of emphasis of competence building. As subsection 3.7.3 in the literature review attests, the literature on the BRIC countries has the potential to provide some valuable insights to the developing-country and Arab world country research. Future related results in both the Arab world developing-country and the BRIC country contexts could potentially result in valuable contributions within the dynamic capabilities and competence

building literatures. Such studies need to be cautious of assuming a mechanical and direct causal relationship between dynamic capabilities and innovation since, as discussed, the presence of dynamic capabilities or the process of building them within an organization does not necessarily render innovation inevitable or ensure its continued success.

Another potential research avenue that is linked to dynamic capabilities building is related to the resource management process model advanced by Sirmon, Hitt and Ireland that this thesis touched upon briefly in the literature review (subsection 3.7.3) and in the discussion and analysis of the section that addresses the theoretical insights and implications of this chapter (Section 7.3). My exploratory research provided some initial findings that lent support to the validity of the three strategies of the model of 1) resource advantage strategy; 2) market strategy; and, 3) entrepreneurial leveraging strategy. Future studies in the Arab world and in other developing-country contexts could go beyond checking the use of the model's three strategies and the progression of the organizations within the three stages of the resource management process. These studies could conduct more in-depth research of the model's nine subprocesses (Table 3.14) and compare the findings to others in the BRIC countries as well as in more developed countries. These studies could build knowledge within the dynamic capabilities and competence building literatures as well as extending them beyond their current developed-country and BRIC country focuses.

A third interesting research avenue that this thesis uncovers is the potential to study science-based high-technology innovation cases in the Arab world such as IrisGuard that was briefly introduced in this thesis (Section 4.2). These future studies would attempt to assess how such innovations emerge despite lacking the technical expertise internally at the organizational level as well as the weak science-bases and various challenges of the wider institutional set-ups.

These studies could benefit from the findings and contributions of this thesis by linking their research, or rather assessing it in relation, to the mechanisms of dynamic capabilities building.

In the case of IrisGuard, for example, the research could focus on how the use of the external mechanism of R&D, or the outsourcing of R&D function, enabled bringing about their two science-based high-technology innovations, namely the Iris Recognition Homeland Security solution of Iris Expelle Tracking System® as well as the iBank Suite® solution. Such studies could argue that an internal R&D function as well as wider institutional set-ups that possess strong science bases might not be necessary for the emergence and diffusion of science-based high-technology innovations in the Arab world countries and other developing countries including those of the BRIC.

This thesis also paves the way for potential future research avenues that relate to innovation and NSI comparative studies. These studies could be conducted between the Arab world countries and other developing countries, the Arab world countries and the BRIC countries, as well as other developing countries and the BRIC countries. These studies could focus on the other two ‘observed’ NSI foundational constructs of social capital and empowerment. Alternatively, comparative studies could address the differences in the interplay of the macro-micro elements, their interdependence and co-evolution between the various contexts that share similar macro-level challenges. By revealing NSI context-specificities, these studies could provide some insights and build knowledge within the NSI literature. As already mentioned, focusing on social capital in these studies, particularly given the overlap of this notion Arab world’s NSI and developed-country NICS, presents an interesting intersection between the developed, BRIC and developing-country contexts that could contribute to the literatures on innovation and NSI in each of these three contexts.

In addition to the potential future research avenues suggested above concerning innovation in the Arab world and other developing countries as well as those that could make links and draw comparisons with the developed-country NSI literature, my hope is that by devoting this thesis to studying ‘hidden innovation’, that my organizational, social and service innovation mini-cases represent, that such innovations will no longer remain hidden, ignored or lacking in promise.

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APPENDICES

APPENDIX I

Research Questions

This thesis attempts to answer the following four main research questions:

At which level of analysis does the innovation process take place?

What are its critical elements?

Who are its key actors?

What are its central social processes?

Among the many other questions that I posed to interviewees are the following:

Who are the main actors involved and why them?

What are their respective roles?

What are their incentives?

How are these actors linked?

What type of interactions and interrelations do they have?

How do their interactions occur?

Are they intentionally organized?

If so, which elements/forms were used to intentionally organize these interactions?

Is the process centrally directed? If so, how is it directed and by whom?

Any encountered limitations/constraints?

What are the critical success factors?

What/who define or measure success?

APPENDIX II
Interview Recruitment Letter/Verbal Briefing

Hiba Al-Ali
Desautels Faculty of Management
McGill University
1001 Sherbrooke Street West
Montreal, Qc, H3A 1G5
Canada

Dear *Name of Company representative*,

My name is Hiba Al-Ali, and I am a PhD student at the Desautels Faculty of Management of McGill University in Montreal, Canada. For my thesis, I am currently researching non-science-based low-technology innovations in the services sector. The research attempts to understand the various interactions which take place during the innovation process, the main actors involved as well as the main factors which affect and get affected by them. I will be conducting this research under my supervisors Dr. Margaret Graham and Dr. Jan Jorgensen of McGill University.

I am very much interested to learn more about your company. In particular, I would like to learn more about your company's background, experience and innovative offerings. For example, how were the innovative offerings developed? Who and what did it take for them to be developed?

With your support and that of McGill University, I hope to present a more detailed elaboration of the various interactions that take place within the innovation process. This remains an under-developed area. Although I have gained much knowledge regarding the process of innovation from published works of innovation scholars including some empirical studies conducted of innovation in the services sector, I cannot gain a comprehensive understanding of this process without your help.

Kindly note that I am not in any way affiliated with any organization within your industry and that my only affiliation is with McGill University.

I would like to invite you to participate in this study as an interviewee. Both the time and the duration of the interview will be at your convenience. These interviews will be conducted by me at the venue which best suits you. Your participation is voluntary. This means that you can choose to decline to answer any posed questions. It also means that you can even withdraw from the research at any point you choose. You will not be compensated for participating in this research however I will be sending all participants a summary of my study once I've completed my thesis.

Kindly feel free to contact me by email at: hiba.al-ali@mail.mcgill.ca or by phone at: + 962-79-6283730 or + 1-514-449-5266 if you have any inquiries.

I would greatly appreciate your participation and look forward to hearing from you.

Best regards,

Hiba Al-Ali

APPENDIX III

Aramex Main Highlights/Critical Milestones

Year	Aramex Main Highlight/Critical Milestone	Regional Wars & Global Events		
1982	Founded in Amman by Fadi Ghandour & William Kingson	Civil War in Lebanon ¹³²	I R A N I R A Q W A R ¹³³ 1975 to 1980 1990 Iraqi invasion of Kuwait ¹³⁶ August 1990 Gulf War ¹³⁸ January 1991	1982 Lebanon War ¹³⁴
1982 – 1985	Set-up processing operations at JFK in N.Y., U.S.A. and Heathrow in London, U.K.			A R A B
1983	Moved hub from Amman, Jordan to Manama, Bahrain			I S R A E L I
1985	2 nd tier U.S. express operators (Burlington Northern, Emery and Airborne) partner with Aramex			C O N F L I C T ¹³⁵
1985	Moved hub from Manama, Bahrain to Dubai, United Arab Emirates			1 9 2 0
1985	Partnered with small regional delivery firms in the ME: Aramex created and managed its own regional network	European Union ¹³⁷ Federation discussions		T O
1987	FedEx gives its Middle East business to Aramex: 30% of Aramex's revenue comes from FedEx			D A T E
1990	Partnered with Airborne to set-up the Overseas Express Carriers (OEC) network with 40+ partners all over the world. This network relied on Airborne's tracking-and-tracing system FOCUS			
1992	Federal Structure adopted after Ghandour presents his vision for Aramex & describes federal structure at annual meeting (in a document), debate of federal structure begins			
1992-1996	Set-up offices in Paris, Hong Kong, and London			
1993/1994	Reengineering Project, design & adoption of One-Stop-Shop model			
1996	FedEx decides to grow organically in the ME – Aramex loses FedEx's business			
1996	Constrained by cash, Aramex convinces Airborne to acquire 9% for US\$ 2 million			
1996	Started building its own tracking-and-tracing system (InfoAxis) to use for its regional network – also acquires equity stakes in regional partners			

¹³² http://en.wikipedia.org/wiki/Lebanese_Civil_War accessed August 9, 2011.

¹³³ http://en.wikipedia.org/wiki/Iran%E2%80%93Iraq_War accessed August 9, 2011.

¹³⁴ http://en.wikipedia.org/wiki/1982_Lebanon_War accessed August 9, 2011.

¹³⁵ http://en.wikipedia.org/wiki/Arab%E2%80%93Israeli_conflict accessed August 9, 2011.

¹³⁶ http://en.wikipedia.org/wiki/Invasion_of_Kuwait accessed August 9, 2011.

¹³⁷ http://en.wikipedia.org/wiki/European_Union accessed August 9, 2011.

¹³⁸ http://en.wikipedia.org/wiki/Gulf_War accessed August 9, 2011.

APPENDIX III (Continued)

Aramex Main Highlights/Critical Milestones (Continued)

Year	Aramex Main Highlight/Critical Milestone	Regional Wars & Global Events		
January 1997	Still constrained by cash, Aramex eyes and gets listed on NYSE becoming 1 st (and only) Arab company to list on NASDAQ. IPO raised US\$ 7 million, of which around US\$ 2 million went to banks and lawyers			A R A B
By 2001	Aramex operates in 120 locations in 33 countries			
February 2002	De-list from NASDAQ Dubai's PE firm Abraaj Capital acquires nearly 75% of Aramex for US \$ 65 million (Kingson & Airborne exit) – Ghandour retains 25% and control of management. Deal leaves Aramex with US\$ 40 million in debt			I S R A E L I
2002 – 2003	Period of discipline & realizing efficiencies. NI more than doubled from US\$ 4 million to 10 million		I	
February 2004	As a result of Airborne being acquired by DHL, Aramex leads former OEC alliance partners under the Global Distribution Alliance (GDA), uses its own-developed InfoAxis System		R	C O N F L I C T ¹³⁹
2004	Starts providing value-added services such as warehousing, customs clearance and distribution. 25,000 sqm (+additional 75,000 sqm) in Dubai's Jabal Ali		A	
2004	Starts providing direct-to-customer services such as Shop and Ship		Q	
February 2005	Abraaj Capital exits through listing Aramex on Dubai Financial Market (DFM). IPO raised US\$ 270 million, subscribed 80 times		W	
Summer 2005	Main U.K. partner in GDA Lynx Express Ltd. Acquired by UPS		A	1920
			R ¹⁴⁰	T O
			2	D A T E
			0	
2006	Aramex acquires Irish & U.K. partner Two-Way		0	2006 Lebanon War ¹⁴¹
			3	July to August
2008	Integration with Two-Way finally leads to significant synergies – Future global expansion (specifically in U.S. & China) by acquisition ruled out due to difficult integration experience with Two-Way in U.K.		T O	Gaza War ¹⁴²
2006 – 2009	68% of revenue from ME market. Value-added services & direct-to-customer services fastest growing and higher margins		D A T E	Dec. 2008 to Jan. 2009

¹³⁹ http://en.wikipedia.org/wiki/Arab%E2%80%93Israeli_conflict accessed August 9, 2011.

¹⁴⁰ http://en.wikipedia.org/wiki/Iraq_War accessed August 9, 2011.

¹⁴¹ http://en.wikipedia.org/wiki/2006_Lebanon_War accessed August 9, 2011.

¹⁴² http://en.wikipedia.org/wiki/Gaza_War accessed August 9, 2011.

APPENDIX III (Continued)

Aramex Main Highlights/Critical Milestones (Continued)

Year	Aramex Main Highlight/Critical Milestone	Regional Wars & Global Events		
2009 - 2010	Implementation of Segmentation Project across Aramex -- as follow-up Reengineering Project implemented in 1993/1994		I R A Q	A R A B
January 2010	Consolidation of ME position by a JV agreement with Zubair Corporation to provide value-added services in Oman including a 160,000 sqm warehousing facilities			
December 2010	Aramex closes a series of strategic acquisitions and partnerships in Turkey, Malaysia, Bangladesh and Viet Nam	A R A B	W A R ¹⁴³	I S R A E L
April 2011	Aramex joins forces with MasterCard to enhance its Shop and Ship service ¹⁴⁶		2 0 0 3	E L I C O N F L I C T ¹⁴⁴
July 2011	Aramex launches the iPhone and iPad app for its Shop and Ship service ¹⁴⁷	S P R I N G ¹⁴⁵ D E C. 2010 T O D A T E		

¹⁴³ http://en.wikipedia.org/wiki/Iraq_War accessed August 9, 2011.

¹⁴⁴ http://en.wikipedia.org/wiki/Arab%E2%80%93Israeli_conflict accessed August 9, 2011.

¹⁴⁵ http://en.wikipedia.org/wiki/Arab_spring accessed October 25, 2011

¹⁴⁶ <http://www.aramex.com/news/item.aspx?id=936bbcbd-1363-4bbc-9a8f-1357d35e7586> accessed July 15, 2011

¹⁴⁷ <http://www.aramex.com/news/item.aspx?id=34039ec6-9ef6-41ea-975e-5d17b22e8e1c> accessed July 15, 2011

APPENDIX IV

Interview Guide

I. Introduction:

1. Introduce myself and my affiliation to McGill University
2. Brief the interviewee that the purpose of the research is to understand **how innovations get developed** and that I am interested in hearing his/her thoughts, views and experience regarding this topic
3. Explain to the interviewee that the interview will be conducted in a semi-informal way and that some general questions will be posed with potentially other more specific questions arising as the conversation develops
4. Explain to the interviewee that the results will be used for academic purposes only
5. Explain to the interviewee that:
 - a. The duration of the interview will be at his/her convenience
 - b. The interviewee can decline to answer any question and also to end the interview at any point he/she chooses
 - c. The researcher will abide by the confidentiality choices of the interviewee with regards to tape-recording the interview, keeping his/her identity anonymous and to being quoted in the thesis report
 - d. The data will only be used by the researcher to develop her thesis and possibly for articles in academic journals.
 - e. The data will be stored in a safe place where only the researcher has access to.
 - f. The interviewee's participation is voluntary and that he/she will not be compensated.However, the researcher will send him/her a summary of the thesis once completed.
6. Ask the interviewee if he/she agrees to tape-recording the interview and also if he/she agrees to be identified in this research and to be quoted.
7. Give the interviewee the *Informed Consent: Agreement to be Interviewed* form (Appendix III) and ask him/her to read it carefully and to feel free to inquire about any point which he/she feels is unclear
8. Once the interviewee is clear on its contents, ask him/her to make the confidentiality choices, write his/her name and the date and sign the Agreement.
9. Once the interviewee signs the Agreement, the researcher will then sign it

II. Broad Guiding Questions:

Let us start talking about (.....give name of the innovation):

1. What can you tell me about it?
2. What is/was your role?
3. Who are the main actor/s involved and why them?
4. What are their respective roles?
5. What are their incentives?
6. How are these actors linked?
7. What type of interactions and interrelations do they have?
8. How do their interactions occur?
9. Are their interactions intentionally organized?
10. Which elements/forms were used to intentionally organize the actors' interactions?
11. Is the process (centrally) directed?
12. How is it directed and by who?
13. Any encountered limitations/constraints?
14. What are the critical success factors?
15. Any final comments, specific issues regarding this specific innovation you want to add?

APPENDIX V

Agreement to Conduct Research

Researcher: Hiba Al-Ali, PhD Candidate, Desautels Faculty of Management – Montreal, Canada

Contact Information: +1-514-449-5266, + 962-79-6283730

Supervisors: Dr. Margaret Graham Email: margaret.graham@mcgill.ca
Dr. Jan Jorgensen Email: jan.jorgensen@mcgill.ca

Purpose of Research: This research aims to explore the various interactions which take place during the innovation process particularly for non-science-based low technology innovations in services. The research will attempt to identify the main actors involved in the innovation process and their respective interactions as well as the main factors which affect and get affected by them. The data collected will be used to develop a thesis dissertation and also possibly to write academic journal articles. A summary of the thesis, once finalized, will be sent to all participants.

What does it entail: As part of this research, I will ask questions related to developing innovations/innovative offerings for academic purposes only: writing a thesis dissertation and scholarly articles in academic journals. The issues treated by the research are directed to the construction of general theoretical statements. They will not relate in any way to any ideologically or politically sensitive issues at the level of the organization, industry, or country where the organization is located. The data will be collected through direct observations, interviews and reviewing relevant documents and other records.

McGill University is committed to the ethical conduct of research: studies involving interviews require written consent of participants. The consent of the relevant entity within which participants will be interviewed will also be solicited. The relevant entity will consent to providing some logistical support to the researcher including, once the data collection starts, assigning a contact-person to help with logistical arrangements, if needed. Additionally, the consent of participants will be solicited with regards to: participation as interviewees, tape-recording the relevant interview/s, to being identified in the thesis and to being quoted in the thesis. The attached *Informed Consent: Agreement to be Interviewed* will be used for the above purpose.

Participation in interviews is voluntary. This means that organizations/participants can choose to decline to answer any posed questions. It also means that organizations/participants can even withdraw from the research at any point they choose. Organizations/participants will not be compensated for participating in this research however I will be sending organizations/participants a summary of the thesis once completed.

Confidentiality will be granted based on each participant's preference noted in this agreement and in the *Informed Consent: Agreement to be Interviewed* (Form attached). Moreover, no other persons or entities besides the researcher will have access to the interview materials. Furthermore, the interview materials will be coded and stored by number rather than by name in order to render identification with the respective individuals to be impossible. All materials will be stored in a safe location which could only be accessed by the researcher.

On behalf of the entity named below I agree that its identity will be revealed

Yes _____ No _____

Also, I have read this agreement and I agree with its terms.

Name of Entity: _____ Entity's Address _____

Representative's Name: _____ Representative's Signature _____

Researcher's Signature: _____ Date: _____

APPENDIX VI
Informed Consent: Agreement to be Interviewed

Researcher: Hiba Al-Ali, PhD Candidate, Desautels Faculty of Management – Montreal, Canada

Contact Information: +1-514-449-5266, + 962-79-6283730

Supervisors: Dr. Margaret Graham Email: margaret.graham@mcgill.ca
Dr. Jan Jorgensen Email: jan.jorgensen@mcgill.ca

Purpose of Research: This research aims to explore the various interactions which take place during the innovation process particularly for non-science-based low technology innovations in services. The research will attempt to identify the main actors involved in the innovation process and their respective interactions as well as the main factors which affect and get affected by them. The data collected will be used to develop a thesis dissertation and also possibly to write academic journal articles. A summary of the thesis, once finalized, will be sent to all participants.

What is involved in participating: As part of this research, I will ask you questions related to your views, thoughts and experience in developing innovations/innovative offerings. The time and length of the interview will be at your convenience.

My preference is to record the interviews so that you do not have to wait while I take notes. Your confidentiality will be protected. Nothing you say will be attributed to you without your written permission; otherwise the information will be reported in such a way to render it impossible to be directly linked to you. My pledge to confidentiality means that no other person or entity besides the researcher will have access to the interview materials. Furthermore, the interview materials will be coded and stored by number rather than by name in order to render identification with the respective individuals to be impossible.

Your participation is entirely voluntary. This means that you can choose to decline to answer any of the questions I will pose. It also means that you can even withdraw from the interview at any point you choose. You will not be compensated for participating in this research however I will be sending you a summary once the thesis is completed.

McGill University is committed to the ethical conduct of research: studies involving interviews require written consent of participants. Your signature below serves to signify that you agree to participate in this study.

Interviewee's Consent:

I agree to be audio-taped	_____ Yes _____ No
I agree to be identified in the report	_____ Yes _____ No
I agree to be directly quoted	_____ Yes _____ No

I have read the above information and I agree to participate in this study.

Interviewee's Name: _____ Interviewee's Signature: _____

Date: _____ Researcher's Signature _____

APPENDIX VII

Summary of Conducted Fieldwork¹⁴⁸

Innovation Type	Organizational Innovation	Service Innovation			Social Innovation
Innovation	<i>Federal Structure, Reengineering & Segmentation</i>	<i>Shop & Ship</i>	<i>Third Party Logistics</i>	<i>Personalized Delivery Service</i>	<i>Ruwwad</i>
Main location	Amman, Beirut & Dubai	Amman, Beirut & Dubai	Dubai	Dubai	Amman
face-to-face interviews	11	3	4	5	18
Phone Interviews	1 Beirut	1 Beirut	0	1 To Dubai	0
Mini-focus groups	0	1	1	1	1
Site Visits/ Observation	N/A	3 Amman & Dubai	1 Dubai	3 Dubai	3 Amman

¹⁴⁸ Locations of Amman, Beirut, and Dubai pertain respectively to the three Arab world countries of Jordan, Lebanon and the United Arab Emirates.

APPENDIX VIII

Some Initial Codes of Basic Constructs

Construct	Formal Institutions	Informal Institutions	Social Capital & Trust	Empowerment, Corporate Entrepreneurship, & Autonomy
Initial Codes	Postal Licenses Postal Taxes Laws Regulations Customs Regulations Customs' Taxes Monopolies Bureaucracy Slow Red-tape Government/Ministries Public sector Educational system	Norms Values Culture Arab culture Corporate culture Ethics Goodwill	Know someone well Known/Well-known Tried/Tested them Reliable Good service Dealt with them Have a long relationship Credible Trusted/Trust Respected/Respect Reputation/Good reputation Have good image Recommended	Empowerment Freedom/Freedom in Decision-making Can make my/their own decisions Decision at the front line Decision at periphery Decentralization Client-centric Fadi Ghandour in your country Mini-Aramex Autonomy Can do what I want I am responsible I have the authority Suggestions/ideas taken into consideration Talent Intrapreneur Entrepreneur Entrepreneurship

APPENDIX IX

Comprehensive List of Codes for Institutions

Formal Institutions	Informal Cognitive Institutions: Social Capital & Trust
Postal Licenses	Norms
Postal Taxes	Values
Laws	Arab culture
Regulations	Ethics
Customs Regulations	Goodwill
Customs' Taxes	Know someone well
Monopolies	Known/Well-known
Bureaucracy	Tried/Tested them
Slow	Reliable
Red-tape	Good service
Government/Ministries	Dealt with them
Public sector	Have a long relationship
Educational system	Credible
War/s	Trusted/Trust
Iraq war	Respected/Respect
Lebanese civil war	Reputation/Good reputation
Lebanese war	Have good image
Israeli	Recommended
Funding	
Physical assets	
Price conscious	

APPENDIX X

Comprehensive List of Codes for Dynamic Capabilities Building

Dynamic Capability Building		
Competency/competencies/capacity, Capability/capabilities, Development/developing/develop, Building/build		
External Mechanisms	Internal Mechanisms	
	Empowerment, Corporate Entrepreneurship, & Autonomy	Social Capital & Trust
Alliance/s	Leadership/Leader	Trusted/Trust
GDA alliance	Management/Manager	Leadership/leader
Partner/s		Management/manager
Network/s	Corporate Culture/Culture	
Ecosystem	Empowerment	Corporate culture/culture
Trust/trusted	Freedom/Freedom /autonomy/Can do what I	Federal structure
Knowledge/resources/know-how	want	Decision-making/autonomy/freedom
	Diversity	
	Creativity/Suggestions/ideas taken into	Teamwork/team/s
Outsourcing/Back office	consideration	Profit-sharing/incentive/s/
	Innovation/Entrepreneur/Entrepreneurship	Compensation/stock-options
	Learning/improvement/s/Kaizen	
	Teamwork/Team/s/team spirit	
	Strategy/Vision/Mission	
	Client-centric/delivery solutions /supply-chain	
	Federal structure/Structure/Organizational structure	
	Freedom/Freedom in Decision-making	
	Make my/their own decisions	
	Decision at the front line/periphery	
	Decentralization/ I am responsible/I have the authority	Human Resource Management
	Fadi Ghandour in your country	Move/moving
	Reengineering/one-stop-shop/Mini-Aramex	Promotion/promoted
	Segmentation	Expatriate
	Reward system/compensation/incentive/profit-sharing	Training
		Executive training
		New staff

APPENDIX XI

Comprehensive List of Aramex Documents

Number	Document Title	Content Type	Language	Date (in ascending order)
1	Aramex Intel Courier - Managing for Excellence - The Aramex Culture (Annual Conference Document by Fadi Ghandour)	General	English	1992
2	Aramex 1998, Strategies and Commitments – Fadi Ghandour – Presented to the Aramex Country Managers – December 11 th and 12 th 1998 (PowerPoint Presentation)	General	English	1998
3	Leaders Retreat Minutes and Format (Dubai - July 2004)	General – Leaders’ Retreat 2004	English	2004
4	Beyond Entrepreneurship – Fadi Ghandour (PowerPoint Presentation)	General – Leaders’ Retreat 2004	English	2004
5	Leadership Style – Iyad Kamal (PowerPoint Presentation)	General – Leaders’ Retreat 2004	English	2004
6	Final Summaries (Core, Purpose, Mission) – Iyad Kamal	General – Leaders’ Retreat 2004	English	2004
7	Consolidation Retreat Summary – Iyad Kamal	General – Leaders’ Retreat 2004	English	2004
8	Aramex Strategy 2005-2008 (PowerPoint Presentation)	General – Based on feedback from Leaders’ Retreat 2004	English	2004
9	Leaders Retreat –Final Summary for Annual Meeting 2005 (PowerPoint Presentation)	General -Summary of Leaders’ Retreat 2004	English	2005
10	Pyramid Vision – Best Practice Report about Aramex Business Strategy Review – London Business School	General	English	2007
11	Aramex: Delivering the Future (A) – Case Study by Michigan Ross School of Business - Case 1-428776	General	English	June 2009
12	Aramex: Delivering the Future (B) – Case Study by Michigan Ross School of Business – Case 1-428-777	General	English	June 2009
13	Various reports and materials accessed online	General	English & Arabic	Between 2005 & 2010
14	Dubai Hub related statistics	General/Express	English	Various

APPENDIX XI

Comprehensive List of Aramex Documents (Continued)

Number	Document Title	Content Type	Language	Date (in ascending order)
15	Aramex Annual Report ¹⁴⁹	General	English	2009
16	Aramex Annual Report ¹⁵⁰	General	English	2010
17	Investors Presentation for first quarter 2012 and 2011 ¹⁵¹	General	English	2012
18	Balancing Corporate Power: A New Federalist Paper Charles Handy – Harvard Business Review	Federal Structure	English	Nov./ Dec. 1992
19	Re-engineering One-Stop-Shop (PowerPoint presentation/training material)	Federal Structure mini-case	English	1997
20	Toyota, Computers and the Human Factor – Kenichi Ohmae International Herald Tribune – NY Times article – addresses the concept of Kaizen	Federal Structure / Culture	English	February 25, 2010
21	Logistics & International Trade – Final Project - Mazen Kloub (part of Master's degree requirements)	Third Party Logistics	English	2010
22	Third Party logistics for MAFF – Executive Summary – Mazen Kloub	Third Party Logistics	English	2010
23	Third Party Logistics for MAFF by Aramex Documentary movie	Third Party Logistics	English	2009
24	Shop and Ship Mailbox Service Application Form	Shop and Ship	English	N/A
25	Shop and Ship: Various stickers and materials used in the service (e.g.: Calling process cycle, local area run sheet, delivery address sticker, Attempted delivery sticker, Sorry we missed you,... etc.)	Shop and Ship	English & Arabic	N/A

¹⁴⁹ Annual Report 2009, Aramex, website accessed on May 30, 2012,
<http://www.aramex.com/content/uploads/100/55/36361/ARAMEXAnnualReport2009Eng.pdf>

¹⁵⁰ Annual Report 2010, Aramex, accessed on June 13, 2012,
<http://www.aramex.com/content/uploads/100/55/44233/Annual-Report-2010.pdf>

¹⁵¹ Investors Presentation for first quarter 2012 and 2011, Aramex, website accessed on June 13, 2012,
<http://www.aramex.com/news/item.aspx?id=2c1b4c29-1c63-4e06-8023-8c071ba91f3b>

APPENDIX XII

Comprehensive List of Ruwwad Documents

Number	Document Title	Content Type	Language	Document Date (in ascending order)
1	Annual Report August 2006 – August 2007	General	Arabic	September 19, 2007
2	Ruwwad Program Strategy and Action Plan 2010 – by Samar Dudin	General	English	October 30 th 2009
3	Strategic Objectives, Work Plan and 2010 Budget (PowerPoint Presentation)	General	English	December 2009
4	About Us	General	English	January 2010
5	Mission	General	English	January 2010
6	Ruwwad (PowerPoint Presentation)	General	English	January 2010
7	Ruwwad's Annual Report 2009 (Kathy's Final version – text only)	General	English	March 3, 2010
8	Ruwwad Annual Report 2009 (text & pictures)	General	English	Not dated
9	Ruwwad Quarterly Report January 1 st 2010 – March 31 st 2010 (Full Report)	General	English & Arabic	April 11, 2010
10	Ruwwad Quarterly Report: January-March 2010 Executive Summary	General	English	April 2010
11	Ruwwad Second Quarterly Report: April 1 st – July 5 th 2010 (Full Report)	General	English & Arabic	July 5 th 2010
12	Ruwwad Quarterly Report II: April – July 5 th 2010 Brief (Executive) Summary	General	English	July 5 th 2010
13	Board Meeting Brief – July 21 st 2010 (PowerPoint presentation)	General	English	July 21, 2010
14	Ruwwad Third Quarterly Report: July 15 th – October 15 th 2010 (Board Brief)	General	English	November 13, 2010
15	Narrative Report: The Anna Lindh Foundation	Child Development	English	November 2, 2009
16	'shams il-Jabal' Library Weekly Schedule	Child Development	Arabic	November 2009
17	Neighboring schools: General information and schedules	Child Development	Arabic	February 2010
18	Creative Arts Workshop Schedule	Child Development	Arabic	February/March 2010
19	Ruwwad Libraries Model	Child Development	Arabic	March 2010
20	Moussab Khourma Youth Educational Fund Requirements	Youth Empowerment	Arabic	December 2009
21	Scholarship Contract (One Term)	Youth Empowerment	Arabic	Not dated
22	Four-Hour Weekly Community Service Commitment Pledge	Youth Empowerment	Arabic	December 2009
23	Moussab Khourma Youth Educational Fund Application Form	Youth Empowerment	English	March 2010

APPENDIX XII

Comprehensive List of Ruwwad Documents (Continued)

Number	Document Title	Content Type	Language	Document Date (in ascending order)
24	Arts as Medium for Psycho-Social Support: Implementation Plan	Community Empowerment	Arabic	September/October 2009
25	Ruwwad's Meeting with Community Associations/Charity Organizations (Minutes of Meeting)	Community Empowerment	Arabic	October 2009
26	Legal Aid Office Plan	Community Empowerment	Arabic	December 2009
27	Schools' Adoption Meeting – Schools' Needs (Minutes of Meeting)	Community Empowerment	Arabic	December 2009
28	One-Minute Movie Workshop	Community Empowerment	Arabic	February 2010
29	Ruwwad-Arranged Meeting of Neighboring Schools, Ministry of Education and Madrasati Initiative (Minutes of Meeting)	Community Empowerment	Arabic	February 2010
30	Weekly Schedule for Arts as Medium for Psycho-Social Support	Community Empowerment	Arabic	February 2010
31	Weekly Schedule for 'silsal' Ceramics Workshop	Community Empowerment	Arabic	February 2010
32	Legal Aid Officer – Brochure	Community Empowerment	Arabic	N/A
33	One Year in Jabal Al-Natheef Documentary movie about Ruwwad	General	Arabic	2006
34	One-Minute Movie Documentary movie by Ruwwad stakeholders	General	Arabic	2010
35	McKnight, J. 1991, Services are Bad for People: You're either a citizen or a client, Organizing, Spring/Summer 1991	Miscellaneous (Published Article)	English	Spring/Summer 1991

ⁱ Interview with Samar Dudin, Ruwwad Regional Director and Head of Programs, April 4, 2010