UNIVERSITY OF Hull

Free Zone Business Model Innovation in the Innovation-Driven Economy of the United Arab Emirates

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by

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Abstract

The United Arab Emirates (UAE) was established in 1971 and its first free zone (FZ) in 1985. The UAE developed into an innovation-driven economy (IDE) currently ranked as the 17th most competitive economy (among 137) according to the World Economic Forum (WEF), while its FZs have grown to 35. Moreover, for the last three consecutive years the winner of the Financial Times Global Free Zones award has been the Dubai Multi-Commodities Centre suggesting that there is also something exemplary to be studied in this context. Nonetheless, according to the WEF scores there are six aspects of the UAE competitiveness (namely institutions, higher education and training, goods market efficiency, financial market development, market size, and innovation) that are lagging behind the overall competitiveness ranking of the UAE as an IDE.

Although FZs, the developmental needs of IDEs, and of the UAE in particular have been well-documented, while business models (BMs), their innovation (BM/I) along with national and regional systems of innovation (N/RIS) and policy have been relatively well researched; their intersection has not been explored. This is the gap this research aims to fill by exploring FZ BM/I in an IDE such as the UAE. The focus of the thesis is on exploring if BM/I of the FZs in the UAE could be used to enhance the aforementioned lagging areas of national competitiveness. It is thus, to be made explicit that this thesis is not about the innovation and/or the BM/I of the firms hosted in the FZs but about the BMs of the FZs themselves.

Therefore, the key research question (KRQ) of this thesis is: *Could free zone business model innovation be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE?*

To answer this KRQ, an innovation management perspective (including BMI, ecosystem and open system innovation, N/RIS and policy, among others) is adopted, as it helps to: establish the core elements that comprise the BM of a FZ; map the BM encountered in the UAE FZs, identify their (shared/unique) characteristics; determine the kind of BMI that has taken place; establish the elements upon which the BMI is concentrated/distributed; and pinpoint the FZ BM/I features relevant to the six aforementioned lagging areas of national competitiveness.

The research adopted a qualitative exploratory approach using face-to-face semi-structured interviews with senior managers from the organizations that own 54% of all FZs in the UAE. These data were combined with direct participant observation and a range of secondary data. The results indicate that there are two main FZ BMs, namely: conventional (hard infrastructure) and

specialized (soft infrastructure), and that no new FZ BMs emerged post-2000. FZ BMIs tend to be of: i) limited complexity and ii) concentrated in few BM elements. No evidence of BMI concerted efforts targeting uncaptured values (environment, sustainability, ecosystem innovation, and the UAE development in large) was identified, although some initial efforts were noted. The implications of these findings for theory, methodology, policy, and practice are discussed, especially concerning how FZs BM/I could enhance the aforementioned six lagging areas of national competitiveness of the UAE as an IDE.

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In the name of Allah, the Entirely Merciful, the Especially Merciful, I am first thankful to Almighty GOD for His continual provision and support of me with strength and patience in my life generally, and throughout this important and long episode; I give all thanks, honour and glory to Him for giving me the ability to complete this thesis. The completion of this study depended on the investment of many years, hard work, money spent without any income, and time away from my family in the first year. The completion of this study has involved the time and efforts of many individuals who supported and helped me during my study in the UK and in the UAE.

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Academic Works Associated with the Thesis

1. AlKhanbouli, A.; Tsagdis, D. (2017) Free zone business models and innovation: A qualitative exploration in the United Arab Emirates. *24th International Academy of Management and Business*, Dubai, UAE, 9/10-11/10/17

2. AlKhanbouli, A.; Tsagdis, D. (2017) Business models and their innovations in the free zones of the United Arab Emirates. *The World Free Zone Organization Annual International Conference and Exhibition* (AICE), Cartagena, Colombia, 03/05-05/05/17

3. Estay, C.; AlKhanbouli, A.; Tsagdis, D. (2018) Modèles d'affaires et modèles d'affaires innovants au sein des zones franches: une approche qualitative. *Conférence Digital, Innovation, Entrepreneurship and Financing (DIF 2018)*, Lyon, France, 11-12/06/18

4. AlKhanbouli, A.; Estay, C.; Tsagdis, D. (2019) Business Model and Business Model Innovation of the Free Zones in the United Arab Emirates: A Qualitative Approach. *International Management*. http://www.managementinternational.ca/catalog/modeles-d-affaires-et-modeles-d-affaires-innovants-au-sein-des-zones-franches-une-approche-qualitative.html

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List of Abbreviations

ADNOC	Abu Dhabi National Oil Company
B2B	Business-to-Business
B2C	Business-to-Customer
BM	Business Model
BMC	Business Model Canvas
BMI	Business Model Innovation
CEO	Chief Executive Officer
CS	Customer Segments
DAFZA	Dubai Airport Free Zone Authority
DCCA	Dubai Creative Communities Authority
DFSA	Dubai Financial Services Authority
DIFC	Dubai International Financial Centre
DMCC	Dubai Multi Commodities Centre
DRA	Dispute Resolution Authority
DSO	Dubai Silicon Oasis
DSOA	Dubai Silicon Oasis
DTEC	Dubai Technology Entrepreneur Centre
Emarat	Emirates General Petroleum Corporation
EPZ	Export Processing Zones
FDI	Foreign Direct Investment
FF	Fujairah Free Zone
FTZ	Free Trade Zone
FZ	Free Zone
FZBM	Free Zone Business Model
FZBMI	Free Zone Business Model Innovation
GCC	Gulf Cooperation Council
GCI	Global Competitiveness Index
GCR	Global Competitiveness Report
GDP	Gross Domestic Product
GII	Global Innovation Index

GMT	Greenwich Mean Time
GNI	Gross National Income
HCD	Human Capital Development
IB	International Business
ICT	Information and Communications Technology
IDE	Innovation-Driven Economy
INSEAD	Institut Européen d'Administration des Affaires
IPC	Income Per Capita
IPR	Intellectual Property Rights
IT	Information Technology
JAFZA	Jebel Ali Free Zone
KPI	Key Performance Indicator
KRQ	Key Research Question
MBC	Middle East Broadcasting Centre
MNE	Multinational Enterprise
N/RIS	National and Regional Systems of Innovation
NGO	Non-Governmental Organization
NSI	National System of Innovation
PCT	Patent Corporation Treaty
PPP	Purchasing Power Parity
R&D	Research and Development
RAK FTZ	Ras Al Khaimah Free Trade Zone
RAK	Ras Al Khaimah
RAKEZ	Ras Al Khaimah Economic Zone
RAKIA	Ras Al Khaimah Investment Authority
RBI	Resource-Based Industries
ROI	Return On Investment
RSI	Regional System of Innovation
SEO	State Owned Enterprises
SME	Small and Medium Enterprise
SSI	Sectoral System of Innovation

UAE	United Arab Emirates
UAQ	Umm Al Quwain
UAQFTZ	Umm Al Quwain Free Trade Zone
UNCTAD	United Nations Conference on Trade and Development
VAT	Value Added Tax
VP	Value Proposition
WEF	World Economic Forum
WIPO	World Intellectual Property Organization
WPS	Wage Protection System

Chapter One: Introduction

1.1 Research Background

Most countries and governments thereof are trying to develop their economy and enhance their sources of income in the face of contemporary challenges (e.g. global warming, terrorism, trade wars). Highly competitive economies in particular tend to report higher levels of income for their companies and citizens in addition to higher returns on investment (Schwab, 2018).

To that effect several approaches and indices have been developed. In terms of approaches in the case of the UAE the development of highly competitive industries such as airlines (e.g. Emirates, Etihad) and tourism ought to be mentioned, along with joining regional and international trade agreements (e.g. the Gulf Cooperation Council, the World Trade Organisation), hosting major leisure and sporting events (e.g. Expo2020, F1 Etihad Airways Abu Dhabi Grand Prix 2019) as well as developing a number of free zones.

In terms of indicators, the efforts of the World Economic Forum (WEF), the World Competitiveness Centre, and the World Intellectual Property Organization (Schwab, 2018), that rank the world's most competitive and/or innovative economies can also be singled out. In particular, the Global Competitiveness Report, published annually since 1979 by the WEF, has been benchmarking the relative competitiveness of national economies. Xavier Sala-i-Martín has developed its the latest competitiveness measurement framework, and since 2009 has provided an analysis of the range of factors that drive national competitiveness on an annual basis. Economies are classified into three ascending stages of economic development, namely Factor-, Efficiency-, and Innovation-Driven Economies (IDEs). There are a number of areas that make up the national

competitiveness of IDE and six of them in the case of the UAE seem to be lagging[1] as well as having a direct relationship to FZs.

Turning thus to FZs, their number has been growing exponentially around the planet; in 1975 the number of free zones worldwide was 79 with roughly 800,000 employees, and by 2017 the number increased to 3,500 FZs with around 70 million employees in 135 countries (WFZO, 2015). FZs compensate for the immobility of land as a factor of production, rendering them into an important part of the architecture of the global economy (Keshavarzian, 2010) and a key ingredient for international business (IB). Developed and developing countries alike have thus been fostering FZs for a number of reasons, including: attracting foreign direct investment (FDI), providing employment, increasing exports, and experimenting with new policy (Farole & Akinci, 2011). In short, FZs have become a widespread, albeit heterogeneous, tool of economic development and part and parcel of IB. FZs evolved as result of ad hoc policy actions to fit and thrive across a multitude of widespread niches in which they were cultivated, yielding a bewildering variety of FZ shapes and forms, and with some more successful than others (Farole & Akinci, 2011); further discussed in section 3.2.

FZs have grown larger, highly differentiated, and more complex than ever. Moreover, with most countries having some kind of a FZ, and with an increasing number of countries hosting several FZs, the playing field has changed. Long gone are the days of having a FZ could have guaranteed inward Foreign Direct Investment (FDI) and/or other host-economy benefits. Globalization and the abundance of FZs mean that in recent years FZs have had to compete (e.g. in attracting investment), even within the same national boundaries, and have thus been forced to innovate in order to enhance their attractiveness as investment destinations (Farole & Akinci,

[1] Namely: i) institutions, ii) higher education and training, iii) goods market efficiency, iv) financial market development, v) market size, and vi) innovation; further discussed in section 5.4.

2011). Moreover, FZs are also fully-fledged for-profit businesses themselves. That is, besides attracting investment, they profit from a range of value-added services they offer to the firms they host, they internationalise by managing FZs in foreign markets, and provide dividends to their owners. Like any other for-profit business, they have a business model which (as it will further discussed in section 2.9.2) comprises no less than ten elements[2].

Turning to academia for help in this endeavour yields very little that can be immediately transferred, let alone benefit this complex organizational form to innovate; e.g. their BMs in toto or in particular elements thereof. Although various recipes for FZ success are readily available (FIAS, 2008) they tend to be oblivious to advancements in the fields of innovation and BMs. On the other hand, studies of business innovation and BMs have neglected FZs in their theorizing as distinct business-to-business (B2B) markets, or their potential role in business-to-customer (B2C) markets. This is the gap this thesis aims to explore and make a first step in filling.

According to the Global Competitiveness Report (GCR) 2006/2007 issued by the WEF, the UAE became an innovation-driven economy in 2006-07. At that time the competitiveness of its economy ranked 32nd in the world and by 2018 it climbed 15 places to 17th. The UAE is also home to more than 35 FZs (increasing from 1 in 1984) (GCR WEF 2018). For the UAE to develop further as an IDE, the country will have to address its aforementioned lagging areas of competitiveness. In short, the purpose of this research is to explore if FZ BM/I could help improve these lagging areas of competitiveness of the UAE as an IDE.

[2] Namely: i) key partners, ii) key activities, iii) value proposition, iv) customer relations, v) customer segments, vi) key resources, vii) channels, viii) cost structure, ix) revenue stream; further discussed in section 2.9.2.

1.2 Research Questions

The key research question (KRQ) therefore is: *Could free zone business model innovation be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE?*

To answer this KRQ a narrower set of questions had to be asked:

1. What are the lagging aspects of UAE competitiveness?
2. Do FZs relate to any of these lagging aspects of UAE competitiveness?
3. What elements suffice to depict the BM of a FZ?
4. What is(/are) the BM(s) of the FZs in the UAE?
5. What kind of BM Innovation (BMI) has taken place in the UAE FZs?
6. How/where (e.g. in which BM elements) is BM/I concentrated/distributed?
7. How does BM/I manifest in the UAE free zones?

1.3 Research Aim and Objectives

Aim: *Explore if FZ BM/I could be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE.*

The accomplishment of this aim is orchestrated across the following objectives:

1. Identify the relevant theoretical and conceptual frameworks through a critical review of the literature.
2. Establish the position of the UAE in the Global Competitiveness Report (WEF, 2018) and identify those lagging areas of competitiveness that relate to FZs.
3. Develop a framework to aid answering the research question by augmenting the frameworks reviewed.

4. Delineate the elements of the augmented framework to be used for mapping the BMs and BMIs of the UAE FZs.
5. Map the BM and BMI elements of the UAE FZs.
6. Explore the variation across the mapped BM and BMI elements (e.g. concentration and impact of BMI in particular BM elements).
7. Explore the possibilities through which FZ BMI could enhance the aforementioned lagging areas of national competitiveness (established under objective 2) and thus aid the further development of the UAE as an innovation-driven economy.

1.4 Research Context

The UAE was established on 2 December 1971 as a federation between seven emirates: Abu Dhabi (capital of the UAE), Dubai (second largest emirate), Sharjah, Ras Al-Khaimah, Fujairah, Umm Al-Quwain, and Ajman. Figure 1.1 provides a map of these while Table 1.1 a summary of its key characteristics.

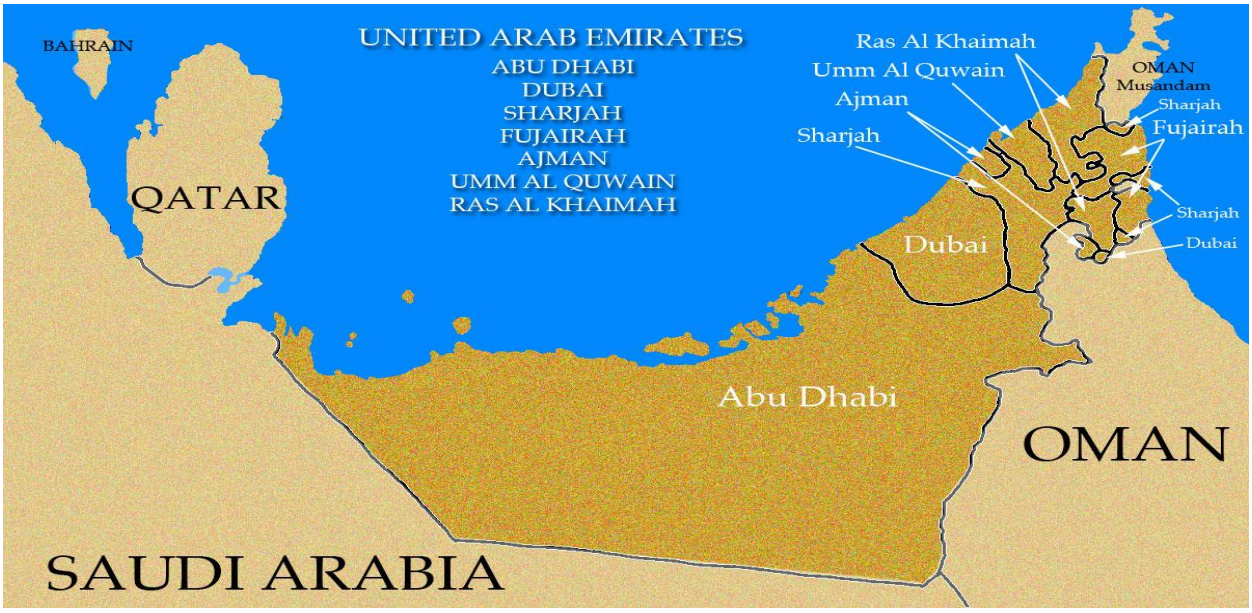


Figure 1.1 Location of the seven emirates in the UAE

Location	Northeast area of the Arabian Peninsula						
UAE Area	77,700 km² NB Abu Dhabi accounts for 84 per cent of the country's total landmass.						
Population	9,121,167 on December 2016 Males: 6,298,294 (69%) Females: 2,822,873 (31%) 200 nationalities living and working in the UAE Around 88,52% of population are foreign nationals						
Official language	Arabic + English in the private sector						
Major religion	Islam is the official religion in the UAE						
Currency	Emirati Dirham (AED). USD 1 = AED 3.6725 (It's fix with US$)						
GDP	AED 1280.8 billion (=USD 345.75 million) at the end of 2016 is						
GDP Per capita	End of 2016 is US $37,677.9 million						
Time	The UAE is 4 hours ahead of Greenwich Mean Time (GMT)						
Area (km²) Per Emirate	Abu Dhabi	Dubai	Sharjah	Ras Al-Khaimah	Fujairah	Umm Al-Quwain	Ajman
	67,340	4,114	2,590	1,683	1,166	777	259
Population (million)	2,784,490	2,489,630	1,274,749	413,000	213,712	49,159	300,000

Table 1.1 UAE Key Indicators
Source: Fcsa.gov.ae (2017)

Although Abu Dhabi is the UAE capital and the seat of the federal government, each emirate has its own local government. All emirates have ports and airports. The 35 FZs in the UAE are owned and managed by 11 organizations, most of which are state (emirate) owned with varying (albeit marginal) shares of private ownership. Although the creation and regulation of FZs rests within each respective emirate (e.g. firm licencing), there are matters that cross emirate-lines and are therefore regulated at the federal level (e.g. visas, employee registration). The emirate of Dubai has the highest concentration of FZs in the UAE. There is no public federal register of the UAE FZs and their precise names and quantity tend to vary across publications (hence the need for a compilation, see Appendix A.1).

The FZs have grown from one in 1984 more to 35 at the time of this study. Their number is also set to increase (Gulf News, 2017), with their growth fuelled by the local governments, but

their benefits, incentives (PKF, 2015), and regulation transcend emirate and occasionally even federal boundaries.

However, what was introduced above (e.g. diversifying the UAE revenues away from oil) is not an explicit performance target for FZs. They are managed as traditional (for-profit) companies with KPIs that focus on revenues, profits, and occupancy rates, and do not occupy an explicit position as instruments of economic development in the UAE Vision 2021 (i.e. the Federal government's five year economic development plan) although they underpin several of its targets (e.g. non-oil GDP real growth, inward FDI, ease of doing business, Emiratization rate in the private sector, SME contribution to non-oil GDP, share of knowledge workers in the workforce).

In other words, from inception FZs in the UAE have been fulfilling multiple key functions that are non-traditional to FZs, such as mitigating land disputes between emirates, and maintaining peace in the Gulf region (Keshavarzian, 2010). This is in addition to their usual roles as FZs as seen in other economies, primarily attracting FDI, but also increasing employment opportunities and country exports and providing a means for developing new policy through experimentation (Farole & Akinci, 2011). Given their heightened role in the UAE economy, their unusually high numbers for a country of its size. Like FZs in other economies they come in a variety of types (FIAS, 2008); to be further discussed in section 3.2.2.

The UAE seeks to compete with the world's leading economies on the basis of knowledge capital rather than relying on natural resources alone, and continues to work towards establishing the UAE as a leading global hub for business and foreign investment by strengthening its legal framework and by providing an excellent infrastructure, among other efforts.

1.5 Structure of the Thesis

Following the brief introduction of the research in this chapter, including aspects related to background, research questions, aim and objectives, and context, Chapter two reviews the relevant literature which spans a range of topics (e.g. Economic Development, Policy, Institutions, Investment, Innovation, Entrepreneurship, Competition, and BM/I). The chapter concludes with what may be the BM of an FZ and what could count as its innovation. Chapter three follows next which comprises three parts. It starts with an exploration of the FZ concept and history, followed by a discussion of the modern day FZ types around the world, and their advantages and disadvantages. The discussion then moves to the UAE as the research context for this research providing the requisite information about its past and present. Finally, the two earlier parts (FZ and UAE) are re-joined by an examination of FZs in the UAE. Chapter four complements these earlier chapters by detailing the methodological intricacies (e.g., research philosophy and paradigms, research approach, research strategy and design, data collection, sampling design, data analysis techniques, and reliability, reflexivity and validity of the data collection and analysis). Chapter five details and discusses the findings of this research, while connecting them to the primary and secondary data sources of this research. Chapter six serves as the conclusion which includes among others the contributions, implications, and limitations of this research as well as a range of directions for future research.

Chapter Two: Literature Review

2.1 Introduction

The purpose of this chapter is to review and synthesise the literature relevant to the KRQ of this thesis (as introduced in section 1.3); namely: *could free zone business model innovation be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE?*

Several literatures appear relevant to this KRQ and Figure 2.1 syntheses them into a conceptual framework based on a Venn diagram. The relevant literatures are portrayed as sets underpinning the creation of effective BMs and BM/Is in FZs (which is depicted at the intersection of all relevant literatures/sets), and therefore the KRQ of this research, and informing the structure and scope of this literature review.

The first literature/set is the one of economic development, which leads the review to policy; e.g. for economic development (among others such as industrial, innovation, infrastructure, investment attraction); these in turn bring forth the literature relating to institutions (formal and informal), investment (domestic and foreign), innovation (e.g. exo-/endogenous, Innovation Systems (IS), National Innovation Systems (NIS), Regional Innovation Systems (RIS), Sectoral Innovation Systems (SOS), Business model innovation (BMI), innovation management), entrepreneurship, and competition.

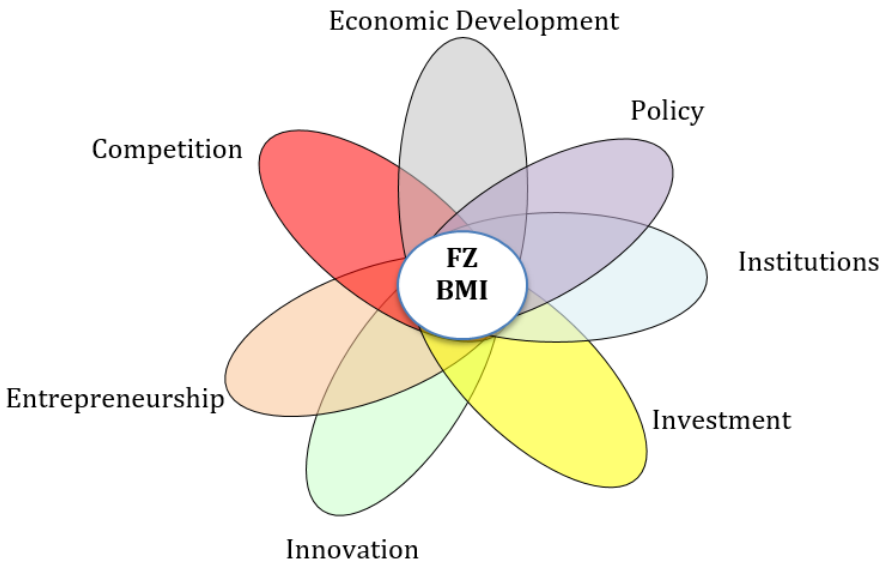


Figure 2.1 Conceptual Framework (literatures and discourses relevant to the KRQ)
Source: author generated

This review of these literatures, is necessary to underpin the culmination of the discussion around business models and their innovation which will support the subsequent exploration into the BM/Is of the FZs in the UAE.

That is, BM/I of the FZs as an organisation in its own right and by itself, rather than the innovation activities of the firms hosted in a FZ. Moreover, no claim is explicitly or implicitly advanced that the FZs in the UAE and/or their BM/I may influence the innovativeness of the UAE. It is thus, to be explicitly stated that such issues lie beyond the scope of this thesis and thus of this literature review in particular.

Nonetheless, the reviewed literature aims to highlight the range of conditions reported in the aforementioned literatures that may render the above into a possibility. That is, the reviewed literature and thesis overall, aims to support an exploration into the BMs of FZs (as organisations in their own right; as introduced in section 1.4) with multiple and a range of KPIs that a suitable BMI could enhance. Moreover, given the relationship between FZs and some of the lagging aspects of UAE competitiveness (to be established in section 5.4) the review of the literature also

aims to support a discussion (in section 6.3.3.4) about how such BMI could enhance these lagging aspects and therefore aid the improvement of the UAE national competitiveness as an IDE.

The chapter has thus been organised in respective sections dealing with each one of the aforementioned literatures in turn. Leading to the development of an enhanced BM canvas (EBMC) (in section 2.9.2); which acts as the definition of a FZBM for the remainder of this thesis. Moreover, FZ BMI is thereafter (in section 2.9.3) construed as an innovation in one or more elements of the FZ EBMC as this has been operationalised by the surveyed FZs in the UAE (reported in sections 5.5-5.6).

The chapter concludes with a concise summary that focuses on what the reviewed literature implies for the conducted research and linking this to the next chapter in the thesis.

2.2 Economic Development, Competitiveness, and Innovation

One of the most influential economists of the 20th century was Joseph Schumpeter, who introduced the term "creative destruction" in the study of economics. He was only 28 years old when he published his book “The Theory of Economic Development” in 1934, which is still considered a pioneering work and one of the most famous and influential writings in the field of economics (McCraw, 2009).

Schumpeter’s system of economic thought was built in such a way as to achieve a necessary interdependence between economic, historical, political, social, and other elements of the process of the performance and development of the capitalist world. All these specific aspects of capitalist society can be treated as separate entities (Martinelli, 1994: 478-480).

Thus, one of the most important aspects of Schumpeter's analysis is the distinction between internal and external factors of the economic system; and his delineation of five different kinds of innovation:

1. Introducing a new method of production -- has not yet been tested by experience in the manufacturing branch concerned; does not need to be based on new scientific discovery; and can also be considered a new way to deal with goods commercially.
2. Introducing a new product or service? – a completely new concept that consumers have yet to know, or a new quality of existing goods.
3. Opening a new market -- in which the relevant branch of the country concerned had not previously entered, whether or not that market existed previously.
4. Importing a new source of supplies, raw materials or semi-finished goods – again regardless of whether this source is already present or has been created for the first time.
5. Implementing a new organization of any industry – for example, establishing a monopoly centre (e.g. through trust) or dismantling a monopoly centre.

Economic development, which relies on innovation, is thus among the most intriguing fields in the world of economics. Economists face a range of crucial issues demanding research (Coale, & Hoover, 2015). Human capital has been established as among the significant stimuli of economic growth, and it cannot be overemphasized how it acts as the growth engine of an economy (Spring, 2015). Platteau (2015) suggested that there is no single nation that can develop more than what it has invested. In affirmation, economists specializing in development have often reiterated that the variance in the income per capita (IPC) of countries can never be completely delineated from human capital development (HCD) variations (Platteau, 2015). Education and health are identified as human capital components as well as factors of human welfare. Several economists

researched their significance in economic development and attempted to integrate human capital within the growth model. Some researchers adopt a Keynesian perspective, which emphasizes demand-related factors, while others adopt a neoclassical perspective emphasizing supply-related factors (Fontana & Sawyer, 2016).

Being one of the most significant determinants of living conditions, economic growth is thus a challenging research subject. Most researchers on the neoclassical growth camp investigate input/supply-side factors (such as labour and physical capital) as they attempt to uncover the long-term determinants of economic growth. In recent years the neoclassical capital concept has even been expanded from physical goods to human capital (e.g. education, training, and experience). Knowledge and skill have thus become significant investment products, and when combined with other investments in human capital they can account for the productive supremacy of technologically advanced economies. For example according to Greiner et al. (2016), income growth is determined by productivity growth as well as the capital growth per worker.

Another growth model directly linking human capital to economic growth is known as the *endogenous growth* model which suggests that human capital accumulation drives growth. It assumes that individuals prefer allocating time to schooling or production; basing increased productivity and future wages through investments in education (Romer, 2015).

Although growth can also be stimulated by population growth or in general increases in demand, the kind of growth that is of interest to this thesis relates to increases in productivity; which in turn translate to increased levels of economic prosperity. More competitive economies tend to produce higher levels of income for their companies and citizens as well as higher returns for investment, according to the WEF 2017-2018 Global Competitiveness Report (Schwab, 2018); which provides an analysis of the mechanisms that enable national economies to achieve sustained

growth and prosperity over the long term. According to the WEF economies are classified into three different stages of development:

1. *Factor-Driven Economies.* In this stage competitiveness accrues mainly through labour and natural resources on a price basis and trade in basic products and/or commodities.
2. *Efficiency-Driven Economies*. In this stage growth depends on increasing product quality and developing more efficient production processes.
3. *Innovation-Driven Economies.* In this stage competitiveness relies on the delivery and production of new and sophisticated services and products using the most advanced processes.

The classifications reported in the 2017–2018 Global Competitiveness Report are summarised in Table 2.1 below.

Stage	No of Economies	Examples
Stage 1: Factor-Driven Economies	35	India, Mauritania, Moldova and Pakistan
Transition from stage 1 to stage 2	15	Algeria and Ukraine
Stage 2: Efficiency-Driven Economies	31	Albania, Georgia, and South Africa
Transition from stage 2 to stage 3	20	Argentina, Malaysia, and Saudi Arabia
Stage 3: Innovation-Driven Economies	35	Australia, France, and the UAE

Table 2.1 Classifications reported in the 2017–2018 Global Competitiveness Report
Source: Schwab (2018)

The report, published annually by the WEF since 1979, is a tool that helps countries benchmark their economic performance relative to that of other economies; the framework adopted since 2009 has been developed by Xavier Sala-i-Martín. The GCI combines 114 indicators that capture concepts that impact productivity and long-term prosperity. The information can be used to identify strengths and weaknesses, as well as obstacles to sustainable economic growth and prosperity. The evaluation involves 12 key pillars -- Institutions; Infrastructure; Macroeconomic environment; Health and primary education; Higher education and training; Goods and market

efficiency; Labour market efficiency; Financial market development; Technological readiness; Market size; and Business sophistication and Innovation -- used to rank countries for competitiveness (137 countries were ranked in 2017-2018).

Although all pillars will be fairly important for all economies, they obviously affect different economies in different ways. In line with the aforementioned staged theory of economic development, the WEF suggests that during the first stage an economy is driven by efficiency and that nations compete on the basis of the costs of their factors; primarily unskilled labour and natural resources. Thus, national competitiveness during this stage of development depends primarily on public and private institutions (pillar 1), infrastructure (pillar 2), the stable macroeconomic environment (pillar 3), and the health and education of the workforce/Lower Basic Education (pillar 4).

The more competitive a country becomes, productivity will increase and wages will rise as development progresses. Nations then start transitioning towards an efficiency-driven stage of development. During which they start developing more efficient production processes and increase product quality due to higher wages without the ability to increase prices. At this point competitiveness is increasingly driven by higher education and training (pillar 5), active commodity markets (pillar 6), well-functioning labour markets (pillar 7), advanced financial markets (pillar 8), the ability to take advantage of existing technologies (pillar 9), and a large local and/or foreign market (pillar 10).

Eventually, as nations pursue innovation, salaries will increase so much that they can only be maintained, along with their associated high standards of living, if their businesses are competitive with the most advanced production processes (pillar 11) and innovations (pillar 12) (Schwab, 2018).

Independent studies seem to echo similar ideas; e.g. Greiner et al. (2016), suggested that economic development relates to improvements in national welfare, GDP, and other indicators such as better infrastructure, improved literacy and healthcare standards, and reduced poverty. Baker et al. (2016) suggested that economic development policies include improved macroeconomic conditions that facilitate a stable economic climate, supply-side policies (e.g. lower taxes, deregulation, and privatization), and increased spending on public goods (e.g. healthcare, public transport, and education). Charlot et al. (2015) added that for developing economies, additional factors include export-oriented development – for example promoting free trade, reducing tariff barriers, and diversifying from primary-sector to higher value-added activities.

In short economic growth can be seen as dependant on productivity-increases, that lead to higher levels of prosperity (Schwab, 2018). Turning to the UAE (as it will be further elaborated in the following chapter) it entered an innovation-driven stage of development in 2011; ranking 27th in national competitiveness, and rising to the 17th place in the world by 2018 (Schwab, 2018). During this period the FZs in the UAE have also grown in quantity and quality; suggesting that there may be some relationship between the improvement of the UAE national competitiveness as an innovation-driven economy and (the BM/Is of) its FZs that is worthy of further exploration (as reported in this thesis; cf. section 3.6).

2.3 Policy

Restrictive regulation and corruption increase the cost of conducting business in most developing economies. Jha & Whalley (2015) asserted that to attract foreign and domestic investment, these must be addressed. Tackling corruption may be a daunting task for some of these

countries, as it remains one of the major obstacles to economic development requiring strong policies. Additionally, in efforts aimed at reducing regulation levels, it is fundamental that impactful regulations such as those safeguarding the environment are not eliminated in order to entice inward investment (Duvanova, 2014).

Looking at deregulation and privatization as an example, a crucial aspect of China's rapid economic growth was the resolve to transition from a communist to a mixed economy; as part of which state-owned enterprises (SEOs) were privatized. This aspect offers firms a profit incentive for cutting costs and aiming for improved efficiency (Nosov & Tseplyaeva, 2016). Burks et al. (2017) highlighted that deregulation entails introducing competition to state-owned monopolies, helping to create cost-cutting incentives. Increased competition can also be gained through trade liberalization and opening markets to global competition. A potential privatization problem is that it can aggravate inequality within a society (Megginson, 2017). Contrary to what was said of the positives and negatives of privatization, in the UAE privatization was one of the reasons for the success of free zones by attracting low-cost qualified labour.

Efficient tax structures and collection are critical in developing economies; which face the challenge of poor taxation frameworks and inefficient tax collection mechanisms resulting in reduced tax revenues. If the government cannot collect sufficient tax from those affluent in its economy, then there are little funds for financing necessary public-sector investments (Ordóñez, 2014). For instance, the average sub-Saharan tax rate is a paltry 15% of the GDP, compared to an average of 42% in developed economies. There have been no taxes in the UAE proscribed by law since its establishment; which was a key factor in attracting investment. However, starting from the beginning of January 2018 a 5% Value Added Tax (VAT) will be introduced.

Public service investment sectors, such as healthcare, transport, and education, often experience market failures as the free market fails to provide sufficient levels of education (Berman et al., 2016). Increasing literacy levels are a significant factor in bolstering economic growth. Without basic education and training, it is virtually impossible for an economy to pursue high value-added activities (Berman et al., 2016).

2.4 Institutions

Formal and informal institutions have a direct bearing on the success of foreign investments in a country. Informal institutions refer to commonly held beliefs and understanding of the citizens, while formal institutions are the written rules that govern the ways of doing things in a country (Holmes Jr et al., 2013). The level of understanding of a country's formal and informal institutions can affect the success rate of a business. While the written rules of formal institutions are easily comprehensible and relatively uncomplicated in the process of compliance, informal institutions pose the greatest concern since they do not offer guidelines while at the same time time businesses are at great risk in the event they fail to comply with these norms. Furthermore, informal institutions portray a form of dynamism that affects businesses directly (Waylen, 2014).

Formal and informal institutions affect entry mode decisions as well as decisions to grow investments (Contractor et al., 2014). Entry mode decisions are governed by factors such as a country’s legal requirements, environmental laws, and policies for formal institutions; and norms, attitudes, and behaviors which form the informal institutions, which can favour or hinder investment. For example, a country whose population places a high value on a healthy diet would not offer favourable conditions for investing in processed foods.

Furthermore, these institutions shape the environment for doing business. An excellent business environment is characterized by minimum government interference, favourable laws and policies, and political goodwill; customers in such environments have attitudes, tastes, and preferences that favour business growth. Conversely, formal institutions that do not support business prosperity have weak laws on corruption and other vices; informal institutions in this case provide a challenge for businesses to carry out their operations.

Sala-i-Martin (2014, p. 991) noted in his analysis of the models that are applied in decision making that both formal and informal institutions considerably affect the ways businesses carry out their activities -- taboos and customs are as important as laws and policies for foreign investors. While customs of the citizens affect the way a business interacts with its customers, laws and regulations provide a strict framework for the business to operate. Thus, Sala-i-Martin argued that both formal and informal institutions carry a similar amount of influence on investment decisions. Kuncic and Jaklic (2014) supported such findings in their examination of investment dynamics, asserting that legal and political institutions provide resistance that is deemed as an obstacle to foreign direct investment. Additionally, existing public opinion on certain products or services is also a significant factor.

Globally, attitudes and politics towards work, which constitute the informal sector, are part of FDI dynamics (Hartog, 2015). Public attitudes towards work favour the inflow of investments; while some of the politics have insignificant effects on incoming investments (Hartog, 2015); their impact on FDI decision making remains significant. Importantly, formal and informal institutions compliment each other in influencing FDI (Méon & Sekkat, 2015). Informal institutions also affect the rules and policies of a country directly, thus in turn affecting FDI.

2.5 Investment

Investment and FDI in particular impact the economy of a host country through injection of capital to start and run businesses (Seid, 2013). The result of this capital injection is an improvement in both the quality and quantity of the capital formed in the country. Foreign direct investors have business interests in the host country and look for the most conducive environment to set up their businesses. Thus, their decisions to invest in a particular country are hinged on factors such as economic freedom, political (good)will, and availability of resources (Mathur and Singh, 2013). However, more emphasis is placed on economic freedom due to the ability of businesses to prosper in such an environment regardless of the political freedoms enjoyed by the investors. This is not to imply that political freedom will bear little influence on such decision, rather political goodwill is among the major determinants of FDI decisions (Berger et al., 2013). Importantly, the factors may vary according to location (Jackson, 2013b, p.2). Investors looking to set up businesses may consider economic freedom as the leading priority, while those seeking to invest in developing countries may value more future stability.

Considering that foreign investments carry a much greater risk than domestic investments, foreign investors engage in extensive research to understand a potential host economy, market, and risks (Antwi et al., 2013). Most developing economies offer incentives for attracting FDI; which can have a downside if it causes the risks involved to be ignored. The result of a wrong move in such instances may be catastrophic for the investors. Therefore it is prudent for the investor to perform an analysis of the host market and to understand the legal requirements for investing in the host country. Such measures help investors take mitigation measures against the risk and also develop strategies for business success. Hayakawa et al. (2013) determined that country risk affected not only the quantity of FDI inflows but also the quality of this investment.

Therefore, countries with low investment risk attract more FDI than high-risk countries. Risk levels are thus, a significant factor when making FDI decisions.

Countries in transition and those seeking to achieve rapid economic growth develop incentives to attract FDI with emphasis on certain areas of interest in these countries (Kurtishi-Kastrati, 2013, p. 26). Investment in these areas proves beneficial for foreign direct investors since the incentives created provide an environment for robust business growth. Importantly, the benefits are mutual since the host country enjoys the benefits that relate to capital growth, employment creation, the balance of payments. and improved technology (Kurtishi-Kastrati, 2013). Conversely, if inward investments are not directly monitored it could result in adverse effects for the country. Excessive foreign investment can lead to: foreign control of the host economy, negative balance of payments, and unfair competition that may deter domestic investments. Striking a balance between foreign and domestic investments is crucial for an effective and balanced economic growth.

Unsurprisingly, foreign investments follow worldwide trends and/or host country trends (Jackson, 2013b). For instance, during the great recession FDI injected less capital into the world market. FDI is thus both influenced and influencing such world trends and the development agendas of most economies.

Moreover, Dunning (2013) elaborated on the bi-directional relationships between globalization, deep integration, and multinational enterprises (MNEs). Shaping the way of doing business, international relations, and trade; with MNEs occupying the lion's share of any business conducted between nations.

Despite the benefits enjoyed by FDI in setting up businesses in host countries and the benefits accrued to the host economy, concerns have emerged on the negative effects of FDI. For

example, due to the influence of some MNEs, adherence to environmental laws of the host countries is sometimes compromised (Rezza, 2013). In addition, concerns over the crowding-out effect caused by FDI in transition economies and undesirable employment conditions and practices by multinationals pose challenges to many nations.

2.6 Innovation

This section will include a definition of innovation, the importance of innovation for institutions, the different types of innovation, to give introduction of innovation before to understand where the innovation in business models in FZs, but not about the innovation activities of the firms located in the FZs.

When Edison established his innovation factory in 1876 at Menlo Park, New Jersey; it was itself an innovative concept – the first research and development facility of its type in the world (Spies, 2001) -- and innovation management thereby came into the spotlight as a separate and important discipline. Edison transformed extant practices into a rigorous process comprised of certain steps that were practiced by a group of discoverers operating as a team– putting down the elementary steps defined for the formation of new products, services, and mechanisms.

Reviewing the relevant literature shows how innovation and its processes have remained in the spotlight for years. Companies increased their capability levels as market demands and requirements changed over time. This structure started by explaining the issue, and then putting forward a number of different mechanisms that can be used to evolve ideas (Simist et al., 2014).

There are a number of definitions and explanations of innovation, which is a term derived from the Latin word ‘innovatus’. According to Drucker (1985), innovation is considered to be a unique and fundamental tool of entrepreneurship and it is an action which can help

entrepreneurship take the concept of competitive advantage to a whole new level. Innovation can also be taken as the transformation of an idea into a new merchandise, or an enhanced product or provided service (Drucker, 1985). In addition, innovation can be improvement and presentation of another thought, changing that thought into a product, process, object, or service. O'Sullivan (2000) expressed that, "Innovation is the procedure through which gainful assets are created and used to create higher quality and additionally bring down cost items than had beforehand been accessible."

Innovation is characterized as change of science and innovation to monetary and social utility and it communicates the change of a plan to an attractive item and benefit, or a created generation or dispersion strategy. It likewise incorporates the new or created item, administration or strategy which develops because of this changed procedure (Simist, et al., 2017).

In the Oslo Manual, the foremost international source of guidelines for the collection and use of data on innovation activities in industry (OECD, 2005), innovation is defined as the execution of a new or enhanced product or process and of new marketing or authoritative techniques in intercompany operations, working environment associations, and business relations. Keeping in mind the end goal to discuss an innovative new or profoundly enhanced product or process showcasing and overseeing strategy ought to be advanced (OECD, 2005).

There is an expansive, multi-disciplinary and varied collection of academic writing on innovation (e.g. Anderson & Tushman, 1990; Cohen & Levinthal, 1990; Fagerberg, 2004; Nelson & Winter, 1982; Tushman & Anderson, 1986; Van de Ven et al., 1999). Innovation can concentrate on various dimensions and thus have distinctive results; for example: new items or administrations (item development), new forms of production (process development) (Crossan & Apaydin, 2010).

It is imperative to distinguish between *invention* and *innovation*. While invention can be communicated as the formation of a new thought regarding another item or process, innovation is to put this new thought into practice. Due to the diverse necessities in making new thoughts and executing them, a time-lag exists between invention and actual innovation. Distinctive forms of learning, aptitudes, and assets are required to transform an invention into an innovation. Likewise, numerous integral creations may be required to prevail at the advancement level (Fagerberg et al., 2005).

All of the above definitions and examples of innovation from several authors and from different periods of time illustrate the importance of innovation in the development of the practical aspect of companies and institutions that want continuity and a competitive edge.

2.6.1 Innovation Process and Types

The first step in the innovation process is to identify the problem and then look for a solution to that problem. This further extends over the problem-solving stage and the development of appropriate skills, to the introduction of any new innovation in the market. Dundon (2002) sheds light on innovation as "the cost-effective application of strategic creativity," and delineates four key procedural elements: creativity, strategy, implementation and profitability.

Innovation is strategic for companies wanting to continuously challenge their competitors over the long term (Prahalad & Hamel, 1990; and Gourville, 2005). As the competition and changes in customer preferences and requirements is increasing (Danneels, 2002), it has become compulsory for organizations to manage innovation in a fast and adaptable manner so as to overcome competitors and gain a sustainable competitive advantage (Takeuchi & Nonaka, 1986; Poolton & Barclay, 1998). There are different types of innovation (Vacek, 2009).

- *Incremental innovation* - usually conducted to enhance the usability of a product by adding new features to it, which are easily adjusted to the older product; enhances competitiveness in current markets or businesses; used in FZs to provide innovative services in competitive areas in the UAE and the region.
- *Radical (or breakthrough)* innovation - usually connected with totally novel steps and unexpected uses for current technology.
- *Product Innovations (goods or services)* - further growth of a new product, while maintaining the older product and its technological development; some FZs have witnessed great development in the use of innovation in their business model to increase the level of service and reduce costs.
- *Process Innovations* - introduction of new or meaningfully enhanced production or delivery methods, which involves noteworthy changes in methods, apparatus and/or software.
- *Marketing Innovations* - strategy with important changes in product design or packaging of the product, product positioning, product promotion or pricing, divided into two areas:
    1) *Sustaining Innovations* – better/highly competitive products that can be placed in the market and offered to more demanding customers;
    2) *Disruptive Innovations* - commercialization of easier and more accessible products which are cheaper in terms of pricing and directed to new or less demanding customers; through marketing, FZs can open channels and marketing offices in several countries or make agreements with different agents in different locations to attract investors and/or entrepreneurs.

- *Structural Innovations* - innovations in the functionality of the working arrangement, such as human resource teams and staff.

Companies that have an enhanced rate of innovation in areas including strategy and planning, marketing, technological processes, quality management, logistics, and human resources, possess the potential to correctly figure out the possibility of an innovative idea and the method that could result in a better innovation. An innovative FZ is basically an organization that supports and trusts in the effectiveness of new ideas, where all employees benefit from the learning environment (Vacek, 2009).

2.6.2 Innovation Management

Innovation management comprises the managerial activities carried out by an organization in order to adopt or develop an innovation. These actvities fall under a controlled procedure of asymmetrical and complex structures to accommodate variations in the internal and/or external environment. When utilized as a single entity, innovation refers to a "process"; when utilized as innovation management, it is regarded as the control and management of innovation in its application (Drucker, 2003).

According to Porter (1996), there are principles for organizations to adopt in order to create and maintain a competitive advantage in world markets -- proper management of the organization's value system of organization; expansion of resources, to create conditions more suitable for innovation and/or change; and to formulate and implement strategies to maintain competitive advantage (Tekin & Çiçek, 2005).

Management of innovation is a form of organizational innovation that requires more in-depth analysis to be applied well and was used positively within an organization (Birkinshaw et al., 2008; Birkinshaw & Mol, 2006; Damanpour et al., 2009; Vaccaro et al., 2010). It can be further divided into four categories:

1) Institutional perspective, focusing on institutional conditions which inspire emergence and dissemination of management innovation;
2) Style perspective, considering management innovation as a management idea that can easily be circulated on the market;
3) Cultural perspective, focusing on the organizational culture as a significant target for the implementation of management innovation in an organization;
4) Rational perspective, a significant character for human agency.

Through the research question (KRQ), we will be able to discover whether FZs follow one (or more) of these categories, and therefore can implement the innovation process. Particularly, leadership requires a destructive, risky and costly learning and change level flexibility, in the event that innovation leads to radical changes. Another fundamental variable in innovation performance is culture. The administration must maintain a supportive business environment, develop employee talent and foster their efforts, encourage and strengthen inventive collaboration (which is a crucial communication method for sharing alternative viewpoints and inspiring inventiveness), welcome new data and information; while adopting and adapting new ideas, allowing them to flourish, and reach their full potential (Prajogo & Ahmed, 2006).

Through the previous sections on economy and economic development, and with a careful review of the concepts and definitions of innovation and the procedures involved with the

innovation process, the issue of management of innovation becomes key to this research, which naturally leads to the study of business models and business model innovation for FZs.

2.6.3 Innovation Systems

There are several ways through which innovation systems could enhance innovation-driven economies; e.g. through innovation indicators developed by international organisations and the extant theorising of innovation ecosystems, National Innovation Systems, Regional Systems Innovation, and Sectoral Innovation Systems; which are reviewed in turn in the following sections.

2.6.3.1 Innovation Ecosystems

To fully understand the business model of FZs, the focus of the KRQ, it is necessary to understand the ecosystem of these FZs as well as the innovation ecosystem that is being increasingly studied by many researchers. If an ecosystem introduces innovation into the market and offers cost-effective new strategies to users, enabling them to become able to survive unanticipated issues, it is considered to be healthy, productive, and strong (Iansiti & Levien, 2004). It is important to note here that communications between participants are usually supportive in such a system, and members take an active role in the development of the system (Iansiti & Levien, 2004; Moore, 1996); every member is fully linked and involved in the ecosystem (Lee, 2009).

The ecosystem concept is thus, significant in the field of innovation technology and management. Although the term *ecosystem* lacks an actual definition and formal theoretical framework, its significance is steadily increasing (Adner & Kapoor, 2010; Kapoor & Lee, 2013; Pierce, 2009; Teece, 2007). The concept of "ecosystems" is appealing as it offers a symbol to explain the set of inter-connections and communications between various organizations; the

concept first emerged in the literature in the mid-1990s. (Moore, 1993, 1996; Adner & Kapoor, 2010; Gulati et al., 2012; Pierce, 2009; Teece, 2007).

Innovation ecosystems have been defined in the following manner:

- According to Adner (2006: 98), innovation ecosystems can be defined as “the collective measures through which organizations combine their individual contributions into a comprehensible, customer interfacing.”
- Mercan & Göktaş (2011: 102) put forward the definition as "the ecosystem of innovation includes the economic elements and economic associations, along with non-economic determining factors like technology, foundations, and social and cultural connections," recommending that the innovation ecosystem be considered an amalgamation of several systems and networks.

Innovation ecosystems cannot be defined by one single element, rather they can best be described as set of interconnected technologies and individuals having direct connection, with controlling competencies that connect and join a number of people together to partake in the production of an innovation of benefit to several groups. It is significant and will be fruitful enough to take ecosystems as a refined society which concentrates on the progress, innovation, delivery and use of services that exploit a common set of innovative technologies and other relevant skills, rather than taking it in the perspective of an industry. This enables the utilization of FZs to build an integrated ecosystem; in this manner innovation ecosystems have the potential and ability to evolve and familiarize (Basole, 2009), and this can be facilitated by FZs.

With the purpose of fulfilling the requirements of developing knowledge-based economies, the idea of innovation ecosystems came to the spotlight with the innovations, as well as the developmental mechanisms linked to them becoming gradually non-linear and network-based

(World Economic Forum, 2015-2016). These concepts have played a significant role in the development of the concept of innovation systems that was created in the research courses of Freeman, Lundvall, Nelson, and their followers in the industrial period (Lundvall, 1992; Malerba, 2004). National or local innovation systems in the 1990s were considered as unchanging structures controlled by government authorities; these systems had effective performances, reliant on the significant number of concerned actors and planned infrastructure (World Economic Forum, 2015-206). It is important to notice here that the innovation ecosystems of the 2000s are known and termed as one system covering all relevant dimensions; they are considered as quick-thinking, collaborative structures that have the benefit of self-governance as an essential requirement for collaborating innovation (Bramwell et al., 2012).

A number of developing economies are using these mechanisms in a number of projects and policies (Council on Competitiveness, 2009). In the meantime, many experts and researchers still debate and question the addition of "eco-" to "system" in the term ecosystem, and they question the credibility and justifiability of the term. The work of certain researchers on the topic of "innovation ecosystems" and the addition of valuable concepts to the literature has been mostly welcomed; they also argue that addition of "eco-" to "innovation systems" adds no mass to it. With "innovation ecosystem" being a flawed and contradictory analogy to natural ecosystems (Oh et al., 2016), relevant discussion regarding the coining of a better and more appropriate term came into the spotlight in recent times.

Innovation ecosystems allude to heterogeneous patterns of organizations that possess the tendency to co-exist and co-develop abilities within the co-creation of value (Adner & Kapoor, 2010; Autio & Thomas, 2014; Moore, 1993). These organizations include producers, suppliers,

distributors, financial and research institutions, makers of complementary technologies, and regulatory bodies (e.g. Mäkinen & Dedehayir, 2013).

Separate definitions for "like clusters" (e.g. Porter, 1998) and "value networks" (e.g. Christensen & Rosenbloom, 1995) differentiate innovation ecosystems from similar or corresponding concepts portraying organizational networks. Clusters can be defined as "critical masses – in one place – of rare and uncommon competitive accomplishment in certain fields," (Porter, 1998, p.78) for example Silicon Valley, North Carolina's Research Triangle Park, Hollywood, Wall Street and the California Wine Cluster (e.g. Bresnahan et al., 2001; Porter, 1998).

Clusters follow a conceptual structure that permits the participating organizations to have in-depth analysis of regional effectiveness and economic performance, with the co-position of businesses not only enhancing the efficiency of companies but also increasing innovation and motivating or inspiring the development of new businesses. The emphasis of the cluster at the regional level differentiates the cluster from the innovation ecosystem, whose boundary is not elaborated or proscribed by a particular geographical location; in fact, it is defined by a 'collective functionality' that comprises a functional barrier.

Innovation ecosystems of large corporations like Apple and Google cover most of the world and involve countless number of actors in the co-development of value. The value network gives a picture of a multifaceted, interrelating network of direct and indirect connections amongst a group of actors, which possess the power to create customer value through product and service creation and delivery (Basole & Rouse, 2008; Lusch et al., 2010).

A network can simply be described as a layered and categorized structure of companies and markets, which not only manufacture but also purchase the corresponding layered hierarchy of apparatuses, products, and entire systems (Christensen, 1997, p. 225; Christensen &

Rosenbloom, 1995). The value network structure offers its analyst the opportunity to study and understand the connecting dots of the structure in this manner but does not cover all the dimensions of these connections.

Focusing on the biological origins, innovation ecosystems differ from value networks as they emphasize more the co-evolutionary mechanisms occurring as a number of firms interrelate, often in synergy. The involvement of end-users in a certain arrangement is another significant aspect of the innovation ecosystem distinct from other systems (Autio & Thomas, 2014).

Innovation ecosystems can be taken as the platform that offers an opportunity to the providers of products and services to get in touch with the users of these products and the provided services (Gawer, 2014; Thomas & Autio, 2013). Even though they usually provide a platform to individual consumers as well as to value-creating organizations like Apple and Google, certain contemporary platform-based systems like Uber and Airbnb establish that individuals can take on the role of provider *plus* consumer of products at the same time. Adner (2012) proposed and presented methods for:

- Planning the ecosystem's 'value blueprint' (i.e. geographical positions and connections between ecosystem actors);
- Anticipating risks to value creation;
- Deciding the value of leadership and followership roles;
- Timing innovation launches;
- Energetically reconfiguring the ecosystem with the passage of time.

Autio & Thomas (2014) focused on the boundaries, structure, and management of innovation ecosystems through their review of the relevant literature; whereas Gawer (2014) and Gawer & Cusumano (2014) provided an all-encompassing conceptualization of manifestos that

help to differentiate between ‘internal platforms’ that include an organization and its sub-units, ‘supply-chain platforms’ that consist of builders and providers, and ‘industry platforms’ that consist of the leader of the platform and the units operating under them.

A well-founded typology of innovation ecosystems cannot be obtained from the literature review, the term is nonetheless encountered in a number of contexts:

1. *Corporate (open innovation) innovation ecosystems.* Xiaoren, Ling and Xiangdong (2014) state that corporate innovation ecosystems consist of suppliers, consumers, associates, and other sponsors to an OEM's open innovation process, including “government departments, industry links, and other… shareholders;” although “external” to the ecosystem, they possess the tendency to have an influence on the ecosystem’s functioning (Barclay's, 2014; Hwang, 2013).
2. *Digital innovation ecosystems.* Rao and Jimenez (2011) put forward the case studies of digital ecosystems at Apple Inc. and Google – online platforms on which users, consumers and developers can construct interactive relations, creating network externalities which enhance the value of hardware as well as software innovations. Therefore digital innovation ecosystems consist of the apps, platforms, and suppliers that further enhance the viability of an innovation, such as Apple’s “HealthKit ecosystem” (Tweedie, 2014) and “mobile ecosystems” (Hyrynsalmi et al., 2014).
3. *City-based innovation ecosystems and innovation districts* (Cohen et al., 2014; Morrison, 2013; Lin, 2014). Municipalities are responsible for constructing these ecosystems with the help of universities. They take new and small companies into account, and might go for a start-up real estate development instead of active business development.

4. *High-tech SMEs centred ecosystems.* The best example in this regard is that of Taiwan, as the small country's industrial proficiency is mostly controlled by SMEs. Such schemes in the case of European SME ecosystems might be evident in (Frenkel & Maital, 2014) and (Lorré et al., 2006).
5. It is claimed by certain managers of accelerators that their services and competences syndicate to construct *hyper-local innovation ecosystems*.
6. In León's (2013) analysis of the Technical University of Madrid, and Graham's (2013) analysis of strategies for the Skolkovo (Russia) Institute of Science and Technology, a vision for *university-based innovation ecosystems* is constructed on expert-ranked international best systems. A number of university projects shed light on the entrepreneurial subdivision of the innovation ecosystem and term it as an entrepreneurial ecosystem (Fetters et al., 2010).

A lack of consistency was observed in the views of the different authors, however in the same context it is clear that innovative ecosystems can help build economic societies based on innovation.

2.6.3.2 National Innovation Systems

The concept of national innovation systems arose in the early 1990s (Lundvall, 1992; Nelson, 1993; Edquist, 1997); the main theoretical foundations were that knowledge is a key resource in the economy, and that knowledge is accumulated and acquired through an interactive, cumulative and innovative process that is embedded in a national institutional context, and thus the context is important for the results of innovation (Lundvall, 1999).

It is important to understand the meaning of "order" in the literature; in the national system of innovation according to Rosenberg and Nelson (1994: 4-5), the term "system" means a "group of institutions whose interactions determine innovative performance. Assuming that the system was, in some sense, consciously designed, or even that the set of institutions evolved to work together smoothly and coherently." "The concept of the system" is a set of institutional factors that together play a key role in influencing innovative innovation. Systems form multiple components that work together to produce system performance.

The national system of innovation is characterized by economically successful countries as states that identify institutions and interactions with early work on the concept of national innovation systems. The basic institutions that make up the national innovation systems are identified in the early stages:

1. Government agencies and relevant bodies supporting innovation through regulation, standard setting, public-private partnerships and basic research funding.
2. Universities conducting basic research and training of technical and scientific manpower.
3. Sectors and industries composed of companies that generate business innovations through experimentation, R&D and product improvement.
4. Other public and private institutions involved in activities directed at education (Patel & Buffett, 1994), and others as a variety of user-producer links that facilitate information exchange.

The key to this structure is interactions within and between the institutions as described by Lundvall (1992). Some of the most influential research in this area includes the work of Richard Nelson, who conducted an international research project comparing 15 countries using a similar methodology (Nelson, 1993); from Lundful, who drew attention to product-user interactions in

innovation systems (Lundval, 1992); and Chris Freeman, whose early studies on the Japanese Innovation System provided an influential intellectual guide to subsequent research (Freeman, 1988). The systems approach was subsequently expanded to consider technologies, institutions, organizations and industries as well as countries (Edquist, 1997; Malerba & Breschi, 1997).

The national systems of innovation and entrepreneurship have evolved in parallel, independently of each other, although the concepts of innovation and entrepreneurship themselves are closely linked, and both ethics follow at least some intellectual aspects of Schumpeter. In institutional traditions of NGO literature, institutions are created, homogenized, and supported by individual action; they are the institutions of the state that create and promote new knowledge and direct it to effective uses. From this perspective, individual action is not considered or is supposed to occur automatically, taking into account the effects of homogeneity in state institutions. This routinely enhanced perspective of national statistical centres has proved difficult to reconcile with the individual focus of routine work in entrepreneurial literature (Radosevic, 2007; Schmid, 2004).

2.6.3.3 Regional Innovation Systems

The regional approach to productive innovation has become more and more popular over the past decade. Saxenian (1994) uses the perspective of regional innovation systems to investigate Silicon Valley and Road 128. One might argue that in times of globalization, a transnational approach to innovation and the investigation of a cross-border exchange of knowledge becomes more important than regional systems. However, there is still a growing realization that the region often plays a major role in innovation activities and is supported by policy makers (Lundvall & Borras, 1997).

The regional innovation system focuses on specific developments of innovation in some areas. The regional group is a key word for many types of industrial conglomerates, for example industrial zones, innovative environments, industrial parks and new industrial areas (Isaksen, 2001). Neighbouring geographical area and cluster interaction are the first prerequisites for a regional innovation system. The main reason for the formation of regional industrial groups is that the company needs to achieve innovative activities through interaction and learning in adjacent geographical space (Cook et al 1997).

Philip Cooke was a pioneer in the investigation of regional innovation systems and published a series of research findings (Cooke et al., 1997; Cooke, 1992, 1996, 2001, to name a few). Cook (1992) created the term "regional innovation system" and tried to find best practices in regional innovation through the process of "learning through interaction." The rationale behind this is that such interactive learning can provide evidence of very fast institutional responses. His study examined the role played by regulations as proactive support for industry and found that Japan, Germany and France have different approaches to regional innovation systems, respectively, and are approaching "grassroots," "grid" and "entrepreneurial". Cooke (1996) merged business needs, strengthened support institutions and added appropriate components based on the successful experiences of regional innovation systems in Europe. His research findings indicate that network learning has proved to be a successful approach in some cases of dynamic regional economies in Germany and Italy. It also assessed the knowledge transfer process at the regional level and outlined key elements of successful regional innovative networking practices.

Cook et al. (1997) noted that learning, trust, reliability, exchange and collaborative interaction were key elements of regional innovation systems and assessed the formation of regional innovation systems from two perspectives: regional. The first concerns a region's

competitiveness, assesses its degree of independence for policy development, and financial ability of strategic investments in infrastructure. The latter is linked to the cultural base of the region, giving it a certain level of system potential (Cooke, 2001).

There has been abundant research on regional innovation systems, such as Asheim and Isaksen (2002), Asheim and Coenen (2005, 2006), and Asheim et al. (2011). Asheim and Isaksen (2002) examined how companies in various regional groupings in Norway exploit the local sources of each site as well as external knowledge to enhance their competitiveness. They concluded that external communications, outside the local industrial environment, are also critical to innovation processes in many SMEs and regional resources, which include contextual knowledge of the location of a both implicit and explicit nature, rather than geographically shifting. Asheim and Coenen (2005) distinguished between two types of knowledge base: analytical and synthetic, and argued that innovation policy would provide a fundamental approach rooted in networks of actors that recognized the importance of knowledge base in an industry. Asheim and Coenen (2006) emphasized that analysis in regional innovation systems should be contextualized by reference to the actual knowledge base of different industries, as well as to regional and national institutional frameworks, which strongly constitute corporate innovation processes. Asheim et al. (2011) explored the elements and characteristics that embody the regional innovation system approach.

2.6.3.4 Sectoral Innovation Systems

The innovation system is defined at different levels: national, regional and sectoral. The national and regional innovation approaches (NIS and RIS) limit the focus of research to geographical boundaries (although the literature on innovation systems is extensive, the concept is largely defined at different levels for different analysis purposes), while in the SIS approach the

focus is on specific technological areas (Edquist, 2001). Among these systems, SIS is one of the most influential. SIS is based on the premise that innovation varies widely across sectors in terms of characteristics, sources, actors involved, process boundaries, and organization of creative activities (Lall, 1992; Malerba, 2002, 2004; Rasiah, 2009). The goal is to understand innovation systems that lead policy makers to propose strategies that will improve innovative performance and overall competitiveness, and to best identify bottlenecks within a system that can hinder the development of technology. These approaches are somewhat complementary to replacement (Lundvall, 2007). The main focus of the SIS approach is on creating and developing knowledge within sectors, and helping to determine to which degree a single, integrated and dynamic sector is successful (Geels, 2004).

SIS consists of knowledge-based infrastructure, technology, demand conditions, actors and linkages between products, technologies and knowledge that have a significant impact on the creation, diffusion and use of "sectoral products" (Malerba 2002). Since the definition of a "sectoral system" is very general, it must be considered within three subsystems: innovation, production system and distribution (Malerba, 2002). System boundaries and level of focus may vary based on the objective of the experimental analysis. Therefore, in various research studies, "sector products" that have been examined can be very extensive such as nanotechnology products (nanotechnology) (Miyazaki & Islam, 2007; Islam & Miyazaki, 2009) or more narrowly on computer programs (software industry) (Klincewicz & Miyazaki, 2011). The definition of agents and actors involved in the sectoral system has remained mainly at the corporate level. However, other factors such as universities and R&D institutions are also among the main actors in SIS. A multi-faceted and useful way to describe actor-based innovation systems and activities is provided through the Technical-Economic Network Framework, which proposes three main poles --

science, technology, and market; two complementary poles; and development and transfer pillars (Bell & Callon, 1994).

The SIS approach is based, for Malerba (2005), on a sector as a set of activities that some product groups associate with a particular demand or appeal, as a call for sharing common knowledge. Companies in the sector have some common denominators which are, at the same time, heterogeneous. Multidimensional, integrated and dynamic views are the main concepts of SIS, with the theoretical view that changes in innovation and technology occur at different rates, types and paths depending on the sector in which they occur. The SIS concept complements other concepts within the literature of systems of innovation (Edquist, 1997). Understanding key sectors that drive the economy with their characteristics greatly helps to understand national growth and national patterns of creative activities. The rich and heterogeneous tradition of sectoral studies has clearly shown that sectors differ in terms of the knowledge base and actors involved in innovation, and these dimensions are clearly important for understanding and explaining innovation and its differences across sectors (Malerba, 2005: 381).

Heterogeneous companies face similar productive activities, look at similar knowledge bases, carry out similar production activities, "integrate" into the same institutional framework, share common behavioural and organizational characteristics, and develop a similar set of learning patterns, behaviour and forms of organization (Malerba, 2005: 387). The swaps focus on three key dimensions, as presented by Malerba (2005): knowledge, technological field and sectoral boundaries; actors, relationships and networks; and institutions.

2.7 Entrepreneurship

Entrepreneurship can be broadly understood as the willingness to manage, organize, and develop risky projects usually for profit. It is based on an initiative to create new ventures by utilising available resources, such as labour and capital (Alkhazraji et al., 2016). Other definitions of entrepreneurship view it as a set of skills that contribute to starting a new business; entrepreneurs are usually innovators in their areas of interest looking for a non-traditional project, unlike a businessman who looks at a project in terms of profit and loss. The 1933 Oxford English Dictionary defined an entrepreneur as "a person who sets up a business or businesses, taking on financial risks in the hope of profit; acting as intermediary between capital and labour". More recent definitions suggest that an "entrepreneur is a person who assumes the risks of inventing a new business or social venture that impacts peoples' lives" (Alkhazraji et al., 2016).

A more substantial impact of Schumpeter's work vis-à-vis economics is on entrepreneurship theory (Swedenberg, 2002: 19). Economists agree that entrepreneurs are somewhat important to economic development, with Schumpeter referring to entrepreneurs as "agents of creative destruction," who are changing the economic landscape by constantly undermining existing industrial companies. Subsequent studies have argued for a wide range of economic benefits generated by entrepreneurs: from innovation (Acs & Audretsch, 1988), to job creation (Blanchflower, 2000; Parker, 2009), productivity (van Praag & Versloot, 2007), facilitating technology transfer and accelerating the knowledge transfer from research to industry (Acs & Szerb, 2009; Grimaldi et al., 2011; Plummer & Acs, 2012; Terjesen & Wang, 2013). Whatever the specific allocation, the broad consensus is that entrepreneurship issues provide policymakers with the means to facilitate economic contributions to entrepreneurship, and it is important to provide them with modern measures of this phenomenon.

With innovation, Schumpeter points out, the importance of credit cannot be separated from entrepreneurial work. Credit mechanisms are important only when the use of credit is linked to the activity of "new combinations" and the transfer of production to "new channels." From this point of view, "the entrepreneur is the model debtor in capitalist society" (1942, p. 102). Associated with this approach in the economic sphere of society is the approach to capital and economic function. In Schumpeter's words, "capital is nothing but the lever through which the entrepreneur subjects to his control the concrete goods which he needs, nothing but a means of diverting the factors of production into new uses, or of dictating a new direction to production" (Schumpter, 1959:116).

The central argument of Schumpeter's thought system has identified the most important role of entrepreneurship in its innovative and inseparable nature. In his perspective these are simply features of individuals who run their business in a routine stage, and are certainly not distinctive characteristics of the entrepreneur perceived as innovative.

Another important distinction emphasized by Schumpeter is between entrepreneurial and other types of leadership. Schumpeter emphasizes the fact that the entrepreneur can be a very special person and does not need to convince others in the market of the "desire" in his vision, abilities or abilities capable of "leading the means of production to new channels;" often "the only man who must be persuaded or persuaded is the banker who will finance it " (Croitoru, 2012).

The key distinctions between business ownership and entrepreneurship are vision, aspiration, and strategy coupled with an ability to innovate. Both are risk takers, deal with ambiguity, spend money and time, and work hard. A business owner starts a new business, while an entrepreneur invents a new business that has an impact on society. A business owner starts a new business with a primary goal to benefit themselves economically and/or socially and operate

within the status quo, while an entrepreneur invents a new business with the intention to produce change, excite the world and perhaps bend the rules (Alkhazraji et. al., 2016).

Small and medium-sized enterprises (SMEs) can be defined by the number of employees, number of assets, or sales/profit generated. The number of employees is a measurement for defining small business because it clearly differentiates it from large organizations. In the GCC there is no generally recognized definition, but the number of employees is mostly used as a valid reference. The UAE Ministry of Economics is proposing definitions for SMEs based on the number of employees, yearly revenues and the business sectors in which the firm is operating (trade, manufacturing and services). Small businesses are the backbone of the GCC economy and constitute between 90%-95% of all GCC businesses. In the US, the number of businesses that employ fewer than 100 people is 29.2 million out of 29.3 million businesses in total, implying that 99.7% of US businesses are small (Alkhazraji et. al., 2016).

Based on this introduction of entrepreneurs and small businesses, Free Zones will be successful in attracting this category of entrepreneurs by providing services and privileges to help them start their projects. Some FZs have become highly focused on this category, having acknowledged that the number of companies registered in this region represents up to 90% of all registered companies, which is a radical shift in the way free zones have worked over the last 40 years; this includes some FZs in the UAE.

2.8 Competition

Competition is when one company competes with another company (or group of other competing companies) that has the same nature of business, trying to win customers; it also can symbolize the possibility of alternative products or entry of new companies into the market. If

there is no competitor to a product or service, there is often insufficient demand for this type of product which indicates the importance of a competitive environment in trade. Critically, competition enables greater opportunity for breaking down barriers. Many factors contribute to the level of competition, and for assessment purposes. There are many fundamental aspects of enhancing competition that lead to economic development, including FZs (Zeng, 2015). These are areas where companies face little or no tax to promote economic activities, with each country determining these taxation rules (Moberg, 2015). These privileges are to the benefit of consumers; goods can be exhibited, manufactured, used, assembled, sold or sorted in those zones according to a country's laws while being subject to regular import quotas (Zeng, 2015).

In a world that is increasing in trade and human mobility, the competition between countries and cities has also exponentially increased, therefore granting incentives or other subtle encouragement to likely investors and developing businesses within their territories. The incentives can range from tax reliefs or waivers that ease the acquisition of properties to the development of FZs. The free zones help in developing the economy of a location by offering business options, job opportunities and manufacturing options, among others. The zones are often used by transnational organizations for putting up factories for various goods; these areas exist as tools used by firms to increase their global competitiveness and crucially act as a level playing field when production and investment decisions are made. Free trade zones have proven to be successful trade programs by consistently creating and maintaining employment as well as capital investments. FZs that have been unsuccessful have faced criticism for their micro and macro-level limitations on businesses. However, some FZs have been outstandingly successful, with wealth creation and significant employment serving as industrialization starting points, especially for developing nations; an example is Jabal Ali in Dubai (Heilmann et al., 2014).

2.9 Business Models

The first time the "business model" notion was published was in Bellman et al. (1957), which explored how games could be used by businesses for employee training. The phrase “business model” was written just once in this paper, in the following sentence: “*And many more problems arise to plague us in the construction of these business models than ever confronted an engineer”* (Bellman, p. 474). Jones (1960) was the first to mention the term “business model” in the title of an article, concerning education and training for business students. He did not use the term "business model" in the article’s text, so it could be argued that it was not a deliberate or theoretical use of the term.

After the year 2000, with new technologies and the rise of the internet, the expression "business model" was increasingly used by both researchers and those working in business. There were articles using the term "business model" across different areas of business, such as strategy, organization, and globalization (Ghaziani & Ventresca, 2005).

2.9.1 Business Model Development

The development of the concept of the business model builds on the principal ideas in the field of business and strategy. The majority of business model constructs focus on the concept of the value chain, and are linked with the strategic positioning concepts of the values system (Porter, 1998). Since the business model may also include competitive advantage, it is also dependent upon resource-based theory, as it uses internal sources and skills development (Barney et al., 2001). A company’s ability to generate greater value impacts the connection to the theory of a strategic network (Jarillo, 1995) and collaborative strategies (Dyer & Singh, 1998).

Based on Schumpeter's (1934) theory of economic development as discussed in Section 2.2, the creation of a good value is based on the utilization of resources which produce innovations. Regardless of the outcome, the actual operational costs determine the efficiency of the transactions and impact value. As part of the process to build value, a company needs to develop appropriate relationships with consumers, partners, and suppliers, and it suggests that this model can lead to the creation of outcomes that offer greater value and higher revenues for the company.

At the same time the business model also supports interrelated components of the system which act as a backbone, the company's driving force. Within systems theory, companies can be open to dealing with different levels of complexity affected by the subsystems and bordered by the environment and the open exchange of information (Petrovic et al., 2001).

There are many writers who try to define a business model as how the company matches its business strategy to reflect the market fluctuations around the world. There is no single method to use; every company needs to tailor its business model strategies differently from other companies. According to Teece (2010) the business model can provide great value to customers, and meeting revenue targets means that there is a good business model working. However, the development of an effective business model is not enough in itself to ensure a competitive advantage.

2.9.2 BM and FZBMs: Scope, Focus, and Elements

BM definitions abound as do their differences in scope and focus (Morris et al., 2005; Zott et al., 2011). A BM can be implicit or explicit (Stewart & Zhao, 2000: 290; Teece, 2010: 172). If explicit, then a BM can be considered as a conceptual, textual, and/or graphical abstraction of a business. It should as a minimum describe the main rationale of a business, its main building

blocks, and interrelations. There is a lot of variation in the extant literature as to how these should be articulated; for example, should the main rationale be articulated as strategy (McGrath, 2010) or as value creation-delivery-and-capture (Teece, 2010)?

Part of the difficulty in establishing a firm scope and focus stems from the fact that BMs embody disparate literature strands and theoretical traditions. These include, but are not limited to: strategic positioning and competitive advantage theory; value chain concepts (Porter, 1996); resource (Barney et al., 2001) and relational-based views (Dyer & Singh, 1998); transaction cost economics (Williamson, 1998); the boundaries of the firm (Barney, 1999; Holstrom & Roberts, 1998); and technology and innovation theories (Schumpeter, 1936; Chesbrough, 2007). Another difficulty stems from the multiple uses of BMs; e.g. as an aid for economic, strategic, and/or operational decisions (Morris et al., 2005).

The above are reflected in the diversity in quantity and quality of the building blocks comprising a BM; there is even disagreement as to whether they should be referred to as building blocks (Taran et al., 2015), components (Johnson et al., 2008; Morris et al., 2005), elements (Osterwalder et al., 2005), competences (Morris et al., 2005), or functions (Chesbrough, 2007). For the purposes of this study we will consider most of these as equivalent and thus use them interchangeably.

Besides the obvious differences denoted by these authors and their favoured notions, the number of their BM components rarely exceed ten (Morris et al., 2005: 728). There have been both ontological (Al-Debei & Avison, 2010) and epistemological (Morris et al., 2005) attempts of their synthesis; the former place emphasis on what a BM is, whereas the latter on how it becomes known. Thus, although the former is highly insightful, it is the latter that is more consistent with the exploration undertaken in this thesis. Its focus on FZ BM innovation (e.g. instead of

entrepreneurs as in the Morris et al., 2005 study) necessitates a slightly different epistemological synthesis. Its first step can be found in Osterwalder and Pigneur (2010) that developed a framework for creating BMs that could encompass all elements of a business; namely: creating, delivering, and capturing value. They named their framework "BM canvas" because they envisioned an artist's canvas; allowing maximum creativity, discussion, and analysis of a business model. Their "BM canvas" comprised of nine elements and provides a major first step towards the requisite epistemological synthesis:

1. Customer segments. The target group of people the business wishes to serve.
2. Value proposition. A description of the value of a company's offering – in service value and/or monetary value.
3. Channels. The methods by which a company will interact with its customers, either for communication or the delivery of goods and/or services.
4. Customer Relationships. The means through which relationships will be built and maintained with customers.
5. Revenue Streams. How the business will generate and collect income.
6. Key Resources. The primary assets that are needed in order for the business model to function properly.
7. Key Activities. The critical things a company must do in order for the business model to function properly.
8. Key Partnerships. Most businesses will not be successful independently, rather they require a network of partners and suppliers to facilitate the proper function of the business model.
9. Cost Structure. A determination of the major costs that will need to be met in order for the business model to be established and maintained.

It should also be noted that a business can operate with more than one BM at the same time (Kim & Min, 2015). For example, IBM -- after providing computing solutions for large organisations for more than 50 years -- entered the personal computer market in 1981 with a different business model, which it run successfully in parallel until it sold its personal computing division to Lenovo in 2005 (Markides, 2013). In such cases it may be possible to share some elements between the two BMs. For example, Qantas (premium airline BM) and its subsidiary Jetstar (low cost airline BM) share Oneworld (air travel alliance) partners and resources (e.g. reservation system, Qantas cash), allowing Oneworld customers to include in their itinerary a Jetstar flight bought via Quantas with a Quantas flight number.

Given the above, it should be unnecessary to argue that BMs can vary across several dimensions, as well as that they are highly dependent upon execution/implementation (Johnson et al. 2008; Morris et al., 2005; McGrath, 2010; Richardson, 2008; Viscio & Pasternack, 1996). It has been a matter of contention in Osterwalder (2004:44) for example, as to what factors should be considered as internal to a BM (e.g. as listed in Table 2.2) as opposed to being implementation or execution related (e.g. the BM position in a focal competitive landscape or the position of the firm in a focal value configuration). According to Osterwalder et al. (2005: 8) BMs, although excluding execution/implementation, rely on them to be substantiated.

This last point of implementation is of particular relevance to empirical studies of BMs, and this thesis in particular, because one has rarely access to BMs and their elements *per se*, but only to their implemented manifestations. As such, the BMs observed in practice are influenced by (as well as influencing for that matter) a myriad of additional factors beside their original articulation; such as organizational (Sosna et al., 2010) and individual (e.g. managerial – Martins

et al., 2015) learning, their fit with available technologies (Hu, 2014), and the firm's internal (e.g. culture – Bock et al., 2012) and external environment (Linder & Cantrell, 2000).

Given the so far review of the literature (and in anticipation of the material that will follow in the remainder of this thesis) it should be redundant to argue here that the aforementioned BMC elements are a poor fit given the FZ particularities as an organisational form (e.g. its territorial rooting, its function as an FDI attractor and host for other companies, and bespoke regulatory/governance frameworks); necessitating thus an augmentation of the BMC in three key respects:

1. The BMC "revenue stream" element offers a rather narrow performance perspective and needs to be augmented by additional perspectives as suggested for example by the Balance Scorecard approach (Kaplan & Norton, 1992). This element is thus augmented through the inclusion of additional performance measurement perspectives becoming a 'performance and effectiveness measurement' element. This is necessary if for example any efforts towards better alignment of FZ key performance indicators (KPIs) and national competitiveness are to succeed.
2. The BMC is missing a regulatory/governance framework element; identified as crucial in the broader BM literature (Amit & Zott, 2001; Santos et al., 2009; Viscio & Pasternack, 1996). This is pertinent given that FZs are characterised by highly bespoke regulatory/governance frameworks. Moreover, given that any regulatory/governance framework 'sets the rules of the game' for all other BMC elements this regulatory/governance element is depicted in the augmented BMC as encapsulating all other components (as depicted in Fig. 5.3).

3. The referents of the aforementioned BMC elements require contextualisation given the FZ particularities as an organisational form (as summarised in Table 2.2).

This augmentation effort yields an enhanced BMC (EBMC hereafter so to avoid any confusion with the original BMC); which is more apt to the FZ specificities. In the following Table the EBMC elements are summarised along with their definitions, and sources in the reviewed literature (base concept). Taken together these elements, they also represent the definition of a FZ BM (e.g. what it is, what does it consist of, and how it becomes known) that will be used in the remainder of this thesis.

Element	**Definition**	**Literature source (base concept)**
Customer Segments (CS)	The organisations and groups served or targeted to be served by the FZ.	Chesbrough (2007); Johnson et al. (2008); Osterwalder et al. (2010)
Value Proposition (VP)	The product and service mix that creates value for a CS. The problem the FZ solves, which is the reason why customers use the particular FZ.	Amit and Zott (2001); Chesbrough (2007); Johnson et al. (2008); Osterwalder et al. (2010);
Channels	Direct and indirect mechanisms through which the FZ reaches its CS to deliver its VP. These include all FZ CS interfaces; e.g. payment, distribution, logistics, transport, sales, customer relationships.	Osterwalder et al. (2010)
Customer Relationships	Established and maintained with the CS, how they integrate with the rest of the BM and their cost. Such relations can be, for example, through corporate communications, account managers, online or automated services, help desks, agents, road shows, trade missions.	Osterwalder et al. (2010)
Key Resources	Physical, intellectual, human, and financial resources and capabilities required for the BM to work; e.g. transport and ICT infrastructures, warehouses, offices, industrial land, working capital, political competences.	Johnson et al. (2008); Osterwalder et al. (2010)
Key Activities	Through which the FZ delivers its VP to the CS. This can also include supplementary, albeit differentiating, activities thus rendering them into key; e.g. start-up loans, service customization, and flexible payment schemes.	Osterwalder et al. (2010)
Key Partnerships	The local, national, and international business and government network of suppliers, partners, and stakeholders that make the BM work; e.g. transport authorities, security, insurance and financial institutions, telecoms, employment and work permit agencies.	Chesbrough (2007); Johnson et al. (2008); Osterwalder et al. (2010)

Cost Structure	Fixed and variable costs required for the BM to work. It includes economies of scale and scope, as well as the FZ positioning in the cost vs. value driven continuum.	Chesbrough and Rosenbloom (2002); Osterwalder et al. (2010)
Performance & Effectiveness (measurement)	Multiple perspectives: Financial (e.g. value capture, revenues), Customer, Internal, Innovation, Stakeholder/public/environment/Corporate Social Responsibility.	Richard et al. (2009); Kaplan & Norton (1992) (balanced scorecard); Elkington (1997) (triple bottom line); Chesbrough (2007); Johnson et al. (2008); Osterwalder et al. (2010) (revenue model/ mechanism, profit formula)
Regulatory/ Governance framework	The mechanisms for controlling the organizational units and their linkages. This can include a mixture of public and private ownership as well as additional complexities due to the FZ partnerships and/or the FZ being part of a group (holding company) or a subsidiary in a foreign country, as well as due to FZ-specific regulatory frameworks.	Amit & Zott (2001); Santos et al. (2009); Viscio & Pasternack (1996)

Table 2.2 Synthesis of BM elements reported in the literature, adapted to the FZ context yielding an enhanced BM canvas.

Source: Author generated

2.9.3 BMI and FZ BMI

BMI is about finding new ways to organise a business (Casadesus-Masanell & Zhu, 2013: 464). BMI has been pursued proactively or reactively in a variety of forms, that range from completely new BMs at the inception of a firm (e.g. Airbnb, IKEA, Uber) to innovations in a single element of extant BMs in established companies. For example, Taco Bell in the late 1980s introduced the kitchen-less concept by bringing to its restaurants pre-cooked food ready to be heated and served. The cooking was taking place at headquarters allowing economies of scale, consistency in quality, and space savings at the restaurants that could be used for serving additional customers, thus capturing value that would otherwise be lost (Santos et al., 2009: 16ff).

BMI can be undertaken in response to the appearance of disruptive technologies (Chesbrough, 2010; Christensen, 2006; Markides, 2006) or in response to a new entrant to the market that uses a novel BM. For example, Qantas established Jetstar (a low-cost carrier BM) in response to the threat posed by the low-cost carrier BM of Virgin Blue (currently Virgin Australia). BMI can also utilise ideas from outside the industry during firm inception. For example, Southwest

Airlines (the original and largest low-cost carrier in the world) adopted its BM from interstate bus transportation; whereas the McDonalds chain of fast-food restaurants brought assembly line production techniques into catering (Santos et al., 2009: 14).

BMI may also require more than articulating a new BM or changing the complete BM of a company. That is, going beyond the firm boundaries to create a new industry and/or even a global infrastructure. For example, Gustavus Swift's new BM for the meat packing industry meant creating refrigeration facilities, often in partnership with local wholesalers, throughout the US. Similarly, Malcom McLean, the inventor of containerisation, had to give his patents for free to the International Standards Organization in order to standardise containers (Teece, 2010). The last two examples should not be interpreted as meaning that inventors, even great ones, always get the BM right or that they can shape the resultant industry. Thomas Edison failed at least twice in that respect with his insistence: a) to get direct rather than alternating current as the industry standard for electricity generation and transmission, as well as b) that his phonographs only played Edison disks and vice versa (Teece, 2010).

BMI can also focus on areas of value that are not currently captured by a BM, i.e. uncaptured values. Yang et al. (2017) categorised such uncaptured values into four groups: *surplus* (i.e. a value which exists, but is not required as in the case of underutilized resources or wasted heat, energy), *absence* (i.e. value which is required, but does not exist such as recycling, labour/warehousing shortages during peak times), *destroyed* (i.e. value with negative outcomes such as damage to the environment and/or society, depletion of non-renewables, poor service quality, bad working conditions, health and safety problems), and *missed* (i.e. value which exists and is required but is not exploited, such as underutilised by- or co-products, inefficient use of resources, etc.). They suggested taking a closer look at extant BMs before initiating BMI so that

these uncaptured values become visible and part of the BMI effort. One such frequently uncaptured set of values relates to environment and sustainability. These can provide opportunities for successful BM designs (França et al., 2017; Karlsson et al., 2017).

BMI can thus be positioned in various continuums (e.g. efficiency vs. novelty) (Hu, 2014), and tentative typologies have been proposed for BMI classifications that also consider the BMI context. For example, according to Taran et al. (2015: 308) three BMI and two context characteristics suffice to that effect, starting with BMI: radicality (e.g. incremental to new), reach (company to the world), and complexity (number of BM blocks that need to be changed); whereas in terms of context: strategic (proactive vs. reactive) and organisational (open vs. closed[3]). Taran et al. (2015: 325) claimed that such a typology can act as a powerful decision-making tool by helping managers "identify, estimate, and seek consistency between the key drivers of BMI success" while providing "key pointers to be considered, particularly the importance of risk appetite and mitigation."

As this is an exploratory study in the FZ BMs and their innovation (i.e. there is lack of prior empirical evidence of what FZ BM/I may look like in the real world) no *a priory* conditions are to be introduced that could limit as to what may count as BMI in the context of FZs and UAE FZs in particular. As such the broadest definition of what counts as a FZ BMI is to operationalised that allows any innovation in at least one of the FZ EBMC elements to count as FZ BMI in the UAE.

[3] Closed refers to the BMI taking place within the original organisational setting; whereas open refers to a BMI that requires opening up the original organisational context (for example through a joint venture or an acquisition that gives access to a new market) (Taran et al., 2015: 317).

2.10 Summary and Research Gap

The reviewed literature culminated with the definition of FZBM as a composite construct comprising the constellation of the elements reported in Table 2.2. Moreover, FZ BMI was identified as innovation in at least one of these elements.

These points were reached following a review of the relevant literatures on economic development, policy, institutions, investment, innovation, entrepreneurship, and competition, as the FZ BM/I literature lies at the intersection of these literatures. Moreover, the review of the aforementioned literatures also highlights several conditions under which an appropriate FZ BM/I could enhance lagging areas of the UAE national competitiveness as an IDE. For example, by attracting and maintaining FDI by foreign Universities in FZs specialising in knowledge, lagging areas of the UAE national competitiveness associated with 'HEIs and training' could be enhanced. Similarly, the further development of FZs specializing in financial services could enhance the levels of sophistication, regulation, and competition in the UAE financial market which could aid its 'financial market development'; another lagging area of the UAE national competitiveness. Moreover, such conditions could be cumulative, self-reinforcing, and in general have virtuous combinatorial/multiplicative effects. For example, the aforementioned FZ-hosted foreign HEIs could develop specialist courses in financial management that will further improve the quality, skills, etc. of the workforce in this sector. Thus, accelerating the UAE 'financial market development'; while the demand for such programmes may entice these HEIs to increase their stocks of FDI by developing specialist facilities (e.g. trading suites) for such financial training programmes.

In the following chapter such conditions are better contextualised, as the empirical context for this research; namely, the UAE and its FZs are deepened upon.

Following, this contextualisation and the fuller discussion of the methodology used in this research in the subsequent chapter; the aforementioned ideas are to revisited in the penultimate and final chapters. In particular the EBMC will be used to present the findings concerning the FZ BMs as well as to structure the discussion around the FZ BMIs that were identified empirically in this research. It is only after such matters are established empirically, that a fuller discussion, grounded in the demonstrated empirical regularities of the UAE context, about the conditions under which an appropriate FZ BM/I could enhance lagging areas of the UAE national competitiveness as an IDE is pursued in the concluding chapter of this thesis.

Chapter Three: Free Zones, the UAE, and the Free Zones in the UAE

3.1 Introduction

The purpose of this chapter is to provide the background necessary for understanding the context of the KRQ and the research stemming from that, as well as preparing the groundwork for establishing a comprehensive understanding of FZs and the importance of creating a BM/I that could enhance their potential.

This overview consists of three key parts: firstly, the basic concept and history of the free zones and their benefits, FZ types and scope; which will help to understand the background of FZ in the world. Secondly, a brief history of the UAE (from prior to its establishment to today), including the current economic environment, political administration, the state structure and policies, and the national innovation strategy, as these form the research context. Thirdly, the position of free zones in the UAE, focusing on their locations and ownership/control, competition, challenges, and potential for attracting major FDI inflows.

3.2 The Historical Evolution of Free Zones

One of the oldest FZs recorded dates to 300 BC on the Greek island city-state of Delos, where the Romans established a “free port” that served as a customs-free trading centre that encouraged trade among a range of peoples (Jayawardena, 1983). This suggests that the concept of a free zone is not a new idea and that its benefits (e.g. in international trade and economic development for hosts and users) have been well understood for at least hundreds of years (Gibbon et al., 2008).

Although pirates ultimately overran the Delos "free port" around 69 BC, several other cities carried on over the centuries developing entities that could be construed as manifestations of the FZ concept, including the free Roman cities, the Hanseatic League (1358-1862) cities and *kontors*[4], Gibraltar (1704), Singapore (1819), and Copenhagen (1891) (Gibbon et al., 2008).

A more recent example can be found in the Shannon FZ in Ireland, established in 1959; often considered as the archetype for modern FZs (Keshavarzian, 2010). The main objective of the Shannon FZ was to create a growth pillar in the underdeveloped southern part of Ireland. This also provides some insight into the function of FZs as instruments of economic development and revitalisation in developed economies. The rationale for establishing FZs places emphasis on attracting FDI, providing suitable infrastructure, tax exemptions, and easing access to labour -- all of which enhance their competitiveness as FDI destinations by reducing entry and operational costs.

It should therefore come as no surprise that the number of FZs has been steadily increasing (Heath, 2013); as summarized in Table 3.

Year	No of Countries	No of FZs	Employees ('000s)	Source
1959	2	4	NA	Bolle, and Williams, 2013
1975	10	20	50	Kusago and Tzannatos, 1998
1979	NA	79	800	Bolle, and Williams, 2013
1985	46	175	1300	Bolle, and Williams, 2013
1990	60	200	2500	Bolle, and Williams, 2013
1997	NA	845	22500	Bolle, and Williams, 2013
2006	135	3500	66000	Bolle, and Williams, 2013
2017	135+	3500+	70000	WFZO, 2015

Table 3.1 Growth in the number of FZs, their employment, and number of countries hosting them
Source: Author generated from the above multiple sources.

[4] The League established cities and Kontors (i.e. a foreign trading posts) in several cities throughout Northern Europe (e.g. in Hamburg, Bryggen, and London).

Besides FZs other labels have been used to designate specially-delineated geographical areas used in international trade; e.g. special economic zones, foreign trade zones, and export processing zones, each of which may include other conditions specific to their individual situation. There are international conventions, such as the revised Kyoto Convention (Kyoto Protocol, 1998) which intended to simplify and harmonise customs procedures, described as "part of the territory of a contracting party where any imported goods are generally regarded as import duties and taxes outside the customs area" (Turner, 1999). see Table 3.2).

Term	Initial users and date of first use
Free trade zone	Traditional term used since 19th Century
Industrial free zone	Ireland (pre-1970)
Maquiladoras	Mexico (early 1970s)
Export free zone	Ireland (1975)
Duty free export processing zone	Republic of Korea (1975)
Export processing zone	Philippines (1977)
Special economic zone	China (1979)
Investment promotion zone	Sri Lanka (1981)
Foreign trade zone	India (1983)
Free zone	United Arab Emirates (1983)

Table 3.2 Names of geographical areas demarcated for international trade and FDI-purposes in use across different spatio-temporal localities
Source: Kusago and Tzannatos (1998)

In general, a FZ is an area or system within a country that has a special status with regard to customs and tax controls, where companies are licensed to do business or provide services for import, export or re-export. A separate customs area affords duty-free benefits and streamlines to promote international trade (Heath, 2013).

FZs can be encountered near air, land, or sea points of entry, but they can also be found far from such traditional points of entry; following very different rules. Their location makes it easy to access an area as well as enter and exit a customs area. It also provides customs officers with easy access to the port and free trade zone. In general, goods that are prohibited by law are not allowed to be admitted into a FZ but certain types of restricted goods may be allowed, for example

those that may require a special license. In most FZ cases, the goods that leave are accompanied by commercial documents such as a bill of lading and a commercial invoice. Tracking is done through a combination of paper and Information Technology (IT) systems, depending on the area, although many use both. Most FZs document the proportion of goods entering the area, but this varies greatly (Force, 2010).

There is more than one kind of FZs such as manufacturing, processing, warehousing, storage, and transit. Moreover, some of them may also comprise land, assets, and/or installations beyond the FZ in order to facilitate a particular activity. For example housing, retail, financial services, and even tourism, and gambling (Force, 2010).

3.2.1 Free Zones, Economic Development, and Competitiveness

As introduced in section 2.2 economic development, competitiveness, and innovation combine through several factors, to allow highly competitive economies to grow and to produce higher levels of income for their companies and citizens as well as higher returns for investment.

FZs could augment national competitive advantages, enhance economic freedom for foreign and domestic investors, and provide "equal opportunity" in economic prosperity; especially for economies at early stages of development (Froning, 2000). Development can thus take a variety of forms; from GDP growth due to the new/additional services and profits from FZ activity, to reducing unemployment as FZs often locate near areas of high unemployment (US Small Business Administration, 2012).

There is also little doubt that the number of FZs will keep growing. As countries at all stages of development turn their attention to FZs as instruments for economic development. That could be pursued in many ways, leading also to different kinds of FZs (further discussed in the

following section). Some FZs are intended to facilitate business activities, attract FDI, and/or stimulate technology/knowledge transfer, spillovers, and development. For example some economies, seek development through a particular kind of FZ, reported in the literature as an export processing zone (EPZs), which specialises in manufacturing for exports, and provides to its host companies free trade conditions and a more liberal regulatory environment (Madani, 1999). Unsurprisingly thus, certain kinds of FZs are often trying to attract economic activity by offering more flexible governance systems.

Nonetheless, the impact of FZs in an economy can vary due to a number of factors, including the economy's stage of development and levels of national competitiveness. For example Porter, Sachs, and McArthur (2001) discuss the role of FZs in economies across the WEF three stages:

a. In *factor-driven* economies, where the competitiveness of the economy is based on primary factors (e.g. land, unskilled labour, and basic commodities), governments are focused on providing economic stability and attracting FDI to FZs so to benefit from its utilization of local commodities and unskilled labour; technology is imported, either through imitation or FDI (Porter, Sachs and McArthur, 2001). FZs can be attractive to factor-driven economies, however gains from FZs are not guaranteed (Madani, 1999). Achieving economic objectives through FZs will occur if these regions are managed well and in a consistent manner. This is largely dependent upon the host country and its circumstances (Siroen et al., 2014).
b. *Investment-driven* economies build towards greater integration with global markets; technology is still imported, but is also developed upon and improved. Priorities are set on improving local infrastructure (physical and regulatory), which can further facilitate FDI

(Porter et al., 2001) in this stage diversity of free zones will one element of many elements that help improve the economy.

c. Economies that are *innovation-driven* are a result of strong government encouragement of innovation in both public and private ventures, with flexible networks created to facilitate upgrading and development. Companies within a common sectors compete and cooperate resulting in further innovation and the development of global competitive strategies (Porter et al., 2001) in this stage diversity of free zones it's not enough to enhance competitiveness and growth but need innovative model and innovative services.

The ownership, organisation, and operation of FZs has been changing over the past 30 years. One of the biggest changes was the move away from public sector development to private ownership and operation throughout the world. In 2005, 62% of the 2,301 FZ-areas in factor-driven economies were private sector developments, compared to the 1980s when it was less than 25% of the world's 14 special regions (see Table 3.3).

Region	State owned FZs		Privately owned FZs		Total
	No	%	No	%	Total
Americas	146	27.1	394	72.9	540
Asia and Pacific	435	43.8	556	56.2	991
Sub-Saharan Africa	49	42.9	65	58.1	114
MENA	173	81.2	40	18.8	213
Central/Eastern Europe and Central Asia	69	15.5	374	84.5	443
Total	872	37.8	1,429	62.2	2,301

Table 3.3 Private and state ownership of FZs in different geographical regions
Source: Akinci et al. (2008)

This change resulted from the knowledge that FZs can be very profitable; e.g. when an operator includes several area management components, taking advantage of economies of scale. In addition to those areas owned and managed 100% by the private sector, a number of public-private partnerships have also been developed with governments providing incentives to developers of private FZs (Force, 2010).

The wave of privatisation has catalysed the development of FZs, leading to the creation of more FZs with increased purpose and privileges, and reduced bureaucracy. The FZs are becoming more diverse internally; e.g. including retail, housing, and professional services among others. Some FZs are designed by the government and then run by private operators, while in others the operation of the free zone is under the direct control of the national government or the regional government. FZs provide investor services for liaising with the government (e.g. to obtain permits), reducing bureaucracy and delays, and/or acting as an interface (if not a substitute) to state institutions.

3.2.2 Free Zone Archetypes Around the World

According to FIAS (2008) there are distinct kinds of free zones encountered across different countries, which can be seen as approximating one of the following six archetypes:

- **Free trade zones**: the most common variant encountered worldwide, providing warehousing, duty-free areas, and storage near ports or airports, re-export operations and trans-shipment facilities. *Example: Colón Free Zone, Panama.*
- **Export processing zones:** an industrial area focused on foreign markets and products for export; usually this variant comprises a general FZ area and an export-processing zone. *Example: Karachi EPZ, Pakistan.*
- **Enterprise zones:** designed to give a new lease on life to distressed areas or poor villages; governments often provide financial grants and tax incentives. *Example: Empowerment Zone, Chicago, USA.*
- **Free ports:** larger areas providing a greater set of incentives and benefits that include all types of business activities such as retail sales, tourism, and residential housing. Usually goods can be brought in a free port without tax being paid if they are sent to

another country when they leave the free port area. *Example: Aqaba Special Economic Zone, Jordan.*

- **Single factory**: a set of incentives for a single business that is not tied to a particular location. *Example: Jinfei Economic Trade and Cooperation Zone, Jinfei, Mauritius.*
- **Specialized zones:** a more recent development, this kind of zone includes technology, medical campuses, scientific businesses, and infrastructure. *Example: Dubai internet city, Dubai, UAE.*

In section 3.7 the classification of the FZs encountered in the UAE, by its Ministry of the Economy (2015) will be elaborated; that is following the introduction of the UAE specificities in section 3.3 onwards. It should thus, suffice to state here that some of the aforementioned archetypes (viz. free trade zones and specialised free zones) will also form part of the UAE classification. Nonetheless, specific types or classifications thereof are not particularly relevant to this thesis. As it main argument and key research question concerns the FZ BMs. That is, the main unit of observation and analysis in this thesis is the FZ BM and as it will be established in chapter five (and section 5.6.2 in particular) the encountered variety of FZs in the UAE can be reduced to two basic BMs; namely conventional and specialized. Although overlaps can be seen between some of the aforementioned archetypes, and/or UAE Ministry of the Economy classifications (to be elaborated in section 3.7) and these two FZ BMs this is rather incidental. In the same way a no-frills or free BM can be encountered in different types of companies; e.g. airlines, supermarkets, hotels, car hire (for the no-frills BM) and TV, radio, newspapers, youtube (for the free-for-the-user BM). That is, what matters most in terms of this thesis is the UAE FZ BMs rather than their specific types.

3.2.3 Pros of Free Zones

There can be implications when development in the region enriches the surrounding area. FZs can also experiment with international competitive systems before economic reform is applied to the entire territory of the country (Force, 2010). The following FZ objectives are most pertinent currently FIAS (2008), (Madani, 1999) and (Force, 2010) :

- Attract and encourage foreign and local investment and development.
- Generate sources of foreign currency.
- Increase trade exchange and the volume of exports.
- Provide new sources to support the national economy and resources, and diversify sources of income.
- Introduce modern technologies and acquire new skills.
- Create new job opportunities for employment and development of skills.
- Utilise infrastructure, facilities and available comparative advantages.

3.2.4 The Cons of Free Zones

Every aspect of the FZ debate is a common impression of success in various countries in Europe, Asia and the Middle East. At the same time, FZs have also been criticized for negative socio-economic impacts (Aggarwal, 2019), particularly with regard to the exploitation of women via low wages, lack of training or upgrading of skills, the use of trainees to reduce wage costs, long working hours, health and safety issues and lax environmental standards(Madani, 1999). Moreover, by FZs assisting free trade they have also been subject to the usual free trade critiques; e.g. job losses in traditional industries, trade asymmetries, and global environmental damage. In the following paragraphs some of the key FZ cons are deepened upon.

Adverse Working Conditions

While underdeveloped countries try to cut costs to gain a price advantage, many workers in these countries face low salaries, precarious, and even forced labour. According to an article in the New

York Times titled “An Ugly Side of Sweatshops in Jordan's Free Trade Area,” Stephen Greenhouse and Michael Barbaro said the garment industry - “driven by… free trade” - was booming in Jordan and exports to United States . However, there is a dark side to this free trade, the paper said. “Some foreign workers in Jordanian factories that produce clothes for Target, Wal-Mart, and other American retailers complain of dire conditions - for 20 hours - of not paying their salaries for months (Teeboom and Seidel, 2019).

Foreign Direct Investment

Not all FZs are able to attract FDI. An example are the Senegal special economic zones, which have so far play a marginal role in attracting FDI to the economy. It should be noted that the importance of FDI goes beyond providing the necessary capital (financial and machinery) in developing economies to stimulate industrialization (Madani, 1999). Regardless of the beneficial contribution of FDI, the expected share of FDI is sometimes overestimated. The cost of developing infrastructure, public services, and other administrative costs associated with the establishment of temporary buffer zones can sometimes outweigh the resultant FDI, thus diverting national resources from more viable alternatives. Governments of developing economies should therefore conduct a thorough cost-benefit analysis before establishing a FZ.

Export Diversification and Increase in Exports

The establishment of FZs could lead to a significant increase in national exports and industrialization in developing economies. Data from numerous statistical studies indicate a significant growth in the total volume of FZ exports as a share of national exports (Assenza, 2010). However, the increase in the volume of exports in such countries may not be related to the establishment of the FZ but instead could be linked to economic reforms and changes in the global market (Engman et al, 2007).

Employment Effects

One of the main goals of creating FZs by governments is to create jobs, which can in turn help increase the income of the people in these countries and encourage local savings and investments in industries. FZs, for the most part, have created jobs. However, in some cases the workers come

from abroad, and/or in others the number of new/additional jobs created, relative to the total workforce in the country, is rather modest (Engman et al, 2007).

Earnings in Foreign Exchange

Companies hosted in FZs usually undertake labour-intensive production processes; e.g. in the apparel and electronics sectors. The vast majority of inputs to such processes/sectors are usually imported instead of domestically sourced. Thus, the foreign exchange impact from such imports to the FZ could undermine any gains from the growth of exports due to the FZ. There can be exceptions, as in the innovation-driven (stage three) economies of Korea and Taiwan (e.g. Taipei Port FZ). However, in other for economies; especially those at earlier stages of development such effects/benefits can be rather limited (Madani, 1999).

Linkages to the Domestic Economy

As a manufacturing strategy, one of the direct linkages for FZ in manufacturing are the links create with domestic/local companies. It not only helps transfer technology and know-how to local industries, but also provides forward and backward linkages in the host economy (FIAS, 2008). However, the UNCTAD World Investment Report 2002 reported that there are no significant differences between FZ and non-FZ based export-oriented firms in terms of technology transfer because most of the activities in the FZs are characterised by low added value activities with no access to advanced technology (UNCTAD, 2003). In most cases, foreign companies hosted in FZs maintain their Management, Research and Development Departments within their headquarters in developed economies (Assenza, 2010).

Labour Law and Environmental Regulations

In an effort to attract foreign companies to their FZ, the governments of developing economies tend to relax regulations in the respective areas. Because multinationals are able to choose between a wide range of developing countries with regions to set up their factories abroad, which often have weak or non-existent regulatory and / or supervisory presence on safety and health issues in the work environment. Although lax regulations may make the host country more attractive to industries with environmental pollution, it can create long-term health problems for

the population (Dunn, 1994). Such actions also contribute towards a global 'race to the bottom' for all economies.

Impact on the Budget of the Government

The creation of a FZ requires the host government to spend substantial resources and thus affects its budget; especially in government-owned/run FZs. Investments in infrastructure, administrative costs, foregone taxes, subsidies, and service charges are some of the financial resources lost by such governments. This revenue loss becomes even more significant when FZs fail to achieve their purpose (e.g. attract FDI, reduce uneymployment) as in the cases of Namibia and Senegal (Assenza, 2010). In such cases, the resources that could have been invested by the state in addressing such problems directly may be wasted on the establishment of the zone. The potential revenue or cost of operating the zone depends on the type of infrastructure and incentives the government provides to companies in the FZ (Engman et al, 2007). Moreover, even in innovation-driven economies there are added risks that FZs do not create new economic activity but rather divert existing business into the area with the allure of tax breaks – at a cost to the taxpayer in the form of lost revenue (Institute for Government, 2019). Even if successful, FZs create the need for duplication of differentiated border/customs controls which add to the costs that need to be met by the government state/tax-payer. Finally, the benefits from an FZ may take many years to materialize (e.g. in the case of Mauritius more than 20,) while its costs start running years earlier in advance (Papadopoulos and Mahorta, 2007:152).

Summary of FZ Pros and Cons

According to FIAS (2008) present the pros and cons of FZs 3.3.

Subject	Pros	Cons
Foreign exchange earnings	Countries can increase value- added through "equal footing" policies.	Zones host import-dependent activities with low value-added.
Industrial activity	Many zones have promoted industrial what? (knowledge transfer) and skill upgrading.	Zones perpetuate low-skill assembly operations
Policy reform	Zones are catalysts to broader reforms.	Zones help avoid country-wide reforms.
FDI	Zones are an effective tool to attract FDI and most industries are not footloose.	Zones attract the "wrong" FDI in low-tech, low-skill, and foot- loose activities.
Women	Zones are an important source of employment for women and higher wages.	FZ industries segregate women and pay them lower wages.
Labour rights	Most zones comply with ILO standards.	Zones suppress basic labor rights.

Working conditions	Better run zones offer much better working standards and conditions than elsewhere.	Zones permit companies to get away with poor workplace health and safety conditions.
Environment	Well-run zones have better environmental controls and practices.	Zones have lax environmental controls to attract polluting industries.

Table 3.4 Free Zones from two perspectives
Source: (FIAS, 2008)

All what introduced about the corn of FZ that that fact in some area in the world, in the UAE in the section 5.2.3 Governmental Policies (Federal Government) and their Impact on FZs the government try to fix the Labour system by caritive The Wage Protection System (WPS). Other negative points such as foreign exchange gains, women, and the environment are continuously addressed through the establishment of specialized centres and their monitoring in every emirate in the UAE there is a body of the environment authority, however this does not prevent the existence of some shortcomings, that need to be research and investigate more.

3.3 The Historical Evolution of the United Arab Emirates

The political unit of the Arabs is the tribe, a group of people belonging to one common origin held together by the unity of the community and linked by association of the family and the clan. This association provides a sense of cohesion, solidarity, and integration between those who share familial blood. It is thus, the source of political strength and defines individuals, linking them together (Hopkyns, 2014). Traditionally the tribes lived in tents and made their living from camel and cattle grazing, moving from place to place in search of water and cattle/supplies. Such communities developed from the Arab tribes native to the Arabian Peninsula and predate the formation of the UAE (National Archives, 2017).

3.3.1 Pre-UAE History of the Region

The tribal-system of government in the last decade prior to the establishment of the modern state (more than 50 years ago) had a direct impact on the formation of the UAE. In this system, the ruler is chosen by the tribal council and the title of sheikh is usually inherited from

elders/parents, who have social weight and great importance in the tribe or tribal alliance. The rulers of the individual emirates exercised their powers in a manner closer to the tribal system, where individuals turned to their rulers directly to address their problems; opponents also presented their differences to the rulers who were then called upon to make appropriate judgments. The development of government administration in some of these emirates helped to establish the Emirate of the Sahel's rulers in 1925 (National Archives, 2017).

By the mid-18th century AD, two large alliances were present in the UAE coastal region:

1. *The Bani Yas Alliance*. The Qahtani tribe has a strong presence on the coast of the Arabian Gulf, and other tribes allied themselves with them; this alliance was called the Bani Yas Alliance, and it included the Al-Buflah tribe, the rulers of the Emirate of Abu Dhabi and Al-Buhaila.
2. *The Al-Qawasem bloc*. The Qawasmi was an Arab tribe that ruled large areas of modern-day Ras Al Khaimah and Sharjah; this formed the beginning of their state which then spread to include parts of the eastern Arabian Gulf north and south, in addition to the islands (National Archives, 2017).

The Qawasmi were able to gather the largest naval force in the region and then clashed with Britain, prompting the British to launch a naval campaign to attack them. The British had been poised to attack since 1805, when British forces tried to control the Straits of Hormuz in order to benefit the British East India Company. In late 1819 British forces were unable to reach the emirate's land (National Archives, 2017). Ultimately the British Empire was able to control the coast after they defeated the Qawasmi, establishing The Trucial States[5] – a collection of

[5] As named by the sea traders who lived along the southern coast of the Arabian Gulf and the north-west coast of the Gulf of Oman; it is part of the Arabian Peninsula.

independent Sheikdoms[6] – which formed a close bond with the British Government by signing a treaty in 1892. The Trucial States were not officially absorbed into the British Empire, rather they became a British Protectorate (National Archives, 2017).

In 1952 the seven emirates established a council. When the British saw the prospect of oil, they decided to set boundaries between sheikhs; oil was found in 1958 and began being exported in 1962, making the formerly poor UAE a rich country (Emirates Alyoum, 2017).

3.3.2 Modern Era

Examining the UAE in the present era, it is difficult to believe the level of developmental achievements within the space of so few years; the spark of the union announced the beginning of the journey of construction, development and urbanisation, emancipating the UAE people from the harshness of their former life to prosperity. By the late 1950s and early 1960s, many foreigners had come to the region to work on oil exploration and in other fields such as medicine. Some were keen to write down their experiences in books and memoirs describing the life in the Trucial States at the time; through these writings we can get sporadic glimpses of life in the region. Oliver Miles, a political officer who came to Abu Dhabi in 1961, noted that development had barely touched Abu Dhabi when he arrived; there were no roads, no resident doctors, no electricity or water, only three or four houses built with rigid materials, and there were no government institutions other than a small police force that had been formed about a year earlier. A municipality of Abu Dhabi, headed by Sheikh Sultan bin Shakhbout, was then established (Cherian, 2017).

[4] A sheikhdom refers to a geographical area and/or a society ruled by a sheikh.

Adirik and Russob, political officers who worked as consultants in Abu Dhabi in 1958, described the emirate of Abu Dhabi at that time. They noted that despite the large size of the population (approximately 25,000 people) of the emirate, only 10,000-15,000 tribesmen settled in the city of Abu Dhabi while the rest lived in communities in Liwa and the six Buraimi oases; ten years later the population had increased to 180,000.

Pearl diving had been a staple industry in the area for almost two centuries, but it began to wane after oil exploration started on the beaches. There was very little agriculture other than some palm trees, as well as large numbers of camels, goats, and a few cows. There was no port or marina to accommodate large ships, only small stone anchors that were used by dhows (traditional sailing vessels) and fishing boats (Cherian, 2017).

There were no facilities or services in the city such as roads, telephone, electricity, postal, banking, or medical services. The water used for drinking, cooking, and washing was distributed by donkeys. There were few cars, and a mile or two from the city there was a landing pad used by the old Gulf Air planes: the Dakota and the Dove. It was also used by single and two-engine aircraft, and near the paved bar was the mud-brick control tower and another building for travel and access (National Archives, 2017).

Margaret Pollard, wife of a British political officer working as a consultant in Dubai, spoke of her early memories of Dubai, having been brought there in September, 1968 when the streets were clogged, dusty, and nameless; houses also had no numbers; there were no paved roads except in Sharjah; Dubai Creek was full of silt; there was no port or hospital; and goods were unloaded by people wearing sandals, while transport workers encamped beside the creek. "Whenever I

wanted to go shopping in Deira, I had to pass the creek on board the Abra[7] of the British Embassy" (National Archives, 2017).

3.3.3 The UAE after the Federation

On August 6, 1966 His Highness (HH) Sheikh Zayed bin Sultan Al Nahyan, ruler of the emirate of Abu Dhabi at the time, moved quickly to strengthen ties with the emirates of the Middle East. The idea of the Union was to be the nucleus of Arab unity, to protect the coast and the expected oil wealth from the ambitions of the more powerful neighbouring countries. The late Sheikh Zayed and Sheikh Rashid invited the rulers of the other five Trucial States, as well as Bahrain and Qatar, to participate in negotiations to form a union.

3.3.3.1 The Union of the United Arab Emirates

In February, 1968 the first step towards realising the idea of a Union was achieved through the first unitary meeting between the late Sheikh Zayed Bin Sultan Al Nahyan and the late Sheikh Rashid bin Saeed Al Maktoum in the Samaha region between Abu Dhabi and Dubai. During 25-27 February 1968, the rulers of the Trucial States met in Dubai at the invitation of the rulers of Abu Dhabi and Dubai, where the Union of the United Arab Emirates was agreed. The historic declaration of the Union occurred on 18 July 1971, including six emirates of the Trucial States -- Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al Quwain, and Fujairah. Later that year, on December 2, 1971, an independent and sovereign federal state was officially declared. Just two months later (February 10, 1972) Ras Al Khaimah joined the federation, making the UAE an integration of seven emirates.

[7] An Abra is a small boat made of wood with a diesel engine, able to transport up to 30 passengers across the Creek in Dubai and in other emirates within the UAE.

In the meeting of the Rulers of the Emirates on 2 December 1971, and in accordance with and response to the wishes of the people of the UAE, the historic communiqué stated: "The Supreme Council applauds this happy news to the people of the United Arab Emirates and all the friendly countries and the world at large, a sovereign and independent State."

3.3.3.2 The Federal Governance System

According to the Government of the UAE (2017), the five UAE federal authorities stipulated in the first constitutional session on 2/12/1972 are:

1. *The Federal Supreme Council*

   The Federal Supreme Council of the Union is the highest constitutional authority in the United Arab Emirates, the highest legislative and executive body, which draws up public policies and approves federal legislation. The Supreme Board is composed of the rulers of the seven constituent emirates of the Union, or those designated to serve on their behalf in the event of their absence or inability to attend, with each of them having one vote in the decisions of the Council.

2. *The President and Vice-President of the Union*

   The President is an elected official, chosen from among the Federal Supreme Council members to serve for a period of five years with the option for re-election. The president heads the Council, leading and managing its meetings; signs and issues federal laws and decrees; supervises their adoption and execution; and appoints ministers and diplomatic representatives.

3. *The Council of Ministers of the Union*

   The UAE Cabinet, or Council of Ministers, is the executive body of the United Arab Emirates. Under the supreme supervision of the President of the Union and the Supreme Council, all internal and external affairs of the Union are governed in accordance with its Constitution and federal laws. The Council of Ministers consists of the President of the Council, his deputies and the Ministers. The Secretary General of the Council of Ministers serves as the secretariat.

4. *The Federal National Council*

   The Federal National Council contributes to the process of sustainable development and establishes the relationship between Union authorities through its participation in the discussion and approval of legislation, discussing the issues of citizens and their needs, infrastructure, and the development of mechanisms for political and other participation.

5. *The Federal Judiciary*

   The independence of the judiciary is guaranteed by the Constitution, and includes the Supreme Court and the courts of first instance.

Each of the seven emirates has its own local government, whose complexity varies depending on the size of the emirate, and which includes departments and local municipalities. The relationship between the federal and local governments is outlined in the Constitution and allows some flexibility in the distribution of power, however all seven emirates are subject to the federal government (Nmc.gov.ae, 2018) (see the framework of the UAE federal government in Appendix A.2).

3.4 The UAE Economy

Forty years ago, the UAE was one of the least developed countries in the world; today it has achieved a per capita income level comparable to that of other developed economies. However, the UAE did not pass through the developmental 'stages' that most economies experience; its large oil revenues have allowed it to leap-frog to its current stage (UAE GDP and inward FDI, 2009-2017 see Figure 3.1). Massive oil revenues in the last four decades have enabled the UAE to take a short-cut through the usually difficult and lengthy process of capital accumulation for economic development. Given an abundance of natural resource endowments (oil and gas), the UAE has embraced resource-based industries (RBI) as a development strategy, and an industrial strategy based on the utilization of natural resources (Al-Shayeb & Hatemi-J, 2016).

There has been a deployment of windfall income, largely directed at a 'once-and-for-all' boost to the social and economic infrastructure, which enabled the UAE to achieve a significant degree of economic development within a rather brief timeframe since 1973 (El Mallakh, 2014).

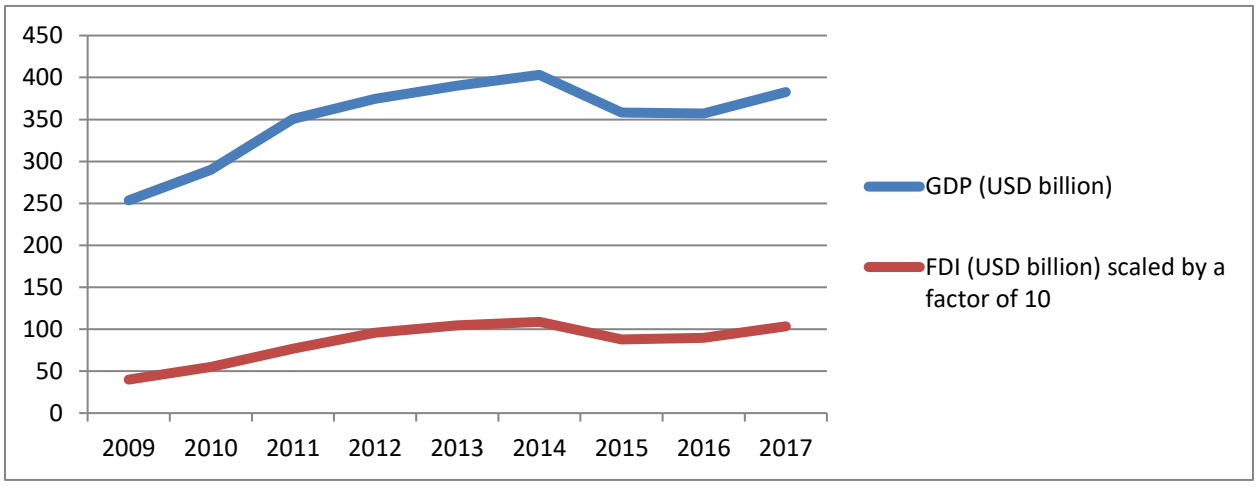


Figure 3.1 UAE GDP and inward FDI, 2009-2017
Source: IMF, 2017

In 2015 the UAE economy achieved growth of approximately 3.6%, with the strong performance of non-oil sectors compensating for the weak activity levels of the oil sector. The growth of the non-oil sectors in real prices was expected to reach 3.6% in 2016 (see Table 3.5).

Furthermore, the state's trend towards adopting financial policies has motivated economic growth – assisted by the solidity of the state's economy and the availability of accumulated financial surpluses and reserves in the state. Despite the decline of oil resources, this has opened the way to increasing governmental spending by a ratio of 4.5-6% compared to its level before the decline of oil prices, according to international and regional reports (MOE Annual Report, 2016).

This was reflected in the positive growth in all non-oil sectors in 2015. The state's good economic performance was also supported by developments in the world economy and the accelerated economic growth rate in some key Asian and African markets which are considered important markets for re-export activity (accounting for approx. 40% of the UAE exports). Additionally, continued work on important strategic projects boosted overall performance, including: infrastructure projects; projects related to Expo 2020, which the UAE was selected to host; the union railway and improved air and land transport; touristic roads, transport and facilities; electronic infrastructure; real-estate, financial and industrial services; and supporting a range of activities related to the "knowledge economy"; which is based on research, innovation, and the development of new sectors that add value to economy (MOE Annual Report, 2016).

Indicators	2015	2016
Current GDP (AED billion)	1314.6	1280.8
GDP Growth Rate (%)	-11.2	-2.6
Domestic GDP of non-oil sectors at current prices (AED billion)	1027.1	1067.3
Real GDP (AED billion)	1350.1	1391.1
Real GDP Growth Rate (%)	3.8	3.0
Output of non-oil sectors at real prices (AED billion)	933.4	958.6
Contribution of non-oil sectors to real output (%)	69.1	68.9
Gross fixed capital formation (AED billion)	307.9	302.8
Net of annual inflows of inward FDI (USD billion)	8.8	9.0
Total cumulative inflows of FDI (USD billion)	109.0	117.9
Total exports of goods and services (AED billion)	1319.9	1329.7
Total imports of goods and services (AED billion)	1083.4	1114.2
Inflation rate (%)	6.5	5.8

Table 3.5 Economic indicators of the United Arab Emirates for years 2015-2016
Source: Fcsa.gov.ae, 2017

The year 2020 has a further significance for Dubai (beyond leading into the jubilee year 2021) as it is the year that the UAE will host the World Expo, which will mark the first time the expo will be held in a region that extends from Morocco to India. Expo 2020 expects to welcome 25 million visitors to its many attractions; as well as driving tourism, the Expo will also create thousands of new jobs and enormous demand for new facilities including housing, hotels, shopping malls and entertainment complexes (UAE Interact, 2017).

3.4.1 Policies and Strategies Encouraging Trade and Economic Development

The UAE has managed to reach advanced ranks in world trade; according to statistics released by United Nations Conference on Trade and Development (UNCTAD), the United Arab Emirates has achieved substantial growth in net annual foreign direct investment inflows (See Table 3.6) (MOE Annual Report, 2016). The UAE ranked second (after Turkey) on the list of countries attracting the largest number of foreigners investing in the West Asia region in 2016, supported by increased investments in sectors such as aluminium, petrochemicals, oil refining and other manufacturing industries as well as in sectors such as tourism, aviation, real estate, business services, wholesale and retail, finance and insurance.

Year	Net Annual FDI inflows (USD billion)	Total Cumulative inflows FDI (USD billion)
2011	7.1	71.0
2012	8.8	79.8
2013	9.5	89.3
2014	10.8	100.1
2015	8.8	108.9
2016	9.0	117.9
Average Growth%	**4.9%**	**10.7%**

Table 3.6 Foreign Direct Investment Inflows to the UAE for the Period 2011-2016
Source: UNCTAD reports of different years (MOE Annual Report, 2016)

3.4.2 Federal Level

Although oil has been the mainstay of the UAE economy and continues to contribute significantly to its economic prosperity, a determined and far-seeing policy of economic diversification has ensured that non-oil sectors now account for 69% of GDP, with oil supplying the remaining third.[8] At the federal level, the UAE is pursuing its 2021 Vision, which aims to place innovation, research, science and technology at the centre of a knowledge-based, highly productive and competitive economy by the time of the federation's golden jubilee in 2021. Significantly, the jubilee year is also the target date for the launch of the first Arab probe to Mars via the newly established Emirates Space Agency (UAE Interact, 2017).

Of all Arab countries, the UAE's economy is the most closely integrated into the global economic system and efforts are continuing to enhance the country's business friendly environment. This will both facilitate trade and attract inflows of foreign direct investment, which will help to achieve balanced, sustainable development (UAE Interact, 2017). Locally, these efforts have embraced reforms and updating of legislation, including a new Competition Law, which came into effect in 2014. This law regulates economic activities and intellectual property rights (IPR), which is expected to promote competition and contribute towards the efforts to meet the objectives of Vision 2021 -- seeking to build a knowledge-based economy. As part of this move towards a knowledge-based economy the Government has been encouraging innovation, strengthening the regulatory framework of key sectors, and promoting high value-added sectors. To this end, 10 key performance indicators (KPIs) have been developed (see Table 3.7).

[8] In the UAE the oil sector is supervised by a number of local government companies responsible for the preservation of the wealth of the sector as well as the development of all policies and frameworks that ensure optimal management of the sector within each emirate with oil. The federal government owns one company, Emirates General Petroleum Corporation (Emarat), with stations across Dubai. Abu Dhabi National Oil Company (ADNOC) manages 95% of the UAE's oil reserves and 92% of the gas reserves, with stations across the UAE.

1. Non-oil GDP growth rate
2. Per capita Gross National Income (GNI)
3. Ratio of net foreign direct investment flows to GDP
4. Global Competitiveness Index
5. Percentage of working citizens in the total labour force
6. Ease of Doing Business
7. Percentage of Emiratization in the private sector
8. Contribution of Small and Medium Enterprises (SMEs) to non-oil GDP
9. Global Indicator of Entrepreneurship and Development
10. Global Innovation Index

Table 3.7 KPIs for UAE's Vision 2021 knowledge-based economy KPIs
Source: *(UAE Interact, 2017).*

3.4.3 Emirate Level

At the emirate level Abu Dhabi's Economic Vision 2030 and Dubai's Strategic Plan 2021 are leading the drive towards diversification. The strategy is to increase investment in industrial and other export-oriented sectors, including heavy industry, transport, petrochemicals, tourism, information technology, telecommunications, renewable energy, aviation and space, and oil and gas services. Much has already been achieved in these fields, especially in satellite and telecommunications, the aviation sector and in renewable energy.

3.5 National Innovation Strategy

The National Innovation Strategy aims to stimulate creativity and innovation in the seven sectors that are fundamentally dependent on innovation in order to achieve the strategic objectives of the UAE: 1) renewable energy, 2) transportation, 3) education, 4) health, 5) technology, 6) water, and 7) Space. The National Strategy for the 50th Anniversary of the UAE Union, includes 30 national implementation initiatives to be adopted over the next three years. The first phase includes a set of new legislation, support for innovation incubators, specialised outreach, building

global partnerships and research, shifting the system of government work towards more innovation, and stimulating innovation within the aforementioned seven sectors (Nevin, 2016).

The strategy operates through four parallel tracks:

1. The first track focuses on creating an enabling environment for innovation, by providing a supportive institutional environment and legislation for innovation, expanding support for innovation incubators, focusing on innovative research and development (R&D), and providing a technological infrastructure that supports and stimulates innovation in all sectors.
2. The second track focuses on the development of government innovation through the transformation of that innovation into institutional work, and by developing an integrated system of modern tools. By helping government agencies innovate, they can reduce their budgets by 1% to be allocated to support innovation projects, and launch training programs and education in the area of innovation at the state level.
3. The third track of the national innovation strategy focuses on propelling further the private sector regarding innovation -- for example, by stimulating companies to establish innovation and scientific research centres, adopt new technologies, encourage and support national enterprises to develop innovative products and services, and attract leading global innovation companies in all priority sectors. In addition to strengthening the country's status as a global centre for testing new innovations, it will create communities and regions dedicated to innovation in national priority sectors to focus on applied research.
4. The fourth point of the National Innovation Strategy is to develop individuals with high skills in innovation with a focus on science, technology, engineering and mathematics; and the development of educational materials in schools and universities especially for

innovation, contributing towards the establishment of a national culture that encourages innovation and entrepreneurship, and respects risk-taking (Government of UAE, 2017).

The state's investment in innovation is estimated at 14 billion AED a year, seven billion in R&D, with the goal of increasing that investment over the coming years. It includes the National Innovation Strategy, announced by HH Sheikh Mohammed Bin Rashed Al Maktoum, with 16 national indicators to measure the evolution of the implementation of the innovation strategy, such as the percentage of innovative ideas in each government agency and the percentage of government agencies that have succeeded in adopting innovative practices (Nevin, 2016).

The government will allocate 1% of its budget to support innovation, including the achievement of private sector indicators, such as of the total knowledge workers index of the expenditure of companies on R&D, ratio vis-à-vis state employees, and others. It also includes indicators to measure progress in the implementation of the National Innovation Strategy and the Global Innovation Index (which measures the innovative capabilities of countries). There is an index for intellectual property, which is based on the number of patents filled per million people, and an availability index for scientists and engineers in the state, in addition to other strategic indicators (Nevin, 2016).

In the field of education, the strategy will promote innovation in education through providing students with 21st century skills (e.g. critical thinking, problem solving, creativity, innovation, perseverance, adaptability), in addition to the creation of innovation labs to encourage inventions. In the area of health, the strategy will promote innovation in the delivery of health and treatment services using advanced technology, and encourage the development of pharmaceutical and biotechnology industries in addition to working with strategic partners on the development of the Medical Research Sector for the treatment of common diseases (Government of UAE, 2017).

The national innovation strategy will also focus on encouraging innovation in addressing the challenges of water scarcity, as well as innovation in research and technology in the exploration of space and technology development in communications, satellites, vehicles and aircraft (including unmanned aerial vehicles) (Nevin, 2016).

The UAE has made significant progress on the 2017 Global Innovation Index, which was launched in 2007 at the European headquarters of the United Nations in Geneva, jointly published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO) (a UN specialized agency). It measures 127 innovation economies based on sub-indices (e.g. relating to inputs and outputs) shown to improve innovation and understanding as an engine of growth and economic prosperity. In 2017 the UAE was ranked first in the Arab world and 35th in the world, moving six places upward from its 2016 position (Albayan, 2018).

3.6 UAE National Competitiveness

The UAE seeks to compete with the world's leading economies on the basis of knowledge capital rather than relying solely on natural resources, building the UAE as a leading global destination for business and foreign investment. These efforts include strengthening the legal framework and providing an excellent infrastructure. The Global Competitiveness Report, published by the World Economic Forum (WEF) as an indicator of a country's comparative global competitiveness based on their established institutions, policies, and other factors directly impacting productivity, and in turn prosperity, classified the UAE as an "innovation-driven economy." This is the highest stage of economic development that a country can achieve, and its determination is based on factors that encourage innovation in economic development. Other

countries at this stage of economic development include Germany, Japan, Sweden, Australia, Canada, the United States, Switzerland, the United Kingdom, and Singapore.

In the Global Competitiveness Report 2017/2018, the UAE advanced from 27th (in 2011/2012) to 17th out of 137 countries (GCR WEF 2018), being among the top countries in more than one indicator of global competitiveness (see Figure 3.2).

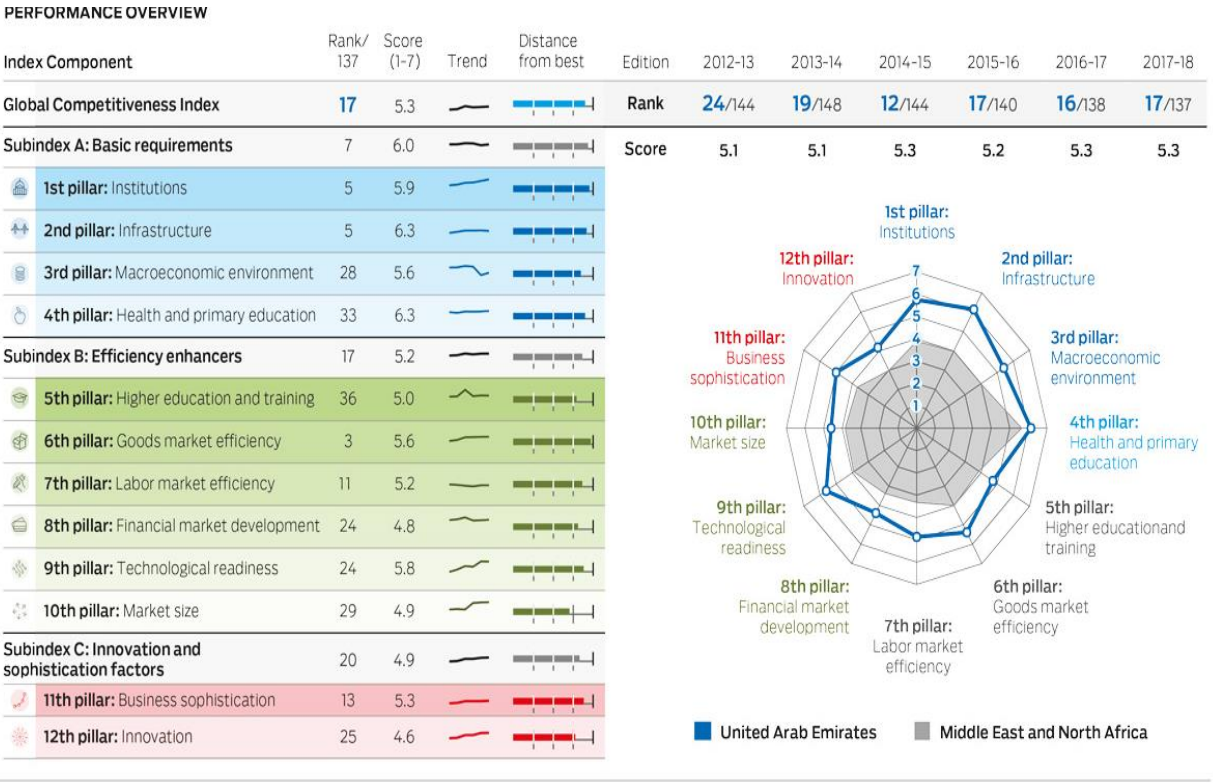


Figure 3.2 UAE Ranking in 17 Global Competitiveness Index 2017-2018
Source: GCR WEF 2018

3.6.1 Global Competitiveness Performance Indicators

In order to determine global competitiveness, the report utilizes the Global Competitive Index (GCI), which comprises 114 performance indicators. These indicators are grouped into 12 pillars; each pillar has a varying number of indicators which are weighted for each country based on its stage of development, GDP per capita, and the share of exports from raw materials. The 12 pillars are also organised in three sub-indexes (basic requirements, efficiency enhancers, and

innovation and sophistication factors) (GCR WEF 2018). In the 2017/2018 report the UAE was ranked 17th overall, but its ranking in individual pillars varied as follows:

Sub Index A Basic Requirements: the UAE ranked 7th out of 137 countries on average across four pillars, receiving a higher ranking in Institutions (5) and Infrastructure (5) than in Macroeconomic Environment (28), and Health and Primary Education (33). This indicates the UAE overall has excellent basic requirements compared to all other economies.

Sub Index B Efficiency Enhancers: the UAE ranked 17th out of 137 countries across six pillars. In this index the UAE has fallen 10 places, one reason being the lower ranking in Higher Education and Training (36) showing an area in need of further improvement.

Sub Index C Innovation and Sophistication Factors: the UAE ranked 20th out of 137 countries across two pillars, Business Sophistication and Innovation.

Table 3.8 outlines the sub-indexes and pillars, detailing the number of indicators in each, the number of indicators in which the UAE received a ranking below 17 (i.e. their overall average), and then listing those indicators falling below that level and the UAE's actual rank in the said indicators.

Basic Requirements	**1st pillar: Institutions**		
	Number of indicators	21	
	Number of indicators below 17	3	
	Indicators with Rank/137	1. Intellectual property protection 2. Strength of auditing and reporting standards 3. Efficacy of corporate boards	21 21 22
	2nd pillar: Infrastructure		
	Number of indicators	9	
	Number of indicators below 17	1 (1 not assessed)	
	Indicators with Rank/137	Fixed-telephone lines /100 pop.	41
	3rd pillar: Macroeconomic environment		
	Number of indicators	6	
	Number of indicators below 17	3	
	Indicators with Rank/137	1. Government budget balance % GDP. 2. Gross national savings % GDP. 3. Country credit rating 0-100 (best).	87 22 29
	4th pillar: Health and primary education		
	Number of indicators	10	
	Number of indicators below 17	5 (3 not assessed)	

	Indicators with Rank/137	1. Business impact of tuberculosis 2. Business impact of HIV/AIDS 3. Infant mortality deaths/1,000 live births 4. Life expectancy years 5. Primary education enrolment rate net %	30 27 42 41 86
Efficiency Enhancers	**5th pillar: Higher education and training**		
	Number of indicators	8	
	Number of indicators below 17	2 (1 not assessed)	
	Indicators with Rank/137	1. Tertiary education enrolment rate gross % 2. Local availability of specialized training services	94 24
	6th pillar: Goods market efficiency		
	Number of indicators	16	
	Number of indicators below 17	5	
	Indicators with Rank/137	1. Intensity of local competition 2. Effectiveness of anti-monopoly policy 3. No. of procedures to start a business 4. Time to start a business (in days) 5. Trade tariffs % duty	19 20 18 47 57
	7th pillar: Labour market efficiency		
	Number of indicators	10	
	Number of indicators below 17	2	
	Indicators with Rank/137	1. Reliance on professional management 2. Female participation in the labour force ratio to men	18 121
	8th pillar: Financial market development		
	Number of indicators	8	
	Number of indicators below 17	4	
	Indicators with Rank/137	1. Affordability of financial services 2. Financing through local equity market 3. Soundness of banks 4. Legal rights index 0-10 (best)	20 18 20 106
	9th pillar: Technological readiness		
	Number of indicators	7	
	Number of indicators below 17	2	
	Indicators with Rank/137	1. Fixed-broadband Internet subscriptions /100 pop. 2. Internet bandwidth kb/s/user	60 36
	10th pillar: Market size		
	Number of indicators	4	
	Number of indicators below 17	2	
	Indicators with Rank/137	1. Domestic market size index 2. GDP (PPP) PPP $ billions	34 32
Innovation/Sophistication Factors	**11th pillar: Business sophistication**		
	Number of indicators	9	
	Number of indicators below 17	4	
	Indicators with Rank/137	1. Local supplier quality 2. Nature of competitive advantage 3. Production process sophistication 4. Willingness to delegate authority	24 21 23 20
	12th pillar: Innovation		
	Number of indicators	7	
	Number of indicators below 17	4	
	Indicators with Rank/137	1. Quality of scientific research institutions	30

		2. Company spending on R&D	22
		3. University-industry collaboration in R&D	25
		4. PCT patents applications/million pop.	43

Table 3.8 GCI Sub-Indexes and Pillars with Indicators falling below 17 in rank
Source: GCR WEF 2018

As seen in Table 3.8, 37 indicators in total across all 12 pillars were ranked below the 17th point average. Twelve indicators fell below 17 in the first sub-index, *basic requirement*s, with the greatest concentration in the 4th pillar, health and primary education; seventeen indicators were below 17 in the second sub-index, *efficiency enhancers*, with the greatest concentration in the 6th pillar, goods market efficiency; eight indicators fell below 17 in the third sub-index, *innovation/sophistication factors*, the lowest was 43, Patent Cooperation Treaty (PCT) patents applications. These indicators will be explored further in Chapter 5 as part of discussing how FZs can impact them.

3.7 Free Zones in the UAE

The first FZ in the UAE was established in Jebel Ali in 1984 (Keshavarzian, 2010); from inception FZs in the UAE have been fulfilling multiple key functions, for example, mitigating land disputes between emirates, recycling rents, and maintaining peace in the Gulf region (Keshavarzian, 2010). This is in addition to the usual roles of FZs as seen in other economies, namely: attracting FDI, providing employment, increasing exports, and experimenting with new policy (Farole & Akinci, 2011). Given their heightened role in the UAE economy, the unusually high number of FZs for a country of its size should not be a great surprise. Like FZs in other economies they come in a variety of types (FIAS, 2008: 3), the UAE Ministry of the Economy (2015) classifies the UAE FZs into four groups:

A. *Comprehensive free zones:* for manufacturing and service sectors;

B. *Specialized free zones*: for single manufacturing or service sector specialisation;

C. *Free trade zones*: for import and export sectors;

D. *Free service areas*: for investments in specialised service sectors.

This classification of FZs should be viewed as ideal types, as experience and research has shown that the FZs in the UAE transcend respective type boundaries. In practice, FZs in the UAE tend to amalgamate more than one of their categorical characteristics. Moreover, this classification does not appear to be used for anything further (such as data collection and consolidation, or FZ type specific incentives) by the Ministry of the Economy or any other UAE agency.

Free zones in the UAE encompass a variety of different sectors and industries; e.g. renewable energy, industry, information and communications technology (ICT), media, finance, gold and jewellery, and health care. Factors that have attracted investors to the UAE are: political and economic stability; strategic geographical location of the country as a gateway to regional markets; existence of opportunities for investment in all sectors; ease of investment procedures; and available infrastructure, among others. There is also a strategic vision for future free zones that will further strengthen the economy, including the focus of the state in balancing international trade and the diversity of exports and imports to achieve diversification of income sources and thereby reduce dependence on oil as a key resource for the economy (Government of UAE, 2013).

However, maximizing any of the above (e.g. diversifying the UAE revenues away from oil) is not an explicit performance target for FZs. They tend to be managed as traditional (for-profit) companies with key performance indicators (KPIs) that focus on revenues, profits, and occupancy rates. On the other hand, the UAE FZs do not occupy an explicit position as instruments of economic development in the UAE Vision 2021 (the Federal government's five-year economic development plan) although they do underpin several of its targets (e.g. non-oil GDP real growth,

inward FDI, ease of doing business, Emiratisation rate in the private sector, SME contribution to non-oil GDP, share of knowledge workers in the workforce, etc.).

3.7.1 Geographical Distribution and Ownership Structures

FZs in the UAE have grown from one in 1985, to six in 1999, to more than 35 free zones in 2017 across the seven emirates, with their number set to increase (Gulf News, 2017). There are more than 11 organizations that manage the 35 free zones (Annanbh and Al Ahmed, 2015). Figure 3.3 shows the location of FZs in the UAE, confined to 15,000 km^2; the relatively small geographical area, as indicated, is notable; there is competition between free zones, and between businesses located within an individual FZ.

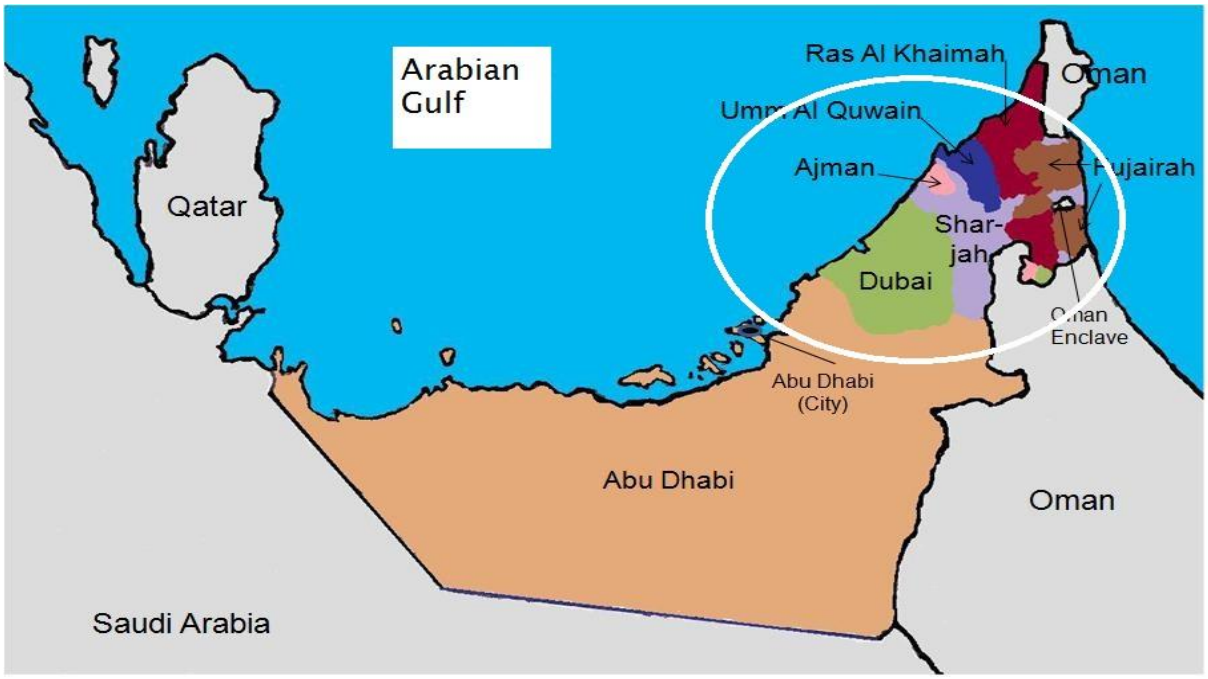


Figure 3.3 Location of Free Zones in the UAE (within the white circle)
Source: (Annanbh and Al Ahmed, 2015*)*

There are FZs that provide the same services in the same city, for example foreign and domestic IT companies have the opportunity to establish a location in the Dubai Internet City and

in the Dubai Silicon Oasis Authority; there are four free zones providing media services in Dubai, Abu Dhabi, Fujairah, and Ras Al-Khaimah. Table 3.9 provides an overview of the distribution of FZs in the UAE, whereas their details can be seen in Appendix A.1.

Emirate	Area (km²)	No. of FZs
Abu Dhabi	67,340	5
Dubai	3,885	22
Sharjah	2,590	2
Ras Al-Khaimah	1,684	2
Fujairah	1,165	2
Umm Al Quwain	777	1
Ajman	259	1
Total	**77,700**	**35**

Table 3.9 Number of FZs in each Emirate within the UAE
Source: for population and area Abu Dhabi eGovernment Gateway (2015); Dubai Statistics Center (2015); Department of Statistics and Community Development Sharjah (2015); RAK e-Government (2015); Fujairah Statistics Centre (2015); E Government of Umm Al Quwain (2015); Government of Ajman (2014). For FZs see Appendix A.1.

Most FZs are state (emirate) owned, with varying (albeit marginal) shares of private ownership. Although the creation and regulation of FZs rests within each respective emirate (e.g. firm licensing), there are matters that cross emirate-lines and are therefore regulated at the federal level (e.g. visas, employee registration). In Dubai, which has the highest concentration of FZs in the UAE, there is also a FZ council comprised mostly of CEOs of the organizations owning the FZs in this emirate. It "aims to study and liaise work between free zones in the emirate, the Government of Dubai and other relevant bodies" (Dubai Free Zone Council, 2017).

There is no public federal register of the UAE FZs and their precise names and quantity tend to vary from time to time and across publications (see Appendix A.1). This variation is due to large FZs subdividing internally into smaller ones, FZs changing their name, two FZs merging to form a new one, or new FZs being reported in some publications that have yet to materialize. The local emirate governments have fuelled their growth; however, their benefits, incentives (PKF, 2015), and regulation transcend emirate and occasionally even federal boundaries. Most FZs offer

similar investor incentives (e.g. 100% tax exemption, ownership, and capital/profit repatriation) and are upfront and explicit on their websites to that effect. Conversely, international regulations govern prohibited and actionable FZ subsidies (FIAS, 2008: 50), combat international trade of illicit, counterfeit, and/or pirated goods, enforce intellectual property rights, and safeguard the health and safety of unsuspecting international customers (ICC, 2013: 7, 12, 26). There are also international peace-keeping benefits accrued from the US Fifth Fleet being able to replenish its supplies at the Jebel Ali FZ in Dubai (Keshavarzian, 2010: 276).

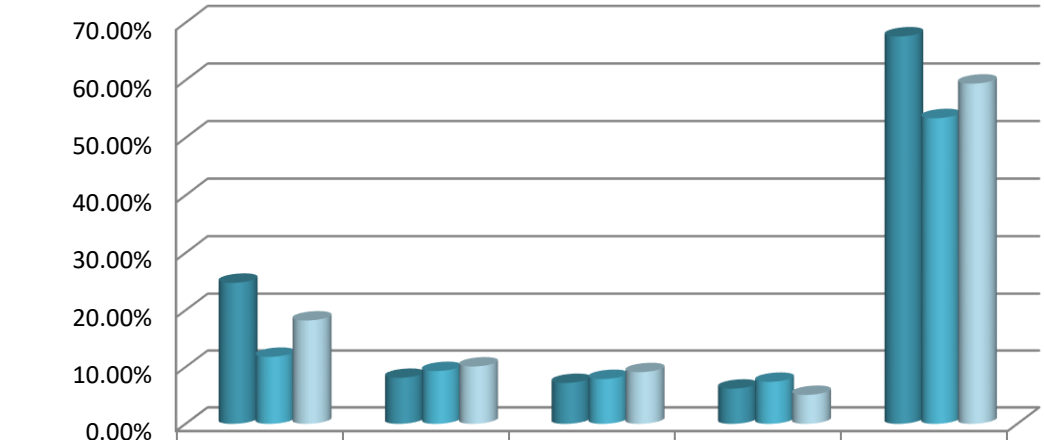
3.7.2 UAE FZs and Trade

Foreign trade is one of the most critical aspects of FZ operations, Table 3.10 details the status of non-oil exports, imports, and re-exports during 2014-2016, including FZs, which shows overall growth. The top five[9] trading country partners for each of these crucial FZ operations are summarised in Figure 3.3 (Annanbh and Al Ahmed, 2015).

	2014	2015	2016	Annual growth of 2016 compared to 2015
Non-oil exports	157	185	195	5.12%
Re-Export	455	418	400	-4.30%
Imports	991	952	968	1.75%
Total foreign trade	1,605	1,556	1,564	0.52%

Table 3.10 Total non-oil foreign trade of the UAE including free zones, 2014-2016 AED Billion
Source: Ministry of Economy, Foreign Trade Sector. Federal Authority for Competitiveness and Statistics Authority - Federal Customs Authority

[9] The fifth is the 'other' residual category.



	Partner 1	Partner 2	Partner 3	Partner 4	Partner 5
Import	24.80%	8.10%	7.20%	6.20%	67.60%
Export	11.80%	9.30%	7.90%	7.40%	53.40%
Re-Export	18.20%	10.10%	9.10%	5.10%	59.40%

	Partner 1	Partner 2	Partner3	Partner 4	Partner 5
Import	China	Vietnam	USA	India	Other
Export	India	UK	Iraq	Iran	Other
Re-Export	KSA	Iraq	Iran	Hong Kong	Other

Figure 3.3 Average worldwide trading countries partners in UAE Free Zones, 2009 – 2013
Source: (Annanbh and Al Ahmed, 2015

3.7.3 Establishing Businesses in Free Zones

Firms established in free zones are subject to the laws and regulations governing each particular body or authority of a free zone. The first step is to obtain a business license, beginning with activity identification. Through the activity, the parties associated with this activity and the legal forms needed are identified. The legal entity of the free zone enterprises in the state fall under one of the following types: a free zone company (with limited liability) or a free zone organisation. The number of shareholders and the nature of the shareholder, whether natural or legal, must be named and identified. Not all free zones are required to register companies under these two types; for example, the Dubai Multi Commodities Centre (DMCC) allows the establishment of a limited liability company that takes the form of a wholly owned subsidiary of a local or a foreign company. Existing domestic and foreign companies can establish their branches in other free zones. Capital

requirements in the free zones in the country vary by region and activity (see Table 3.11). (Government of UAE, 2017).

FZs	Emirate	Minimum paid-up or share capital (AED)
twofour54	Abu Dhabi	No Minimum
Kizad	Abu Dhabi	150,000
Dubai Airport Free Zone	Dubai	1,000
DMCC	Dubai	50,000 or 10,000 per shareholder
Hamriyah free zone	Sharjah	150,000

Table 3.11 Examples of capital requirements in some UAE FZs
Source: Government of UAE, 2017

The type of license required depends on the primary activity of the business being set up; for example: in the twofour54 media FZ the economic activities include content production, advertising, animation, and other media-related services. In the DMCC FZ 600 businesses are hosted across 20 sectors such as energy, commodities, gold, diamonds, technology, construction, fast-moving consumer goods, health care, aviation and shipping, education, financial, personal and community services. Finally, at the DIFC FZ, customers can execute both financial (e.g. banking, insurance, wealth management, and capital market activities) and non-financial (e.g. retail outlets, restaurants, five-star hotels, art galleries, and academic institutions) activities (Government of UAE, 2017).

The list of documentation required varies according to the type of activity and the requirements of each individual FZ authority, which determines general guidelines for the steps and documentation needed to obtain approval to function as a business within a FZ. In addition to the authorities of the FZs, certain sectors and industries are also subject to regulations and laws of other government agencies. For example, state media institutions are subject to the laws and regulations of the National Information Council as well as federal laws and regulations; beverage companies are subject to regulation from the Abu Dhabi Food Control Authority and the Dubai Municipality, both falling under their respective emirate governance (Government of UAE, 2017).

3.7.4 Coordination between Free Zones

There is no single council in which all UAE FZs are members or which coordinates or regulates them. Nonetheless, in Dubai there is a council for the coordination of its FZ which this research identified as beneficial (further discussed below) and which thus could be replicated in other emirates or even across emirates.

The Dubai FZ council, was first established in 2011, however it was not very effective (Moheisen, 2011). So, in 2015 HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, decreed the establishment of the Dubai FZ Council and the position of the Chairman of the Economic Development Committee (Al Emarat Alyoum, 2015).

The Council aims to study and coordinate the work between the free zones in the emirate, the Government of Dubai, and other relevant bodies. It plays a key role in enabling and supporting the FZs in order to achieve the objectives as set out in the decree: review of legislation and policies affecting the FZs; representation of the FZs before local, federal and international bodies; researching any FZs difficulties; proposing suitable solutions and participating in the formulation of policies for the emirate; promoting projects and investment opportunities available in the region; and preparing studies and research that help the government in drawing up its economic and investment strategy (Al Emarat Alyoum, 2011).

The Council mission and vision shape its strategy for supporting the FZs in the emirate of Dubai to become a leading global destination for investments and a major contributor to the strategic objectives of the emirate. The Council focuses on providing a platform for cooperation between FZs to enhance their performance and competitiveness globally by working with

stakeholders and regulators at the local, regional, and international levels, and share best practices among council members (Dubai Free Zone Council, 2017).

Three pillars and objectives of the strategy of the Council have been identified:

Strategic support, by ensuring cooperative action in order to maximize the value achieved for the Emirate of Dubai and to enable the establishment of a suitable and transparent legal and regulatory environment for investment and improving the effectiveness of services provided by government institutions;

Intellectual leadership, by providing the knowledge required to improve the operational efficiency of FZs and the strategic decision-making process of FZs; and

Promotion engine, to raise awareness about the benefits of FZs and the facilities they provide as well as enhanced access to global investors through the website of the Council, and to facilitate participation in international trade fairs and conferences (Dubai Free Zone Council, 2017).

3.7.5 Challenges Faced in the UAE Free Zones

The free zones in the UAE have been overall incredibly successful according to the FDI inflows in 2013 (Annanbh and Al Ahmed, 2015). However, the Ministry of Economy (2011), in its concern towards the permanent and continued success of the UAE FZs, indicated the following issues that could possibly negatively impact the future success of FZs:

- **Legitimacy-based control of FZs:** Free zones in each emirate do not have a comprehensive base, meaning that there can be different combinations and mixing of legal regulations between the local and federal governments.
- **Repeat of specialised free zones:** Some specialised free zones host similar industries, especially in the field of media.

- **Financing and bank guarantees:** There can be difficulties in obtaining financing and/or bank guarantees, while private financing for projects from banks provide limited and specific loans.
- **Employment controls:** Freedom to select manpower and manage existing investments.
- **Transparency:** Lack of clarity in financial statements and the size of investments can adversely affect studies and statistics.

These are issues that need to: i) be considered for the (long term) success of FZs in the UAE and ii) form part of the development of appropriate BMs and BMIs that can address these (and many more) areas of concern as explored in this thesis.

3.8 Conclusion

The concept of free zones has existed for centuries, as a means of encouraging free trade and its resultiant economic benefits and development. Over time the use of FZs has broadened to include a variety of forms and scopes, from limited sector opportunities that target specific businesses or locations, to international networks that work together to further innovation and compete as rival businesses.

The UAE is a comparatively young country; formed in 1971 its economy has flourished over its nearly 50 years of existence, quickly moving from a factor-driven economy, based on pearl diving and maintaining a population in a desert landscape; through the discovery of oil in 1958 and the country's movement into an investment-driven economy; until its current designation as an innovation-driven economy in the WEF's Global Competitiveness Report (GCR WEF 2018). The UAE government is committed to furthering the country's drive to become a global competitor in innovation, a critical aspect of innovation-driven economies (Porter et al., 2002).

Free Zones have played an active role since 1984 (when the first FZ opened) in the UAE, and their number, scope, and variety has grown alongside the UAE. Both the UAE and its FZ face a number of challenges that could be ameliorated through appropriate FZ BM and BMIs as explored in this thesis.

Chapter Four: Methodology

4.1 Introduction

The purpose of this research is to explore the business models and respective innovations in the UAE Free Zones. To pursue this, a suitable paradigm, approach and method must be selected.

The main objectives of the research include: 1) Identify the relevant theoretical and conceptual frameworks through a critical review of the literature; 2) Establish the position of the UAE in the Global Competitiveness Report (WEF, 2018) and identify those lagging areas of competitiveness that relate to FZs; 3) Develop a framework to aid answering the research question by augmenting the frameworks reviewed ; 4) Delineate the elements of the augmented framework to be used for mapping the BMs and BMIs of the UAE FZs; 5) Map the BM and BMI elements of the UAE FZs; 6) Explore the variation across the mapped BM and BMI elements (e.g. concentration and impact of BMI in particular BM elements); 7) Explore the possibilities through which FZ BMI could enhance the aforementioned lagging areas of national competitiveness (established under objective 2) and thus aid the further development of the UAE as an innovation-driven economy.

To achieve this a comprehensive plan must be developed, comprising all the steps that will be considered by the researcher -- which is the Research Methodology (Collies & Hussey, 2003). This chapter discusses the methodology and gives details of the data collection and analysis method for this research. The chapter will start with a discussion of research philosophies and paradigms, followed by a justification for the adoption of an interpretive paradigm. The research strategy and design will be discussed, along with a Data Collection Techniques section that will be divided into two parts: a) primary and b) secondary data (using documentary sources)

collection. The final two sections of the chapter will present the data and a review of research ethics.

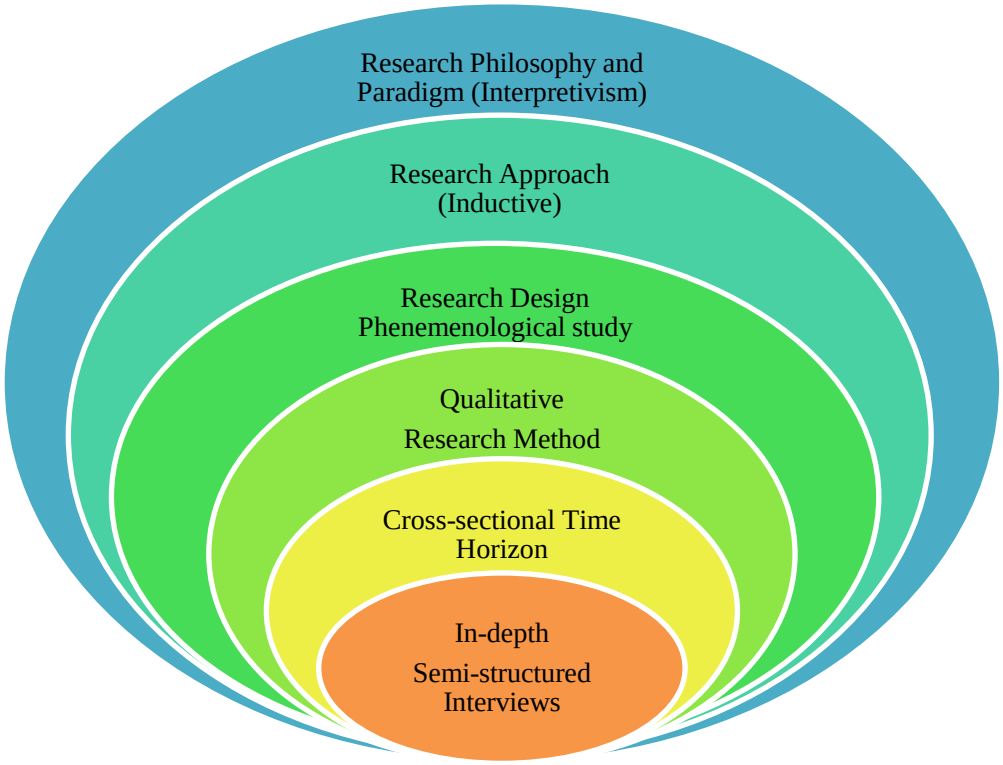


Figure 4.1 Methodological overview
Source: Developed by the author on the basis of Saunders (2016)

4.2 Research Philosophy and Paradigms

The concept of research philosophy basically refers to "a term that relates to knowledge development as well as the nature of this knowledge in relation to the research" (Saunders et al., 2009: 600). Such knowledge is dependent on those who carry out research and their perception regarding the knowledge that their research intends to develop. At this stage the researcher has the liberty to choose the best fitting paradigm to conduct the research -- that is, the set of beliefs shaping how the research is to be conducted, what aspect(/s) of the topic are to be studied, as well

as how the outcomes from the research should be interpreted to draw suitable conclusions (Bryman & Bell, 2007).

The term paradigm can be defined as "a set of extremely general philosophical assumptions regarding the world's nature (ontology) as well as how one can comprehend the world (epistemology)" (Maxwell, 2005: 37). Therefore, the researchers should consider at least how two types of assumptions, namely epistemological and ontological, may affect their choice of paradigms. Guba and Lincoln (1994) also claimed that "both quantitative and qualitative methods can be applied appropriately using any research paradigm that the researcher deems suitable" (Guba & Lincoln, 1994, p. 105).

4.2.1 Ontology

In this research ontology will be taken to refer to "a formally explicit specification about shared conceptualizations" (Gruber, 1993, as cited by Gruninger & Lee, 2002) concerned with the nature of the world. There are two main ontological schools of thought: subjectivism and objectivism (Saunders et al., 2009). Objectivism "represents the concept that a social entity exists in reality external to the social actors" (Saunders et al., 2009, p.110); whereas subjectivism recognizes the significance of perceptions and consequent actions by social actors for the existence of social entities (Saunders et al., 2009). Therefore, objectivism mainly focuses on the independent presence of social entities; whereas subjectivism focuses mainly on comprehending their meaning. This is because perceptions can vary depending on the individual's point of view. This research will explore the Free Zone business model, identifying the relevant theoretical and conceptual frameworks through a critical review of the literature.

4.2.2 Epistemology

Various researchers regard interpretivism and positivism as traditional paradigms (Collis & Hussey, 2009; Easterby-Smith et al., 2008). In fact, the positivist paradigm is an epistemological position that makes use of natural science techniques to carry out studies on social reality (Bryman & Bell, 2003: 14). Various positivists strongly believe that reality (social world) exists and observation can used to measure it (Neuman, 2006). The researcher who wants to come up with concrete facts about particular phenomena should adopt a positivist approach, and it should also be adopted by researchers who believe that the distance between the researcher and what is being researched should be minimal (Collis & Hussey, 2009). Therefore, the essential principles of positivist paradigms are empiricism and objectivity (Sekaran, 2000). One of the aims of a positivist paradigm is to test hypotheses developed on the basis of existing theories. For this reason, it needs quantitative data to be gathered from an extensive sample (Saunders et al., 2009).

Contrary to positivism, interpretivism or phenomenological paradigms refer to "an epistemological position, which necessitates the social scientist to have a grasp of the subjective significance of social action" (Bryman & Bell, 2003: 570). Collis and Hussey (2009) point out that an interpretivist paradigm "relies on the common concept that social reality exists in people's minds, and it is multiple and subjective" (Collis & Hussey, 2009: 57). The definition of social phenomena has been gained from various researchers' points of view (Collis & Hussey, 2009). The interpretivists suppose that social reality is basically socially constructed (Saunders et al., 2009). Moreover, they believe that "every situation is very unique and its implication is a function of the individuals involved and the circumstances surrounding it" (Remenyi et al., 1998: 34).

Based on comparisons between the two paradigms, one can conclude that the positivist paradigm takes into consideration reality as a concrete structure, whereas the interpretivist

paradigm considers it as an imagination of human beings (Collis & Hussey, 2003). Furthermore, positivism fails to differentiate between objects in the natural sciences as well as people based on their reality or meaning, while interpretivism appreciates the differences that exist between them (Bryman & Bell, 2003) (see Table 4.1).

	Positivism	Interpretivism
Axiology (significance of values)	Value-free	Value bound
Methodology (process of research)	Process is deductive	Process is inductive
Epistemology (what valid knowledge represents)	Only observable phenomena. Provides credible facts. Simplest element of a phenomenon. Focuses on causality as well as law (generalization).	Social phenomena and subjective meanings. Focuses on specific details of situation. A reality behind the details. Subjective meanings that motivate actions.
Ontology (nature of social reality)	External, independent and objective	Socially constructed, Multiple, subjective, changeable
Data collection methods most used	Uses accepted quantitative words. Usually writing formally with a passive voice.	Uses accepted qualitative words. Usually writing informally with a personal voice.

Table 4.1 Comparison between the interpretivism and positivism paradigms
Source: adapted from Saunders et al. (2012) and Collis & Hussey (2003).

Upon examining the distinction between interpretivist and positivism paradigms, also considering the study's aims and objectives, the researcher used an interpretivist paradigm since it is more appropriate and will facilitate better results, because an interpretivist paradigm "relies on the common concept that social reality exists in people's minds, and it is multiple and subjective" which will help to understand the BM of FZ. The selection of this approach was based on the research questions.

4.2.3 Justification for the use of an Interpretive Paradigm

This research adopts an interpretive paradigm since it is exploratory in nature. The key aim of this research is to investigate the business models of free zones in the UAE. For the researcher to understand FZ management perceptions, it is important to interact with them directly to develop a deeper understanding of the FZBM from their point of view. Therefore, this research uses the perceptions of the participants to explain their experiences. There is a limited distance between the research and the researcher since the researcher forms an integral element of the world that is being studied.

The research questions indicate that the major focus of this study is to provide a deep understanding of the FZBM. Bryman and Bell (2003) argue that interpretivism offers a better understanding, because it gives a clear distinction (Collis & Hussey, 2003). Therefore the interpretivist approach has been regarded the most suitable paradigm for this research, further providing extensive information for the study (Saunders et al., 2009). By using an interpretivist approach, this study will describe as well as explain the FZ Business Models from the perspective of their senior management; which will aid the researcher to develop a unique insight into Free Zones. The research requires qualitative data for this, gathered through the use of (semi-structured) interviews.

4.3 Research Approach

This study's research approach evolved from its research questions. The two types of approaches that can be used are inductive and deductive, representing different relationships between research and theory. A study that uses a deductive approach refers to "a study in which the theoretical and conceptual structure is developed, and then tested using the empirical

observation; therefore, various instances can be deducted from the general inferences" (Collis & Hussey, 2003: 346).

On the other hand, inductive research refers to "a research whereby theory is generated from the observations made on empirical reality. Inductive approaches have flexible structures, which permit alterations in research emphasis with the progression of the research. It explores from specific to general issues (Collis & Hussey, 2009), where the inductive approach is related to an interpretivist paradigm.

This design focused only on a single economy since FZs are rather complex. When research is carried out in multiple economies using similar resources, it covers greater breadth but less depth. As the first chapter of this research introduces (in section 1.3), this research aims to *explore if FZ BM/I could be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE*. Answering the KRQ question necessitated the pursuit of the stated research objectives.

This design focused only on a single innovation-driven economy since FZs and innovation-driven economies; especially Federal ones, are rather complex. The UAE's federal nature due to its nuanced human as well as physical geographies, and also the diversity (e.g. type, size, stage of development, ownership, specialization) of its thirty-five free zones; provide an adequate research context for a single exploratory study. For that reason, it should be understood that is the initial (exploratory) stage of the whole research -- that is, the main purpose of the present study is exploration rather than their explanation and/or evaluation. . The aim is to explore if *free zone business model innovation could be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE?*

There are several indications this could be the case through enhancements and in particular innovations in the FZ BMs in the manner suggested in this thesis.

4.4 Research Strategy

There are many strategies that can be used in research, and they may be linked to either the deductive or inductive approaches, or both approaches, including survey, experiment, action research, case study, ethnography, archival research, as well as grounded theory (Bryman, 2012; Saunders et al., 2012; Creswell, 2009). Table 4.2 illustrates the likely associated approach with every strategy.

Strategy	Definition and possible associated approach
Experiment	Determine whether specific treatment affects an outcome. Assessed by offering specific treatment to a particular group and withholding such treatment from another. Followed by determination of outcomes respective group's scores. True experiments and random assignments of subjects to the treatment conditions. Quasi-experiments that utilize non-randomized designs (Creswell, 2009: 12). Defining theoretical hypothesis. Experimental as well as control groups that are allocated randomly. Targeting samples from known populations. Using a formalised intervention to a variable(s). Measuring some variables while controlling many others. Using quantitative comparisons between control and experimental groups in terms of dependent variables (Saunders et al., 2012; Bryman, 2012).
Interviews	Related to the deductive approach. Considered a common and popular strategy in management and business research. Enhances the economical collection of a lot of data from known population in a manner that is economical. Often obtained by using a questionnaire (or using structured interviews). Data is standardized making comparison easy with the aim of generalisation.
Case study	Empirical examination that tries to investigate a current phenomenon in a real-life context, particularly when there are unclear boundaries between the phenomenon and context" (Yin, 2003: 13).

	Involves a detailed as well as intensive analysis of every single case (Creswell, 2009). Propensity to link case study with inductive reasoning approach ('unscientific' feel) (Saunders et al., 2012), but such a perspective is misguided (Bryman & Bell, 2015). Case study strategy may be regular or adopted by both approaches. Any form of research can be developed as case studies (Bryman & Bell, 2015).
Action research	Usually linked with inductive approach and comprised of four aspects, emphasising the purpose of the study: 1. Research on the action instead of carrying out research about the action; 2. Involvement of practitioners in research; 3. Stressing on the iterative nature of diagnosing process, planning, assessing and taking action; 4. Having the implications past the project on progress (Saunders et al., 2012; Bryman & Bell, 2015).
Grounded theory	Defining a grounded concept can result in over-simplification (Saunders et al., 2012). According to Creswell (2009), a researcher adopting this approach develops a common abstract theory of the process, interaction or action, grounded on the participants' points of view. This entails use of multiple steps to collect data as well as the refinement and interrelationship of various categories of information. Two main aspects of this strategy: theoretical sampling of various groups to maximise similarities as well as information differences and continuous comparison of data with emerging categories; usually includes analysing qualitative data with aim of generating theory out of research data -- achieving relationship between the two approaches (Bryman & Bell, 2015). Perceived as the best form of inductive approach. Better to understand it as theory that results from a combination of the two approaches (Saunders et al., 2012).
Ethnography	Researchers collect interview and observational data Describes as well as explains an intact group of culture in a natural way for a long period of time (Creswell, 2009). Firmly applies inductive approach (Saunders et al., 2012).
Archival research	Documents and administrative records are used as the main source of data. The ability to answer research questions is dependent on the nature of documents and administrative records. Requires the researcher to establish what data is available as well as design the research to get the best out of it (Saunders et al., 2012).

Table 4.2. Research Design
Source: Creswell (2009); Bryman (2012); Bryman & Bell (2015); and Saunders et al. (2012).

According to Saunders et al. (2012) and Creswell (2009), the choice of a research strategy depends on the nature of research issue(s) or question(s) that are being addressed, research objective(s) being targeted, the philosophical underpinning, as well as the experience of the researcher. From this, and based on what was discussed above regarding philosophical approaches, this study will use interviews as a data collection method. There are several reasons for using interviews in this context, categorised into three areas:

1. The main purpose of the study that is conducted. According to Cooper and Schindler (2008), when carrying out a prospective study, or a research which entails an explanatory element, the researcher is required to use non-standardized, qualitative interviews.
2. The importance of establishing a personal contact. Most managers consider it appropriate to be interviewed rather than filling a questionnaire, since they perceive interviews as granting more flexibility in answering the questions as well as relevant to their present occupation (North et al., 1983, as cited in Healey, 1991).
3. Sufficient time. An interview provides a participant enough time to complete the question answering process, which suggests that in some instances interviews are the best or the only alternative. Therefore, this strategy necessitates one to understand the work and organizational processes, since the data to be gathered will also be dependendeny on the context and background of every free zone.

4.6 Time Horizon

There are two options: first, the cross-section design involves collecting data about a series of variables simultaneously, while with longitudinal design, the sample is scanned and scanned again on at least one other occasion to be represented for a certain period (Bryman, 2012; 2012)

and second, longitudinal research, which refers to extended studies over a long period of time (Saunders et al., 2009). The second is more suitable for studies of change and development, as researchers can track developments or changes over time.

The choice of the temporal horizon for a research design is thus dependend on the research questions, strategy, research method, and time available (Saunders et al., 2012). Based on the discussion so far, the design of cross-sectional study seems more relevant to this research. The researcher focuses on exploring different properties simultaneously for the study of BM in the FZs of UAE.

4.7 Data Collection

This study rests within the Interpretivist paradigm, while pursuing an inductive approach, and using interviews of FZ senior managers as the primary data collection instruments (Saunders et al., 2012). Understanding BMs together with their innovation in the UAE FZs is the key purpose of this study; and Saunders et al. (2009) states that since these perceptions (data) are embedded in the respondents' minds, the researcher is required to have some form of interaction with them so as to extract meaningful data, because understanding the meaning embedded in someone's mind without being subjective may be very difficult. According to Silverman (2011: 132), an interview is an exclusive interaction between the interview subject and the interviewer. Data collection was divided into three stages

4.7.1 Stage 1 Primary Data Collection

In this stage collection of data was from the FZ participants and conducted with some economic specialists or those who have a direct relationship with the work of the free zones. The methods and tools used in this study was yield amounts of data by using interviews.

4.7.1.1 Interview

According to Saunders et al. (2009), interviews can be divided into three main types: structured, where questions are asked from a question schedule; unstructured, where the questions are not prepared in advance, but arise spontaneously in flowing conversation; and semi-structured, which combine structured and unstructured elements. This is where questions are asked from a schedule but the order of the questions can be changed by the interviewer based on the answers given by the respondents (Chisnall, 2001). Ruyter and Scholl (1998) posit that semi-structured interviews are very flexible. This is because there is room for respondents to give additional information to their responses on the questions, and the interviewer is also capable of adding more questions to the list if necessary. This makes semi-structured interviews the most appropriate type of interview for this study since the aim of the researcher is to identify perceptions of people that can mainly be defined through interviews, as found by Zikmund (2003).

The interviews give the researcher an opportunity to ask interviewees for more explanation in their responses (Saunders et al., 2009). By so doing, the interviewer probes the interviewee and this is important in obtaining meaningful answers. To achieve this, an interviewer may ask for example, if the interviewee has anything to add (Malhotra, 2004).

4.7.1.2 Semi-Structured Interviews

The researcher decided to use semi-structured interviews due to their ability to combine the strengths of both structured and unstructured interview techniques. The researcher designed and developed interview questions and guides in a thoughtful manner. The participants were given enough freedom to express their experiences, as the aim of the research is to understand the perceptions of participants about the FZBM concept as well as their innovation; it is therefore very

important to consider the participants' thinking on the concept as far as their context and experience are concerned. The initial communication with all participants was made through direct contact, by email, or telephone in order to arrange an interview appointment.

Each interview session started with the interviewer thanking the interviewee - this is because of the interviewees' humility and willingness to participate and donate their time to the research. Before the interview, the researcher informed the participants of the study's aim; this was meant to keep those who were to participate in the process aware. The researcher informed the participants that their responses would be confidential, and with anonymity; information from the fieldwork is only for the purpose of the research and not for other uses.

All questions were asked to participants; the choice of questions asked was based on the situation of each interviewee. Since a semi-structured type of interview was used, respondents were allowed to expound on the topic and give more detailed answers to the questions. The interviewer was also able to provide additional questions to the list if necessary. A question-answer situation was avoided by the researcher through developing a discussion-like interview, thus enabling the researcher to fully explore the range of topics. The interviewer was in full control of the interview session with the question schedule acting as a reminder of the topics to be covered.

4.7.1.3 Unstructured Interviews

Interviews were conducted with some economy specialists and those who have a direct relationship with the work of the free zones, but do not work in their management. All of these interviews were unstructured or informal questions, and included eight persons, four of them with direct links to FZs (Appendix A.5)

This kind of interview which linked with my personal experience and direct observations of FZs in the UAE. Use the secondary data together that to analyse the finding.

4.7.1.4 Interview Questions

The interview question guidelines were designed to start the interview with general questions, and then specific questions would be asked. The questions were derived from the literature review and also from a pilot study. The answers to these questions were designed to help the researcher collect data that could answer the research questions. A copy of the interview guidance can be found in (Appendix A.3). The details of the interview findings will be discussed in the next chapter.

4.7.1.5 FZs Sampling

In line with the above, a purposeful criterion-sampling approach in the UAE was adopted. The list of FZs in the UAE (see Appendix A.1) was compiled on the basis of the PKF International (2015) report and other secondary sources (e.g. FZ websites), and was used as a sampling frame. Effort was made to sample at least one FZ in each emirate, and to include FZs of varying sizes and stages of development, having the above as the guiding sampling principles.

The sampling procedure involved contacting the senior manager of the organization owning a given FZ over the telephone, explaining the purposes of the study, and requesting an onsite face-to-face interview. If the senior manager agreed to be interviewed this was followed up with a formal email invitation (copy of the letter template in Appendix A.3), providing confidentiality and anonymity clauses, as well as an overview of the study and the interview question schedule.

It proved possible to hold interviews with 17 senior managers from 11 organisations owning 20 FZs located across all but one of the emirates; satisfying all of the above requirements. That is, 57% coverage of the UAE FZs, 63% of their holding companies, and 85% coverage of the emirates. Due to anonymity and confidentiality agreements vis-à-vis the finite number and unique characteristics of each FZ (that render them easily identifiable), more details about the sample cannot be revealed.

The one emirate that was not included in the sample was due to the senior manager being unavailable to be interviewed during the fieldwork period; the FZ in question had similar characteristics to the FZs in neighbouring emirates included in the sample. Data saturation was used as the stopping rule for contacting new FZs.

4.7.1.6 Translation of Interviews

The interviews were conducted in a mixture of English and Arabic, in an area of the workplace where interviewees could not be overheard. As recommended by Guba and Lincoln (1994), all interviews were digitally recorded and transcribed. The Arabic segments of the interviews were translated into English to aid analysis. The average length of the recorded interviews was 60 minutes.

Each interview acted as a pilot for the next one. The fieldwork lasted three months, between the end of August and the end of November 2016. Given the focus on FZ-elites, a single-respondent bias was unavoidable in most cases, albeit this was not particularly harmful as it was ameliorated through additional secondary data sources.

Also, in the cases where more than one interviewee and/or interview was conducted with an FZ, no discernible difference in the data was observed.

4.7.2 Stage 2 Secondary Data Collection

In stage two the secondary data was collected from a range of sources to support the research. The researcher used secondary data sources (see Table 4.3) to check and obtain supplementary data.

AD eGovernment , 2015	**Al Emarat Alyoum, 2011**	**Al Zarooni, 2013**
Cherian, 2017	DSCD Sharjah, 2015	Dubai FZ Council, 2017
DSCG Dubai, 2015	UAQ e-G, 2015	El Mallakh, 2014
FIAS, 2008	Fujairah SC, 2015	G Ajman, 2014
G.UAE, 2013	ICC, 2013	IMF, 2015
Madani, 1999	MOE, 2015	MOE Annual Report, 2016
Mbrcgi, 2017	National Archives, 2017	Nevin, 2016
PKF UAE, 2015	RAK e-G, 2015	UAE Interact, 2017
UAE-Vision-2021	WFZO, 2015	FCSA, 2017

Table 4.3 Secondary data sources

The collection of data was from many sources in various forms, such as federal and local government documents.

4.7.3 Stage 3 Secondary Data Collection (WEF)

In stage three in the secondary data was collected from- The Global Competitiveness Report, published by the World Economic Forum (WEF) as an indicator of a country's comparative global competitiveness based on their established institutions, policies, and other factors directly impacting productivity, and in turn prosperity, classified the UAE as an "innovation-driven economy." In the Global Competitiveness Report 2017/2018, (see section 3.6.1).

4.8 Preparing the Data

The collected data was analysed, marking the first step of the process. Saunders et al. (2009) requires analysis to be done continuously, where the researcher pays attention to the

recorded information one by one then transcribes and analyses it before proceeding to the next one. According to Bryman and Bell (2007: 491), this technique makes the researcher aware of the upcoming themes about which he/she would ask in subsequent interview; this is what was used in this research.

The recorded information can either be transcribed by the researcher themself or a hired expert, with each option having their own pros and cons. Collis and Hussey (2009) point out that although transcription consumes a lot of time, the best person to conduct it is the interviewer since he/she was part of the interview and may provide more information on the transcript. According to Spender (1989), real data including the experience of the researcher in an interview context can be recaptured through recording; this is what was done in this research.

4.8.1 Data Analysis Stage 1

Bryman and Bell (2007) argued that qualitative data needs more time to be analysed, when the data is too rich or extensive; for this research, the data comprised of the interview data as well as notes from the researcher. The entire process of analysing qualitative data "entails working with the data, organizing data, breaking it into units that are manageable, synthesizing them, seeking patterns, establishing what is significant as well as what needs to be learned, finally deciding what to tell the others" (Bogden & Biklen, 1982: 145). This is a clear indication of the significance of the researcher's role, since his/her understanding impacts significantly the overall outcome of the research. Therefore, the researcher should have an in-depth understanding of the data so as to discover what is significant after developing understanding.

In this research textual reviews of the transcripts as well as secondary data were coded and entered to Nvivo11 for analysis. Codes and themes that were originally collected from the literature

(e.g. BM elements) formed the preliminary framework for data analysis. This is seen as an initial step towards the framework development segment of the research. The second step comprises a template to obtain the relevant information from the data as well as to develop the respective FZBMs. This is followed by a comparative analysis, the third step, in order to identify the primary sources of variation that are witnessed across FZBMs. The fourth step involved the development of a composite FZBM, as well as the identification of concentrations of innovations, especially in specific BM elements during a final step.

This research pursued within -- as well as across – FZ analyses and comparisons with literature in a manner that is non-linear. Within-FZ analysis enables the researcher to investigate each FZBM as well as explore its combinations of the components and concentration of innovation.

Cross-firm analysis was used in sets of the FZs (i.e. of particular sizes, types, developmental stages, and locations (emirate)) so as to identify various changes in their BMs, refine the number of different FZBMs that are involved, and identify those BM blocks that have the largest innovation concentrations.

4.8.2 Developing Codes and Categories

In qualitative research the process that involves breaking down the data into named component parts is known as coding (Bryman & Bell, 2007: 725). After carrying out several interviews, initial codes began to be developed by the researcher using Nvivo 11 (see Table 4.4 and Appendix A.5) with the final codes being developed following repeated reading of the entire transcripts and after the full data collection. During this process, interview scripts were read by the researcher who wrote some additional important points. The researcher was able to get a strong

grip on the data and familiarity of themes by reading through the transcripts of each interview as many times as necessary.

According to Basit (2003: 144), codes are labels or tags that are used to attach meaning to inferential information gathered during data collection. Auerbach and Silverstein (2003) established that the aim of this is to move from unprocessed text to research question answers in bits, with every step depending on its predecessor. In this case, key words were assigned labels to describe the content through coding. Most of these codes were developed throughout the process, then some of them (those with the same meaning) were merged by the researcher so as to minimize the amount of coding (Saunders et al., 2009). According to Gibbs (2007), coding is essential in summarizing data by condensing significant sections of data after gaining its understanding.

This data was kept secret and the researcher made sure that this was not indicated anywhere in the thesis, in order to maintain the participants' privacy. After a thorough scrutiny of the data obtained, themes and subthemes were generated and tabulated (see Table 4.4).

According to Saunders et al. (2009: 588), the development of categories is the process of coming up with categories which are put together to give meaningful data. This process is termed a categorization process, where the researcher makes an analysis of the various codes. The codes with related ideas were grouped as ascertained by Auerbach and Silverstein (2003). In the interview process, the interviewer was able to identify ideas where an interviewee used similar phrases to convey the same message. After having a good understanding of the related codes and repeated ideas, a table of both themes and subthemes was created.

The raw data that is available at the beginning of the research is the lower point, and the final report of the research is the highest level of the ladder as argued by Auerbach and Silverstein (2003: 35).

Theme	FZ Profile			
Subtheme	FZ History		FZ Performance	
Categories	Founded before 1999	After 2000	Turnover	FZ KPIs
Key Point	Limited & General (industrial)	Increasing & Specialist (commercial)	Confidential	Number of Licenses, Firms, and Employees. Expansion or rent buildings.

Table 4.4 Themes Coding Categories

4.8.3 Composite Business model and Conceptual Model

Free zone business model elements and frameworks (composite business model) were organized into 10 parts after analysing the interviews and linking them to theoretical discussions, revealing the need to include governance and ownership of the free zones; for example: holding company, ownership of the emirate, private sector participation in the regulatory framework (international, federal, emirates).

After achieving an initial conceptual model design of the primary and secondary data collected in the research, key concepts were determined that underpin innovation management and BMI and a final conceptual model (see Figure 5.4) was developed that encompasses the interrelationships of these concepts, including: economic development, which is intrinsically connected to policy for economic development (e.g. industrial, innovation, infrastructure, investment attraction, etc.); institutions (formal and informal); investment (domestic and foreign); innovation (e.g. exo/endo-geneous, NSI, SSI, RSI, BMI, innovation management); entrepreneurship; and competition.

4.8.4 Data Analysis Stage 2 & 3

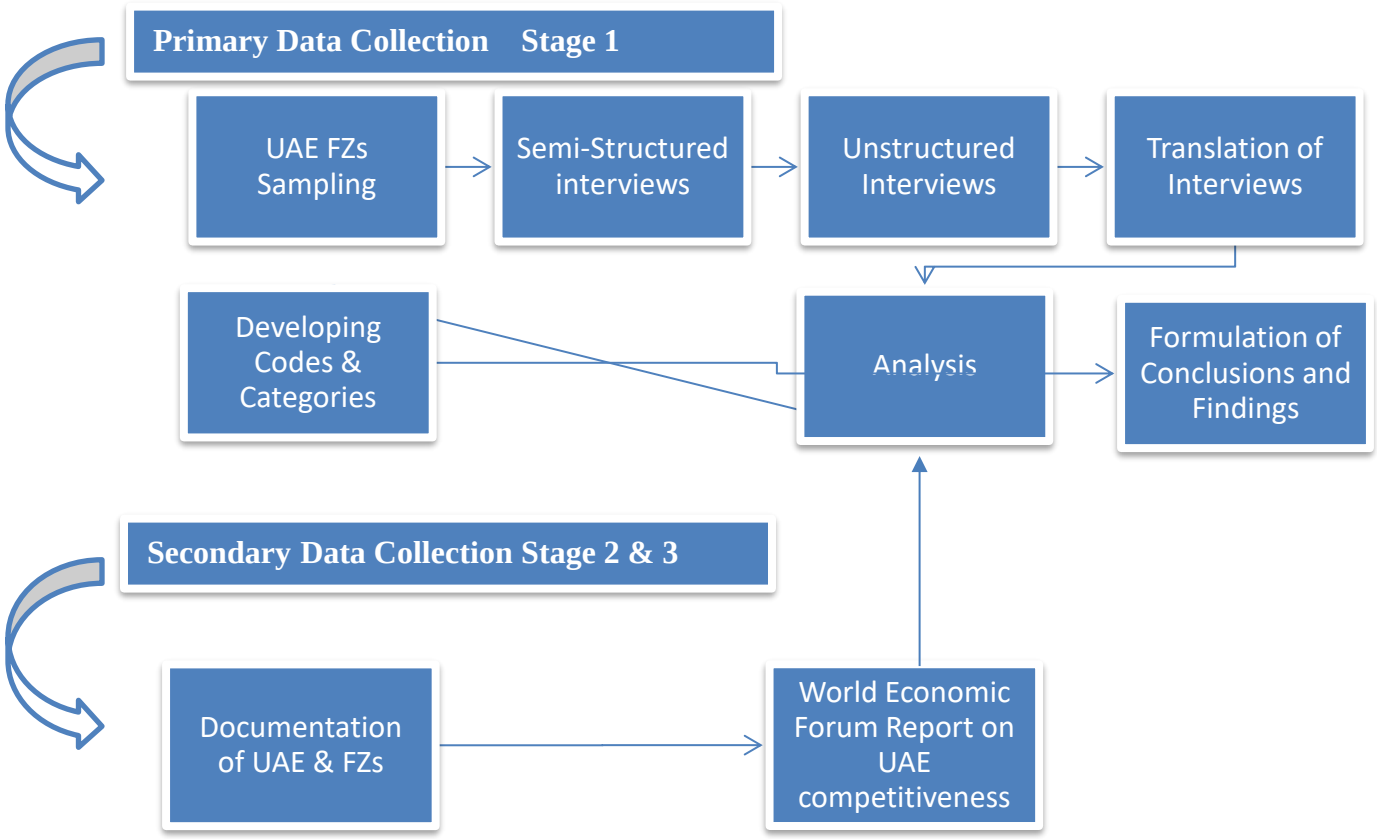
In stages two and three the secondary data (collected from the sources ;listed in table 4.3 and The Global Competitiveness Report), were used to complement and triangulate the primary data. The researcher analysed and identified the five lagging areas of the UAE competitiveness (in section

3.6) that link with the FZs and which could thus be enhanced through appropriately FZ BMIs. Namely: i) institutions, ii) higher education and training, iii) goods market efficiency, iv) financial market development, v) market size and vi) innovation.

4.9 Formulation of Conclusions and Findings

This section represents the final stage upon the completion of the coding process, as well as the generation of various categories, themes, and sub-themes. It is comprised of actual data analysis with the intention of extracting findings from the data. All this was realized by identifying various relationships between the categories. Explore the possibilities through which FZ BMI could enhance the aforementioned lagging areas of national competitiveness and thus aid the further development of the UAE as an innovation-driven economy. The process of coding was based on data collected through interviews, thus the study used quotations (see Appendix A.3,4,5&6) derived from the transcripts of the interviews in order to justify the findings that are presented in the findings chapter. This research is entirely qualitative and data was interpreted depending on the researcher's personal and theoretical understanding (Bryman & Bell, 2007). The researcher aimed to balance describing as well as interpreting data; according to Patton (2002), a good research "provides adequate description that allows the reader to comprehend the reason behind a particular interpretation, as well as to enables the reader to clearly understand the descriptions" (Patton, 2002: 503-504).

4.10 Summary of the Research Steps



4.11 Reflexivity

Reflexivity is a condition that arises when researchers disclose their own context vis-a-vis the research; that is, researchers include their background (such as history and experience) within a certain aspect of the study, for example the introduction, method section, or other places throughout the research, and how this informs their interpretation of the information or data collected during the study and their conclusions (Creswell, 2013). In addition, readers want to know what motivates a researcher's interest in the subject at hand, who reports, and what benefit they get from their studies (Wolcott, 2010). Berger (2015) points out that reflexivity aims to control the influence that arises because of the involvement and separation of researcher and research; thus

enhancing the accuracy of research and "credibility of results by calculating researcher's values, beliefs, knowledge, and biases" (Cutcliffe, 2003: 137).

In qualitative research, reflexivity was associated with originality and trustworthiness. Reflexivity requires self-awareness (Lambert et al., 2010); this means "active participation in the search process" (Palaganas et al., 2017: 427). The purpose of using reflexivity in this research was to ensure that even data collection and interpretation could provide more effective and fair results. This includes, for example, the ratification of methodological consistency, and access to a related sample (Palaganas et al., 2017).

4.12 Research Ethics

Researchers are required to act ethically, since all studies involve ethical issues. According to Saunders et al., (2009) research ethics refers to “the suitability of the behaviour of a researcher in relation to rights of the ones who are affected by the research, or those that are the subject of the research project. When conducting the research, they should treat the people fairly” (Fisher, 2007). Furthermore, it is required of the researcher to obtain formal ethical endorsement from the university’s research ethics committee before carrying out any research. During the actual research process, the researcher should consider a number of ethical issues that arise during the stages of design and access, collection, processing, and storage of data, and analysis/reporting (Saunders et al., 2009). Every stage will be explored individually in the subsequent paragraphs.

1. **Ethical issues related to design/gaining access**

All researchers are required to have formal approval from those who participate in the research (Fisher, 2007). Moreover, Sekaran (2003) claims that pressure should not be applied on the prospective research participants so that they grant access. It is very vital to ensure that the

participants are well informed about the study in which they are supposed to participate. Also, the researcher should handle participants ethically, as well as ensure that participants are familiar with the research objectives to remove any perception that they are forced to participate in the research, and ensure that their identity as well as personal information will be kept confidential.

2. Ethical issues on the process of data collection

A researcher often receives participant information which is confidential in some cases; the researcher should not disclose this information to any third party, ensuring that participant confidentially is maintained.

3. Ethical issues relating to processing and storage of data

The researcher conducts in-depth, face-to-face interviews with his/her participants during the process of data collection. The researcher will amass a lot of information regarding participants, some of which is personal and/or confidential. For this reason, the researcher is required to protect the participants' information from exposure thus respecting their privacy.

4. Ethical issues associated with analysis and reporting

During the analysis process as well thesis writing, it is significant to make sure that the researcher does not misrepresent data (Saunders et al., 2009). The researcher should avoid various associated problems, achieved by considering the following:

- No confidential information regarding the organisations or participants will be mentioned or collected in data analysis;
- The participants' names will be kept anonymous, and respondents taking part in this research will be given pseudonyms;

- The researcher obtained a formal letter issued by the University of Hull showing that the research is being conducted by a Ph.D. student who requires information for scholarly purposes only;
- The researcher preferred to record their interviews, however the respondents were at liberty to refuse the recorded interviews if they choose to do so; in such cases the researcher would be forced to take written notes rather than making recordings;
- The researcher is required to obtain formal permission from various organisations that participate in the study by contacting them and giving them a brief about the research;
- The data that is collected should be kept confidential as well as used for either scholarly or research purposes only.

4.13 Conclusion

This chapter explored the research philosophies and designs that the researcher may prefer. this study used an interpretivist epistemological approach because of the research objective -- to develop an understanding of FZBM innovation in the UAE and link with (WEF) to enhance the national competitiveness of its innovation driven economy.

The research was organised in stages. The qualitative data used with this research paradigm was collected using interviews. There are various forms of interviews, including structured, semi-structured and unstructured, and the researcher has the liberty to choose the form of interview that will enable him/her to obtain the research outcomes. This study used semi-structured interviews.

After the collection of data, it was analysed and delineated into different parts known as codes, which were further developed to derive meaningful information. Qualitative data is often complex and rich, therefore it should be analysed; this entire process of analysing qualitative data

entails working with the data, organizing data, breaking it into units that are manageable, synthesizing them, establishing what is significant as well as what needs to be learned, and finally deciding what is relevant for reporting to others. After analysis, the researcher determined findings and conclusions.

The researcher should always ensure that the data used are valid and reliable in order to paint a clear picture of the instances behind the phenomena that are under research. The chapter concludes by exploring the ethical issues that surround the entire research project.

Chapter Five: Findings and Discussion

5.1 Introduction

This chapter focuses on a discussion of the information collected during the primary data collection (semi-structured interviews, and unstructured interviews) and secondary data collection (from a range of sources), analysing as outcomes stemming from Chapters 2 and 3 in order to achieve the stated research objectives: 1) Identify the relevant theoretical and conceptual frameworks through a critical review of the literature; 2) Establish the position of the UAE in the Global Competitiveness Report (WEF, 2018) and identify those lagging areas of competitiveness that relate to FZs; 3) Develop a framework to aid answering the research question by augmenting the frameworks reviewed ; 4) Delineate the elements of the augmented framework to be used for mapping the BMs and BMIs of the UAE FZs; 5) Map the BM and BMI elements of the UAE FZs; 6) Explore the variation across the mapped BM and BMI elements (e.g. concentration and impact of BMI in particular BM elements); 7) Explore the possibilities through which FZ BMI could enhance the aforementioned lagging areas of national competitiveness (established under objective 2) and thus aid the further development of the UAE as an innovation-driven economy.

The primary and secondary data was gathered to meet the objectives as discussed in Chapter 1: to understand the history and current status of FZs in the UAE and their relation to the UAE government, to determine the structure of FZs in the UAE and the importance of innovation; to discover the aspects of the UAE's economy that could be enhanced through FZs; to establish relevant theoretical and conceptual FZ frameworks, the elements of an augmented framework for mapping FZ BM/Is in the UAE, and BM variations and BMI elements in order to develop a BM composite that highlights innovative sectors; and to formulate recommendations, including

improvements to policies and practices, recognizing research limitations and potential areas for further study.

5.2 Inside the UAE Free Zones – history, current status, and relation to the UAE government

The Free Zones (FZs) in the UAE are a major part of the UAE's economy on a local scale for each emirate (Annanbh & Al Ahmed, 2015), with the Jebel Ali Free Zone considered the first free zone in the UAE. These FZs are different from one to another in a number of aspects. Through secondary data collected and the interviews conducted with the senior management of the free zones, it was determined that there were six FZs established before 1999, and the rest were established in the period after 2000. Most of the FZs established prior to 1999 were conventional areas established near ports or airports, and focused on importation and exportation or re-exportation with storage service, the establishment of conventional factories, or the opening of the headquarters of international companies such as Boeing (e.g. in the Dubai International Airport FZ).

The FZs that were established after 2000 were mostly specialized zones such as Dubai Internet City, Silicon Oasis (a technology centre), and the Dubai International Financial Centre. There have been some conventional FZs established since 2000, although not as many, such as the Ras Al Khaimah Economic Zone (RAKEZ), a region that is specialized in industry in general, and the free trade zone of Khalifa Port, the new generation of commercial, logistical, and industrial activities in Abu Dhabi (see Appendix A.1 for a listing of all FZs).

This difference in the pre-1999 and post-2000 free zones – from conventional to specialised -- gives some indication of evolution. see the Themes Coding Categories (Themes no: 1 Appendix A.6). Madani (1999) mentioned the importance of specialisation as a means of facilitating free

trade and an appropriate regulatory environment, while Porter, Sachs and McArthur (2002) specify that the competition between companies within a common sector – as promulgated by the creation of specialised free zones – leads to innovation and global competitiveness, and is a hallmark of an innovation-driven economy.

5.2.1 Location and Physical Size

Some FZs are located within one specific area in an emirate while others are located in several areas within the same emirate; e.g. the free zone in Ajman has several areas providing different services. Some FZs occupy a large area, such as the Ras Al Khaimah Economic Zone (RAKEZ), while others are limited in size, such as the free zone at Dubai International Airport (see Figure 3.3 Location of Free Zones in the UAE) and (Themes no: 2 Appendix A.6)

The TECOM Group owns 13 free zones in Dubai, with each of their FZs being in a single location and specialising in a particular narrow set of industries, for example Dubai Media City and Academic City. The TECOM Group has gained experience from the construction and management of 11 free zones in the UAE in different sectors over a 15-year period; most importantly, it has internationalised successfully, becoming a key (joint-venture) business partner to governments around the world, building and managing free zones in India, Malta, and South Korea and providing a range of services including among others: catering, entertainment, media, information and communication technology, education, gaming, finance, law, back-office operations, child care, health, cloud computing, design, and travel services.

The government of Ras Al Khaimah decided by the end of 2017 to merge their two free zones (RAK FTZ & RAKIA) under one entity -- the RAK Economic Zone (RAKEZ) which was subsequently divided into six zones (RAKEZ Business Zone, Alhamra Industrial Zone, Alghail

Industrial Zone, Alhulaila Industrial Zone, RAKEZ Academic Zone and Media Zone) (see Table 5.1).

The presence of such a large number of free zones in the UAE has a positive aspect in that it increases competition in attracting foreign investment, giving multiple options to investors in choosing the place or areas that suit them -- whether office space, warehouses or space for building dedicated buildings. According to Zeng (2015) these privileges are to the benefit of consumers; goods can be exhibited, manufactured, used, assembled, sold or sorted in those zones.

5.2.2 Ownership and Relation to UAE Federal and Local Governments

Most of these FZs are owned by local governments in the UAE, significantly these FZs are developed through the FZ owner. For example the TECOM Group has only one owner, Dubai Holding, which is owned by the Dubai government; however TECOM is managing all FZs as a private sector entity. Ajman FZ and RAK Economic Zone are directly owned by their respective emirate's government. The development of free zones by focusing on specialisation has helped to create and find specialized FZ in several areas, for example the Ajman FZ is managed by one administration without a process of zoning, and similarly in RAKEZ where they allocate zones like RAKEZ Business Zone, Alhamra Industrial Zone, Alghail Industrial Zone, Alhulaila Industrial Zone, RAKEZ Academic Zone and Media Zone. However, this approach does not apply to TECOM because each of its zones has its own zone-specific administration. The intent of this is that Ajman FZ and RAKEZ have a single management for all FZ areas under their management, unlike the TECOM where there is a separate management for each FZ.

Name of FZ or Holding Company	**Owner**	**Number of Zones or Areas**	**Zone/Area Name & Specialisms**
TECOM Group	Dubai Holding	13 Business Communities	Dubai Internet City Dubai Outsource City

			Dubai Media City Dubai Studio City Dubai Production City Dubai Production City Dubai International Academic City Dubai Science Park Dubai Industrial Park Dubai Wholesale City Dubai Food Park Dubai Design District Emirates Towers Business Park
RAK Economic Zone	RAK Government	6 zones	RAKEZ Business Zone, Alhamra Industrial Zone, Alghail Industrial Zone, Alhulaila Industrial Zone, RAKEZ Academic Zone and Media Zone
Ajman Free Zone	Ajman Government	6 different areas	Different services such as retail, offices, industrial and hotel

Table 5.1 Examples of FZ holding companies with different Specialisms
Source: Author generated

Although there has been a focus on privatisation as an important factor in economic development (Baker et al., 2016), developing privately-owned FZs is not a guarantee of increased FDI (Morris & Moberg, 2012). A decentralised system as seen in the UAE – where many FZs are owned by the respective local governments – affords unique advantages: the ability to make rapid changes to locality-specific conditions to effect more targeted policies and recognize entrepreneurial opportunities, to increase flexibility by trying different systems with limited risk, and to have an opportunity to impact federal regulations. Through the nature of the composition of these areas, which are managed as a private sector despite the ownership of governments, preference is given without bureaucracy (Farole & Kweka, 2011; Strong & Himber, 2009; FIAS, 2008; Farole, 2010; Moberg, 2015).

There is a disparity in the number of employees working in the management of FZs (see Table 5.2). This discrepancy is between the number of companies and the number of employees in each free zone highlights the size of each area and of registered companies. There is no minimum

operating size and/or management of free zones. For example, 12 employees can manage a free zone hosting small and medium enterprises, as in Masdar (see Table 5.3).

FZ staff less than 100	FZ staff between 100 -300	FZ staff + 300
2 FZs	3 FZs	4 FZs

Table 5.2 Number of employees working in the management of FZs
Source: Author generated

No Firms less than 2000	No Firms between 2000 -6000	No Firms + 6000
3 FZs	4 FZs	2 FZs

Table 5.3 Number of registered firms in FZs
Source: Author generated

5.2.3 Governmental Policies (Federal Government) and their Impact on FZs

Based 5.2.3, in primary and secondary data reviewing the strategic plans of the UAE 2021 or local governments in general outlined in Chapter 2. There is no explicit policy of economic development or innovation of free zones as reviewed in the UAE 2021 and local governments strategic plans. Nonetheless, there are initiatives by the FZs themselves; for example, innovation strategies for creating innovation sections within FZs as in the Dubai Silicon Oasis Authority and the Dubai Airport FZ. There is also the beginning of a national innovation system with the establishment of the Mohammed Bin Rashid Innovation Centre in 2014, with the stated goal of stimulating a culture of innovation in government and thereby contributing to the innovative nature of the UAE government (Mohammed Bin Rashid Centre for Government Innovation, 2017).

Despite these, one of the main weaknesses of the Free Zones in the UAE remains; which is the lack of a coordinating organisation as there is no institution or federal centre that coordinates all free zones in the UAE (Annanbh & Al Ahmed, 2015).

There are some policies of the federal government that have indirectly affected the free zones, divided to three groups based on the secondary data and unstructured Interviews:

Regulatory:-

- Without a regulatory agency, free zones have contributed to attracting irregular and unlawful employment within the UAE through work with companies registered in the free zones;

- The absence of a unified regulatory body that aids and monitors the cooperation of different FZs within the federal government;
- Free zones in the emirates have the means of creating regulations and laws that are different from the federal laws and place fewer burdens on their users.

Labour

- Freedom in the recruitment of workers, without the need to link such recruitment to the Ministry of Human Resources and Emiratization (which is responsible for regulating the labour market), contributes to the imbalance in the labour structure in the UAE;
- The Wage Protection System (WPS) is a compulsory electronic salary transfer system allowing the monitoring of wage payments, ensuring timely/full payments and compelling employers to meet such obligations; it is binding on all companies within the UAE, but not in the free zones; it is currently only applied in the Jebel Ali Free Zone.

Cooperation

- The withholding of FZ data on key performance indicators (such as revenues and volum of attracted FDI inflows) from the government affect studies and statistics by which free zones are evaluated adversely (i.e. undermines transparency and governance efforts);
- There are no joint projects between more than one free zone outside of any emirate or coordination between them (i.e. limited cooperation and knowledge transfer between FZs).

It is critical as part of an innovative and conducive business climate to determine the proper balance between over-restrictive regulation and strong policies that will produce effective economic development (Jha & Whalley, 2015).

5.2.4 Investment

Free zones can attract a great amount of investment from foreign and domestic companies of all shapes and sizes, including SMEs and start-ups large companies. The risk for each type of firm differs obviously (Antwi et al., 2013). For example Foreign direct investors (FDI) and investment directly impact the economy of the host country with their injection of capital (Seid, 2013). According to the UAE Federal Competitiveness and Statistics Authority, 2016 total cumulative FDI inflows reached USD 117.9 billion (Annual Statistical Report of 2018).

5.2.4.1 Domestic

There are facilities and support in services for start-ups and entrepreneurs (conducive business environment), however currently there is no direct support (funding) for domestic entrepreneurs (non-FDI) that wish to locate in an FZ. This is due to a large degree to the banking system in the UAE, which is rather risk averse towards start ups; for example, banks will not finance entrepreneurs until they have been in business for at least two years, and even then under difficult-to-meet conditions.

5.2.4.2 Foreign

The majority of FZs give more flexibility to foreign investors (compared to domestic) if they want to invest, because the domestic investor can use the options of licences of the Department of Economy in each emirate; also this is the main objective of the establishment of free zones (to attract FDI) (Porter et al., 2002). However recent developments in new initiatives within FZs are helping to change this state of affairs, and give priority to local investors by facilitating the acquisition of business licenses as well as residency visas (for non-UAE nationals);

allowances for FZ administrative fees instalment payments, and other fee payment services available in some free zones.

5.2.5 Institutions

Free zones in the UAE are established and licensed by local governments, with the exception of the Dubai International Financial Center (DIFC) which was established in 2004 by Presedential decree as the DIFC court falls directly under the jurisdiction of the federal government. As discussed in Chapter 3, formal and informal institutions can have a direct impact on foreign investment (Holmes Jr, Miller, Hitt & Salmador, 2013), and therefore FZs. For example, the Dubai Creative Communities Authority (DCCA) has developed strong legal and regulatory policies for companies that support the needs of businesses and keep pace with the development of creative sectors in Dubai; it is one of the institutions owned by a free zone (TECOM), therefore its laws are not considered “official” within in the federal government, which is an example of informal institutions.

5.2.5.1 The Dubai International Financial Centre (DIFC)

The Dubai International Financial Centre (DIFC) is an example of a formal institution. A financial free zone established in 2004, the DIFC has provided a secure platform to support financial institutions in the development of their business. The centre has all the essential elements that make it an integrated business environment for the financial sector, including an independent regulatory body and judiciary, unfettered access to a global financial market, an advanced infrastructure, support services, and a business community. The efficiency and diversity of DIFC's supporting infrastructure make it the ideal base to capitalise on the growing demand for financial

services in the GCC and broader region. The DIFC is designed to be a "city within a city" that offers a full range of business facilities and high-end lifestyles for financial customers. The financial infrastructure is characterized by ultra-modern office space as well as wide choice of shops, restaurants, art galleries, apartments, and hotels. The DIFC hosts more than 1500 companies, 420 financial, 240 retailers and the rest in sectors related to financial services (e.g. Bloomberg). The total number of employees that manage the free zone is around 390, and the zone itself encompasses 810 hectares.

The DIFC is divided into three authorities (discussed further below), which are independent bodies that enable and support the growth and development of businesses within the DIFC.

5.2.5.2 The Dubai International Financial Centre Authority (DIFC Authority)

The DIFC Authority is responsible policy and strategic development as well as the operational management of the DIFC. It is also responsible for developing laws and regulations for non-financial services activities that are not regulated by the Dubai Authority (companies that work outside the DIFC). The DIFC Authority assists companies wishing to obtain licenses through all stages of the process and welcomes companies operating in the following sectors: banks, wealth management, insurance and reinsurance, financial markets, professional services, global institutions, Islamic finance and retail.

5.2.5.3 Dubai Financial Services Authority

The Dubai Financial Services Authority (DFSA) is an independent body that regulates financial and other services offered within or from the DIFC. The regulatory authority of the DFSA covers asset management, banking and credit services, securities, collective investment funds,

endowment and trust services, commodity futures trading, Islamic finance and insurance, as well as an international stock exchange and an international trading exchange for commodities.

5.2.5.4 Dispute Resolution Authority

The Dispute Resolution Authority (DRA) administers justice and legal excellence within the DIFC, and currently has four divisions:

- DIFC Arbitration Institute;
- DIFC Wills and Probate Registry. The first Common Law, English language wills and probate service for non-Muslims in the Middle East;
- Academy of Law. An independent entity that provides legal education and support to the UAE legal community;
- DIFC Courts. The courts deal exclusively with all cases and claims arising out of the DIFC and its operations, and any other claims in which all parties agree in writing to use the DIFC Courts. They operate in English to facilitate or resolve trade disputes using English common law, and represent a unique domestic/international civil legal system that is both quick and independent. The court system is capable of resolving all civil and commercial disputes, and includes a Small Claims Court, the Court of First Instance, and a Court of Appeal. The court judges are experienced and known for their adherence to the highest international legal standards. The courts are considered an independent body of the UAE civil law system.

The existence of suitable formal institutions, such as the DIFC Courts, give confidence to the organisations that operate within the DIFC in the presence of an institution that can preserve

their rights in the casse of any difficulty related to resolving all civil and commercial disputes. This is thus, an important host institution for inward-FDI, because they play a key role in the FDI-location-choice and entry-mode decisions (Contractor et al., 2014); in this manner the DIFC courts, as an institution, adds value to the development of all free zones in the UAE as they provide a new set of services accessible to the users of any free zone.

5.3 UAE FZ competitiveness

In 2015 the government of the UAE initiated the "Year of Innovation," (see section 3.5) which would include encouragement of innovation within FZs. There are FZs that started to build sections, divisions, or departments of innovation in early 2012, like the Dubai Silicon Oasis (DSO) and the FZ in the Dubai International Airport, making suggestions towards corporate innovation. In the case of DSO the innovation was focused more on the capability of the provided services, but the project was subsequently abandoned.

Most FZs try to innovate and generate revenue in alignment with innovation principles at the management level as discussed in Chapter 3, with a focus on maintaining a competitive edge (Tekin & Çiçek, 2005).

The services provided to customers are themselves innovative, which are new or process developments (Crossan & Apaydin, 2010). For example in the Ajman FZ, the interviewee mentioned that regarding payment services, 40% of their services are now electronic and they can provide new services to establish companies with some options of services so as to help them establish their business. Additionally, the Dubai International Financial Centre said that it was the first FZ in the world to have a court (as introduced in section 5.2.5.1).

5.3.1 Competition

The competition between free zones in the UAE has a different and varied nature, with a large number of FZs within a limited geographical area (see Figure 3.3 Location of Free Zones in the UAE) and (Themes no: 2 Appendix A.6). There is diversity among the free zones in the UAE, which contributes to growth, innovation and increased competition. Free zones compete for innovation in various administrative, service, and marketing fields, and this competition is not limited to competition within each emirate but across all emirates. Dubai is the main destination of investments due to the presence of more than 22 free zones specialised in many areas. Even FZs outside the Dubai emirate use Dubai in their literature use "Dubai" as a keyword to promote themselves; e.g. some mention their proximity to the Dubai International Airport (for example "UAQFZ is only 25 minutes from Dubai Airport"), when participating in international exhibitions or in their advertising, to benefit from the positive brand identity of Dubai.

The management of Masdar Free Zone in Abu Dhabi believed there was no competition between free zones in Abu Dhabi (which has five free zones) because of the coordination of these free zones by the Abu Dhabi government, in addition to which each free zone provides different services in different specialisations (Twofour54 in media, Masdar FZ in technology, etc.). However, both the Silicon Oasis in Dubai and the FZ in Ras Al Khaimah (RAK FTZ) are considered rivals outside Abu Dhabi. In the same context, the management of UAQ FTZ supposed that they are complementary to the free zones in the UAE, and not competitors.

The free zones in Ras Al Khaimah, Sharjah, Ajman, and Fujairah compete as direct rivals; there is an intensity of competition between the free zones, whether inside each individual emirate or outside, across the country and internationally. There is strong competition in attracting foreign investment, providing innovative services, offering competitive prices, and building business centres for start ups and SME partnerships. However, some free zones are trying not to operate in a competitive manner; for example one free zone in Dubai contends that they are complementary to all free zones in Dubai, although respondents from other FZs in Dubai confirm there is

competition between them in infrastructure, services and laws with a similar competitive advantage in some free zones. The research supports this -- that there is no rivalry between the free zones in Abu Dhabi although there is a fierce rivalry between all the free zones in the UAE and especially so in Dubai. Some interviewees tried to provide a diplomatic response, by mentioning that all regions complement each other, but this is contrary to reality because of the clear competition in attracting investors. This competition compels the management of free zones to offer innovative services and novel, non-traditional options.

There is also international rivalry; the Dubai International Financial Centre (DIFC) considers Singapore, London, and Bahrain to be direct rivals.

It should be noted that some local laws differ from one emirate to another, giving some competitive advantage among free zones in the UAE that is in conflict with federal laws. For example, companies within the free zones in Dubai have the right to work and provide services outside of the FZ areas after approval from the Dubai Economic Department, the local authority that licenses companies to operate in Dubai. However, this is contrary to the UAE labour law, which stipulates that these companies must operate within the scope of their FZs, which give the companies in the FZs more options to operate outside the FZ and in all the UAE.

5.3.2 Entrepreneurship

Due to the growth of competition and the increase of entrepreneurs and SMEs, free zones have been shown to succeed in attracting entrepreneurs by providing services and privileges to help them start their projects. Some free zones have become highly focused in this category according with interview with two FZs Umm Al Quwain Free Trade Zone (UAQ FTZ) and Dubai

Silicon Oasis Authority (DSOA) plus secondary data relating to the Dubai Multi Commodities Centre (DMCC)

The number of companies registered, for example in, Umm Al Quwain Free Trade Zone (UAQ FTZ) has reached 90% of all registered companies, a radical shift in the way free zones have operated over the past 40 years. There are unique examples of FZs across the UAE that have increased the development of entrepreneurs and small businesses, and have built an innovation ecosystem that other FZs could emulate while innovating their BMs. For example:

1. The Dubai Technology Entrepreneur Centre (DTEC) was formed under the Dubai Silicon Oasis Authority. The DSOA is a FZ established in 2004 as hub of ICT, which decided in 2015 to open the Dubai Technology Entrepreneur Centre (DTEC) as part of the FZ to focus on SMEs and (micro) entrepreneurs. DTEC is the region's largest business centre. According to the Authority's statement, the establishment of the centre came against the backdrop of the success of the Silicon Oasis Foundation, launched in April 2012, to support and encourage local entrepreneurs in the IT sector. It was characterized as an incubator for emerging entrepreneurs, giving them the opportunity to set up their own businesses and providing them with a comprehensive range of support services (such as consulting, work spaces, and networking opportunities). There are also strategic partners (e.g. Microsoft and IBM), whose role is to support entrepreneurs and advise them on how to develop their businesses. The role that these companies will play in creating an ecosystem for entrepreneurs in DTEC, which is in support of the goals of the FZ, helped them to attract 500 companies in a small area in just one year.

2. The Umm Al Quwain Free Trade Zone (UAQ FTZ) was established 1987; at the start of 2014 there were only 40 companies (all industrial), but by the end of that year the FZ management decided to re-brand, and put a new strategy into effect with new packages of services to focus on start-up businesses and entrepreneurs. They have attracted more than 2000 companies (commercial licenses) in the last three years. Only 25 employees work in the management of the UAQ FTZ, and there are fewer than 3,000 employees combined in all firms.

   The sharp increase in SME in this FZ during a short period of time can be due to several reasons:

   - A shift in physical premises from its original location at the port of Ahmed bin Rashid to an area closer to the Dubai airport (20 minutes away) and other cities, such as Ajman and Sharjah.
   - Competitive prices offered, as compared to competitors.
   - Providing office rentals, sharing offices among multiple start-ups (dividing an office by 2 or 3), and offering basic services for any start-up.
   - Lower cost of living in Umm Al Quwain, as compared to other cities in the UAE.
   - Offering an affordable method to obtain a UAE residency visa for many entrepreneurs and start-up companies.

3. The Dubai Multi Commodities Centre (DMCC) is a government entity established in 2002 to promote trade flows through Dubai, working towards positioning Dubai as a preferred destination for global commodity trading. They organize, promote and facilitate trade across a range of commodities, from gold, diamonds and precious metals to tea, foodstuffs, and industrial materials. DMCC is divided into three main pillars:

1. Attracting emerging companies and branches of multinational companies, providing them with telecommunications services and infrastructure in a short period of time by using the internet to complete all requirements without the need to physically come to the UAE; three-time winner of the 'Global Free Zone of the Year' award by Financial Times FDI Magazine.
2. The Global Centre for the Financial Services and Trade Market is the world's largest dedicated centre for global trade, as well as a thriving market for financial goods and services and a growing range of specialized industries. The DMCC hosts more than 13,000 companies, and members are able to create direct business relationships within the FZ and with other companies in Dubai, the UAE and the entire world. It includes the following platforms:
    A. The DMCC Trade flow was established in 2004 as a dedicated online platform to record the acquisition and ownership of goods kept in storage facilities in the UAE.
    B. The Dubai Gold and Commodities Exchange of the DMCC is the largest commodity derivatives market in Dubai and the Middle East.
    C. The Shariah Asset Management Company is a joint venture between a division of DMCC and Shari'a Capital, with a mission to develop commodity-based and Shariah-compliant services.
    3. The development of Dubai through the construction of a neighbourhood inhabited by more than 92,500 people in residential and commercial towers with modern specifications and more than 55,000 m^2 of gardens, in addition to more than 600 retail locations.

Free zones in the UAE are expanding their opportunity of work with entrepreneurs, as well as shifting their focus towards sectors that did not exist before and which have increased in growth (example: UAQ FTZ), including entrepreneurial opportunities. There is a focus on building an integrated system that does not depend solely on providing services, but rather on creating a competitive and innovative environment (example: DTC) that would be of benefit not only to established companies and customers, but entrepreneurs and start-ups as well.

The fact that a FZ in the UAE is a three-time winner of the 'Global Free Zone of the Year' award from Financial Times is a great indicator (example: DMCC). However there are still some barriers in the UAE to support entrepreneurs, such as lack of funding, which FZs are making efforts to overcome.

5.3.3 Dynamic Capabilities (Responding to a Changing Environment)

One of the interview questions was about the changes in the external and internal environment 5.3.3 (e.g. firms located inside the FZ) that have been affecting this or other FZs -- how is the interviewee's FZ responding? (see Themes no: 5 Appendix A.6). The FZs have a good response to a changing environment, with internal factors and external factors of management response varying within each FZ. The ability to identify and accommodate internal and external forces is both a general economic function, as discussed by Schumpeter (Martinelli, 1994) and a key to effective innovative management (Drucker, 2003). In this instance two internal factors were found (management and price of services) and two external factors (geopolitics and oil price) related to the response to a changing environment.

Regarding internal factors, the speed of decision-making is critically quick in some instances. An example is the adjustment to the Global financial crisis of 2008. FZs tried to accommodate customers by providing credit to facilities while they were still in the process of payment, and by reducing the rent prices so that these companies could cope with the crisis and limit their losses. This occurred in the Dubai International Airport Free Zone, Silicon Oasis, and the Dubai International Financial Centre.

Similarly the rapid review of price of services and spending is necessary in order to keep FZs competitive; quick thinking is a characteristic of a successful innovative system (Bramwell et al., 2012; Townsend, et al., 2009). For example a quick response by the board of directors of the Silicon Oasis in developing its own project (Silicon Park is set to become the first smart city project to take shape in Dubai Silicon Oasis, with an area of 150,000 m^2) was made after the local government in Dubai focused on innovative and intelligent cities. Its management decided to link this project with the Dubai government through the construction of a smart area within the Silicon Oasis, thereby doubling their budget.

As for external factors, an example is seen in geopolitics and the occurrence of the Arab Spring in 2011, which caused many MENA investors to transfer their investments to the UAE as a safe heaven, finding free zones to be an ideal investment opportunity. Another example is the Dubai International Financial Centre (DIFC), which has a good opportunity through Brexit in Britain by highlighting itself as a haven to attract European companies. On the negative side, the drop in oil prices at the end of 2014 to 70% led to reduced government investments and reduced spending (Hou, Z. et al., 2015).

5.3.4 FZs as ecosystems

In Chapter 3 an in-depth discussion of innovation was developed, which included the basic understanding of innovation and its importance for the long-term success and competitiveness of a company (or country) (Hamel & Prahalad, 1990; Gourville, 2005); the importance of proper innovative management and its principles (Tekin, Çiçek, 2005); and the concept of business ecosystems and the strength an ecosystem structure imparts, especially within innovation (Iansiti & Levien, 2004).

It is necessary to understand the ecosystem of the UAE FZs, as well as the innovation ecosystem that is increasingly being studied by researchers. An innovative ecosystem introduces innovation in the market and offers cost-effective new strategies to users to be able to survive unanticipated issues -- such a system is considered to be healthy, productive and strong (Iansiti & Levien, 2004). Consideration should be given to the existence of the term "ecosystem" in a number of free zones (three) and in different usages, as follows:

1. Silicon Oasis, introduced through the creation of Dubai Silicon Oasis, is a high-tech environmental system that provides companies with many advantages: modern infrastructure; in-house business services; and strong business support, such as technological investment incentives for large companies and project support, incubation and capital financing centres, investment and technological promotion, and entrepreneurship through an integrated ecosystem (Mercan & Göktaş, 2011). From the literature review, the type of innovation ecosystem found in Dubai Silicon Oasis is a city-based innovation ecosystem with innovation districts (Cohen et al., 2016; Morrison, 2013; Lin, 2014). Municipalities are responsible for constructing these ecosystems with the

help of universities. They take new and small companies into account, and may prefer start-up real estate development over active business development.

2. The TECOM Group ecosystem has also been considered as defining, through the creation of business communities that focus on sectors of FZ and work environments, providing innovative ecosystems. The innovation ecosystem type from the literature review that is present in TECOM Group tends towards a corporate (open innovation) innovation ecosystem. Zhang et al. (2014) stated that corporate innovation ecosystems consist of suppliers, consumers, associates, and other sponsors to an OEM's open innovation process. "Government departments, industry links, and other… shareholders," although "external" to the ecosystem, still have an influence on the ecosystem's functioning. Consider the stance of Barclay's (2014) and Hwang (2013) in terms of this perspective.

TECOM as a FZ organization has led in the adoption of this kind of innovation Free Zone in the UAE. TECOM Group started to build the first free zone within Dubai Internet City in 2000, which was the first specialist free zone in the UAE. Their aim was to try to attract the largest software and hardware companies in the world, to build the ICT environment of Dubai, and to help SMEs and entrepreneurs start-up in this sector. After that the TECOM Group added other free zones, like the Dubai Media City and the Dubai Knowledge Village, then expanded further building eleven additional free zones (business communities); they have provided a home in Dubai for over 5,100 businesses, ranging from major multinational companies to local SMEs and start-ups, representing a total workforce of 76,000. TECOM added a new sector with different services within a free zone that prior to that was not present in the UAE.

3. The term "ecosystem" has been used in the Jebel Ali Free Zone case to refer to a developing and ongoing catalyst to become a unique commercial ecosystem that reduces cost while providing new opportunities for growth. However, the system of work in the Jebel Ali Free Zone needs to be understood and discussed more in terms of "ecosystem" as it is the first free zone in the UAE, and is a conventional FZ based on imports, exports, re-exports, and housing for the industrial part of factories and warehouses near the port of Jebel Ali, Dubai.

5.4 The Global Competitiveness Report, the UAE economy, and its FZs

Based, in primary, secondary data Reviewing the Global Competitiveness Report compiled by the WEF and linked with my personal experience and direct observations. There has been a major shift in the free zones in the UAE during the last thirty years, which has been having a positive impact on the development of the UAE economy. For example the number of foreign and domestic companies hosted by FZs in the UAE has grown, the services FZs have been offering has diversified, the number of FZs itself has increased, and they have even internationalised beyond the UAE.

The Global Competitiveness Report compiled by the WEF ranked the UAE 32nd in 2006/2007, 27th in 2011/2012, and ultimately 17th in 2018 (GCR WEF 2018). As discussed in (Chapter 3, Section 3.5), this is the highest stage of economic development that a country can achieve, characterised as innovation-driven.

- **Institutions**

In the1st pillar: Institutions the indicators with Rank/137 Intellectual property protection %: R21 , Strength of auditing and reporting standards %: R21 and Efficacy of corporate boards %: R22, Free zones can play a role in raising the interest of corporate boards by developing a model

of governance within their individual business model., and increasing the level of transparency; improved BMs within FZs combined with increased transparency can attract more foreign investment within the free zones, creating a domino effect where better business practices encourage similar improvements across sectors. The governance component has been added as an important element in business model innovation within free zones recommended by this research, discussed further below (Chapter 5, Section 5.6.1).

- **Higher Education and Training**

Higher education and training includes degree programs as well as education at the continuing-education and/or supplementary level (tertiary education enrolment rate gross %: R94, local availability of specialized training services: R24). Some free zones have seized the opportunity to expand in the education and training sectors by bringing in specialized training services and tertiary educational institutions for profit, directly addressing the "Tertiary education enrolment rate gross" indicator. The business models of the Dubai Silicon Oasis FZ, the TECOM Group (owner of several FZs with similar BMs) and RAKEZ FZs, in their movement towards developing education and increasing the enrolment rate in higher education, offer a successful effort for review.

a) TECOM developed the Dubai Knowledge Village (2000) and the Dubai International Academic City (2007), both of which have helped to attract international universities and educational centres to open satellite facilities, providing higher education services in Dubai and the UAE while contributing to raising the overall educational level.
b) The emergence of local and international training institutions located in free zones has also raised the level of professional and managerial training, in relation to the "Local availability of specialized training services" indicator.

c) With a good number of institutions in the FZs, greater cooperation (e.g. in R&D) between education and industry can be achieved.

The free zones could work more effectively towards exceeding the WEF competitiveness indicators in the field of education, for example by appropriately innovating the key activities, key partners, and cost structure blocks of their BMs in order to capture such uncaptured values and contribute in this direction.

- **Goods Market Efficiency**

Goods market efficiency include five indicators of WEF (Intensity of local competition: R19, No. of procedures to start a business: R18, Time to start a business (in days): R47, Trade tariffs % duty: R57). FZs simplify the procedures and reduce the time needed to start up a business. Firms locating inside the FZs are exempt from trade tariffs. The FZs compete with one another to attract firms and enhance the intensity of local competition among their partners, suppliers, and contractors. Moreover the firms attracted to the FZs directly and indirectly (e.g. through their supply chains) also increase the intensity of local competition. To develop these further FZ BM/Is could target three blocks in particular, namely value proposition, customer relations, and performance & effectiveness measurement.

- **Financial Market Development**

Financial market development (Affordability of financial services: R20, Legal rights index: R106) can be targeted by specialist BM FZs like the DIFC, which specialises in the financial industry, thereby helping bring down the cost of financial services. In addition the DIFC, by hosting legal institutions practicing international (e.g. UK) law and giving access to such courts to individuals and cases beyond its confines, also helps in the direction of legal rights. To enhance these further FZ BMI could mainly target the resources block.

- **Market Size**

Market size (Domestic market size index: R34) in not an explicit KPI in the FZ BMs, but the contribution of FZs to the UAE economy seems unquestionable. For example in its USD 382.58 billion economy in 2017 the cumulative FDI inflows were USD 10.33 billion. The workers employed by and in the FZs (as a result of this FDI) consume products and services, which in turn enlarge the size of the domestic market. To enhance these further, FZ BMI could mainly target the performance & effectiveness measurement block.

- **Innovation**

Innovation (Quality of scientific research institutions: R30, Company spending on R&D: R22, University-industry collaboration in R&D: R25, PCT patents applications/million pop: R43) is an important element. The more direct relationship of this competitiveness aspect is with FZ BMs specialising in the education sectors. Nonetheless, even conventional FZ BMs could be appropriately innovated -- for example to enhance R&D, university industry collaboration and the filing of patents. Particularly promising are extant FZBMs (both conventional, e.g. Ajman FZ, RAKEZ, UAQ FTZ, and specialist, e.g. TECOM, DMCC, MASDR FZ & DSOA) that target start-ups, SMEs, domestic and international entrepreneurs(hip). Ultimately some of these are likely to lead to patents. The BMs of all other FZs -- if appropriately innovated in the value proposition (by offering R&D and patenting services), key partners (developing linkages with patenting and higher education institutions), and performance and effectiveness measurement (innovation related KPIs) could capture such uncaptured values and contribute further in this respect.

The UAE will have to speed up progress in terms of spreading the latest digital technologies and upgrading education according the two to recommendation of (GCR WEF 2018), this is evident in the UAE's National Innovation strategy (introduced in section 3.4.3). The National

Innovation Strategy aims to stimulate creativity and innovation in the seven sectors that are fundamentally dependent on innovation in achieving the UAE strategic objectives; two of these sectors are Education and Technology (Nevin, 2016). However, at the same time this should be translated into strategy on the ground, as the report appeared in 2018 and the strategy was developed in 2015.

5.4.1 The Goals of FZBMs' in the innovation driven economy of the UAE

Based, on interview interviewed and link with secondary data reviewing , the 'goals of FZBMs' in the innovation driven economy of the UAE; which include

A. Attract, retain, and help develop the firms hosted in an FZ (such help can take a range of forms from helping the hosted firms to start-up, mitigate cash flow bottlenecks, innovate, identify suitable partners/investors for their hosted firms).
B. Contribute to the economic development of the Emirate in which the FZ is located.
C. Relate to the (lagging aspects of) national competitiveness of the UAE's innovation driven economy.
D. Generate revenues (like any for-profit business) through; e.g. i) the rental of their premises and facilities, ii) the provision of value-added services (e.g. insurance, financing, legal, security, secretarial, recruitment, translation, ICT), iii) earn income from licencing fees (e.g. for foreign workers), all the way to iv) internationalising and managing FZs in other countries (India, Malta, and South Korea).
E. Provide dividends to the FZ owners on par with other for-profit businesses and investments.

The above imply several competing KPIs for FZs in the UAE. These necessitated the aforementioned inclusion of additional perspectives in the EBMC 'performance and effectiveness measurement' component.

5.5 Business Models of the Free Zones in the UAE

One of the most important topics during the interviews was the respective FZ business models, as it comprises the main focus of this research. The discussion of the relevant findings start from the following BM components and proceed to their respective elements: see Theme no: 3 Appendix A.6)

1. Customers, including Target customer, Distribution channel, and Relationship;
2. Offering, including Value proposition and Value configuration;
3. Infrastructure, including Core competency and Partner network;
4. Finance; including Cost structure and Revenue model; and
5. Governance.

- **Customers**

There are different target groups for each FZ, with specialized FZs that focus on a specific customer segment. There are FZs open to all customers and others that have changed their policies in respect of the types and categories of customers in which they operate. The free zones in the TECOM Group Park, Silicon Oasis, the Dubai International Financial Centre (DIFC), and Masdar City in Abu Dhabi are all free zones attracting customers in the field of ICT. TECOM Group focuses on eleven specialized fields, including ICT, media, design, education, and cinematic production, among others. The DIFC in Financial Services and Masdar City focuses on information technology, sustainability, and green buildings.

However these FZs vary in the types and number of customers. For example, TECOM Group attracts international SMEs with a focus on creating a different working environment. In the Silicon Oasis, the Dubai Technology Centre for Entrepreneurship has been established as a centre designed to accommodate and support the best and brightest businesses, home start-ups, and SMEs. In TECOM Group, the iN5 is an enabling platform for businesses and start-ups, encouraging innovation and helping new ideas to reach the market through five key benefits: a strong framework for business creation; training and extension; networking; investment opportunities; and prototyping laboratories, studios, and creative workplaces. Designed specifically for technology, design and media, the innovation centres in the three FZs in TECOM (Internet, Media, and Design) provide ambitious students, entrepreneurs and start-ups with access to a creative community of minds, facilitating the continuous exchange of knowledge and exposing members to best practices and the latest ideas in successful business management.

While the DIFC focuses on large international financial and legal companies, Masdar targets only start-ups and small businesses. The free zones at Dubai International Airport and in Fujairah and the economic zones in Ras Al Khaimah (Ras Al Khaimah Investment Authority (RAKIA) and Ras Al Khaimah Free Zone (RAK FTZ)) focus on all categories, from large to small in all fields. In the free zones in Umm Al Quwain and Ajman there is a shift in the types of customers and their field, as these regions have begun to attract customers in all sectors, including industry and trade, and now they are turning into free zones that focus more on services, trade and retail and have stopped attracting or building factories (as in the region of Ajman); this is for several reasons, but mainly due to the small size of Ajman and environmental impact. Umm Al Quwain has a focus on emerging and small businesses, attracting more than 2,000 Small and Medium Enterprises (SME) companies between 2015 and 2016.

Most of the free zones in the UAE use various means of marketing to attract customers (through internal or external conferences, opening offices outside of the UAE in several countries, or cooperating with international offices or agencies), including Ajman, Umm Al Quwain, and RAKIA and RAK FTZ in Ras al-Khaimah. The free zone at Dubai International Airport (DAFZA) uses different channels, gaining customers through targets set each year (like trends in the past three years, and bench market of companies). As mentioned above, the other FZs outside Dubai try to capitalize on the success of DAFZA with their own promotional efforts by using the name "Dubai" as a global hub. Most free zones try to build good customer relationships and some of them provide an account manager for each customer, such as the DIFC and RAKIA.

In summary the quality of the customers depends on the ability of each free zone to attract them. The distinction of free zones specialized to attracting investors in the same working environment gives more advantage than the conventional free zone, but the size of this market is affected; for example the presence of five specialized FZs in media drives the FZs to innovate and encourage further development in their services in order to provide and attract more customers in this sector.

- **Offering**

Regarding value added and offered by these free zones to investors and customers alike, the researcher found that they are divided into three sections (without speaking with any FZ customers).

a. Cost-effectiveness. Due to the large number of free zones and their proximity within a small geographical area, some FZs provide services that compete on price, increasing the amount of competition between these FZs in their attempt to attract more investors

and customers in some emirates, such as Ras Al Khaimah, Umm Al Quwain, and Ajman. On the other hand, there are free zones that try to compete on the basis of quality and/or try to screen for investor/customer quality. For example, the DIFC is considered the most expensive free zone in the UAE due to several reasons, including premium rents for distinctive offices. Moreover, the DAFZA chooses investors and customers selectively and their acceptance into the FZ depends on the company's success and history.

b. Customer service. Most free zones try to provide simple and quick services where any investor can start work in a period not exceeding five working days, which is related to procedures based on the establishment of companies and being faster in start-ups and small companies. The use of the internet has greatly helped to speed up some of the procedures and this applies to most free zones. Some areas offer services that help customers within free zones, as some of their obligations to the company or its employees are associated with external institutions (such as registration for issuing a driver's license).

c. Payment options. Financial matters are one of the most important points on which the two parties (FZ and client) are based. The free zone in Ajman offers a flexible payment mechanism; the investor can pay for setting up the company in four or five stages depending on the performance of the company, especially start-ups and small companies. In the free zone in Fujairah, some companies can borrow from the free zone directly in the case of an agreement on a large project of value to both parties. Other services in some FZs provide goods and services to attract investors, which include the

"24/7 free zone," construction insurance services on demand, or transportation services inside or outside the free zone.

- **Infrastructure**

Free zones infrastructure is considered an important part of the business model and the type of field in which it operates. Some free zones have a similar infrastructure, especially in conventional free zones:

1. All free zones in the UAE have office space equipped with all services, but some of them provide small, medium-sized and large office space; other FZs can construct buildings dedicated to one company only, like the Fujairah Free Zone (FF), RAKIA and TECOM Group Investment. Some of them rely on business centres where companies share more than one service, such as meeting rooms, this is in both Masdar City and the UAQ FTZ.
2. Conventional free zones provide warehouse services, factory buildings and services of exportation, importation and re-exportation because of their presence in ports or airports, and also provide land for the construction of factories or warehouses on the basis of an agreement with the investor or the concessionaire, leasing land for long periods of time (e.g. 10+ years).
3. Local and federal governments are a major partner in these FZs. In some free zones there are government branches providing services to companies within these regions, such as the Ministry of the Interior, which provides visa services and is located in the DAFZA and the JAZAA; the Economic Department in Dubai and Ras Al Khaimah provide services in DAFZA and RAKIA. However, some of the FZs rely on

government services through the internet as there are no physical branches to provide services, such as Masdar City and the UAQ FTZ.

4. The specialized free zones are characterized by an advanced technology infrastructure to attract investors and major technological companies. TECOM Group Investments has been able to attract companies such as Microsoft, Intel, and others in Dubai Internet City, and media such as CNN, Reuters, and the Middle East Broadcasting Centre (MBC Group) (including 18 TV channels) which moved its headquarters from London to Dubai in 2002 at Dubai Media City.
5. TECOM Group has built a free zone specialized in cinema and filming in partnership with a global company. For example the relationship between TECOM Group in Dubai and MOBY Group enhanced the first free zone in production broadcast, movie, television or music in the UAE (Dubai Studio City in 2008). TECOM Group did not have such a deep understanding of the film and cinema industry because its investment company was more likely to embark on a procedure of provisional trial and error; this is expensive but as the same time TECOM Group has experience in managing free zones. Also, when Emaar Properties started to build the Gold & Diamond Park there was some difficulty in the beginning to manage its first free zone as Emaar Properties had no experience in managing a free zone; ultimately they developed the project with Jabal Ali Free Zone (JAFZA) to manage Gold & Diamond Park together.
6. Silicon Oasis is the only free zone in which all of the services and infrastructure of work and housing are located in one specific area – including a hospital, university, schools, high-value homes and shopping centres.

7. Some free zones provide infrastructure in several areas within the emirate, such as the free zone in Ajman and the economic zones in Ras Al Khaimah.

- **Finance**

Responses showed that most of the FZs depend on what was introduced in the question related to the annual growth of the FZ; the revenue of FZs is according to the number of licenses, which vary from one region to another. For example, some of them calculate each *license* for one company separately while others count each business *activity* for each company with the number of employees therein; in this case free zones issue a visa for each employee and his family, if he rents offices and warehouses corresponding to the size of the value of imports and exports and other services (such as hospitality, security, and business units in the free zone). The price determination and the annual growth differ in respect of several factors, including the number of licenses in each FZ and the number of companies, the number of employees in companies, sales, volume and value of imports and exports to Conventional FZs, and the cost of infrastructure construction is different in each case. Interview responses to questions about annual growth from these FZs were confidential, but some FZs -- such as Silicon Oasis and the Dubai International Airport Free Zone -- annually declare their growth through the use of percentages without mentioning losses (if applicable).

- **Governance**

From the interviews it was determined that the free zones in the UAE are mostly owned by local governments, and that the federal government does not own any free zone. They are managed by boards appointed by the local governments. There are different forms of ownership in partnerships, especially in free zones where there is more than one type such as the General Investment Authority, semi-government companies and holding companies. Some (private

companies) are registered with the stock market, who obtain commercial licenses from free zones. Although the government retains a large part of its ownership, it does not have the authority to grant commercial licenses. An example is the Gold and Diamond Park owned and operated by Emaar, but with licenses issued to companies by Jebel Ali FZ (JAFZA). Recall that most of the responses to the annual growth for these FZs were confidential.

5.6 Business Model Elements in the UAE Free Zones

The research found that FZ senior managers considered as the most important elements their core competencies underpinning the BM execution (Osterwalder et al., 2005: 10), target customers, and revenue models (in descending magnitude) (see Figure 5.1). Nonetheless, when the data was analysed (cross-case), it was identified that most innovations were concentrated mainly in four elements: customer segments, value proposition, key activities, and resources. That is, there was no significant concentration of innovations, for example, in the revenue models (or in any of the other BM elements). This suggests that what senior managers perceive as important elements in their BMs does not necessarily correspond to the most innovative elements of their BMs.

If BMs are coherent, then BMIs in one element may be echoed in other elements of the same BM. This is what Taran et al. (2015) referred to as BMI complexity (as reviewed in Chapter 2, Section 2.9.4). For example, consider that the focus away from traditional customer segments (namely large corporations and Multinational Enterprise (MNEs)) towards SMEs, start-ups, and individual entrepreneurs constitutes an innovation in the customer segment block; the innovation in this block is then matched by changes to the value proposition block, e.g. offering incubation space, start-up funding, offering options for deferring the payment of FZ fees. These, in turn, need

to be substantiated by respective key resources (e.g. high-quality incubation spaces) and key activities like the FZ fee payment system and the organization, provision, and monitoring of venture capital.

However, BMIs were also identified in some blocks that were of low complexity. That is, they were not impacted by innovations, not even changes of any significant quality or quantity, in the rest of the FZBM blocks. For example, there was a FZ that, due to its highly desirable location and limited space availability, was in the privileged position to be able to cherry pick individuals within its pool of potential customers. It had thus developed sophisticated criteria for customer selection (i.e. an innovation in the *customer segment* block which was discussed in Section 5.5) but this BMI did not cascade to other BM elements. Of course, the FZ was able to charge a premium for its premises (i.e. revenue model under the *performance measurement* block) while offering luxury spaces (i.e. *value proposition* block), however these were not particularly innovative as they were encountered in other FZs as well.

Similarly, the provision of schooling within an FZ (for the children of the people that work inside that FZ) can be considered an innovation in its value proposition block. This value proposition innovation is reflected in the key partnership (e.g. with an education provider) and the FZ revenue model blocks. Although these blocks obviously differ from those of other FZs that do not offer schooling, the differences are not suggestive of innovation in any strong sense.

There were also BMIs in the value proposition block of FZBMs belonging to the same owner that allowed FZ tenants to move or work across FZs belonging to same owner. Again, this innovation in the value proposition was of low complexity and was not reflected to major changes or innovations in the rest of the BM.

Furthermore, a major innovation was discovered in the *resources* block that is worthy of report, namely the creation of a court practicing English Common Law inside a FZ discussed in Sections 5.2.5.4 and 5.5, with its services also available to users located outside the FZ. This innovation is of relatively high complexity echoed with respective innovations in almost all other FZBM blocks (the only notable exception being cost structure).

Last but not least, the researcher did not observe any concerted efforts targeting uncaptured values in the Yang et al. (2017) sense, for example, in connection to the environment, sustainability, and/or shortcoming identified in the WEF (2018) competitiveness report (França et al, 2017; Karlsson et al., 2017) and/or in relation to the creation of innovation ecosystems (Ritala et al., 2013). This suggests that there is ample scope in the research sample for successful BMIs in these areas, within certain practices and ecosystems in some free zones (see Section 5.3.4).

Therefore, the findings of this study suggest that there is limited variation across UAE FZBMs, few BMs (two to be precise), and no new BMs since 2000. The specialised FZBM is to be praised for its radical nature in comparison to the conventional one, according to one interviewer, however the identified BMIs tend to have rather limited complexity. BMI is concentrated to a small number of blocks and it is rare that its effects spill over to innovations in the rest of the FZBM blocks. That is, the rest of the blocks may echo innovations made elsewhere in the BM, but they are not innovative themselves. Most of the noteworthy BMIs were undertaken in open contexts (involving new partners or new relations with existing partners). However, the reach of these innovations, and thus the extent to which they were proactive or reactive (i.e. their strategic context), is less clear and will require some further research, as discussed in Section 5.5.

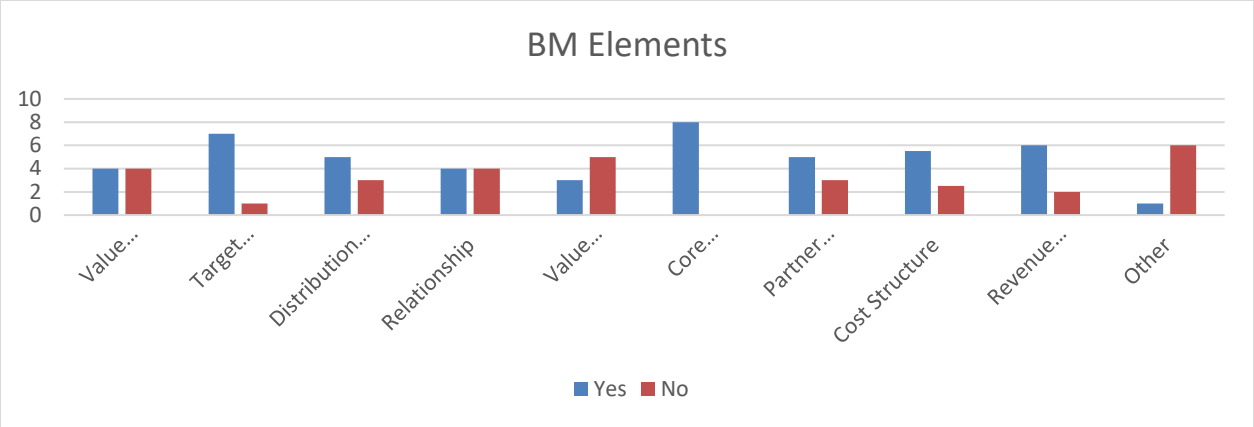


Figure: 5.1 Business model elements determined more innovative from a FZ management perspective
Source: Author generated

When using a Business Model Canvas (BMC), there are four blocks that are innovative in free zones in the UAE: Customer Segments, Value Proposition, Key Activities and Key Resources (see Figure 5.2); there are some innovations in the Key Activities, such as the payment option; the Ajman Free Zone tried to divide all of the payment services for SMEs during the year with any fees, providing greater opportunities to start a business. In the Value Proposition activity, there are innovations in each FZ, while in the Customer Segment activity there is innovation, which is in specialized and conventional free zones (see Section 5.5. There is also some innovation in the Key Resources element, e.g. international regulation in the Dubai International Financial Centre.

<table>
<tr>
<td rowspan="2">Key partners:

Government (Local, Federal).
Public sector organizations.
Key service providers (e.g. ICT, law, accountancy).
Outsourcing firms.</td>
<td>Key activities:

Hospitality, security, registrar (for real estate, companies), and public services.
Service customisation.
Finance options.
Start up support.
Licensing.
Support user work between multiple FZs.</td>
<td rowspan="2">Value proposition:

Cost-effectiveness.
Customer service.
24/7 accessibility.
Hospitality & security.
Payment options.
Market creation.
Transportation-hub vs. urban proximity.
Low cost vs. luxury/high standards.
Regulatory framework.
Extant clients.
Specialization expertise.
Incentives.</td>
<td>Customer relations:

Dedicated customer service teams.
Account managers.
On line services.
Close vs. arm's-length relations.</td>
<td rowspan="2">Customer segments:

SMEs.
Entrepreneurs.
Start-ups.
General.
Major industrial firms.
Large firms/MNEs /blue chip.
Hi-tech SMEs.
Industry specific.
Sophisticated screening (e.g. for security, finances).</td>
</tr>
<tr>
<td>Key resources:

Warehouses.
Offices.
Industrial land.
Retail facilities.
Technological infrastructure (e.g. data centres).
Environment.
Human resources.</td>
<td>Channels:

International agents vs. offices, UAE offices.
Road shows.
Conferences.
Marketing tools/team.
Sales team.
Direct contact/sales.</td>
</tr>
<tr>
<td colspan="3">Cost structure:

Hard infrastructure (e.g. buildings, warehouses, offices).
Data centres.
Environment.
City.
Highly educated workforce.
Traveling costs.</td>
<td colspan="2">Performance & effectiveness measurement:

Number of: licenses, firms, number of employees in firms, sales.
Volume/value of imports/exports.
Infrastructure rents.
Utility/service charges.
Additional service fees.</td>
</tr>
</table>

Figure: 5.2 Innovative blocks in the Business model canvas
Source: Author generated

5.6.1 Free Zone Business Model Innovation Elements and Frameworks (Composite Business Model)

The first finding worth noting is that the ten BM blocks/elements in Figure 5.3 suffice to capture the variety encountered in the FZs of our sample. In obverse terms, BM frameworks using less than 10 blocks will be insufficient in capturing the complexities of FZBMs.

One of the extant BM frameworks discovered during review of the BM/I literature in Section 2.9.2 that contained most of the blocks considered relevant for capturing the complexities

of the FZBMs, was the Business Model Canvas (BMC) (Osterwalder et al., 2010). However, as can be seen in Figure 5.3, Osterwalder et al. (2010) considered 9 of 10 blocks as relevant (highlighted in blue); that is, a Governance/Regulatory Framework block is absent from the BMC. Although other studies (e.g. Amit & Zott, 2001; Santos et al. 2009; Viscio & Pasternack, 1996) did consider a Governance element as a key BM ingredient, their respective frameworks contained fewer blocks than the BMC, rendering them lesser candidates to build upon.

Thus, it was decided to build a framework around the BMC, extending it with the addition of a *Governance/Regulatory Framework* block, which is crucial as it is one of the key areas of FZBMI (and it can account for second order BMIs, discussed below). The issue to be addressed became how to modify the BMC so as to include this important block. Given its fundamental role in controlling, and in general composing the 'rules of the game' for all other BM blocks, a pictorial representation should encapsulate all other blocks; i.e. as depicted in Figure 5.3.

Moreover, given the dual nature of FZs as for-profit corporations and instruments of economic development, the original KPIs in the BMC and in most of the BM/I literature (focusing mainly on revenue models) is rather narrow-minded. Thus, the respective BMC block is augmented with a wider *Performance and Effectiveness* (measurement) block that can be considered as a supra-set of KPIs, comprising multiple perspectives (see Figure 5.4) that can be called upon according to need. The BMC "revenue stream" component offers a rather narrow performance perspective and needs to be augmented by additional perspectives as suggested by the Balance Scorecard approach (Kaplan & Norton, 1992). This component is thus augmented through the inclusion of additional performance measurement perspectives becoming a 'performance and effectiveness measurement' component. This is necessary if for example any

efforts towards better alignment of FZ key performance indicators (KPIs) and national competitiveness are to succeed.

As it transpired most senior managers during the interviews tended to focus on KPIs related to the financial and customer perspectives (as can be seen in the respective block of Figure 5.3). Obviously, given the main thrust of this study on BMI, there was also an innovation perspective, but as there is a separate findings section on BMI specifically, this innovative-related information is not replicated in Figure 5.3.

BM frameworks focusing narrowly on revenue models will be insufficient in capturing the FZ complexities.

Regulatory framework: International, Federal, Emirate, free zone specific.

Key partners:	***Key activities:***	***Value proposition:***	***Customer relations:***	***Customer segments:***
Government (Local, Federal). Public sector organizations. Key service providers (e.g. ICT, law, accountancy). Outsourcing firms.	Hospitality, security, registrar (for real estate, companies), and public services. Service customization. Finance options. Start up support. Licensing. Support user work between multiple FZs.	Cost-effectiveness. Customer service. 24/7 accessibility. Hospitality & security. Payment options. Market creation. Transportation-hub vs. urban proximity. Low cost vs. luxury/high standards. Regulatory framework. Extant clients. Specialization expertise. Incentives.	Dedicated customer service teams. Account managers. On line services. Close vs. arm's-length relations.	SMEs. Entrepreneurs. Start-ups. General. Major industrial firms. Large firms/MNEs /blue chip. Hi-tech SMEs. Industry specific. Sophisticated screening (e.g. for security, finances).
	Key resources: Warehouses. Offices. Industrial land. Retail facilities. Technological infrastructure (e.g. data centres). Environment. Human resources.		***Channels:*** International agents vs. offices, UAE offices. Road shows. Conferences. Marketing tools/team. Sales team. Direct contact/sales.	

Cost structure:	***Performance & effectiveness measurement:***
Hard infrastructure (e.g. buildings, warehouses, offices). Data centres. Environment. City. Highly educated workforce. Travelling costs.	Number of: licenses, firms, number of employees in firms, sales. Volume/value of imports/exports. Infrastructure rents. Utility/service charges. Additional service fees.

Governance: Holding company, Emirate-ownership, private sector participation

Figure 5.3 Free zone composite business model
Source: Author generated, based on FZ primary and secondary data

5.6.2 The Two distinct Business Models of UAE Free Zones

Each FZ operates a single BM. It could be argued that UAE FZs substantiate one of two distinct BMs -- conventional and specialized BM. Their differences originate from the value proposition block. In principle, FZs in any Emirate, of any size, type, specialisation, and stage of development, could adopt either BM. Empirically however, the conventional BM tends to be encountered in FZs at a mature stage of development. It is labeled as conventional because it emphasises the provision of hard infrastructure (e.g. land, plants, warehouses, office space) and such FZs are usually found in close proximity to major transportion hubs. In actual fact, the extended FZBM is only encountered in FZs established after 2000, exemplified perhaps with the inauguration of the Dubai Internet City, the first specialised free zone in the UAE.

The extended FZBM can be conceptualised as providing both hard and soft infrastructure but with emphasis on the latter. That is, the specialised FZBM is associated with an extensive use of key partnerships, attraction of key customers in the respective sectors, customization of an extensive range of value-added user-specific services, and international regulatory frameworks, for example regular networking events with procurement organizations, incubation services, start-up funding services, and access to courts practicing English Common Law.

Although there is nothing prohibiting older FZs from adopting the specialised FZBM, no such instances were observed in this sample. In actual fact, no novel (i.e. post-2000) BMs were observed.

Perhaps the most interesting finding in terms of the UAE FZBMs is that they can involve what could be termed as a *second order* BM. That is, a FZ owner often owns more than one FZ in a ‘holding company’ pattern. This second level BM allows variety at the (first) FZ level in organizational forms (e.g. size, specialization) and BMs, increasing the chances of success for at

least one part of the amalgamated organization across a variety of environmental states (Hannan & Freeman, 1977: 955). The particularities of such second order FZBMs merit further research, as discussed in Section 5.2.2. Regarding first order FZBMs, BMI seems to have been focused upon specific blocks within an existing BM, rather than complete and/or new BMs.

5.6.3 Conceptual Model of UAE Free Zones

After concluding an analysis of the primary and secondary data collected, key concepts were determined that underpin innovation management and BMI, and a conceptual model (Figure 5.4). The focus of the thesis is on how innovation in the business models of free zones in the UAE could be used to enhance the national competitiveness of its innovation driven economy. The conceptual model was developed that encompasses the interrelationships of these concepts, including: *economic development*, which is intrinsically connected to *policy* for economic development (e.g. industrial, innovation, infrastructure, investment attraction, etc.), *institutions* (formal and informal), *investment* (domestic and foreign), *innovation* (e.g. exo/endo-geneous, NSI, SSI, RSI, BMI, innovation management), *entrepreneurship*, and *competition*.

Within the model bi-directional arrows indicate bi-directional relations. The depicted relations, and directions thereof, are those of relevance to the KRQ answer developed in this thesis. The names of the objects with actional capacity (i.e. actors in the research context; established in Chapter 2) appear in bold font within solid text boxes, whereas objects with underlined names inside dotted textboxes differ ontologically (e.g. rely on a plurality of actors for their maintenance). Some institutions (and innovation management for that matter) straddle this divide in that

institutions include both autopoietic (e.g. culture) and allopoietic 'actors'/systems (e.g. the UAE President).[10]

1. All indicate that the colour coding corresponds to the conceptual framework of figure 2.1
2. This focus is maintained in position of the FZ in the conceptual model that innovation about the business models of the free zones themselves and iterated in connection to the derived conceptual models and not in the innovation activities of the firms located in the free zones.
3. Free zone is the heart the conceptual model, and link iterated in connection to the derived conceptual models the economic development
4. It must be borne in mind that this framework is a concept of balancing three broad areas (economic development, policy for economic development and particular policies) that can facilitate laws so as to attract investment.
5. The availability of Institutions (formal and informal) will help to give credibility of investment (domestic and foreign), and increase competition (at national and international levels).
6. Innovation in all sectors is one of the most important areas for continuity in linking the national innovation strategy with the free zones.

[10] Maturana and Varela (1987) describe an autopoietic system as a system that continuously produces its own organization through its operation as a system of production of its own components; in contrast to allopoietic systems that produce something different from themselves.

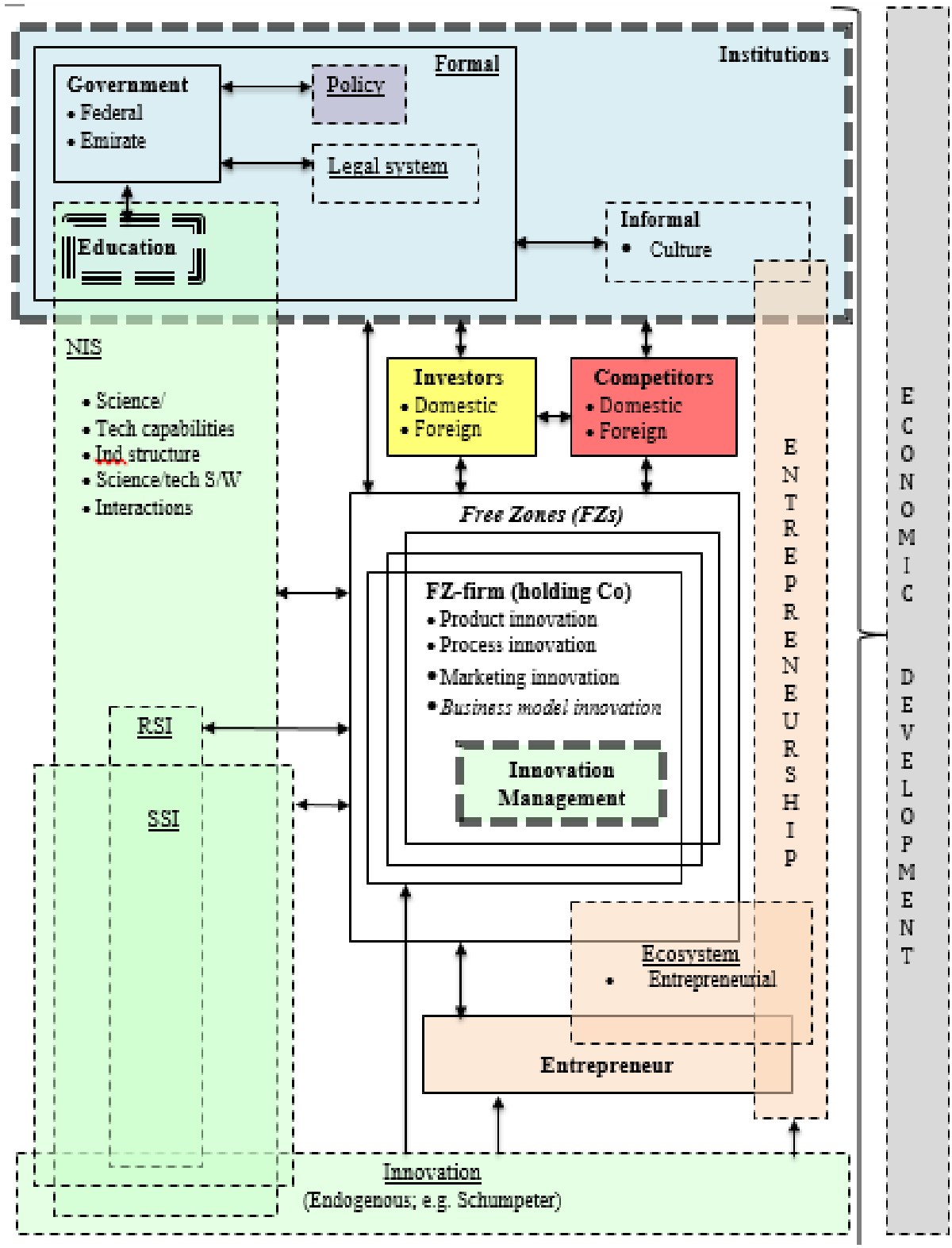


Figure 5.4 Conceptual model
Source: Author generated

5.7 The Future of FZs in the UAE

The future of the free zones was the last question during the interviews and this question was considered to be important in encapsulating a comprehensive view of the free zones. (see Themes no: 6 Appendix A.6)

1. There is an expectation of new laws in Dubai that would allow investors to move from one FZ to another; this would enable them to threaten to withdraw competition from each other due to several factors, such as the location of some free zones being distinctive locations in Dubai or the presence of more services in terms of infrastructure. For example, the metro in Dubai reaches some areas but does not reach others.
2. The UAE government made a decision to introduce a Value Added Tax (VAT) of 5% (starting in 2018). The VAT will be imposed on all the firms in the FZs that provide services or products to customers in the UAE, which can be a disincentive for potential FZ customers.
3. Continuing growth is expected in conventional BM free zones; however, the growth of the specialized free zones will depend on the kind of sectors they specialise in and thus the customer demand in these sectors.

5.8 Conclusion

The KRQ of this thesis is *Could free zone business model innovation be used to enhance the lagging areas of national competitiveness of an innovation-driven economy like the UAE?* . An extensive literature review (Chapter 2) along with a review of the history and background of the UAE and FZs (Chapter 3) informed the research strategy whereby primary and secondary data was gathered through a series of interviews (structured, semi-structured and unstructured) and a study

of source materials. An analysis of the data informed the creation of a composite model of FZBMs in the UAE. The final critical objective as outlined in Chapter 1 is the formulation of recommendations, to include suggested improvements to policies and practices while recognizing the limitations of this study and suggestions for further research. These are discussed next in Chapter 6.

Chapter Six

Contributions, Implications, Limitations and Directions for Future Research

6.1 Introduction

The previous chapters explain BM/I in FZs in the UAE and how the UAE became an innovation-driven economy. This research is not about the innovation activities of the firms located in the free zones but about the business models of the free zones themselves and iterated in connection to the derived conceptual models. In this chapter, the contributions and implications of these investigations are discussed (Sections 6.2, 6.3, 6.4 and 6.5), followed by the study's limitations and directions for future research (Section 6.6).

6.2 Summary of Findings

In this thesis the researcher findings are summarized as follows:

- Two distinct BMs that seem to exhaust the encountered variation in UAE FZs: conventional and specialized.
- Novel FZBMs post-2000 were not identified.
- Concentrations of BMIs were identified in four BM blocks, namely Customer Segments, Value Proposition, Key Activities, and Key Resources.
- FZ owners that own several FZs, like a holding company that owns a group of businesses, were identified. In such cases not all of the FZs in the group instantiate the same BM type.
- FZBMI concerted efforts targeting uncaptured values (e.g. in connection to the environment, sustainability, ecosystem innovation, and the UAE development in large) were not identified.

- Nonetheless, this research found evidence how FZs contribute directly to the six aspects deemed important for the UAE's further development as an innovation-driven economy (Institutions, Higher education and training, Goods market efficiency, Financial market development, Market size and Innovation).

6.3 Original Contributions to the Advancement of Knowledge

These results support many contributions to the advancement of empirical, theoretical, and methodological knowledge as well as contributions to the literature, which are discussed in greater detail below. This research examines and studies the key research question pertaining to the importance of FZ BM/I and its importance in the development of an innovation-driven economy like the UAE. It is not limited to studying business model innovation in and of itself, but also trying to understand existing business models within free zones and to determine whether any innovation has already been implemented in the business models of the free zones in the UAE is not about the innovation activities of the firms located in the free zones.

To answer the KRQ a set of questions had to be asked: What are the lagging aspects of UAE competitiveness?; Do FZs relate to any of these lagging aspects of UAE competitiveness?; What elements suffice to depict the BM of a FZ?; What is(/are) the BM(s) of the FZs in the UAE?; What kind of BM Innovation (BMI) has taken place in the UAE FZs?; How/where (e.g. in which BM elements) is BM/I concentrated/distributed?; and How does BM/I manifest in the UAE free zones?

A critical review of the literature on business models and business model innovation/innovative models was undertaken with a view towards understanding and analysing the value of free zone construction using the business elements mentioned in several papers,

including the Business Model Canvas of Osterwalder et al (2010). The research findings show more than one business model in specialised or conventional zones. Additionally, when reviewing business models in the literature, the elements of the business model were not more than nine in a single model (as found in Osterwalder et al's Business Model Canvas); after adding a tenth element, Governance, the business model became more inclusive.

6.3.1 Theoretical Advancements

The theoretical aspect of any dissertation is very important to interpret phenomena and to expand, identify and understand basic knowledge. Given the scarcity of comparative theoretical and empirical studies on the theory of business models and business model innovation, particularly with regards to free zones, this study offers some contributions to the business model that will clarify a research agenda for further investigation of information that has not been captured previously.

6.3.1.1 Business Model Theory

The importance of establishing a firm scope and focus in order to understand BMs stems from the fact that BMs embody disparate literature strands and theoretical traditions. These include, but are not limited to: strategic positioning and competitive advantage theory; value chain concepts (Porter, 1996); resource (Barney et al., 2001) and relational-based views (Dyer & Singh, 1998); transaction cost economics (Williamson, 1998); the boundaries of the firm (Barney, 1999; Holstrom & Roberts, 1998); and technology and innovation theories (Schumpeter, 1936; Chesbrough, 2007). The above are reflected in the diversity in quantity and quality of the building blocks comprising a BM.

There were obvious differences noted among the reviewed authors in their formulation of a BM framework and those elements or notions that were favoured; however, the number of BM components in their frameworks rarely exceeded nine (Morris et al., 2005: 728). The BM concepts have been assembled and synthesised into one framework; the example of the Business Model Canvas of Osterwalder et al (2010) and ontological efforts (Al-Debei & Avison, 2010) have placed greater emphasis on the nature of a BM and what it is, while epistemological (Morris et al., 2005) attempts focus more on how a BM framework becomes known.

Ontological studies have made contributions to the theory of BMs. Even in light of studies with similar approaches, for example Morris et al. (2005), this research focuses on a unique parameter -- FZ BM innovation – which consequently requires a different epistemological synthesis example in the structure of a FZ (the Morris et al study in 2005 concentrated on entrepreneurs).

Still, there are extensive overlaps between the two efforts whose details lie beyond the scope of the present study. This study adds ten elements together in a balanced manner and gives an addition to the BM developed in previous studies, which can contribute and be examined and applied to other studies.

6.3.1.2 Ecosystems and Free Zones

The concept of an innovation ecosystem coalesced from the consideration of innovations along with the developmental mechanisms linked to them; whereas traditional thought perhaps regarded these elements as linear, as the requirements for developing knowledge-based economies became more solidified the ecosystem concept became gradually non-linear and network-based (World Economic Forum, 2015-206). There have been increasing efforts to understand the

ecosystem of FZs in the context of innovation, which would establish a strong ecosystem by: introducing innovation into the market; offering new strategies that are cost effective; and enabling clients/users to adapt to and ultimately survive unanticipated issues and fluctuations (Iansiti & Levien, 2004). This research gave due consideration to the existence of an ecosystem in several free zones in varying usages (FZs use the term "ecosystem" in different contexts), for example:

1. Silicon Oasis is a high-tech environmental system that provides companies with many advantages: modern infrastructure; business services; and strong business support, such as technological investment incentives for large companies and project support, incubation and capital financing centres, investment and technological promotion, and entrepreneurship through an integrated ecosystem Mercan and Göktaş (2011: 102). From the literature review, the type of Innovation Ecosystem in Dubai Silicon Oasis is city-based with innovation districts (Cohen et al., 2016; Morrison, 2013; Lin, 2014).
2. The TECOM Group ecosystem has also been considered as defining, through the creation of business communities that focus on sectors and work environments, providing innovative ecosystems. The Innovation Ecosystem type from the literature review that is present in TECOM Group tends towards a corporate (open innovation) innovation ecosystem. Zhang et al. (2014) state that corporate innovation ecosystems consist of suppliers, consumers, associates, and other sponsors to an OEM's open innovation process.
3. The term "ecosystem" has been used in the Jebel Ali Free Zone as a developing and ongoing catalyst to become a unique commercial ecosystem that reduces cost while providing new opportunities for growth.

6.3.2 Methodological Advancements

Most studies in the free zones focus on case studies or comparisons between free zones, including in different countries (Keshavarzian, A., 2010). Another important and significant part of the original contribution of this research is methodological, both in respect to further studies of free zone business models in this and other countries as well as an aid to the establishment of new free zones. This thesis can provide a foundation for further work in either instance, given that there is a paucity of research and/or models of free zones, literary analysis or other analytical work on FZBMs, or successful practical experiences (Tahir, 1999). In this instance, methods for developing an augmented business model tailored to a specific environment, and the collection of research data within that environment, offer new elements (specifically Governance) to the study of FZs and their business models.

6.3.2.1 Analysis and Development of Business Model Elements of Free Zones

Regarding business models, the Business Model Canvas (Osterwalder et al., 2010) proved to be the most accommodating to the scope of this research, and was therefore studied and considered in the case of free zones. In the business model frameworks reviewed (Osterwalder & Pigneur, 2010) in Chapter 2, Section 2.9.3, business model elements were never more than nine (the number of elements in Osterwalder et al's framework). It was noted during the review of BM/I literature that the BMC model contained most of the blocks considered relevant for capturing the complexities of the FZBMs. However, the nine elements were not sufficient to allow the business model to operate meaningfully in a free zone, for start-ups and SME the BMC will be sufficient however the larger organizations need transparency and governance, especially if the FZ owner is government; therefore the Governance element mentioned by (Amit & Zott (2001),

Santos et al. (2009), and Viscio & Pasternack (1996) was added as a tenth block in the BMC, as it is a key BM ingredient for FZs.

Although other studies (e.g. Amit & Zott, 2001; Santos et al., 2009; Viscio & Pasternack, 1996) did consider a Governance element as a key BM ingredient, their respective frameworks contained fewer blocks than the BMC which made them inferior candidates for the purpose of serving as a base on which to build an inclusive framework. The issue became how to modify the BMC to best represent this important element; given the fundamental role of governance and its overall impact on all other BM blocks, it was decided that its pictorial representation should encapsulate all other blocks. The business model of FZs has thereby become more comprehensive.

Moreover, the thesis argues that in the case of FZ BMs these BMC components are a poor fit given the FZ particularities as an organisational form (e.g. its territorial rooting, its function as an FDI attractor and host for other companies, and bespoke regulatory/governance frameworks); necessitating thus an augmentation of the BMC in three key respects:

1. The BMC "revenue stream" component offers a rather narrow performance perspective and needs to be augmented by additional perspectives as suggested by the Balance Scorecard approach (Kaplan & Norton, 1992). This component is thus augmented through the inclusion of additional performance measurement perspectives becoming a 'performance and effectiveness measurement' component. This is necessary if for example any efforts towards better alignment of FZ key performance indicators (KPIs) and national competitiveness are to succeed.
2. The BMC is missing a regulatory/governance framework component; identified as crucial in the broader BM literature (Amit & Zott, 2001; Santos et al., 2009; Viscio & Pasternack, 1996). This is pertinent given that FZs are characterised by highly bespoke

regulatory/governance frameworks. Moreover, given that any regulatory/governance framework 'sets the rules of the game' for all other BMC component this component is depicted in the augmented BMC as encapsulating all other components.

3. The referents of the aforementioned BMC components require contextualisation given the FZ particularities as an organisational form (as summarised in Figure 5.3).This augmentation effort yields an enhanced BMC (EBMC hereafter so to avoid any confusion with the original BMC); which is more apt to the FZ specificities.

Thus, FZ BMI in the context of the thesis is taken to refer to any innovations of the FZ EBMC components in part or in toto. As established empirically (and discussed in section 5.6.2) these involve the development of a novel FZBM in 2000 as well as concentrations of innovations is four EBMC components (namely, customer segments, value proposition, key activities, and resources) that have enabled the FZs to extract additional value (e.g. through the development and provision of additional services, superior regulatory frameworks, more efficient routines).

6.3.2.2 Collection of Research Data

Chapter 4 discussed the methodology by which the data was collected and collated for this research using a qualitative approach. The locality and scope of the study is unique in that a large number of FZs are concentrated within a small area, and an interpretivist method was chosen as the best means of obtaining data to answer the KRQ. This is another addition to this research, as the study was in more than one free zone within the same country. Data collection was divided into three stages.

Stage one primary data collection including semi-structured interviews and - unstructured interviews. To achieve this, the researcher was required to have both an in-depth knowledge of

BMs and the ability to conduct in person, face-to-face interviews. As Saunders mentions a researcher should not be far from his/her object of study (Saunders et al., 2009); this necessitates not only a familiarity with the subject at hand, but physical proximity and the ability to create an environment conducive to obtaining maximum results from the interviewees. The researcher becomes an important part of the research (Saunders et al., 2009).

Unstructured interviews were also conducted with Interviews were conducted with some economic specialists or those who have a direct relationship with the work of the free zones, but do not work with management. All of these interviews were unstructured or informal questions, and included eight persons, four of them with direct links to FZs (Appendix A.3)This kind of interview which linked with my personal experience and direct observations of FZs in the UAE. Use the secondary data together that to analyse the finding.

In stage two was secondary data collection comprised of review of various source materials to capture quantitative data, for example from federal and local government publications. The methodology of the majority of other studies uses quantitative sources provided from the FZs directly as publications in conferences or from the governments as statistics (Farole, & Kweka, 2011; Farole, 2010; Force, 2010; Al Zarooni, 2013; Al Iriani, Elbadawi, & Fadhel, 2012; Amiti & Cameron, 2007).

In stage three in the secondary data was collected from The Global Competitiveness Report, published by the World Economic Forum (WEF) as an indicator of a country's comparative global competitiveness based on their established institutions, policies, and other factors directly impacting productivity, and in turn prosperity,

The process of coding the qualitative data began during the interview process, followed by a categorisation process that enabled the creation of a table of themes and sub-themes while

striving for a balance between description and interpretation to maximize understanding (Patton, 2002: 503-504).

Uniquely, this research allowed detailed analysis of data within a given FZ, exploring the components and innovation within individual FZBMs as well as cross-firm analysis, where FZs were considered in sets (by sizes, types, developmental stages, and emirate) to enable the identification of changes in BMs, determine the number of unique FZBMs, and locate those BM blocks with the largest concentrations of innovation, making it easier for future research to take a similar approach.

6.3.3 Empirical Advancements

This thesis also makes a real contribution to the advancement of empirical knowledge related to free zones in the UAE. The author had the ability to conduct a bi-level study – collecting primary data from interview subjects and secondary data from source materials – which generated previously uncaptured information with regards to BM and BM/I within FZs.

6.3.3.1 BM of UAE (Conventional/Specialised)

Free zones are categorized based on six types, as introduced in Chapter 3, Section 3.2 (FIAS, 2008). According to the UAE Ministry of the Economy (2015) the UAE FZs are classified into four groups based on what the FZ provides within business sectors. In this research, which focused on the BM of FZ, it was found that the vast majority of FZs operate a under single BM, specifically one of two distinct BMs – conventional or specialised – with their differences originating from the Value Proposition segment of the BM model. In principle, FZs in any emirate, of any size, specialisation, or stage of development, could adopt either BM. Empirically however,

after data analysis it was discovered that the conventional BM (emphasis on the provision of hard infrastructure) tends to be encountered in FZs at a more mature stage of development; such FZs are typically found close to major transportation hubs. The researcher found specialised FZBMs (emphasis on providing both hard and soft infrastructure) only in FZs established after 2000.

Specialised FZBMs were found to be associated with an extensive use of key partnerships, attraction of prime customers in respective sectors, a customised and extensive range of value-added, user-specific services, and international regulatory frameworks; they could also involve a second-order BM. Older FZs could have adopted a specialised FZBM, however no such instances were observed in the research sample; in point of fact no novel BMs (post-2000) were seen. The categorisation of FZs based on business model used will give value to the knowledge of how FZ Mechanisms work.

6.3.3.2 Competition in UAE FZs (Domestic/Foreign)

Competition between free zones in the UAE is unique in that there is a large number of FZs within a small geographic area. Critically, competition enables greater opportunity for breaking down barriers. Many factors contribute to the level of competition, especially for assessment purposes. There are several fundamental aspects of an economy for enhancing competition that lead to economic development, including FZs (Zeng, 2015).

Some FZs try to downplay this competition, but others speak clearly about the competition between free zones in the UAE. For example there is no competition between free zones in Abu Dhabi (five free zones); but both Silicon Oasis in Dubai and the free zone in Ras Al Khaimah are mutual competitors of the Masdar Free Zone in Abu Dhabi. In Dubai there is a clear rivalry between some FZs, with the Dubai Free Zones Council established to coordinate them. The

measure of performance for the FZs as a competitive indicator is related to annual growth of the areas, the evaluation of which can differ from one region to another (determined by the number of licences issued, business activity for each company in a FZ, or other factors (such as visa issuance for employees/families, office/warehouse rentals, etc.

There is also international rivalry; the Dubai International Financial Centre (DIFC) considers Singapore, London, and Bahrain to be direct rivals. It should be noted that some local laws differ from one emirate to another, giving some competitive advantage among free zones in the UAE in conflict with federal laws. Regarding this thesis, it is anticipated that an innovative business model would help a corporation to be and remain competitive.

6.3.3.3 Investment for UAE FZs (Domestic/Foreign)

Traditionally the main purpose of FZs was to attract foreign investment/FDI (Porter et al., 2002). With total cumulative foreign direct investment inflows of USD 117.9 billion (Annual Statistical Report, 2018), it is clear that free zones can attract a lot of foreign investment throughout a range of customer segments. Research found that the majority of FZs give greater flexibility to foreign investors, particularly with regards to the banking system. However, there are growing facilities and support services for domestic start-ups and entrepreneurs, with some FZs looking towards new sectors that primarily support entrepreneurs and making dedicated efforts to develop an innovative environment to attract non-traditional customer segments e.g. SMEs and entrepreneurs. The importance of an ecosystem, and specifically an innovative ecosystem (Iansiti & Levien, 2004), was explored within the context of three individual FZs – Silicon Oasis, TECOM Group, and Jebel Ali FZ, all in Dubai.

6.3.3.4 FZ Impact on the UAE Economy

Free zones were specifically mentioned in the (WEF's GCR 2017,18), and therefore implicated as part of the successful economic development of the UAE. FZBMI concerted efforts targeting uncaptured values (e.g. in connection to the environment, sustainability, ecosystem innovation, and UAE development at large) were not identified. Nonetheless, this research has found evidence for ways the FZs contribute directly to the six aspects mentioned by the WEF:

1. Institutions (Efficacy of corporate boards: R22). By including the governance component in the augmented FZBM, this research creates the scope for both conventional and specialised FZs to contribute directly to this indicator. Federal and Emirate policy levers could also be used in this respect.
2. Higher education and training (Tertiary education enrolment rate gross %: R94, Local availability of specialized training services: R24). The BMs of the TECOM and RAKEZ FZs specialise in the provision of educational and training services and thus contribute directly to the enhancement of these indicators. The BMs of all other FZs, if appropriately innovated in the key activities, key partners, and cost structure blocks, could capture such uncaptured values and contribute in this direction.
3. Goods market efficiency (Intensity of local competition: R19, No. of procedures to start a business: R18, Time to start a business (in days): R47, Trade tariffs % duty: R57). FZs simplify the procedures and reduce the time needed to start a business. Firms locating inside the FZs are exempt from trade tariffs. The FZs compete with one another to attract firms and enhance the intensity of local competition among their partners, suppliers, and contractors. Moreover, the firms attracted to the FZs directly and indirectly (e.g. through their supply chains) also enhance the intensity of local competition. To enhance these further FZ BM/I could target three

blocks in particular -- value proposition, customer relations, and performance & effectiveness measurement.

4. Financial market development (Affordability of financial services: R20, Legal rights index: R106). Specialist BM FZs like the DIFC, which specialises in the financial industry, help bring down the cost of financial services. In addition, the DIFC, by hosting legal institutions practicing international (e.g. UK) law and giving access to such courts to individuals and cases outside the zone, also helps in the direction of legal rights. To enhance these further FZ BMI could target the resources block.
5. Market size (Domestic market size index: R34). Although not an explicit KPI in FZ BMs the contribution of FZs in the UAE economy seems unquestionable. For example, in its USD 382.58 billion economy in 2017 the cumulative FDI inflows were USD 10.33 billion. The workers employed by and in the FZs (as a result of this FDI) consume products and services, which in turn enlarge the size of the domestic market. To enhance these further, FZ BMI could target the performance & effectiveness measurement block.
6. Innovation (Quality of scientific research institutions: R30, Company spending on R&D: R22, University-industry collaboration in R&D: R25, PCT patents applications/million pop: R43). The direct relationship of this competitiveness aspect is with FZ BMs specialising in education sectors. Even conventional FZ BMs could be appropriately innovated, for example by enhancing R&D, collaborating with the university industry, and filing patents. Particularly promising are extant FZBMs (both conventional and specialist) that target start-ups, SMEs, domestic and international entrepreneurs; ultimately some of these are likely to lead to patents. The BMs of all other FZs, if appropriately innovated in the value proposition (e.g. by offering R&D and patenting services), key partners (e.g. linkages with patenting and higher education

institutions), and performance & effectiveness measurement (e.g. innovation related KPIs) blocks, could capture such uncaptured values and contribute further in this respect.

6.3.4 Contributions to the Literature

Through this research and analysis, a deeper understanding of business models as used in free zones is not about the innovation activities of the firms located in the free zones is achieved, and an innovative (fully fledged) BM model (based on this study's primary data) is developed. The environment of a FZ is distinctive: partnerships working in a symbiotic relationship based on attracting investment; effort towards generating opportunities for small and medium enterprises; creation of an environment that facilitates the establishment of SMEs and entrepreneurs; ownership mainly by public sectors at the local level; and impacted by both formal (federal and local governments/regulations) and informal (common beliefs and understandings of citizens) institutions/forces (Holmes Jr et al., 2013). The BMC model is unique in that it captures two additional components – Governance and regulatory framework– which is singularly critical to the success of a Free Zone, and in particular an innovative FZ. Future studies can benefit from the classification and synthesis of previous literature developed in the previous sections.

6.4 Implications for Practice

The primary and secondary data collection and analysis yielded aspects/results about free zones in the UAE, which could be used as starting points for review of current practices.

6.4.1 FZ owners

- Prior to this research the type of business model based in free zones was not known. The results of the research provide two business models (Conventional/Specialized) for free

zones in the UAE. These models can be used on their own or as a starting point for the creation of an integrated model that will benefit any new free zone.

- Structuring FZs like semi-government organizations, and involving the private sector in the ownership and management of FZs, has increased their efficiency. This is part of the 'unique' characteristics of the UAE and the BM of FZs in the UAE can be an inspiring business model for other countries.

6.4.2 FZ managers

- One of the results of the competition between FZs has been a contribution to the development of infrastructure, management and innovation in services provided to customers, including developing innovative and supportive services for entrepreneurs, SMEs and other non-traditional customer segments.
- Consideration of the development of different business models as contributing to the building of free zones in highly specialized areas has also bolstered competition and innovation, with examples such as the DIFC -- a free financial zone designed to support financial institutions that has innovatively established DIFC Courts, which operate under English Common Law.
- The DCCA that work towards developing strong regulations and policies are a further benefit to FZs and the creation of a proper FZ ecosystem; the development of legal structures within the UAE government in the area of free zones supports transparency and stability, attracting further investors.

6.4.3 Foreign investors

- FZs have proven to attract a large number of foreign investments in the UAE. Current inflow figures clearly indicate that FZs have been successful at attracting FDI inflows (see Table 3.7). The fact that the physical number of FZs has grown exponentially over a relatively short time is a further indicator.
- Although the large number of FZs shows growth and increase in FDI, having so many FZs in such a small geographical area also results in high levels of FZ-competition; which can positively impact prices and quality of service, among other aspects.
- Additionally, most of the companies within the FZs offer their services within the UAE, making them no different from partnerships registered in each emirate, which is additional advantage for the companies within the FZs.
- In some cases FZs have become simply a means of providing visa services; this explains the large number of firms established in a short period of time compared to the number of people working in these areas; for example in one FZ there are 25 employees with over 2000 registered companies, while in another FZ there are 650 employees with 5000 registered companies.

6.5 Implications for Policy

- The absence of an integrated system for all free zones contributes to the employment of illegal workers within the United Arab Emirates, so the establishment of an integrated system for all free zones could identify those companies that employ illegal workers within the UAE; by enabling these workers to be employed by registered companies in free zones, they can be organized and the outputs of these workers can be known within each region. This would afford

transparency and provide additional protection to FZs, the companies they host, and their employees.

- Competition between FZs and specialised free zones within the UAE is a positive feature, a sign of innovation and a support for global competitiveness which was one of the findings in this research. However, a regulatory regime should be developed by the federal government to facilitate competition, avoid overcrowding of similar industries, and monitor the effects on the local markets.
- Currently there is no federal regulatory authority to help in the development and regulation of free zones. The existence of such a regulatory authority could encourage and coordinate joint projects between FZs across different emirates without interfering in their work.
- The lack of published key performance indicators on the free zones, the volume of FDI attracted, etc. affects adversely the studies and statistics of the UAE economy. This is thus, another area where policy review could be advantageous.
- Linking the UAE National Innovation Strategy with individual local emirate strategies is important, and FZs should likewise be linked to these strategies.

6.6 Limitations and further research

More research is very important to improve the with hypothesis to be tested by further research In this research some data related to FZs was difficult to obtain for two main reasons:

1. There is a lack of secondary data and statistics on FZs;
2. The institutional structure responsible for aspects of FZs is complex for the collection of data (for example, it has been difficult to obtain approval to study FZs as a case study).

Taking into consideration the discussion of research reflexivity in section 4.10, other constraints in this research are among the common types encountered in qualitative cross-section studies (Dalal et al., 2013); which develop issues of validity, generalization and selection bias. In other words, the results of the qualitative study can rarely be generalised to a larger population with any confidence.

More research is required on BMI reach and strategic context. Investigating these further requires more detailed historical data about how the competitive landscape looked at the time these BMs and BMIs were originally introduced. This necessitates, as a first step, surveying the totality of FZs in the UAE. Such an undertaking should also encompass the views of long-term FZ users/customers **(which were excluded from the present study)** in order to complement the FZ senior management perspective. Also need study the innovation activities of the firms located in the free zones and link with FZBM.

There are some challenges that must be overcome; furthermore, research related to the government and/or requiring sensitive information cannot is not freely available is an additional consideration that may also impact future research efforts.

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Appendices

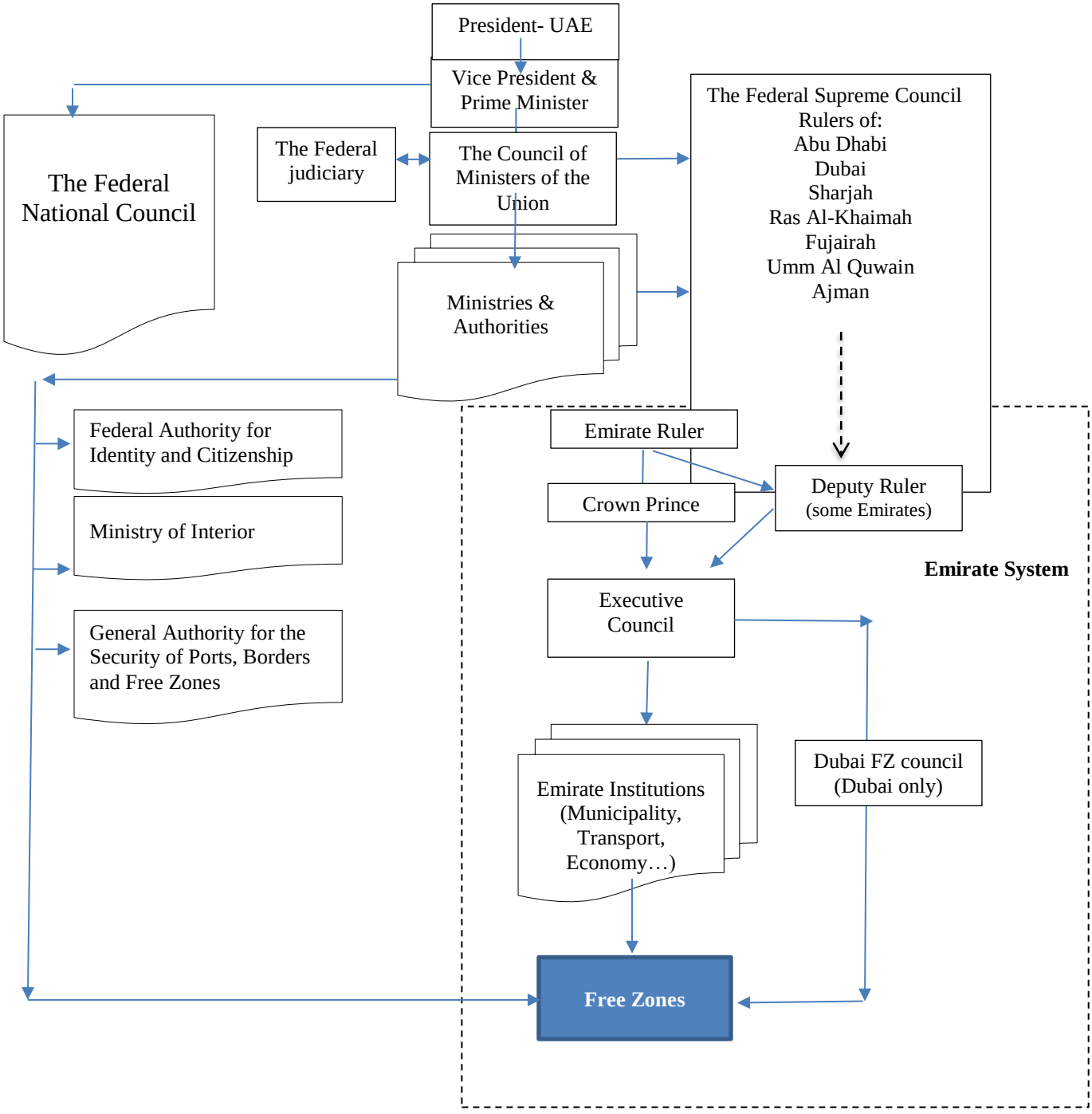
Appendix A.1: UAE Free Zones Characteristics

Emirate	Registered owner	Year est.	Free zone name (focus)	Size
Abu Dhabi	Abu Dhabi Airports	2010	Abu Dhabi Airport FZ (airport-hub with a broad range of industries; e.g. Logistics, semiconductors, aviation)	M
	G of Abu Dhabi	2008	Twofour54 (media)	S
		2012	Khalifa Industrial Zone Abu Dhabi (port-hub)	L
		2016	Abu Dhabi Global Market (financial services)	S
	Mubadala	2008	Masder FZ (technology, entrepreneurship)	S
Ajman	G of Ajman	1988	Ajman FZ (industrial, start-ups, retail)	S
Dubai	DP World	1985	Jebel Ali FZ (industrial, commercial)	L
	Dubai Holding	1999	TECOM: Dubai Internet City (ICT)	M
		2001	TECOM: Dubai Media City (media)	S
		2003	TECOM: Dubai Knowledge Park (education)	S
		2003	TECOM: Dubai Production City (media)	S
		2004	TECOM: Dubai Industrial Park (industry)	S
		2005	TECOM: Dubai Studio City (media)	S
		2007	TECOM: Dubai Outsource City (services)	S
		2007	TECOM: Dubai International Academic City (education)	S
		2013	TECOM: Dubai Design District (fashion)	S
		2015	TECOM: Dubai Science Park (science)	S
		2016	TECOM: Dubai Wholesale City (commerce)	S
		2017	TECOM: Emirates Towers Business Park (commerce)	S
		2017	TECOM: Dubai Food Park (food)	S
	Emaar	2001	Gold & Diamond Park (financial services)	S
	G of Dubai	1996	Dubai Airport FZ (industrial, logistics, aviation)	M
		2002	Dubai Multi Commodities Centre (financial services, commerce)	M
		2002	Jumeirah Lakes Towers FZ (commerce, residential, retail)	M
		2003	International Humanitarian City (Humanitarian)	M
		2003	Dubai Healthcare City (healthcare)	M
		2004	Dubai International Financial Centre (financial services)	M
		2004	Dubai Silicon Oasis (ICT)	M
		2007	Dubai South (Aviation, Logistics, Business Park, Real Estate)	S
		2007	Meydan (sports, lifestyle)	S
Fujairah	G of Fujairah	1987	Fujairah FZ (manufacturing)	S
		2007	Fujairah Media Zone (media)	S
Ras Al-Khaimah?	Ras Alkhimah Economic Zone (Marge between RAKFTZ & RAKIA in 2017)	2000	RAKEZ Business Zone (commerce)	M
			Alhamra Industrial Zone (industrial, commercial)	VL
			Alghail Industrial Zone (industrial, commercial)	M
			Alhulaila Industrial Zone (industrial, commercial)	M
			RAKEZ Academic Zone (education)	VS
			Media Zone (media)	VS
Sharjah	G of Sharjah	1995	Hamriyah FZ (industry)	L
		1996	Sharjah Airport Int/l FZ (commerce, logistics, industry)	M
Umm Al Quwain	G of Umm Al Quwain	1987	UAQ FTZ (industry, start-ups, trade)	L

Notes: size refers to FZ area in km^2 Small < 4 , $4 \leq$ Medium < 10, $10 \leq$ Large < 30, Very large ≥ 30.

Source: Authors' creation based on a range of secondary data (e.g. PKF UAE, 2015; FZ websites).

Appendix A.2: The Federal and Emirate Governance System



Appendix A.3: Interview Questions

Profile Questions

1. What is the age, history of this free zone?
2. What is the specialisation (or other unique characteristics) of this free zone?
3. What is the size of this free zone, in terms of: -?
    a) Registered firms.
    b) Employees (firms vs. FZ staff).
    c) Area.
4. Turnover? How do you measure the growth of this free zone? Has it been growing in the last 5 years (e.g. in comparison to your main competitor)?

Competitors (in the UAE or elsewhere)

1. Who are the main competitors of this free zone? Where are they located?
2. On what basis do you compete with them and/or in general try to differentiate this free zone from its main competitors?

Free Zone Main Activities (BM aspects)

1. How do you get and keep customers?
2. What is your distinctive value proposition to each constituency?
3. Who are your customers and what are their needs?
4. What do you offer them?
    a) Products
    b) Services

5. Experiences -- how do you reach them?
6. How do you price?
7. How do you execute?
8. Who are your partners?
9. What is the difference between your partners and your customers?
10. What are your distinctive capabilities?
11. How do you deliver distinctively?
12. What is your FZ Governance system? Please explain.
13. How does this FZ relate with the government (Local & Federal)?

Innovation within the Free Zone

1. Have you undertaken any innovation activities in this free zone (during the last three years)?
    a. If yes, of what kind?
    b. Is there any innovation this FZ has undertaken in any of the elements discussed during the previous set of questions (relating to its BM) that has helped this FZ grow or stay ahead of its main competitors?
2. Have you seen innovations taking place in other FZs (which you liked or think may be a good idea)?
3. In which of the following BM elements is this FZ and its competitor's innovations concentrated (indicate A for this FZ, B for others, more As and Bs according to need)?

Value proposition	Target customer	Distribution channel	Relationship	Value configuration	Core competency	Partner network	Cost structure	Revenue model	Other Please specify…

4. According to the Innovation global index, the three pillars of an innovation ecosystem are: human capital, financial capital, and technological capital; which of these do you find to be the most important and why/how? Please elaborate….

Dynamic Capabilities: (Responding to the changing environment)

1. Are there any changes in the external environment that have been affecting this or other FZs and how is this FZ (your organization) responding?
2. Are there is any changes in the internal environment (e.g. firms located inside the FZ) that have been affecting this or other FZs and how is this FZ (your organization) responding?

Future of FZs

1. How do you see the future of FZs in general, and this one in particular, in the UAE?

Appendix A.4: Semi-Structured interviews (Examples questions and answers)

Schedule of the semi-structured interviews

FZ	Interview date	Location	No FZs Owner
FZ-01	07/09/2016	Dubai	1
FZ-02	25/11/2016	Abu Dhabi	1
FZ-03	31/08/2016	Ras Al-Khaimah	3
FZ-04	31/08/2016	Ras Al-Khaimah	3
FZ-05	14/09/2016	Ajman	1
FZ-06	01/09/2016	Dubai	13
FZ-07	01/09/2016	Dubai	1
FZ-08	04/09/2016	Fujairah	2
FZ-09	15/11/2016	Dubai	1
FZ-10	28/08/2016	Umm AL Quwain	1

Summary of the main points and/or data for each of the semi-structured interviews

FZ-1

- There are BMs or not, we think there are BM but in reality after the success of Jebel Ali Free Zone (JAFZ), they started to create new free zones that focus more in real estates.
- Turnover? No info now
- Competition now with FZ-5 and FZ-7
- The majority of free zone try to attract all the business-like FZ-3 speak about logistics, but also look for other business. Price differences between the FZs are very important, and our offers must be more better .
- Big companies and SME we try to give them the basic start up and I think we need to offer more integration
- Yes, all client are customer and partner like service provider
- Governance: Chairman (vice-chairman CEO), executive board, no external, internal auditor and auditor from X gov.
- The strategies of free zone in different emirates and marge all the free zone to be more constrict.
- One council for all UAE FZs.

FZ-2

- The new FZ model that is available today was caused by the creation of FZ models that were far from the traditional FZ model which was commercial not specialist.
- For example, X-FZ is a traditional FZ that mean available specific area (port) and not subject to UAE regulation.

- In 1999, the Dubai Government decided to move to a new economy and new business sectors. We started to select the sectors which had more innovative potential for future like ICT, Media, Education… before building the zones.
- To attract this new economy, you need to create new concepts, incentives, and regulation; and the zone as the tool to build this new economy and the result you can see it.
- Number of firms (licences), number of employees and the expansion of investment of building in the FZ. From the beginning until now the growth yearly is 10-15%
- In the UAE, there are some FZs that have a framework or system like FZ-7 & FZ-9 but, we always say in competition we are first mover in the market and the big names work with us.
- we don't just compete with services but what kind of value we add in this sector.
- Five-year Plan divided to 3 parts: who is new in the market locally, regionally, and globally; and try to attract by marketing and commercial tools.
- Where we can expand our segments in next three years and try to attract them.
- During a five year window we can evaluate our sectors from the customer's perspective and decide if they will continue or if it will be weak in the future.
- What do you offer them?
    - Products
    - Services
    - Experiences
- Our prices are quoted/can be paid quarterly or yearly, and we evaluate our prices regionally and globally
- We look how the business is doing in terms of demand and supply
- We work with Federal and local what?
- Management framework, we have a ten-year innovation strategy formulated in 2015, try to innovate in our FZ and work with our partners. Also we try to innovate different aspects of our services internally. Built the XX build ICT infrastructure in an incubator centre ICT with all the infrastructures that help to start up.
- Geopolitics, price of petrol, regional politics, and USD exchange rate.
- Management responds fast.
- Move with the Government strategy push to work harder on innovation.
- The traditional FZs will continue to growth, while specialist zone growth will be related to their sectors.

FZ-3&4

- Started in 2000 and focus on SME and entrepreneur
- Started in 2005 they offer FZ licence and non-FZ Licence (Department of Economic Development DED licence) they attract the industrial and manufacturing sectors.
- Started as investments authority, and now more focus in free zone services in manufacturing, industrial, real-estate, and commercial.
- We work with the Department of Economic Development in Ras AL Khaimah to rent land and operate as a business park.
- More focus in the industrial sector; more the 80% of our clients are industrial and we have the option to provide services to our customer to operate under our licence or DED.
- Focus on SME entrepreneurs and offer FZ licences.

- More focus in free zone services for manufacturing and industrial sectors.
- The two FZ host more than 13,000 companies from 100 countries.
- There are 500 staff permeants and 100 outsourcing services.
- There are 200 Firms provide to their employees around 30000 visa industrial..
- 15000 Visa in FZ because in more commercial.
- There are three main areas divided to office and lit industrial and heavy industrial (39 km^2).
- All the firm in 2 FZs can work together as the same time which is a unique option compared with other FZs in the UAE.
- The first area is Industrial area which is 30 km^2 not all developed.
- Second area is 7 km^2.
- Third round 2 km^2.
- 2 or 3 % growth per annum.
- Growth measured by number of licenses issued, number of companies, income, and number of staff.
- We benchmark our FZ against Jafza and kaizad as industrial FZs, and Tecom and JLT as commercial FZs.
- Anything and everything we do, is divided in three components
    - Cost effectiveness, what we offer to customer must be effectiveness not cheap
    - Customer Services
    - Customization free zone.
- Cost effectiveness, what we offer to our customer must be cost-effective not cheap.
- We evaluate our service and processing for our customer yearly .
- Customer Services.
- Customization and accessibility anywhere and anytime, also try to keep close of the market 24/7.
- Two offices in the UAE: at Dubai and Abu Dhabi; three international offices in Turkey, Germany, and India.
- Entrepreneur, SME for FZ and industrial and manufacturing for FZ.
- Yes, with packages and customise what the customer needs.
- Yes, help the customers and advise what can used from services and packages before and after sales.
- Marketing Tools (conferences, roadshows, ….) .
- Customer services, Accounts managers, Customer satisfaction services with each category of customers.
- Local and Federal Government, service providers for Technology.
- Also, there are some customers and partner that are considered to be strategic stakeholders.
- Value proposition that given to our customers, low living costs.
- Help the customer to arrange everything for their staff, also to customize the services to our customers.
- Chairman, Board, management system, delegation of Authority, policy, internal and external audit, no published any data to media (Finances).
- Both together local & federal.
- Innovation, every two years we launch a customer award with FZ customers.

- Also we try to create innovation in our products & services, and try to encourage customer to be more innovative.
- We will move to a digital platform for accessibility and to be more innovative, also we keep development our services .
- The human capital important to lead the two Financial and technological, so we work to improve our HR to be more innovative.
- Try to find solutions to any negative-effects coming from outside the FZ
- Must be more active and very fast to be in the lead for everything
- The FZ tries to grow the Emirate and the UAE economy.

FZ-5

- Started in 2008 It was dedicated to renewables, sustainability, and green buildings. and the core of the FZ was different than what it is now.
- Some reasons that decided to be more commercial (IT, consultant, Marketing….) it's if you want to growth for FZ should be more commercial.
- The core is still sustainability, renewable energy, and green buildings but only 40% of our customers are in these core segments, while 60 % are commercial. Nonetheless, we can still say we are a sustainability hub.
- Renewable energy, green buildings, and technology but we also try to fill the gap in that the other FZs do not provide in the same emirate XX .
- In 2014 we were hosting 100 companies but now we have 440
- There is no competition between the FZs in Emirate-XX. Each activity should go to its respective specialist FZ; like if you want to open a media company you should go with XX-media-FZ..ets.
- Try to keep price the same (without increase) during the last 3 years and we try to offer our customers many services without any additional costs.
- Two main marketing tools: international events and business groups communications.
- Start-up SMEs
- Services with packages without customisation but we have some options in the licences
- Cost-effective
- We are open any time customer wants to come without appointment
- Change the activities of customers more flexible (extend the licences)
- We follow the Federal and local law and work more with Local Government.
- Is most innovation is services like online licenses direct. Help desks
- Yes, like services in the other FZ ICT
- Mix of three human capital, Financial and technological and HR will be dynamic
- Autonomy, quick response from the management as it is internal

FZ-6

- Started as small FZ at the end of 80s more than 25 years ago. The focus is on hosting general industrial and service firms ….
- About 8,000 active firms at present
- Without the outsourcing 160 employees in the FZ.

- Different areas, around six areas in different service like retail, offices, and hotel.
- Also new media area which come registered (outsourcing).
- Turnover? Confidential
- Number of licences as a revenue measure
- Number of employees
- Rent of offices, warehouses, and shops.
- Other services (like hospitality, security … as business units of the free zone)
- New monthly payment options for all rents and services.
- Always see what new is happening in the market and competitors
- SME focus, due to physical space constraints in Emirate-XX, we do not focus in industrial firms
- Marketing tools (conferences, roadshows, advertisements)
- More flexible, add new services, and try to keep the costs reasonable
- Chairman, board, government supervision, the FZ date published in media not all the time
- They mention the payment services 40% of their service is electronic. They can provide new services to open company with limited option to help them to start.
- Financial capital is very important
- The politics in the region during the last four years affected the FZ in a positive way the capital money, the decline of oil prices affected the FZ in a negative way and promted some quick responses in changing the price of services.

FZ-7

- Started 1986 General not Specialist FZ.
- Very Selective Customer (Security reasons, financial aspects) hosting 1,600 firms since 1996.
- Number of FZ employees above 220 and more than 4,000 employees of the hosted firms
- FZ area limits the amount of possible growth due to lack of space
- Turnover? Confidential
- Growth measured in terms of sales revenue, number of firms, spaces to rent.
- Growth during the last five years has been very positive
- They benchmark with themselves and with the market.
- Strong relation with the government strategy
- Work with consultants for each international market in each country or area.
- We had offices in the US before.
- They maintain customer-related KPIs and present them every quarter to the board.
- Very high standard of services and luxury offices, with very good access to the Metro.
- Large multinational companies as their main customers.
- Services, general package with limited amount of customization.
- Bench market, customer Target each year like trend in the last 3 years.
- Our partners local and federal Government Departments.
- Comfortable places have new services and high technology
- The transparency is very high, as the published all figures during an annual conference each year.

- They have more relation with the Emirate rather than the Federal government
- They have an Innovation Department internal to the FZ (created four months ago).
- They have a service that helps customer to select what services they need
- Example from China (houses innovative as vertical)
- All the three pillars are important but in the following order: human, financial, and technological capital
- The external environment affects them highly as the majority of their customers are international
- They do an international study each year before they put forward their new strategy
- They are highly flexible and respond quickly from the management.
- Give more option and more flexibility with customers as during the 2008 crises.

FZ-8

- They use English common law. Started in 2004
- Specialization in financial services. No control of UAE Central Bank.
- Independent regulator. The expensive FZ in the UAE.
- More 1,500 companies: 420 in finance, 240 retailers and the rest in services related to finance, e.g. credit rating, news, analysis.
- Number of employees in around 390
- 810 hectares = 8.1 km^2, 60% already used.
- Confidential. 10-15% growth during the last five years.
- Selective customers in banking, finance, and insurance
- All the regulations for banking and financial services are the same as in London.
- Customers are 35% from the Middle East and the rest from all around the world
- Direct contact and conferences to promote the FZ
- Standard packages and premium price services
- Normal communications and tools
- No Partners but works with accounting and legal firms,… without payments
- President, Governor, higher board, (Three level executive boards)
- Annual report is published only the revenue is not reported
- Our partners Local & Federal
- New rules, new technology, the first FZ in the world to have its own international court, 3-5% added to the GDP of Dubai.
- All the three pillars are of importance (and financial he mentions as very important)
- BREXIT its good opportunity and example to how the DIFC work external environment (to attract new customers and investments)
- 2008 economic crisis affected the growth of the Asian firms that opened in the FZ
- Management rapidity reduced the rent of offices to help their customers during the 2008 crisis
- Future of FZ is very promising with good infrastructure in the UAE and good leadership

FZ-9

- There are three stages of free zone in the UAE
- The first started from 1985 and the concept was coming from manufacturing and exporting outside the UAE
- MOL push employees move to FZ.
- During the 14 years from 1986 to end of the 90s we can say the model of the free zone started to being shaping in the UAE.
- Get licence from FZ easier form department of economy.
- Until 2000 all the UAE free zones were copy paste from the Jabal Ali FZ but after 2000 a new FZ model started to emerge as a Specialisation Free Zone (e.g. Dubai Internet City).
- We speak about six free zones before 2000
- In Abu Dhabi their are Economic area which I see is more services oriented.
- (In general) In the UAE make benefit from FZ in the infrastructure like airports and ports and circulation and reorganize the Labour in the UAE by recruited them in the FZ.
- Started as industrial FZ to host manufacturing and processing
- Around 3,000 firms hosted employing 9,174 workers with an FZ staff of 100
- 1 m KM2 (750) is almost full now from 2008 3 M. space 800 office 200 m
- Turnover and in what currency? 100 m for the FZ, and 800 billon for the hosted companies
- 4 to 5 % growth per year, we monitor income, number of companies, actual activities (exports and imports)
- We are lower than other free zone.
- The investors was more before and 2000
- Our Competitors are RAK JLAT Ajman Sharjah.
- The FZ oil zone which will be a large zone we look to open in Dubai
- Accessibility is very important for customers, direct, pricing, transparently, development are all key as well as being close to customers
- To try to create more market for customer for try to help our customers, the new rule of environment in the UAE and try to help
- Marketing tools alone.
- We consider the Emirate and Federal government as our partners as well as some of our service providers
- Some of our customers are also partners at the same time.
- Chairman, no board, no executive board, no published information.
- We have clear and strong financial rules and system
- The effect was to transfer to electronic platform and move as requested from the top and we the new change in country.
- Try to use many online tools to find solution with customer and management has been positive as well as mobile apps.
- New large project to be more stable in a different to sector (in oil sector)

FZ-10

- Established 1987 with 40 companies (all industrial) until 2014
- More than 2,000 companies or (commercial license) from 2015 with new team of management

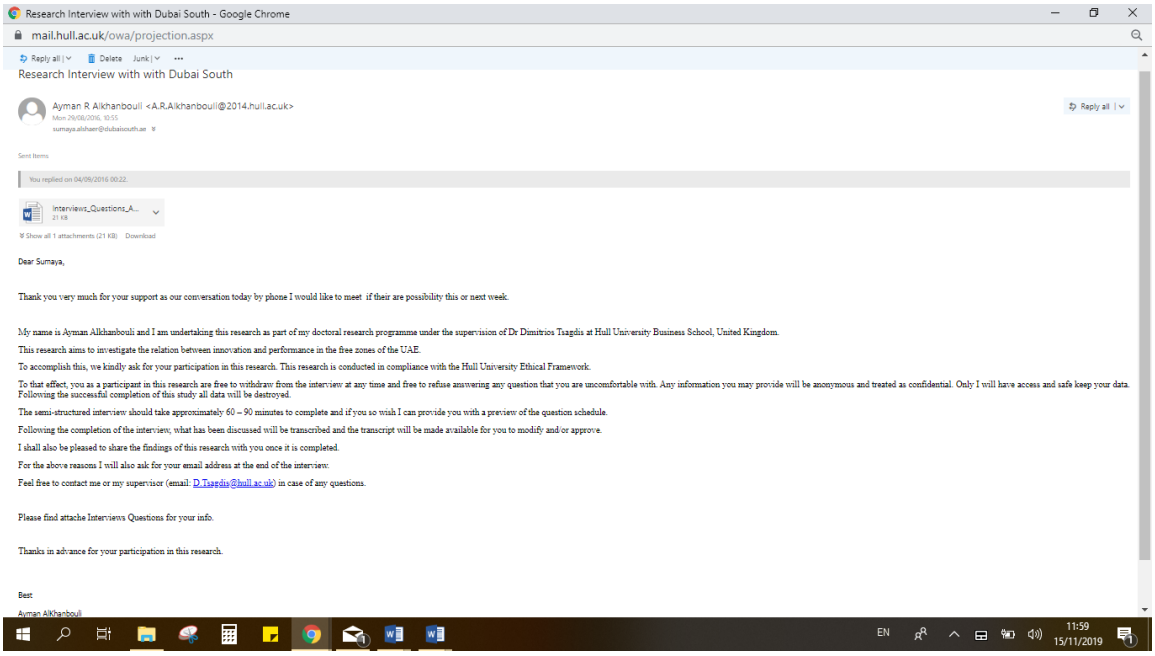
- Re-branding and new strategy new packages with commercial licenses
- The features of the FZs in UAE are the same but the facilities are different
- They do not promote too much.
- 25 employees in the management of the FZ and less than 3,000 employees in all hosted firms
- The port area is 12 km^2 most of this area is sold to 40 companies
- (all industrial) New area extended in different location with 200 hectares.
- (Confidential)
- They measure performance in terms of number of firms
- They do not believe of competitors because their small FZ
- Trying to keep customer comfortable and addressing their needs
- Value proposition challenging
- Focus in Micro and SME (entrepreneur)
- Trying to help customer in operational services with low cost effect
- Easy to get licenses (less documents)
- They reach customers by attending conferees with marketing team
- They use different agency in different counties; e.g. in India, Russia, China and South Africa
- The price of cost is reasonable with package
- Partner with (local/fed?) government
- Their partners provide services to the costumers
- Their capabilities are the knowledge of their staff, rule and regulation are easy and available in the web also the location of the FZ which close to Dubai and with low cost of living
- They maintain more regular contact with the Emirate rather than the Federal government
- The new management developed everything (innovative) from 2015; including the FZ website, new brand, new rules….
- We are new FZ to have any external impact?
- The new management came in 2015 and affected the FZ in a good way

Copy of the generic invitation letter sent to all participants guaranteeing anonymity and confidentiality

Ayman Alkhanbouli
University of Hull
Hull, HU6 7RX
United Kingdom
Email: A.R.Alkhanbouli@2014.hull.ac.uk

Dear Sir/Madam,
My name is Ayman Alkhanbouli and I am undertaking this research as part of my doctoral research programme under the supervision of Dr Dimitrios Tsagdis at Hull University Business School, United Kingdom.
This research aims to investigate the relation between innovation and performance in the free zones of the UAE.
To accomplish this, we kindly ask for your participation in this research. This research is conducted in compliance with the Hull University Ethical Framework.
To that effect, you as a participant in this research are free to withdraw from the interview at any time and free to refuse answering any question that you are uncomfortable with. Any information you may provide will be anonymous and treated as confidential. Only I will have access and safe keep your data. Following the successful completion of this study all data will be destroyed.
The semi-structured interview should take approximately 60 – 90 minutes to complete and if you so wish I can provide you with a preview of the question schedule.
Following the completion of the interview, what has been discussed will be transcribed and the transcript will be made available for you to modify and/or approve.
I shall also be pleased to share the findings of this research with you once it is completed.
For the above reasons I will also ask for your email address at the end of the interview.
Feel free to contact me or my supervisor (email: D.Tsagdis@hull.ac.uk) in case of any questions.
Thanks in advance for your participation in this research.
Yours faithfully,

Ayman Alkhanbouli



Screenshot of email

Appendix A.5: Unstructured interviews (Examples questions and answers)

Organization (example)	Date	Location	Subjects
Ministry, Authority, Institution, Board Member	28/1/2017	Dubai	FZ & Economy
Ministry, Authority, Institution, Board Member	9/2/2017	Abu Dhabi	FZ & Security
Ministry, Authority, Institution, Board Member	31/4/2017	Location?	Labour in FZ
Ministry, Authority, Institution, Board Member	31/3/2017	Ras Al-Khaimah & Dubai	FZ & Economy
Ministry, Authority, Institution, Board Member	1/3/2017	Dubai	FZ System
Ministry, Authority, Institution, Board Member	15/4/2017	Dubai	FZ World
Ministry, Authority, Institution, Board Member	1/5/2017	Dubai	FZs in the UAE
Ministry, Authority, Institution, Board Member	16/5/2017	Dubai	FZs and competition in the UAE market

Examples of unstructured interviews questions and answers (as *there were many more question asked during these interviews***)**

Examples of questions:

1. How familiar are you with the FZs in the UAE?
2. What is your relationship with them?
3. Are there any benefits of free zones for the emirate economy?
4. Are there any benefits of free zones for the UAE economy?
5. Is the large number of free zones in the UAE a positive or negative development and why?
6. What is the impact of the free zones on the performance of the Department of Economic in each emirate? Is it complementary i.e. supporting the economy, or antagonistic?
7. How do you deal with labour and companies that operate outside the free zones?
8. Are there any prohibitions for companies registered in the free zones to conduct work outside the free zones?
9. Are you aware of any instances where FZs may violate local or federal regulation and legislation?
10. How do you evaluate competition between free zones?
11. Does the FZs attract foreign companies which have new technology that is transferred to the UAE?

Examples of answers:

- My knowledge of the free zones spans more than twenty-five years and I wrote some articles about their impact on the UAE
- The impact of free zones on the UAE economy is still less than thirty percent
- There is a lack of compliance with the restrictions of the Ministry of Labour because it does not supervise the free zones
- Some free zones have improved their performance in the last ten years
- Some federal laws were placed on free zones
- There is no cooperation between the free zones
- There is one FZ that applies the wage protection system
- The entry of more FZs into the wage protection system will increase the transparency of the free zones
- There is a system in this FZ become advanced , comparison in previous years
- A law should be in place to limit partnerships outside free zones

Appendix A.6: Coding Themes and Categories

Explanation the Developing Codes and Categories in section 4.8.2

Theme 1	FZ Profile			
Subtheme	History FZ		FZ Performance	
Categories	Before 1999	After 2000	Turnover	Measure the growth
Key Point	Limited & General (industrial)	Increasing & specialist (commercial)	Confidential	Number of licensee, Firms, employees. Expansion or rent building.

Theme 2	Competitors		
Subtheme	Market	Services	Regulation
Categories	Location	Cost, Infrastructures, Sector	Legal terms
Key Point	Any emirate closer to Dubai has more benefits	Smart & Luxury offices Cheap or expensive Specialist or General	Each emirate has different regulation

Theme 3	Free Zone Main Activities (BM elements)				
Subtheme	Infrastructure	Offering	Customers	Finances	Governance
Categories	Partners Activities Resources	Value proposition	Relations Channels Segments	Performance & effectiveness measurement. Cost structure	Holding company, Emirate-ownership, private sector participation
Key Point	Government (Local, Federal). Hospitality, security, registrar (for real estate, companies), and public services. Service customization. Warehouses. Offices. Industrial land. Retail facilities. Technological	Cost-effectiveness. Customer service. 24/7 accessibility. Hospitality & security. Payment options. Market creation. Transportation	Dedicated customer service teams. Account managers. On line services. International agents vs. offices, UAE offices. Road shows. Conferences. Marketing tools/team. SMEs. Entrepreneurs. Start-ups. General. Major industrial	Number of: licences, firms, number of employees in firms, sales. Volume/value of imports/exports. Infrastructure rents. Hard infrastructure (e.g. buildings, warehouses, offices). Data centres.	Chairman Board Executive board Published not all the FZ.

Theme 4	Innovation within the Free Zone		
Subtheme	Services	Organization	Innovation Ecosystem
Categories	Payment Services Digital Framework Regulation (court)	Innovation Department Government Vision	1.Human Capital 2.Financial Capital 3.Technological Capital
Key Point	100% digital Platform first court in the world Strat-Up Payment facility	Year of Innovation	Educate People in Specialist Zones

Theme 5	Dynamic Capabilities: (Responding to the changing environment)			
Subtheme	Internal		External	
Categories	Management	Price of Service	Geopolitics	Price of Oil
Key Point	Positive & speed respond Negative & slow respond	location, market, segment.	Arab spring 2008 crises	2014 decreases 70% Less Gov investment

Theme 6	Future of FZs in the UAE				
Subtheme	Negative		Positive		
Categories	Regulation	TAX	One Council	Operation outside UAE	FZ Model
Key Point	New rules, like opening foreign invest to any area in Dubai. (proposal)	VAT effect on FZs.	One Council for all FZs in the UAE.	Invest and manage FZs outside the UAE.	Traditional growth will continue. Specialist will relate to sectors.

Example: Coding Analysis of Theme 2 Competitors as within the Free Zone

STEP 1 Extracts from interviews

FZ	Answers
FZ1	3. Who are the main competitors of this free zone? Where are, they located? Now with TECOM and Dubai South, the new regulations will give opportunity for companies move from the zone to another zone in Dubai start from 2017 (not yet). 4. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? There is similarity between our offers and other competitors (price, located, environment…..) in Dubai all free zones try to promote Dubai first, and then then try to sell their services and products. The majority of free zone try to attract all the business-like Dubai South speak about logistics, but also look for other business. Prices is very important between the FZs, and our offers must be more mature.
FZ2	1. Who are the main competitors of this free zone? Where are, they located? Dubai and RAK, DSO 2. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? There is no competition between the FZs in AD. Each activity should go with specialist like if you want to open Media company should go with two 54 and consultation with Masder…..
FZ3&4	1. Who are the main competitors of this free zone? Where are, they located? Benchmark Jafza and kaizad as industrial and Tecom and JLT as commercial 2. On what basis do you compete with them and/or in general try to differentiate this free zone from its main competitors? Any think we do and every think we do divided to 2 components 1. Cost effectiveness, what we offer to customer must be effectiveness not cheap 2. Customer Services

	3. Customization free zone.
FZ5	5. Who are the main competitors of this free zone? Where are, they located? Sharjah FZ and RAK FZ 6. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? • Location, near to Dubai more advantage, cost, they have smart offices as started in UAE, • New option as payment for all the rent and service they can pay monthly for each year. • always see the market and competitors what the new happen
FZ6	1. Who are the main competitors of this free zone? Where are, they located? They compare with them self and with market. They are the best FTZ in the World 2013 by FDI as general FTZ 2. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? We complete to gather with competitors?!
FZ7	1. Who are the main competitors of this free zone? Where are, they located? Main competitors London and Singapore as international and ADGM, Bahrein and Qatar in the region 2. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? Look of customers from all the world
FZ8	1. Who are the main competitors of this free zone? Where are they located? RAK JLAT Ajman Sharjah. 2. On what basis do you compete with them and/or in general try to differentiate this free zone from its main competitors? They look for cost and time and quality less as paper doc. The FZ oil zone which be the big zone and we look to open in Dubai
FZ9	1. Who are the main competitors of this free zone? Where are, they located? In the UAE, there are some FZs have framework like two 54 and Fujairah media but, we always say in competition we are first mover in the market and the big names work with us. Also, we don't just compete with services but what kind value we add in this sector. So, we can say we compete in the region

	not only in the UAE by our infrastructures, regulations for example our (*Dubai Creative Clusters Authority provides a robust legal and regulatory framework for businesses to grow, attract talent, and innovate.*) It's created to support the investor in TECOM for example in Academic city we found rules give the students work as part time with approval from their university. 2. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? Today we are not competing on services and real state but we compete with infrastructures, regulations, bussies developments specialist scatters do not forget we create cluster from scratch but if you see the other grouping was naturally like silicon valley.
FZ10	1. Who are the main competitors of this free zone? Where are, they located? 2. On what basis, do you compete with them and/or in general try to differentiate this free zone from its main competitors? They do not believe of competitors because their small FZ

STEP 2 Coding the responses

FZs	**Coding**
FZ1	Now with TECOM and Dubai South, the new regulations will give opportunity for companies move from the zone to another zone in Dubai start from 2017 (not yet). There is similarity between our offers and other competitors (price, located, environment……) in Dubai all free zones try to promote Dubai first, and then then try to sell their services and products. The majority of free zone try to attract all the business-like Dubai South speak about logistics, but also look for other business. Prices is very important between the FZs, and our offers must be more mature.
FZ2	Dubai and RAK, DSO There is no competition between the FZs in AD. Each activity should go with specialist like if you want to open Media company should go with two 54 and consultation with Masder…..
FZ3&4	Benchmark Jafza and kaizad as industrial and Tecom and JLT as commercial Any think we do and every think we do divided to 2 components 1. Cost effectiveness, what we offer to customer must be effectiveness not cheap

	2. Customer Services 3. Customization free zone.
FZ5	Sharjah FZ and RAK FZ • Location, near to Dubai more advantage, cost, they have smart offices as started in UAE, • New option as payment for all the rent and service they can pay monthly for each year. • always see the market and competitors what the new happen
FZ6	They compare with them self and with market. They are the best FTZ in the World 2013 by FDI as general FTZ We complete to gather with competitors?!
FZ7	Main competitors London and Singapore as international and ADGM, Bahrein and Qatar in the region Look of customers from all the world
FZ8	RAK JLAT Ajman Sharjah. They look for cost and time and quality less as paper doc. The FZ oil zone which be the big zone and we look to open in Dubai
FZ9	In the UAE, there are some FZs have framework like two 54 and Fujairah media but, we always say in competition we are first mover in the market and the big names work with us. Also, we don't just compete with services but what kind value we add in this sector. So, we can say we compete in the region not only in the UAE by our infrastructures, regulations for example our (*Dubai Creative Clusters Authority provides a robust legal and regulatory framework for businesses to grow, attract talent, and innovate.*) It's created to support the investor in TECOM for example in Academic city we found rules give the students work as part time with approval from their university. Today we are not competing on services and real state but we compete with infrastructures, regulations, bussies developments specialist scatters do not forget we create cluster from scratch but if you see the other grouping was naturally like Silicon Valley.
FZ10	They do not believe of competitors because their small FZ

Qualitative Coding Categories

Theme 2	Competitors		
Subtheme	Market	Services	Regulation
Categories	Location	Cost, Infrastructures, Sector	Legal terms
Key Point	Any emirate closer to Dubai has more benefits	Smart & Luxury offices Cheap or expensive Specialist or General	Each emirate has different regulation

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