ROLE OF BOARD DIVERSITY IN INVESTMENT EFFICIENCY AT DIFFERENT FIRM LIFE CYCLE: EVIDENCE FROM MENA REGION

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by

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LIST OF ABBREVIATIONS

2SLS	Two-Stage Least Squares
ADX	Abu Dhabi Securities Market
ASE	Amman Stock Exchange
ATO	Asset Turnover
BHB	Bahrain Bourse
BSE	Beirut Stock Exchange
CEO	Chief Executive Officer
CG	Corporate Governance
CSE	Casablanca Stock Exchange
DFM	Dubai Financial Market
DSM	Doha Securities Market
EWBDI	Entropy-Weighted Board Diversity Index
FCF	Free Cash Flow
FINCF	Financing Cash Flows
FLC	Firm Life Cycle
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GM	General Motors
INVCF	Investing Cash Flows
IPO	Initial Public Offering
JCGC	Jordan Corporate Governance Code
M&A	Mergers and Acquisition
MENA	Middle East and North Africa
MIR	Market Interest Rate
MSM	Muscat Securities Market
NPV	Net Present Value
OCF	Operating Cash Flows
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares

OPEC	Organization of the Petroleum Exporting Countries
POEs	Privately Owned Enterprises
PP&E	Property, Plant, and Equipment
R&D	Research and Development
RE	Retained Earnings
RSEs	Robust Standard Errors
S&P DJI	S&P Dow Jones Indices
SIM	Single Index Model
TA	Total Assets
TE	Total Equity
UAE	United Arab Emirates
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor

PERANAN KEPELBAGAIAN LEMBAGA PENGARAH DALAM KECEKAPAN PELABURAN PADA KITARAN HIDUP FIRMA BERBEZA: BUKTI DARIPADA WILAYAH MENA

ABSTRAK

Wilayah Timur Tengah dan Afrika Utara (MENA) berhadapan dengan cabaran besar dalam menangani ketidakcekapan pelaburan dan Tadbir Urus Korporat (CG), khususnya yang berkaitan dengan kepelbagaian lembaga pengarah. Kajian ini meneliti hubungan dinamik antara kepelbagaian lembaga pengarah dan kecekapan pelaburan firma merentasi pelbagai peringkat Kitaran Hidup Firma (FLC). Walaupun kajian terdahulu telah mengkaji kesan kepelbagaian lembaga pengarah terhadap kecekapan pelaburan dari perspektif statik, penyelidikan ini menggabungkan konsep peringkat FLC untuk memberikan pemahaman yang lebih komprehensif. Kajian ini berpandukan teori Kitaran Hidup Firma, yang mencadangkan bahawa kos-kos agensi yang berkaitan dengan Aliran Tunai Bebas (FCFs) adalah isu yang berulang pada peringkat tertentu dalam perkembangan firma. Kepelbagaian lembaga pengarah, yang merupakan pembolehubah bebas, diukur menggunakan Indeks Keperlbagaian Lembaga Pengarah Berwajaran Entropi (EWBDI), yang menggabungkan kewarganegaraan, perwakilan wanita, dan tahap pendidikan. Kecekapan pelaburan, pembolehubah bersandar, ditentukan oleh perbezaan antara tahap pelaburan sebenar dan yang dijangka berdasarkan peluang pertumbuhan masa depan. Peringkat FLC, yang ditakrifkan oleh tahap FCF, bertindak sebagai pembolehubah interaksi dan dikategorikan kepada empat peringkat: pengenalan, pertumbuhan, matang, dan kemerosotan. Sampel kajian ini terdiri daripada 332 firma bukan kewangan dari

indeks Dow Jones MENA antara 2010 dan 2021, merangkumi 3984 pemerhatian firma-tahunan. Data diperolehi daripada pangkalan data S&P Capital IQ. Data panel dianalisis menggunakan STATA untuk mendapatkan ukuran kuantitatif statistik deskriptif, ujian diagnostik, dan analisis regresi berganda. Hasil kajian mendapati bahawa kepelbagaian lembaga pengarah meningkatkan kecekapan pelaburan firma pada peringkat pertumbuhan dan kemerosotan dalam FLC di wilayah MENA. Namun, kepelbagaian lembaga pengarah mengurangkan kecekapan pelaburan pada peringkat pengenalan dan matang dalam FLC di wilayah MENA. Hasil ini selari dengan teori FLC dan memberikan sokongan yang bercampur kepada teori agensi dan pergantungan sumber. Kajian ini menyumbang dengan memberikan pandangan berharga untuk ahli ekonomi dan pembuat dasar di wilayah MENA kepada pemahaman yang lebih canggih tentang peranan kepelbagaian lembaga dalam tadbir urus korporat, dengan menekankan kepentingan dengan mempertimbangkan tahap pembangunan firma dalam membuat keputusan komposisi lembaga yang dapat menyumbang kepada peningkatan kecekapan pelaburan firma.

ROLE OF BOARD DIVERSITY IN INVESTMENT EFFICIENCY AT DIFFERENT FIRM LIFE CYCLE: EVIDENCE FROM MENA REGION

ABSTRACT

The Middle East and North Africa (MENA) region is confronted with formidable obstacles concerning inefficiency in investments and Corporate Governance (CG), specifically concerning on board diversity. It investigates the dynamic relationship between board diversity and firm investment efficiency across different stages of the Firm Life Cycle (FLC). While prior studies have explored the impact of board diversity on investment efficiency from a static perspective, this research incorporates the concept of FLC stages to provide a more comprehensive understanding. The study is grounded in Firm Life Cycle theory, which posits that agency costs associated with Free Cash Flows (FCFs) are a recurring issue at specific stages in a firm's development. Board diversity, the independent variable, is measured using the Entropy Weighted Board Diversity Index (EWBDI), incorporating nationality, women representation, and educational level. Investment efficiency, the dependent variable, is determined by the variance between actual and expected investment levels based on future growth opportunities. FLC stages, defined by FCF levels, act as the interacting variable and are categorized into four stages: introduction, growth, mature, and shake-out/decline. This research sample includes 332 non-financial firms from the Dow Jones MENA index between 2010 and 2021, comprising 3984 firm-year observations. Data are obtained from S&P Capital IQ database. The panel data are analysed with STATA to obtain quantitative measures of descriptive statistics, diagnostic tests, and analysis of multiple regression. The findings reveal that the board diversity improves firm investment efficiency across growth and shake-out/decline stages of the FLC in The MENA region. While board diversity reduces investment efficiency across introduction and mature stages of the FLC in The MENA region. These results align with FLC theory and offer mixed support for agency and resource dependence theories. The current study contributes offering valuable insights for economists and policymakers in the MENA region to a more sophisticated understanding of board diversity's role in corporate governance, emphasizing the importance of considering a firm's developmental stage in board composition decisions that contribute to improve the efficiency of the firm's investment.

CHAPTER 1

INTRODUCTION

1.1 Introduction

The Middle East and North Africa (MENA) region presents unique challenges for inefficient investment when compared to more developed markets, primarily due to its short-term orientation and lack of investment diversification (Hanna, 2020). While strong financial systems and developed investment strategies are common in North America, Europe, and some parts of Asia, the MENA region's dependence on traditional industries like oil and gas stifles growth potential in this region (Olawuyi, 2021). Therefore, sector concentration and under-investment in Research and Development (R&D) are blocks to long-term strategic growth (Tassey, 2004). For instance, UNESCO reports that MENA countries spend less than 1% of their Gross Domestic Product (GDP) on R&D, whereas Organization for Economic Cooperation and Development (OECD) countries spend over 2%, with Saudi Arabia investing around 0.82% compared to South Korea's over 4.5% (Omar, 2019).

In addition, inefficient investment is another consequence of low corporate governance standards, as shown by the Gulf Cooperation Council (GCC) Board Directors Institute's (BDI) research in 2014 that only 50% of listed companies in the GCC have a majority of independent directors as opposed to over 80% in the US and Europe (Pillai & Al-Malkawi, 2016). Moreover, governance concerns are emphasized even more by Transparency International's Corruption Perceptions Index (TICPI), which assigns low ranking like Egypt and Lebanon (CPI, 2023). In short, these factors combined are increasing inefficient investment in the MENA region. As a result, specific reforms are needed to encourage long-term strategic investment and improve overall investment efficiency. Therefore, this study investigates the impact of board diversity on investment efficiency across different Firm Life Cycle (FLC) stages in the MENA region, focusing on companies within the Dow Jones MENA index.

1.2 Background of the Study

1.2.1 Board Diversity and Investment Efficiency

Investment is the use of money on assets in hopes of generating capital gains or income. There is risk and return associated with every investment (Fama, 1972). Investment risk is the possibility that the actual return will vary (Fama & MacBeth, 1973; Ross & Zisler, 1991). The goal of a rational investor is to maximize return for a given level of risk. Wherefore, Hodgson et al. (2000) define the investment efficiency "*is a function of the risk, return and total cost of an investment management structure, subject to the fiduciary and other constraints within which investors must operate*" (p. 451).

Because of this, investment efficiency is crucial for the expansion and financial success of firms, as it involves the optimal allocation of resources to projects that generate capital gains or income (Biddle et al., 2009). The concept of investment efficiency can be understood through the lens of investment theory, which posits that in a perfect capital market, firms would fund all projects with a positive Net Present Value (NPV) to optimize their value (Modigliani & Miller, 1958). However, real-world conditions such as information asymmetries and agency issues often lead to inefficiencies in investment decisions (Stein, 2003; Cheng et al., 2013).

In this regard, agency theory explains that conflicts of interest between directors and shareholders can result in inefficient investment decisions, with managers potentially overinvesting to gain more control over resources, particularly when they have higher Free Cash Flow (FCF) (Jensen, 1986; Richardson, 2006). As a result, Corporate Governance (CG) emerges as a critical tool in addressing these agency issues and aligning the interests of managers and shareholders (Cheng et al., 2013; Xie, 2015). Board diversity, an important aspect of CG, plays a significant role in enhancing investment efficiency.

Since the publication of Carter et al. (2003), the concept of board diversity has evolved significantly. Initially, the focus was primarily on gender and ethnic diversity and their impact on firm performance. Over time, the definition of board diversity has broadened to include various dimensions such as age, nationality, and education background (Ullah et al., 2020). Additionally, there has been a growing emphasis on the mechanisms through which diversity enhances board effectiveness, such as improved decision-making and better risk management (Chen & Chen, 2017). Regulatory changes and investor pressure have also driven companies worldwide to prioritize diverse and inclusive board compositions (Carter et al., 2010).

Ullah et al. (2020) highlight that board diversity affects investment policies by enhancing monitoring, reducing agency conflict, and connecting the organization to external resources. This is supported by the resource dependence theory (Salancik & Pfeffer, 1978; Carter et al., 2010), which underscores the value of diverse boards in mitigating agency problems and improving resource allocation. Studies have shown that gender diversity on boards, for instance, plays a crucial monitoring role, disciplining managers, and enhancing investment efficiency (Mirza et al., 2020).

Therefore, the significance of board diversity has garnered global political attention, leading to various reforms and initiatives aimed at increasing female representation in corporate boards. Countries such as Kenya, Brazil, India, Malawi, Nigeria, and South Africa have implemented good governance standards and mandates to promote female participation (Terjesen et al., 2015). Similarly, the MENA region, including conservative countries like Saudi Arabia, Jordan, and the United Arab Emirates (UAE), has undertaken reforms to empower women and increase their presence in managerial roles (Salloum et al., 2019).

Despite the growing recognition of the importance of board diversity, research findings on its relationship with investment efficiency have been inconclusive (Harjoto et al., 2018). This study aims to explore this relationship further by examining the role of board diversity such as nationality, education, and women representation in improving investment efficiency across different stages of FLC. Through this investigation, the study seeks to contribute to a deeper understanding of how board diversity impacts investment efficiency and overall governance of firms.

1.2.2 Firm Life Cycle, Board Diversity, and Investment Efficiency

The concept of FLC has been a crucial element in understanding corporate behaviour and strategies since the 1970s. The FLC posits that a firm progresses through distinct stages, each characterized by unique challenges, opportunities, and strategic focuses (Habib & Hasan, 2019). According to FLC theory, the FLC is divided into different stages with unique characteristics for each of them (Mueller, 1972), because of the interaction between internal factors such as choosing strategies, financial resources, and administrative decisions, and external factors such as competitive environment and macroeconomic factors (Faff et al., 2016).

According to Dickinson (2011), the FLC consists of five stages: Introduction, growth, maturity, shake-out, and decline. These stages are defined by varying levels of sales, profits, and strategic challenges as illustrated in the figure 1.1 below.

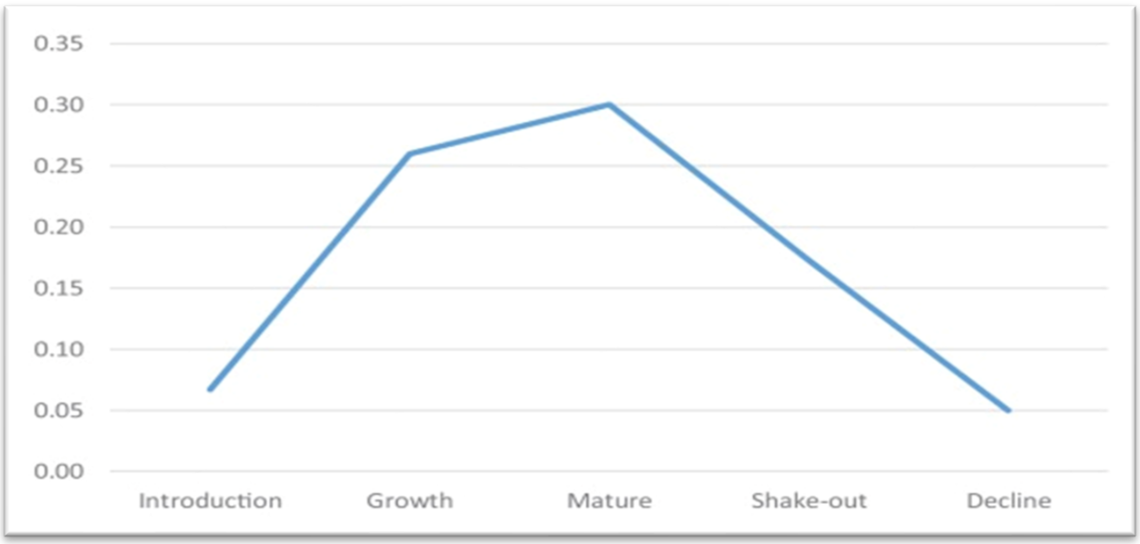

Figure 1.1 Firm Life Cycle Stages
Source: Dickinson (2011)

According to Figure 1.1, in the introduction stage, firms are newly established, focusing on market entry and developing their product or service. Investment is typically directed towards R&D. During the growth stage, firms experience rapid sales growth and begin expanding production capacity and market reach (Dickinson, 2011). As they reach the maturity stage, sales growth stabilizes, and firms focus on maintaining and optimizing existing operations. The shake-out stage sees firms experiencing slowing sales growth and increased competition, necessitating strategic adjustments and efficiency improvements (Faff et al., 2016). Finally, in the decline stage, sales and profits begin to fall, and firms may need to innovate or restructure to survive (Drobetz et al., 2015).

Based on FLC theory, a corporation's ownership structure, organizational behaviour, and corporate strategies are all linked at different periods of its life cycle (Habib & Hasan, 2019; Drobetz et al., 2015). As a result, the company will face a variety of agency problems and resource-seeking issues. Therefore, firms need to allocate their resources effectively to achieve investment efficiency (Ahmed et al., 2020; Graciosa et al., 2020). Moreover, resource allocation decisions should consider the FLC stage, growth prospects, and competitive position (Chuang, 2017; Yoo et al., 2019).

For instance, allocating resources towards high-growth opportunities in the growth stage may yield better returns than investing in declining markets during the mature or decline stages (Khuong et al., 2022). As a result, efficient firms carefully analyse and prioritize investment options based on their potential returns and risks, ensuring that resources are allocated to projects with the highest value creation potential (Saravia, 2014).

Furthermore, risk profiles vary throughout the FLC stages, in accordance with FLC theory (Akbar et al., 2020; Habib & Hasan, 2017). Due to the uncertainties surrounding new ventures and market dynamics, firms in the introduction and growth stages are frequently exposed to higher levels of risk. Risk management becomes essential to preserving investment efficiency in the mature stage (Dickinson, 2011; Habib & Hasan, 2017). Therefore, efficient firms assess and manage risks associated with their investment decisions, incorporating factors such as market volatility, technological disruptions, and competitive threats (Faff et al., 2016; Akbar et al., 2020). This helps mitigate risks that could negatively impact investment outcomes. In this regard, one of the study's contributions is to provide proof of firm’s investment efficiency may respond differently to varying stages of FLC, which confirms the FLC perspective.

On the other hand, investment efficiency can affect a firm's ability to adapt and perform well throughout its life cycle (Habib & Hasan, 2019). For example, inefficient investments can result in wasted resources, missed opportunities, and suboptimal performance. Whereas firms that consistently make efficient investment decisions are more likely to adapt to changing market conditions, capitalize on growth opportunities, and outperform their competitors over time (Al-Hadi et al., 2016). As a result, investment efficiency may affect the FLC, causing this so-called endogeneity problem (Habib & Hasan, 2019).

Regarding to FLC and board diversity, Jawahar and Mclaughlin (2018)argue that the board moves through its life cycle stages, its structure will evolve. When a company is at its start-up stage, the size of the company is normally small, and the founders are also the owners and operators of the firm. The company's survival depends on obtaining the necessary resources to enter the market. When a company is starting off, it is more likely to seek ways to grow (Li & Zhang, 2018).

As the firm grows, the founders might be persuaded to hire outside, seasoned managers to oversee it, leading to a division of ownership and management control. The company is well-established in a variety of business categories and is led by a professional management team. It is at a mature stage, with a slower growth rate. During this time, the company should be able to generate cash flow and raise further capital (Ribeiro et al., 2021; Saravia, 2014). As a result, compared to other stages, it needs fewer external resources. In the decline stage, the firm experiences slower growth and more internal bureaucracy, posing a threat to its survival (Jawahar & Mclaughlin, 2018). This stage requires fewer external resources compared to other stages (Habib et al., 2018). However, to innovate or strategically restructure, the firm will still need external resources (advice).

In summary, the intersection of board diversity and investment efficiency throughout a FLC stages presents a rich area for academic inquiry and practical application. Diverse boards bring a wide array of perspectives, experiences, and skills, which can enhance the quality of decision-making and strategic oversight (Loukil & Yousfi, 2016). In the early stages of the FLC, innovative and risk-taking decisions are crucial, while in later stages, the focus might shift towards stability, optimization, and risk management (Ahmed et al., 2020). Therefore, understanding how board diversity influences investment decisions across these different stages can provide valuable insights for improving corporate governance and ensuring sustained financial health.

Consequently, to complement the extant literature in this field, this study aims to explore the role of board diversity in investment efficiency during the various stages of the FLC, with a focus on firms in the MENA region. Additionally, it aims to provide practical recommendations for policymakers, corporate leaders, and investors on leveraging board diversity to enhance company's investment efficiency and resilience throughout the company's evolutionary journey.

1.2.3 Why Board Diversity Would be an Issue for Companies in the MENA Region?

Due to the growing awareness of its potential advantages for CG and investment decisions, board diversity has grown in importance for companies in the MENA region (Al-Najjar & Clark, 2017). Solomon (2020) emphasizes that strong CG lays the groundwork for successful long-term business operations, which frequently result in improved operational efficiency, lower capital costs, and higher share prices for publicly traded companies. As a result, board diversity is identified as a critical factor in enhancing governance standards and aligning with global best practices in the context of the MENA region, where CG practices have undergone significant changes over the last 20 years (Shehata, 2015).

Nevertheless, a number of socioeconomic, legal, and cultural considerations make the problem of board diversity in the MENA region more complex (Salloum et al., 2019). Table 1.1 indicates that most of the countries in the region do not have laws requiring important components of board diversity, like the representation of women, diversity of nationalities, and educational requirements. Therefore, lack of regulatory pressure could lead to uniform board compositions that do not take advantage of the different viewpoints, experiences, and skill sets that can be brought to bear. Furthermore, certain MENA countries' cultural norms and conventional business practices might make it difficult to increase board diversity, especially when it comes to women's representation and the inclusion of foreign nationals (Farah et al., 2020).

Table1.1 Summary of Regulatory Requirements from Corporate Governance Code for Listed Companies in MENA Region

Country	B. Size	In. D.	CEO separation	Pro. Women Re.	DET. B. Nat	DET. B. Edu.
Saudi	3-11	33% or minimum 2 members	Yes	No	No	yes
UAE	3-11	33%	Yes	20%	Chairman and majority of the board be of Emiratis	yes
Kuwait	More than 5	1 member and no more than 50%	Yes	No	No	No
Oman	5-12	33% or minimum 2 members	Yes	No	No	No
Bahrain	5-15	33% or 3 members	Yes	No	No	No
Qatar	5-11	33%	Yes	No	No	No
Egypt	More than 3	At least 2	Yes	No	No	No
Morocco	3-15	Adequate number	Yes	No	No	No
Tunisia	3-12	Not required	yes	No	No	No
Jordan	5-13	33%	Yes	No	No	No
Lebanon	3-12	Adequate number	Yes	No	Majority of board be of Lebanese	No

Note: B. Size denotes the board size. In. D. denotes the independent directors. CEO Separation denotes the Chair/CEO separation. Pro. Women Re denotes the proportion women representation. DET. B. Nat denotes the determining board nationality. DET. B. Edu. denotes the determining board education level. prepared: by researcher.

Table 1.1 offers a thorough summary of the legal requirements for CG in MENA listed companies. The complex landscape of CG in the region is highlighted by the table 1.1, which shows notable variations in governance practices among various countries. A noteworthy finding is that CEO-Chairman role separation is consistently required in all nations. This is in line with good CG practices, which are meant to prevent conflicts of interest and strengthen checks and balances in the decision-making process (Mishra & Kapil, 2018; Buachoom & Amornkitvikai, 2022).

Table 1.1, however, also reveals important exceptions to the requirement of board diversity. Most of the countries in the region do not have specific requirements for gender diversity, except for the UAE, which mandates 20% women representation on boards. Comparably, there are not many rules regarding the nationality diversity of boards; the only countries that have some nationality-related requirements are the UAE and Lebanon. Moreover, only in Saudi Arabia and the UAE are formal educational requirements for board members stipulated. These results imply that although the MENA area has achieved progress in certain areas of CG, there is still much space for growth in terms of encouraging board diversity. For companies in the area, this disparity offers a chance and a challenge to voluntarily implement more inclusive board composition practices, which could improve their governance frameworks and competitiveness in the international market.

1.2.4 The Middle East and North Africa Region

The MENA region includes a group of countries as defined by International Monetary Fund (IMF) (2020) namely Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Palestine, Sudan, Syria, Tunisia, the UAE, and Yemen. Most of these countries have a common historical and cultural background and speak in Arabic except Iran. This region is known for its numerous natural resources, including oil and gas, which are its most valuable assets and play an important part in the region's economic growth patterns. It has a high number of youthful people in contrast to other developed and rising regions (OECD, 2019). Saudi

Arabia, Kuwait, UAE, Qatar, Oman, Bahrain, Egypt, Morocco, Tunisia, Jordan, and Lebanon are the countries are investigated in the study.

The countries of the MENA region have a lot in common when it comes to culture, history, and geography, but they also differ in a few important ways. The biggest differences are whether or not hydrocarbon resources are present in their borders and the size of their indigenous populations (Alvaredo et al., 2019). The eleven MENA countries can be separated into two groups to better understand this rapidly expanding region: non-oil exporters (Egypt, Morocco, Tunisia, Jordan, and Lebanon) and oil exporters, the GCC. Saudi Arabia, Kuwait, UAE, Qatar, Oman, and Bahrain are the countries involved. Non-oil exporters are characterized by their young and fast expanding populations, moderate to high public debt ratios, and reliance on tourism, remittances, and agriculture. Similar traits shared by GCC nations include significant capital reserves, low debt relative to GDP, and high levels of government spending (Hassine, 2015).

The MENA region is home to 46% of the world's natural gas reserves and nearly 60% of the world's known crude oil reserves, which total 192 trillion standard cubic meters (OPEC, 2018). However, the distribution of hydrocarbon resources is uneven among the countries; Saudi Arabia holds the lion's share of 31% in the region, while only six countries, including Iran, account for 94% of proven oil reserves (Hassine, 2015; Alvaredo et al., 2019).

Except Saudi Arabia, the GCC and Libya—two countries with sparse populations but abundant oil resources—are major draw points for both skilled and unskilled foreign labour. Despite making up only 15% of the MENA region's total population, these resource-rich, labour-importing countries account for nearly half of the region's GDP and have high GDP per capita. The GDP per capita of this subgroup of countries ranges from roughly US$15, 000 in Libya to a very high level of US$88, 000 in Qatar, which is significantly higher than the regional median of US$8, 300 (Alvaredo et al., 2019; Hassine, 2015).

The remaining oil-rich countries account for less than 20% of the GDP of the MENA region and have larger populations—roughly 37% of the total. These countries' average GDP per capita of US$4,600 is significantly less than that of the oil-poor countries, which comprise over 46% of the population and 32% of the GDP (Alvaredo et al., 2019).

The aim of this section is to provide a summary of the economic and financial characteristics of the study population, which include the MENA countries, followed by an overview of the Dow Jones MENA index. This study will use companies within the Dow Jones MENA index as a study sample.

1.2.5 The Dow Jones MENA Index

The largest worldwide source of fundamental index-based ideas, information, and analysis is S&P Dow Jones Indices (S&P DJI), which also houses well-known financial market indicators like the S&P 500, the Dow Jones Industrial Average, and the Dow Jones MENA Index. Since Charles Dow created the first index in 1884, more than one million indices spanning a wide range of asset classes have been housed on the S&P DJI, contributing to the definition of how investors assess and trade the markets. A part of S&P Global, S&P DJI offers crucial information so that people, firms, and governments can make decisions with confidence (Dow Jones Indices, 2020).

One of the S&P DJI's indicators is the Dow Jones MENA Index. The launch is scheduled for September 10, 2009. The MENA region, which includes Saudi Arabia, Kuwait, the UAE, Qatar, Oman, Bahrain, Egypt, Morocco, Tunisia, Jordan, and Lebanon, is monitored by the Dow Jones MENA Index. Roughly 95% of the MENA region's underlying market capitalization is represented by the index. Subject to a 45% maximum overall country weighting, the components are weighted by free float-adjusted market capitalization (Dow Jones Indices, 2020).

Subject to liquidity requirements, all stocks traded and domiciled in the MENA region are included in the index universe. When one of the relevant stock exchanges for an index is open, the Dow Jones MENA indices are computed. The index will not be computed or published for that day if all relevant transactions have been closed for that index. Applicable stock exchanges are Tadawul (Saudi Stock Exchange), Boursa Kuwait, Dubai Financial Market (DFM), Abu Dhabi Securities Market (ADX), NASDAQ Dubai, Doha Securities Market (DSM), Muscat Securities Market (MSM), Bahrain Bourse (BHB), Egyptian Exchange, Casablanca Stock Exchange (CSE), Bourse de Tunis, Amman Stock Exchange (ASE), and Beirut Stock Exchange (BSE) (Dow Jones Indices, 2020).

1.3 Research Problem

The MENA region is confronted with formidable obstacles concerning inefficiency in investments and CG, specifically concerning board diversity (Farah et al., 2021). The World Bank reported that the MENA region's investment efficiency score is 0.6, compared to 0.8 in advanced economies (Arezki et al., 2018). Recent studies have highlighted a concerning trend of inefficient investment in the region (Otero et al., 2020; Christopoulos & McAdam, 2019). Examples of such inefficiencies include the 2009 Dubai World debt crisis (Cheung, 2010) and the 2019 collapse of Saudi Arabia's Saad Group (Mason, 2021), both of which were ascribed to subpar investment choices and insufficient corporate supervision.

Furthermore, Ullah et al. (2020) contend that while a diverse board can increase investment efficiency by serving as a barrier against unethical behaviours, a lack of diversity on the board can result in ineffective investment. This is accomplished by a diverse board by questioning management choices, which may stop negative NPV projects or empire-building impulses (Desai et al., 2005). Diversity on the board can also support long-term, strategic investments like R&D (Kor, 2006). By increasing transparency and coordinating actions with shareholder value, these better investment decisions lessen the information asymmetry that exists between management and shareholders (Kanagaretnam et al., 2007). In the end, a diverse board encourages moral behaviour and wise judgment, which improves the company's investment procedures and makes them more successful.

Though there has been some improvement, board diversity in the MENA region still lags well behind international norms. For example, a 2020 study conducted by the Arab Women Organization discovered that, in publicly listed companies throughout the Arab world, women hold only 3.7% of board seats, while the global average stands at 16.9% (Kemp, 2021). Furthermore, there is a lack of diversity that transcends gender. According to an OECD (2019) reported that only 28% of listed companies in the MENA region and 45% of OECD countries have at least one foreign board member. The lack of diversity in board composition raises questions about the ability of companies in the MENA region to make wise investment decisions and adapt to changing market dynamics.

In this regard, the relationship between board diversity and investment efficiency has been extensively examined by a variety of researchers around the world (Loukil & Yousfi, 2016; Yasser & Mamun, 2015; Adnan et al., 2016); however, their findings are inconclusive. Due to the fact that they ignore the FLC and view the company as a static object (Aktas et al., 2019; Richardson, 2006; Srinidhi et al., 2011). Reality does not support this.

According to FLC theory, every stage of the FLC has a distinctly distinct internal and external environment (Miller & Friesen, 1984; Mueller, 1972; Habib & Hasan, 2017). Corporate strategies, the complexity of systems and structures, managerial skills, and shifting resource requirements are a few of the variations that occur throughout the FLC stages (Jawahar & Mclaughlin, 2018; Esqueda & O’Connor, 2020; Li & Zhang, 2018; Habib et al., 2018). The company will consequently face new agency issues and resource-seeking requirements, and it will be motivated to change its board of directors. Therefore, the board structure at its life cycle stages will change, and hence will influence efficiency of the firm’s investments.

Theoretically, the absence of FCF-induced agency conflicts at the introduction stage of the FLC results in a small board, simple formation, fewer board activities, and an imperfect system (Pham & Pham, 2020). In the growth stage, it is not clear in advance what the demand for monitoring directors will be. Because they are concentrating on innovation and brand development, companies at this stage may need fewer monitoring directors (Li & Zhang, 2018). As a result, the board may be unable to effectively carry out its governance role. However, growth companies are also likely to experience growth-oriented agency conflicts, therefore directors need to be on the lookout for them.

At the mature stage, firms prioritize formal controls, budgets, and performance metrics in addition to generating sufficient profit margins through effective and seamless operation in a cutthroat marketplace (Bonn & Pettigrew, 2009). Nevertheless, firms must deal with agency costs of FCFs (Jensen, 1986). Managers of mature firms often engage in negative NPV projects to stave off layoffs when investment opportunities diminish, and cash flows rise. Therefore, firms require more independent and directorships (Li & Zhang, 2018). As a result, at the mature stage, the board is more crucial in increasing the efficiency of investments.

During the shake-out and decline stages, the company's cash flows decline, reducing the agency costs brought on by FCF (Dickinson, 2011). As a result, monitoring directors is no longer necessary. Monitoring directors also leave these companies' directorial positions in order to preserve their "elite" status in the job market (D'Aveni & MacMillan, 1990). To start making money again, companies try to update their business plans at this stage. Boards' more stringent oversight could hinder the reinvention process (Francis & Smith, 1995).

The literature has established a theoretical relationship between FLC, board diversity, and investment efficiency; however, there is still a dearth of empirical research on this subject. With a thorough empirical analysis of the relationship between board diversity and investment efficiency at different stage of the FLC, this study seeks to close this knowledge gap. Complementary to most studies on boards using data from developed countries, this study intends to investigate how board diversity impact investment efficiency at a different stage of the FLC in the MENA region, which is characterized by a weak internal CG. It is a complement to most studies on boards that use data from developed countries. In contrast to developed countries, MENA's firms are expanding under a governance framework that is inadequate (Piesse et al., 2012; Baydoun et al., 2012). In addition, such research could provide valuable insights for policymakers, investors, and corporate leaders, potentially leading to more effective strategies for enhancing corporate governance, economic growth and more sustainable economic development in the MENA region.

1.4 Research Questions

The purpose of this research is to look at the board diversity in the Dow Jones MENA Index and determine how they relate to investment efficiency at a different stage of the FLC. As a result, the research questions are as follows:

1. Does board diversity index influence investment efficiency in companies listed on the Dow Jones MENA Index?
2. Does board diversity index influence investment efficiency at an introduction stage of the FLC for companies listed on the Dow Jones MENA Index?

3. Does board diversity index influence investment efficiency at a growth stage of the FLC for companies listed on the Dow Jones MENA Index?
4. Does board diversity index influence investment efficiency at a mature stage of the FLC for companies listed on the Dow Jones MENA Index?
5. Does board diversity index influence investment efficiency at a shake-out/ decline stage of the FLC for companies listed on the Dow Jones MENA Index?

1.5 Research Objectives

The aim of this research is to provide a better understanding of the knowledge of the board diversity in Dow Jones MENA Index, and how it affects the firm's investment efficiency at a different stage of the FLC. The study's objectives can be summarized as follows:

1. To investigate the board diversity index impact on investment efficiency in companies listed on the Dow Jones MENA Index?
2. To investigate the board diversity index impact on investment efficiency at an introduction stage of the FLC for companies listed on the Dow Jones MENA Index?
3. To investigate the board diversity index impact on investment efficiency at a growth stage of the FLC for companies listed on the Dow Jones MENA Index?
4. To investigate the board diversity index impact on investment efficiency at a mature stage of the FLC for companies listed on the Dow Jones MENA Index?

5. To investigate the board diversity index impact on investment efficiency at a shake-out/ decline stage of the FLC for companies listed on the Dow Jones MENA Index?

1.6 Significance of the Study

Understanding how board diversity affects investment efficiency at different stages of a FLC is crucial for firms, governments, shareholders, customers, and suppliers, which can be divided into practical and theoretical significance as follows:

1.6.1 Theoretical Significance

This study is one of the first to look at how board diversity affects investment efficiency in the MENA region via the lens of the FLC. By combining these ideas, it expands on the research of academics like Dickinson (2011); Habib and Hasan (2019) and offers a more dynamic and nuanced understanding of corporate governance practices.

Additionally, to contribute to the development of established theories in emerging markets, this study applies and adapts the resource dependence theory, agency theory, and life cycle theory of the firm to the context of the MENA. This responds to calls for more corporate governance research that is context-specific made by scholars such as Piesse et al. (2012).

Furthermore, this study takes a unique approach by fusing (Dickinson's (2011) cash flow-based life cycle classification with multiple dimensions of board diversity (education, representation of women, and nationality) (Carter et al., 2010) and how impacts investment efficiency. The new framework provided by this methodological integration allows for the analysis of how board diversity impacts investment efficiency across different stages of the FLC.

Lastly, companies and governments can assess how well corporate governance standards support sound decision-making by knowing how board diversity affects investment efficiency across the FLC stages (Saravia, 2014). This knowledge can enhance policies and procedures, especially in MENA areas. Businesses can use this information to ensure that board diversity improves investment strategies through strategic planning. Companies can optimize their governance and investment approaches by matching decision-making processes to their current life cycle stage (Ding & Zhang, 2013).

1.6.2 Practical Significance

The study's conclusions may help MENA companies improve overall performance and investment efficiency by strategically allocating their board members based on their stage of the FLC. Furthermore, by providing empirical data on the relationship between investment efficiency and board diversity throughout the FLC stages, the study can help MENA policymakers create CG laws that are more successful.

Furthermore, by taking board diversity and the FLC stage into account when making investment decisions, the findings of this study can help investors assess MENA companies more accurately. Furthermore, the thorough examination of board diversity in MENA-listed companies offers regulators and businesses a benchmarking tool for evaluating and enhancing CG procedures.

In this regard, this study differs from earlier research in several ways. It looks at how board diversity and investment efficiency interact across various the FLC stages, in contrast to other studies that only focus on these topics separately. In the MENA region, where the majority of earlier research have taken a static view of CG (e.g., Loukil & Yousfi, 2016), this dynamic perspective is especially new.

Additionally, unlike previous studies that have frequently concentrated on a single facet of board diversity, like gender (Mirza et al., 2020), our study adopts a multifaceted approach by taking into account nationality, the representation of women, and educational level. This all-encompassing perspective offers a more comprehensive comprehension of the influence of board diversity.

Finally, It close a major gap in the literature by concentrating on the MENA region, since the majority of studies on board diversity and investment efficiency have been carried out in developed markets (Carter et al., 2010). As a result, this study adds to the expanding corpus of knowledge on CG in emerging markets and provides insights that might be useful in other developing nations.

1.7 Scope of the Study

The purpose of this study is to determine the scope of corporate board diversity practices as measured by board nationality, women representation, and board education level, and how it influences their investment efficiency at different stages of FLC in the MENA region are examined.

The study population consists of the MENA region. The MENA region encompasses twenty (21) countries and spans a large geographical area. Many of these countries have common cultural, linguistic, and historical backgrounds. This region is known for its numerous natural resources, particularly its most precious assets, oil, and gas. Meanwhile, these resources play a critical role in the economic development in this region, which has a large young population compared to other developing and emerging regions. Therefore, Saudi Arabia, Kuwait, UAE, Qatar, Oman, Bahrain, Egypt, Morocco, Tunisia, Jordan, and Lebanon are the eleven (11) countries included in the Dow Jones MENA Index (Dow Jones Indices, 2020).

The sample of the study will include the companies that are in the Dow Jones MENA Index. The Dow Jones MENA Indices family measures the performance of the Middle Eastern markets, and various subsets of those markets, targeting 95% of market capitalization coverage at the country level. In addition, constituents are weighted by float-adjusted market capitalization, subject to an aggregate country weight capitalization of 45% (Dow Jones Indices, 2020).

1.8 Definition of the Key Terms

This study defines independent and dependent variables, as follows:

1.8.1 Investment Efficiency

Investment efficiency is the quantity of investments a company makes that have a positive NPV. It means deciding which investments are best to make by exploring opportunities that would increase firm value and rejecting those that would decrease it. It basically evaluates how well a company uses its capital to pursue profitable ventures (Biddle et al., 2009).

1.8.2 Board Diversity

Board diversity is the difference in demographics between the members of a company's board of directors (Carter et al., 2010; 2003), with special focus on board nationality, women's representation, and board educational level.

Board Nationality

The board nationality is defined as the percentage of foreign board members on the board of directors (García Martín & Herrero, 2018; Chen et al., 2023).

Women Representation

The women representation as the influence of the proportion of women on the board of directors, which is derived by dividing the number of women board members by the total number of directors (Benkraiem et al., 2017).