



University of Derby

The moderation and mediation role of employee engagement and dynamic capabilities on leadership decision making and organisational performance in the UAE energy sector

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ABSTRACT

The UAE's energy sector plays a crucial role in the country's economy, making its performance vital for sustainable economic contributions. This study investigates the interrelationship among three key factors: leadership decision-making, dynamic capabilities, and employee engagement. The aim is to provide a comprehensive understanding of the mechanisms driving organisational performance in the UAE Energy Sector's challenging environment. Using a quantitative causal design, the study gathered opinions from 383 strategically placed employees in the UAE energy sector. Having meticulously chose these personnel from several industries, especially focussing on those in grades 13 and higher. Structural equation modelling was utilised to examine the intricate interactions between the variables. A partial least squares structural equation model was employed to evaluate the proposed hypotheses. The findings indicate that leadership decisions have a strong influence on various organisational capabilities. Strong evidence suggests that leadership decisions significantly impact the abilities to coordinate, integrate, learn, and sense. This is shown by high beta coefficients and strong statistical significance in all of these areas. These relationships suggest that leadership plays a crucial role in enhancing the core functions of an organisation by effectively shaping and guiding its capabilities. Each of these capabilities shows a strong positive association with leadership decision-making, highlighting its central importance in the overall organisational structure.

The direct impacts of these capabilities on organisational performance vary. Sensing capabilities show a significant positive relationship with performance, indicating that this capability directly contributes to better outcomes. On the other hand, coordinating, integration, and learning capabilities do not exhibit a significant influence on performance, with some even showing weak or negative relationships. Despite this, leadership decision-making itself has a moderate but significant positive effect on organisational performance, highlighting that, while the direct contributions of certain capabilities may be limited, strong leadership remains a key driver of overall success. This study contributes empirical evidence supporting the integration of social exchange theory, path-goal theory, and toxic triangle theory within a single framework, offering a novel perspective on the intersection of leadership, capabilities, and performance. It underscores the importance of dynamic capabilities as a mediating factor between leadership decisions and organisational outcomes. Furthermore, the research highlights employee engagement as a vital component in this dynamic by advocating for strategies that foster employee commitment and optimise organisational performance. By spotlighting these connections, the study provides actionable insights for leaders within the UAE energy sector to enhance their strategic decision-making processes and cultivate a culture that promotes engagement and adaptability.

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DEDICATION

This research is dedicated to the memory of my beloved parents, whose love, sacrifices, and values have shaped the person I am today. Though they passed away before I embarked on this academic journey, their unwavering belief in my potential and the foundation they laid for my growth have been a constant source of strength and inspiration.

I also dedicate this work to my country, whose progress and prosperity remain a guiding motivation for my efforts. It is my hope that this research contributes in some small way to the development and advancement of our nation.

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LIST OF ABBREVIATIONS

ADNOC	Abu Dhabi National Oil Company
ADWEA	Abu Dhabi Water and Electricity Authority
AI	Artificial Intelligence
APU	Asia Pacific University
AVE	Average Variance Extracted
BI	Business Intelligence
BLSS	Business, Law, and Social Sciences
CA	Cronbach's Alpha
CC	Coordinating Capabilities
CE	Circular Economy
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFO	Chief Financial Officer
COVID-19	Coronavirus Disease 2019
CSR	Corporate Social Responsibility
DBA	Doctor of Business Administration
DEWA	Dubai Electricity and Water Authority
E1-E4	Executive Leadership Grading Levels
EE	Employee Engagement
EFA	Exploratory Factor Analysis
ENEC	Emirates Nuclear Energy Corporation
ENOC	Emirates National Oil Company
ESG	Environmental, Social, and Governance
f2	Effect Size
FEWA	Federal Electricity and Water Authority
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
HR	Human Resources
IC	Integration Capabilities
ICT	Information and Communication Technology
IoT	Internet of Things
IT	Information Technology
KPI	Key Performance Indicator
LC	Learning Capabilities
LDM	Leadership Decision Making
LMX	Leader-Member Exchange
LUCT	Limkokwing University of Creative Technology
ML	Machine Learning
MLQ	Multifactor Leadership Questionnaire
MOE	Ministry of Energy
NOC	National Oil Companies

OP	Organisational Performance
P	P-Value
PESTEL	Political, Economic, Social, Technological, Environmental, and Legal
PGT	Path-Goal Theory
PLS-SEM	Partial Least Squares Structural Equation Modelling
R&D	Research and Development
R2	Coefficient of Determination
R ²	Coefficient of Determination
RBV	Resource-Based View
RO	Research Objective
ROI	Return on Investment
S/N	Serial Number
SC	Sensing Capabilities
SCA	Sustained Competitive Advantage
SD	Standard Deviation
SDGs	Sustainable Development Goals
SEM	Structural Equation Modelling
SET	Social Exchange Theory
SEWA	Sharjah Electricity and Water Authority
SME	Small and Medium Enterprises
SMEs	Small and Medium Enterprises
SMMEs	Small and Medium-Sized Enterprises
SPSS	Statistical Package for the Social Sciences
SWOT	Strengths, Weaknesses, Opportunities, Threats
T	T-Value
TE	Toxic Triangle Theory
TQM	Total Quality Management
UAE	United Arab Emirates
UKM	University Kebangsaan Malaysia
VIF	Variance Inflation Factor
VUCA	Volatile, Uncertain, Complex, and Ambiguous
β	Beta Coefficient

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Chapter One: Introduction

1.1 Background of the study

Sustained organisational performance refers to an organisation's ability to maintain its performance levels for an extended period of time (Mora Cortez & Johnston, 2020). This includes the organisation's ability to consistently meet or exceed its goals and objectives, remain competitive in its industry, and continually improve its performance. The energy sector is a critical industry that provides energy resources to meet the needs of societies and economies around the world (Kamble, Gunasekaran, & Gawankar, 2020). Sustaining organisational performance is essential for companies operating in this sector to remain competitive and meet the demands of customers and stakeholders. There are many factors that contribute to sustained organisational performance. One of these factors is leadership decision-making, which is crucial for the success of any organisation (Ahmad et al., 2021). Leaders should be able to set clear goals, communicate effectively, and inspire and motivate their employees to perform at their best.

Another factor is dynamic capabilities, which are a core component of the resource-RBV of the firm. Dynamic capabilities refer to an organisation's ability to strategically adapt, innovate, and evolve in response to an ever-changing environment (House, 1971). In the context of the energy sector, where market conditions, consumer demands, technological advancements, and regulatory landscapes are in constant flux, these capabilities become particularly salient. These capabilities enable firms not only to respond to immediate external pressures but also to anticipate and shape future market dynamics proactively. House & Mitchell, 1974 highlight the importance of organisations having clear strategic alignments with their goals. Dynamic capabilities facilitate this by enabling companies to understand and leverage their unique strengths in the face of changing industry trends and competition.

Hitt, (2005) underscore that in the energy sector, dynamic capabilities are crucial for driving continuous process improvements, investing in cutting-edge technologies, and rapidly adapting to new regulations. It is through these capabilities that energy firms can achieve and sustain competitive advantages, ensuring long-term viability and performance. Dynamic capabilities thus serve as a critical bridge between an organisation's strategic intentions and its operational execution, providing the flexibility and foresight needed to navigate the complexities of the energy landscape. They involve three core functions: sensing opportunities and threats, seizing

these opportunities through strategic decision-making, and transforming the organisation by aligning its processes and structures with its strategic response.

Leadership as an impressive social phenomenon has emerged in all societies regardless of geography, culture, and nationality (Afsar and Umrani, 2019). The strategic vision and effectiveness of leadership have been at the centre of many studies (Mapetere et al., 2012). Social scientists have sought to explore the characteristics, abilities, behaviours, sources of power, and situational conditions that determine how leaders will influence, motivate, and inspire their subordinates in order to increase their individual and organisational performance and therefore achieve their organisational strategic goals (Akkaya, 2020). Leadership is a subject that has sparked considerable debate and been examined from various perspectives, leading to diverse and sometimes conflicting interpretations within the academic community (Al Samkari and David, 2019). Different studies, associated with various multidisciplinary areas of study, investigate effective leadership decision-making from a strategic perspective. However, despite the wide range of studies, leadership still remains a controversial concept, especially in its multidimensional relationships with organisational performance and stability (Oladele et al., 2013).

Leaders should possess a variety of strategic characteristics in contemporary practise that can positively impact organisational performance (Oladele et al., 2013). These characteristics are linked to strategic visions and goals, with the ability to establish a clear vision for the organisation and align all activities with it being a crucial trait for effective leadership (Sezer, 2022). In today's VUCA (volatile, uncertain, complex, and ambiguous) business environment, the ability to simplify complexity and focus on the right decisions can significantly increase the efficiency of the work environment. Therefore, a leader who has excitement and goals for the future, who can draw a consistent purpose and vision, and who acts accordingly adds value to the organisation (Li et al., 2021). Leaders who have adopted effective leadership decision-making behaviours should have the ability to make critical decisions that move the organisation forward, including change, despite the uncertain environment and lack of information flow (Albrecht et al., 2018). Effective leadership decision-making transcends the mere act of choosing among alternatives. It involves a comprehensive strategy that includes foreseeing the implications of change, preparing the organisation to adapt to these changes, and leveraging the unique capabilities of the workforce to ensure a competitive edge in the market (AlMazrouei, 2023). Such leaders are adept at transforming challenges into opportunities, and they guide their organisations through complexity with confidence and clarity.

Effective leaders provide development while recognising change. Effective leaders have to be willing to take realistic, courageous, but pragmatic decisions, although these decisions are difficult to take because of the external and internal factors affecting the organisations (Norzailan et al., 2016). In order to achieve organisational success and sustain internal stability, the world needs more leaders who can make the appropriate choices (Winn & Dykes, 2019). There is evidence that many bosses fail to inspire their employees to follow them and instead foster a toxic workplace that hampers organisational performance (Collins, 2021). Organisational performance and advancement are severely hindered and occasionally even reversed in such a work environment. Additionally, the environment stifles growth, employees cooperate and comply, and instability spreads throughout the entire organisation.

While emphasising internal factors such as process improvement, structural refinement, and capability enhancement undoubtedly fosters organisational adaptability and flexibility, integrating an external focus into the leadership model is equally critical (Gitu & Awuor, 2020). Strategic leadership, as introduced by Hitt and Ireland, emphasises the importance of balancing internal and external perspectives. This approach involves leaders who not only enhance internal capabilities but also proactively navigate and influence external environmental factors to ensure sustained organisational success in a dynamic business landscape. Recognising and responding to external environmental shifts is not merely a reactive measure but a strategic imperative that enables organisations to maintain relevance and competitive advantage. Leaders could look beyond internal operations in an era of rapid technological advancements, shifting market dynamics, and evolving regulatory landscapes in order to foresee and take advantage of external opportunities and threats.

Fostering a culture that prioritises communication, collaboration, and employee development significantly enhances internal stability, particularly when it aligns with external environmental awareness (Dimovski, 2019). Engaged and satisfied employees, who are indeed more committed and productive, can become powerful advocates and innovators for the organisation when they understand how their roles relate to larger market and societal trends. Therefore, the most successful organisations balance a strong internal focus with a keen awareness of the external environment (Agarwal, 2020). By doing so, they not only enhance employee engagement and satisfaction but also empower their workforce to actively contribute to strategic goals that address both current and emerging external challenges. This holistic approach ensures that organisations are not just internally cohesive and robust but are also agile and proactive in the face of external volatility, securing long-term success and sustainability.

1.2 Rationale and research contributions

The essence of the theoretical and practical contributions of the current research is to bridge the current gap in the relationship between effective leadership decision-making practises and the stability and performance of the organisations operating in the UAE energy sector. The relationship between effective leadership decision-making practises and the stability and performance of the UAE energy sector relies on distinct foundations, a combination not previously studied in a single context. This investigation offers a valuable opportunity to enhance current literature by examining leadership decision-making practises, specifically focusing on organisational dynamic capabilities that can be implemented in the UAE energy sector. These determinants or factors have an important impact on the multi-dimensional roles they play in increasing the levels of performance of organisations. This research contributes to our understanding of the toxic triangle theory (Lorah, 2018), which elucidates how detrimental leadership dynamics, susceptible followers, and conducive environments converge to negatively impact organisational performance. These factors significantly influence their multifaceted roles in shaping organisational outcomes. This model describes the connection between the environment, leadership nature, and organisational capabilities within an organisation, aiming to enhance organisational performance.

This study, by addressing the central gap concerning the role of effective leadership decision-making in organisational performance, provides a solid foundation for future research in this area. The research provides valuable insights into leveraging leadership decision-making to enhance organisational performance in the UAE energy sector. This investigation was particularly beneficial to the UAE energy sector and its major stakeholders in ensuring sustained performance, counteracting the adverse effects of the global pandemic, and other industry challenges. The study provides essential knowledge on enhancing organisational performance through well-structured decision-making that involves both top management and operational employees. The research results, perceptions, and the depth and critical context of this study led to the proposal of a practical model with solid and rational foundations. These contributions have been generated within a legitimate and valid framework that aligns with a constructive and developmental plan for the UAE energy sector.

1.3 Research Gap

The research landscape surrounding leadership and organisational performance, particularly in the energy sector, presents a nuanced gap that this study seeks to address. A primary concern is the scarcity of models that integrate leadership decision-making with organisational dynamic capabilities to explain their collective impact on organisational performance (Ben Sedrine, Bouderbala, Ben Romdhane, & Ghozzi, 2021). This gap is problematic because, in dynamic and highly competitive environments like the UAE energy sector, the integration of leadership decision-making and dynamic capabilities is critical for increasing organisational agility (Åberg & Shen, 2019). Organisations with leaders who energise and activate dynamic capabilities are better equipped to sense, adapt, and respond to rapidly changing market conditions and technological advancements (Pitelis & Wagner, 2019). Without this integration, organisations risk stagnation, decreased competitiveness, and missed opportunities for innovation (Akkaya, 2020).

The current state of leadership in the UAE energy sector lacks a focused emphasis on leveraging dynamic capabilities effectively. While leadership decision-making is well-documented as a driver of organisational success (Al Samkari & David, 2019), the mechanisms by which it impacts organisational performance, particularly through the mediation of dynamic capabilities, remain underexplored (Abbas, Raza, Nurunnabi, Minai, & Bano, 2019). Dynamic capabilities, such as sensing opportunities, learning, integrating knowledge, and coordinating resources, are essential for maintaining agility and achieving sustained performance in the energy sector (Teece, 2018). However, existing research does not adequately identify the specific types of dynamic capabilities that are most impactful or provide clear strategies for their activation and optimisation (Anand, Coltman, & Sivarajah, 2020).

Furthermore, the role of employee engagement as a moderator in this relationship remains understudied. Employee engagement is crucial for energising and operationalising dynamic capabilities, yet its potential to strengthen the link between leadership decision-making and organisational outcomes is often overlooked (Al Samkari & David, 2019). Research suggests that organisations with high employee engagement exhibit greater adaptability and resilience, reinforcing the importance of integrating leadership and engagement strategies to optimise performance (Bamel & Bamel, 2018).

By exploring these dynamics, this study aims to bridge the identified gaps and provide a robust framework for aligning leadership actions with dynamic capabilities, ultimately enhancing organisational agility and performance. To achieve this, the study builds on foundational theories, such as the Toxic Triangle Theory, which traditionally highlights the adverse impacts of destructive leadership, by examining the role of positive leadership behaviours in fostering employee engagement and dynamic capabilities (Padilla, Hogan, & Kaiser, 2007). Additionally, Social Exchange Theory and Path-Goal Theory provide a basis for understanding the interplay between leadership styles, employee relationships, and organisational results (House, 1971; Cropanzano & Mitchell, 2005). Combined with Dynamic Capabilities Theory, this research provides a comprehensive understanding of how leadership decision-making, dynamic capabilities, and employee engagement can synergistically drive organisational success in the UAE energy sector (Teece, Pisano, & Shuen, 1997).

By addressing these gaps, this study not only contributes to theoretical advancements but also offers practical insights for developing a more agile, responsive, and high-performing energy sector in the UAE (Sezer, 2022).

Aim of the research

The overarching aim of this research is to develop and present a comprehensive model that elucidates the multifaceted impact of leadership decision-making on the organisational dynamic capabilities and performance of organisations within the UAE's energy sector. This model seeks to integrate a broad spectrum of variables under the umbrella of dynamic capabilities, specifically sensing capabilities, learning capabilities, integration capabilities, and coordinating capabilities, and examine how these capabilities, influenced by leadership decision-making, drive organisational performance. By focusing on the direct and indirect effects of leadership decision-making on organisational dynamic capabilities, this research aims to provide deeper insights into the mechanisms through which leadership actions shape organisational agility and adaptability.

Furthermore, the study explores the nuanced roles that employee engagement plays in moderating these relationships, emphasising its potential to enhance the effectiveness of leadership decision-making and dynamic capabilities. Through a systematic investigation of these dynamics, the research endeavours to offer a deeper understanding of the critical factors that underpin success in the UAE energy sector. By proposing a strategic framework that aligns

leadership actions with dynamic capabilities, the study seeks to optimise organisational outcomes and address key gaps in the literature. The design of this ambitious goal encompasses all study objectives, offering a comprehensive perspective that encapsulates the essence of the research title and addresses the complexities of leadership and organisational performance in the energy sector.

1.4 Objectives of the study

- RO (1):** To investigate the impact of leadership decision-making on organisational dynamic capability in the UAE energy sector.
- RO (2):** To identify the moderating role of employee engagement on the relationship between leadership decision-making and organisational dynamic capability in the UAE energy sector.
- RO (3):** To examine the role of leadership decision-making on organisational performance in the UAE energy sector
- RO (4):** To test the mediation role of organisational dynamic capability on the relationship between leadership decision-making and organisational performance in the UAE energy sector
- RO (5):** To propose a model of sustained energy sector performance based on decision-making and dynamic capabilities in the UAE.

1.5 Research hypotheses

The research hypotheses represent tentative assumptions that are presented in order to answer the research questions initially. The researcher bases these assumptions on contemporary literature, research propositions, and their expectations, measuring their validity in subsequent stages of the practical study. By examining the relationships between leadership decision-making, employee engagement, and organisational dynamic capabilities within the UAE energy sector, these hypotheses aim to fill existing gaps in the literature. To test these hypotheses, data collection instruments were developed and employed to measure the variables involved. The findings of this research either support or refute these hypotheses, reflecting the realities observed in the energy companies operating in the United Arab Emirates. These hypotheses are:

Hypothesis 1: Leadership decision-making has a significant impact on organisational dynamic capability in the UAE energy sector

Hypothesis 2: Employee engagement has a significant moderating role in the relationship between leadership decision-making and organisational dynamic capability in the UAE energy sector

Hypothesis 3: Leadership decision-making has a significant impact on organisational performance in the UAE energy sector

Hypothesis 4: Organisational dynamic capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4a: Sensing capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4b: Learning capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4c: Integration capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4d: Coordinating capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

1.6 Terms of Definition

In order to ensure consistency and clarity throughout the thesis, it is essential to define key terms such as dynamic capabilities, leadership decision-making, organisational performance, and other relevant terms. The study will establish its theoretical foundation with these definitions, which will guarantee the consistent application of key concepts in the analysis and interpretation of the research findings. The definitions are derived from established literature and are contextualised to fit the focus of the study.

1.7.1 Dynamic Capabilities

Dynamic capabilities refer to organisational processes that enable firms to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, 2007). They involve the ability to sense opportunities and threats, seize possibilities, and maintain competitiveness through the reconfiguration of resources (Pavlou & El Sawy, 2011). These capabilities are particularly critical in industries characterised by high volatility, such as the energy sector, where organisations must quickly adapt to market changes, technological advancements, and regulatory pressures (Laaksonen & Peltoniemi, 2018). This study will measure dynamic capabilities based on the dimensions of sensing, seizing, and transforming capabilities, as defined by Teece (2007) and Pavlou and El Sawy (2011).

In this study, Organisational Dynamic Capability refers to an organisation's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. This definition is derived from existing scholarly discussions on dynamic capabilities, emphasizing their role in sustaining competitive advantage and organisational agility (see Section 2.5 The Concept of Dynamic Capabilities in Organisational Performance for a detailed discussion of the theoretical foundations and empirical findings related to dynamic capabilities).

1.7.2 Leadership Decision-Making

Leadership decision-making refers to the cognitive processes through which leaders evaluate information, weigh alternatives, and make strategic choices that influence the organisation's direction (Pisapia, Reyes-Guerra, & Coukos-Semmel, 2005). Decision-making can be rational, based on systematic analysis, or intuitive, relying on experience and judgement (Beske, 2012). This study will examine leadership decision-making through the lenses of systems thinking, reframing, and reflection, three key dimensions that enable leaders to make effective, holistic decisions in complex environments (Pisapia et al., 2005; Lee, 2021).

For the purpose of this study, Leadership Decision-Making is defined as the process by which leaders analyse information and make strategic choices that impact organisational performance. This definition is selected based on a review of relevant literature, particularly in Section 2.3 Leadership Decision-Making and Its Influence on Organisational Performance, where different conceptualizations of leadership decision-making and its effects on organisational strategy and outcomes are discussed.

1.7.3 Organisational Performance

"Organisational performance" refers to the ability of an organisation to achieve its objectives efficiently and effectively. It encompasses both financial metrics, such as profitability and return on investment (Ellinger & Ellinger, 2021), and non-financial metrics, such as customer satisfaction, employee engagement, and operational efficiency (Judge & Long, 2012). This study will evaluate the overall success of the organisation by combining financial and non-financial indicators.

For this study, Organisational Performance is conceptualised as the overall effectiveness of an organisation in achieving its strategic objectives, including financial outcomes, operational efficiency, and employee satisfaction. This definition aligns with performance measurement frameworks discussed in the literature, particularly in relation to leadership and dynamic capabilities (see Section 2.7 Organisational Performance).

1.7.4 Employee Engagement

Employee engagement is defined as the degree to which employees are emotionally and cognitively invested in their work and organisation (Schaufeli, Bakker, & Salanova, 2006). Engaged employees demonstrate high levels of energy, dedication, and involvement in their tasks. Three dimensions typically measure employee engagement: vigour, dedication, and absorption (Krasikova et al., 2013). This study will assess employee engagement, a crucial factor influencing organisational performance, based on these dimensions.

Employee Engagement, as considered in this research, is defined as the extent to which employees are emotionally and cognitively invested in their work, contributing to both individual and organisational success. This definition is based on a synthesis of engagement theories and empirical studies, which highlight its moderating role in leadership effectiveness and organisational performance (see Section 2.6 The Role of Employee Engagement in Leadership and Organisational Performance for supporting literature and theoretical perspectives).

1.7.5 Organisational Agility

"Organisational agility" refers to the ability of an organisation to rapidly respond to changes in the external environment by quickly reconfiguring its strategies, structures, and processes (Blau, 1964). Agility is increasingly important in industries that face frequent market

disruptions and technological advancements, such as the energy sector. Organisational agility will be considered in this study as a key outcome of dynamic capabilities and leadership decision-making that reflect the organisation's capacity for flexibility and resilience (Aminu and Mahmood, 2015).

1.7.6 Organisational Culture

Organisational culture refers to the shared values, beliefs, and norms that influence the behaviour of individuals within an organisation (Ning & Kwak, 2022). It significantly shapes decision-making processes, employee engagement, and the organisation's ability to adapt to external changes. For this study, organisational culture will be examined as a mediating variable that affects the relationship between leadership decision-making and organisational performance, as certain cultural attributes may either facilitate or hinder dynamic capabilities and agility (Bethlehem & Biffignandi, 2012).

Chapter Two: Literature Review

2.1 Introduction

This chapter presents a review of the literature supporting the study. It commences with a list of definitions for the area of study. The presentation begins with the context or background of the UAE energy sector. The study pays close attention to the concept of leadership in modern organisations, the concept of decision-making, and contemporary models of decision-making. The study presents its theoretical framework, which encompasses three main theories: the social exchange theory for strategic management, the path goal theory for employee management in volatile sectors, and the toxic triangle (Lubis, 2022). The present study discusses the theoretical foundations. Other important themes covered include the need for internal stability and the subcomponents of employee motivation, retention, and engagement. Sub-themes and discussions supporting the research questions and hypotheses follow the presentation of the conceptual framework at the end of the review.

The developed research model is based on diverse and related foundations and principles, which serve as an integrative framework for applying effective leadership decision-making practises in a critical context. The essence of this model is based on important elements represented in organisational structures: quality management, organisational learning and development, competition, organisational capabilities, and employees' engagement. The research investigation selects these elements based on their significance and the existing gap in the relevant literature. A thorough search process led to the identification of these elements as the research's pillars, highlighting a gap in the literature on leadership practises in these areas, particularly within the context of the United Arab Emirates. In this context, the model presented in this study plays a significant and pivotal role in understanding the research pillars. The focus was on the UAE energy sector, which is one of the most important sectors in the country. The study aimed to develop effective leadership decision-making practises to enhance the growth of this sector, by focusing on the practises investigated in this study.

2.2 Overview of the UAE Energy Sector

The UAE Energy Sector has shown some positive developments over the years even though regulatory and cost challenges remain (The Economist, 2017). At the national and individual Emirates level, a number of plans have been installed to generate a larger portion of national energy demands from renewable energy sources in the distant future. The Dubai government, for instance, aspires to supply over 75% of its energy from renewable sources by 2050 in a project that cost over AED 600 billion (Mubarak & Yusoff, 2019; Hadadian & Zarei, 2016). The Abu Dhabi government, on the other hand, aspires to generate over 20% of power from renewable sources by 2040 (Macey & Schneider, 2008). Aside from these benchmarks, main sustainable projects ongoing in the region include the Mohammed bin Rashid al-Maktoum Solar Park, the Hassyan Clean Coal Power Plant, and the Barakah nuclear power plant (Saadi, 2015). Through sustainable energy production, the country stands poised to reduce national carbon footprints (Faraci, Lock, & Wheeler, 2013).

Dynamic capabilities are critical for the UAE energy sector to maintain its competitive advantage and adapt to changing environments. The energy sector is constantly evolving, with new regulations, policies, and technologies shaping the industry (Agha et al., 2012). Therefore, the firms that possess strong dynamic capabilities are better positioned to adapt to these changes and maintain their performance over time. The development of dynamic capabilities requires a combination of sensing capabilities, learning capabilities, integration capabilities, and coordinating capabilities (Hernández-Linares et al., 2021). Therefore, this study examines how the firms in the UAE energy sector are developing their dynamic capabilities and what factors are contributing to their success or failure in this regard. While dynamic capabilities are critical for organisational success, it is important to understand how they translate into actual performance outcomes, such as financial performance, customer satisfaction, and operational efficiency. By understanding this relationship, firms in the UAE energy sector can improve their performance over time. By examining the development of dynamic capabilities and their relationship with performance outcomes, firms can maintain their competitive advantage in a rapidly changing industry.

The relationship between leadership, professional engagement in the UAE energy sector, and the ability to develop human resources management practises has become increasingly necessary. Therefore, it is important to understand how leaders in the UAE's energy sector influence their followers to achieve organisational goals. By studying this relationship, the

current study aims to identify mechanisms through which leadership decision-making can influence the development of dynamic capabilities and, ultimately, sustained organisational performance in the energy sector. The relationship between leadership and employee engagement is critical for organisations to achieve sustained performance over time. Employee engagement can lead to higher levels of motivation, commitment, and productivity, which in turn can improve organisational performance. Effective leadership can create a supportive work environment, provide employees with development opportunities, and foster a culture of innovation, all of which can contribute to higher levels of employee engagement. In this sense, leaders in the UAE energy sector can enhance organisational performance by clarifying expectations, providing necessary support, and rewarding achievements (Adoli & Kilika, 2020).

Energy authorities, departments, agencies, and corporations in the UAE may be grouped into two main areas: (1) energy policy development and implementation and (2) energy service delivery. In the area of policy development and implementation, two main ministries have been involved. MOE is responsible for energy policy development and implementation. The ministry is made up of several departments, including the Energy Efficiency and Conservation Department, Clean Energy and Climate Change, and Group Environment, Health, and Safety (Farrow, 2020). The Federal Authority for Nuclear Regulation is the regulatory body for the nuclear sector in the UAE (Buglear, 2007).

In the area of energy service delivery, state corporations play a significant role in oil and gas production and supply. Leading government corporations in this area include ADNOC, ENOC, and Emarat (ALI ET AL., 2018). In the nuclear energy domain, ENEC is the only corporation managing nuclear energy supply (BOLLEN, 1989). Even though the Barakah Nuclear Plant, the first nuclear power plant in the UAE operating under the Emirates Nuclear Energy Corporation, is not yet operational, the plant is scheduled to commence operations in 2017-2020. At the general power supply level, DEWA, ADWEA, SEWA, FEWA (FARROW, 2020).

2.3 Contemporary leadership decision-making

Numerous studies and investigations conducted in recent decades have reflected the growing acceptance of contemporary leadership practises in the UAE work environment context

(Agarwal & Gaule, 2020; Alyileili, 2020). Studying effective leadership decision-making can be associated with organisational and strategic planning, and it is an integral part of the essence of the UAE energy sector, contributing to a large extent to the success and sustainability that are desired for organisations (Chaib Lababidi et al., 2020).

Future implementation of various transformations may present different challenges for effective leadership decision-making. Some of these challenges include rapid technological advancements, evolving workforce demographics and expectations, sustainability and climate change, increasing geopolitical uncertainty, cybersecurity and data privacy, and changing regulatory landscapes (Agarwal & Gaule, 2020). Emerging technologies, such as artificial intelligence, robotics, and advanced analytics, are reshaping industries and creating new opportunities and risks. Leaders need to stay abreast of these developments and make informed decisions on how to leverage technology effectively to drive innovation and remain competitive.

As the workforce becomes more diverse and multigenerational, leaders will have to create inclusive work environments that cater to different needs and expectations. In order to attract and retain top talent, they may also need to address the growing demand for work-life balance, remote work, and flexible working arrangements. Growing concerns about climate change and sustainability have led organisations to implement more environmentally friendly practises and transition to low-carbon, renewable energy sources (IPCC, 2021; Markard, 2020). Research highlights that organisations in energy-intensive sectors are increasingly incorporating sustainability into their decision-making frameworks to comply with global climate agreements and stakeholder expectations (Kolk & Pinkse, 2019; Ren et al., 2022). Leaders may make strategic decisions that balance economic growth with environmental and social responsibilities, as sustainable leadership requires a long-term approach that integrates economic, environmental, and social performance (Avery & Bergsteiner, 2011; Bansal & DesJardine, 2014). Research suggests that organisations that incorporate sustainability into leadership decision-making experience increased resilience and stakeholder trust, particularly in resource-intensive industries such as energy (Eccles et al., 2014; Ren et al., 2022).

Global political tensions and trade disputes can have a significant impact on the energy sector. Leaders need to be prepared to navigate these complex and often unpredictable situations, making decisions that ensure the stability and resilience of their organisations. As organisations become more dependent on digital technologies, the risk of cyberattacks and data breaches increases. Leaders need to prioritise cybersecurity and data privacy by making critical decisions

to protect their organisations from potential threats and safeguard sensitive information. Regulatory changes, both locally and internationally, significantly impact the energy sector, particularly in nations striving for sustainability transitions. In the UAE, the Energy Strategy 2050 outlines ambitious targets to increase clean energy usage to 50% by 2050, affecting corporate decision-making and investment strategies in the sector (UAE Ministry of Energy & Infrastructure, 2017). Additionally, compliance with international agreements, such as the Paris Climate Agreement, continues to drive regulatory shifts that shape energy policy and operational practises in the region (IEA, 2021).

The challenging dimensions of developing and promoting effective leaders can be considered a significant issue for the future of organisations (Hunitie, 2018). Future events are likely to be characterised by change, and effective leadership decision-making plays a crucial role in driving this change. Organisations prepared for the future will adopt two levels of functioning: one for current operations and another for future operations. At the level of effective leadership decision-making in an organisation, strategic information and perspective teams should collaborate effectively with subordinates to anticipate change and ultimately influence its trajectory (Mubarak & Yusoff, 2019). The organisation's transformations, reflected in various domains, such as technology, concepts, or organisational structure, strongly influence the skills of effective leaders and their ability to lead change.

Table 2.1 presents comprehensive definitions of strategic leadership, encompassing various aspects such as skills and competencies, communication, adaptability, visionary capabilities, and responsiveness to external factors. Various authors have explored the definition of strategic leadership. Ireland and Hitt (2005) define strategic leadership as a set of unique capabilities, including anticipating, envisioning, maintaining flexibility, strategic thinking, and empowering employees to generate innovative ideas that ultimately lead to high performance. In a more recent perspective, Shao (2019) defines strategic leadership decision-making as a leadership style where the leader influences the achievement of a desirable future vision. They shape the organisational culture, acquire necessary resources, plan and organise changes through policies and guidelines, and establish consensus in a complex and uncertain global environment full of opportunities and threats.

Table 2.1: Strategic leadership definitions

Author(s)/year	Definition
(Ireland & Hitt, 2005)	Strategic leadership is a set of unique capabilities of anticipating, envisioning, maintaining flexibility, thinking in a strategic way, and empowering employees to generate innovative ideas that lead to high performance.
Shao (2019)	Strategic leadership decision-making is a leadership style in which the leader influences the achievement of a desirable vision of the future, shaping the organisational culture, acquiring resources, planning and organising changes through policies and guidelines, and establishing consensus within a complex and uncertain global environment, marked by opportunities and threats

In this context, various studies have aimed to analyse the concepts of leadership and emphasise the essential characteristics and strategies required by a successful leader. According to Alkhatib and Valeri (2022), in competitive markets with constant changes, organisations increasingly need resources and intellectual capital to provide a competitive advantage. Bamel and Bamel (2018) add that the analysis of organisations and their competitiveness serves as a warning for companies to seek the necessary resources and capabilities that sustain their competitive advantages through strategic management throughout the organisation. In The current organisational landscape recognises entities as environments that foster individual development by closely linking productivity, profitability, and effective teamwork. According to Ababneh & Macky, 2015, managers' and employees' roles are becoming increasingly pivotal, serving as key sources of competitive advantage in a globalised economy.

Alayoubi et al. (2020) define effective leadership decision-making as a personal competency to foresee, visualise, maintain flexibility, think strategically, and work with others to initiate changes that enable the future of the organisation. Newman et al., 2017 reinforce the idea by arguing that leaders have a unique ability to change or reinforce existing patterns of action within the organisation. Therefore, effective leaders may create an organisational context where learning can take place because they have the capacity to adapt. Mahdi and Hayter & Cahoy, 2018 outlined the essential qualities required for successful leadership decision-making in the evolving competitive landscape. Effective leaders possess the ability to: set a strategic course, cultivate dynamic key competencies, prioritise and leverage human resources, invest in the advancement of new technologies, institute balanced organisational oversight, construct and sustain a productive organisational culture, and adhere to ethical standards (Doz, 2020). Fundamental competencies serve as a company's assets and abilities, providing a competitive

edge over rivals. To gain this advantage, organisations may excel at critical tasks and develop adaptable core competencies. Therefore, the organisation should integrate strategy and leadership at the highest levels. Leaders may embrace strategy as the core of their obligations. Experts and academics have identified efficient leadership decision-making as crucial for executing shifts in strategic initiatives within businesses (Iansiti and Lakhani, 2020). Proficient leadership decision-making entails the capacity to foresee, conceptualise, and maintain adaptability in an organisation's comprehensive management via individuals, while also possessing the skills to delegate authority to initiate and address strategic changes when needed (AlMazrouei, 2023).

Effective leaders may have essential skills including the ability to anticipate (signs of change, develop networks, plan scenarios) (Hunitie, 2018); the ability to challenge (focus on the causes of the problems and not on the symptoms); the ability to interpret (simplify and synthesise information, recognise reference patterns, observe); the ability to decide (in times of uncertainty with incomplete information and little time to decide) (Samimi et al. 2020); the ability to align (facilitate conversations to raise areas of misunderstanding and resistance); and the ability to learn (promote a culture of inquiry, analyse cases of success and failure) (Alayoubi et al., 2020). Effective leadership is crucial as it serves as a robust intellectual framework, acting as a counterbalance to the competitive forces that shape and guide the strategy. However, effective leadership decision-making is a process that is based on monitoring the organisation's internal and external environments, analysing competitive trends in the industry, detecting emerging market opportunities, building company resources and capabilities, identifying business threats, and structuring a vision for the future that will adapt, evolve, and prevail in an uncertain environment (Birasnav & Bienstock, 2019).

The dominant approach in strategic formulation and implementation is the classic strategic model of management. The highest level of management bases this model on a top-down approach, implementing strategic decisions throughout the organisation in four steps (Birasnav & Bienstock, 2019). The first step in the classic strategy model is to analyse an organisation's internal and external environments to identify strengths, weaknesses, opportunities, and threats. The second step is to develop a strategy that aligns with the organisation's goals and objectives and takes into account an analysis of its internal and external environments. The third step is to implement the strategy throughout the organisation, which includes allocating resources, creating policies and procedures, and communicating them to employees. The fourth step is to evaluate the effectiveness of the strategy and make any necessary adjustments (Ferlie &

Ongaro, 2022). The competitive environment's turbulence, which has increased complexity and uncertainty in the strategic directions of organisations, has no longer made strategy formulation solely the responsibility of senior management. It now involves the entire human capital of the organisation, as everyone internalizes knowledge to search for sustainable, competitive advantages (Ben Sedrine et al., 2021).

Effective leadership decision-making involves anticipating, foreseeing, and maintaining flexibility in the overall administration of the organisation through individuals and power delegations, which enables the creation and management of strategic change when necessary (Pitelis and Wagner, 2019). Lee et al. (2019) identifies human capital defined as the collective quality of an organisation's human resources as a critical determinant of a company's success or failure. To satisfy company needs, combined participation is important, which includes identifying the worker's early potential, improving the strengths and complementing skills through team leadership, and turning the group into a high-performance one. In an organisation, the quality of its human resources is considered the most important factor that determines the success or failure of each institution and forms the basis for the concept of human capital (Fontoura & Coelho, 2020).

The resource-RBV of the firm argues that a firm's CA. Resources refer to the tangible and intangible assets that a firm possesses, such as physical assets, human resources, and brand reputation (Donnellan & Rutledge, 2019). Capabilities, on the other hand, refer to the firm's ability to use its resources to achieve competitive advantage, such as the ability to innovate, develop new products, or provide superior customer service. In the resource-RBV, SCA when they meet the VRIO criteria: value, rarity, imitability, and organisation. Valuable resources and capabilities enable a firm to create value for its customers, which in turn leads to a competitive advantage (Collins, 2021). Competitors rarely find rare resources and capabilities, giving the firm a unique advantage. Inimitable resources and capabilities are difficult for competitors to replicate due to unique historical conditions, causal ambiguity, or social complexity. The firm cannot easily replace non-substitutable resources and capabilities with other resources or capabilities, thereby ensuring their continued strategic importance.

While tangible resources are important for a firm's performance, it is often intangible resources and capabilities that provide a sustained competitive advantage. Intangible capabilities, such as a firm's ability to innovate or create new business models, are often difficult for competitors to replicate (Lubis, 2022). A firm's culture, leadership, and management practises can develop

these intangible capabilities. By focusing on developing and leveraging these resources and capabilities, firms can achieve and sustain competitive advantage in their industry.

The systems theory considers the open system, and effective leadership decision-making has always looked externally (Cortez & Johnston, 2020). However, the classic strategic management model has been criticised for its mechanistic approach and closed systems thinking, which can limit an organisation's ability to adapt to changing environments and achieve a sustained competitive advantage. Open systems theory recognises that organisations are part of a larger environment and may continuously adapt to changes in that environment to survive and thrive (Zahra, 2021). This requires a more flexible and adaptable approach to strategic decision-making that takes into account the complexity and unpredictability of the external environment.

The closed-systems thinking of the classical strategic model tends to prioritise short-term goals while neglecting long-term organisational sustainability (Senapathi & Drury-Grogan, 2021). This approach assumes that organisations operate in a stable and predictable environment, limiting their ability to respond effectively to external changes. Consequently, organisations that adhere strictly to a closed-system perspective may struggle with innovation and exhibit reluctance to adapt to evolving market conditions. To overcome these limitations, an open systems approach to strategic decision-making is essential. Open systems thinking acknowledges the complexity and dynamism of the external environment, enabling organisations to incorporate flexibility and responsiveness into their strategies (Emarat, 2015). This perspective fosters adaptability, continuous learning, and innovation key factors that contribute to long-term success.

In response to these challenges, leadership must evolve to embrace a system thinking approach, incorporating reframing and reflection as fundamental dimensions of decision-making. These three dimensions systems thinking, reframing, and reflection have been widely explored in the literature as essential components of effective leadership in dynamic environments. Systems thinking provides a holistic view of organisational challenges, allowing leaders to understand the interdependencies within and beyond the organisation (Pisapia et al., 2005). Reframing enables leaders to shift perspectives and consider alternative solutions, promoting creative problem-solving and innovation (Walter, 2016). Reflection serves as a critical self-assessment tool that helps leaders evaluate past decisions, learn from experiences, and refine their strategic approaches (Mohammed & Al-Abrow, 2023). These dimensions collectively support a leadership style that prioritises flexibility, creativity, and adaptability.

The discussion of open and closed systems in this study aligns with the broader theoretical framework by emphasising the importance of dynamic capabilities and leadership decision-making in navigating complex organisational landscapes.

However, while the classic strategic model has its limitations, it is important to recognise that open system thinking and external focus have always been part of effective leadership decision-making. However, in today's dynamic and complex environment, it is more crucial than ever to adopt an open systems approach to strategic decision-making to ensure sustained competitive advantages and long-term organisational sustainability.

Strategic decisions, made by a top management team with the necessary capabilities and competencies, represent a critical element of organisational success (Pitelis & Wagner, 2019). Factors that define environmental sources, such as organisational structure and the degree of product differentiation, primarily influence the top manager's decisions. The characteristics of an organisation, such as its size, resources, and culture, can serve as additional external determinants (Condon, 2019).

Effective leaders make strategic decisions that are crucial to gaining a competitive advantage, which significantly impacts an organisation's culture. These leaders understand the importance of aligning strategic actions with the company's vision and goals to foster a culture of continuous improvement and innovation. For instance, decision-making processes that prioritise agility and adaptability can lead to a more responsive and dynamic organisational culture (Yukl & Mahsud, 2010; Canëls et al., 2019). Furthermore, by fostering a culture of trust and empowerment, leaders can enhance employee engagement and motivation, which are critical for achieving strategic objectives (Khan & Ullah, 2019; McCauley & Fick-Cooper, 2019). The interaction between strategic decision-making and organisational culture creates a synergistic effect that drives a sustained competitive advantage (Jones & George, 2018; Barney & Hesterly, 2019). In most organisations, the complexity of the challenges and the need for substantial amounts of information and knowledge necessitate effective leadership decision-making. In this context, Müller et al. (2021) argue that the quality of strategic decisions made by a top management team affects the company's ability to innovate and make changes necessary for its success.

In contrast, transformational leaders focus on inspiring and motivating their employees to transcend their personal interests and work toward a collective goal that aligns with the organisation's vision and values. They achieve this through inspirational communication, intellectual stimulation, individual consideration, and idealised influences (Northouse, 2018).

Unlike transactional leaders, who primarily rely on rewards and punishments to motivate their subordinates, transformational leaders use a range of techniques to intrinsically motivate their employees (Judge & Piccolo, 2018). Effective leadership integrates both transformational and strategic leadership elements. Transformational leadership is characterised by a leader's ability to inspire and engage employees, create a shared vision, and foster an environment where employees feel valued and motivated to contribute to the organisation's success (Bass & Riggio, 2006; Yukl, 2013). Research indicates that transformational leaders enhance employee motivation and job satisfaction through intellectual stimulation and individualized consideration, which are key components of this leadership style (Podsakoff et al., 1996; Antonakis & House, 2014). On the other hand, strategic leadership aligns an organisation's vision with its strategic goals, ensuring the effective use of resources to achieve long-term objectives (Khan & Ullah, 2019). Transactional leaders focus on clarifying goals, organising tasks, and offering rewards based on performance, whereas transformational leaders inspire and motivate employees toward a collective goal (Farrow, 2020). Transformational leadership aims to align the leader with organisational strategy, making the leader's role crucial to validating organisational planning. Research indicates that transformational leaders play a critical role in developing and executing strategic plans by fostering vision alignment and organisational adaptability (Boal & Hooijberg, 2001; Vera & Crossan, 2004). Their ability to inspire employees and create a culture of continuous improvement makes them particularly valuable in dynamic industries (Avolio & Bass, 2004; Ghasabeh et al., 2015). This leadership style is particularly relevant in contemporary work environments, which are characterised by fewer hierarchical, more flexible, and team-oriented structures (Ghasabeh et al., 2015; Gandolfi & Stone, 2018).

Many people use the transformational leadership approach to address leadership phenomena and their contributions to organisational change and growth (Anderson, 2017). Additionally, the primary goal of transformational leadership is to enhance the motivation, satisfaction, and development of those under its guidance, primarily through trust and facilitation rather than direct control. Studies have shown that transformational leaders build trust through individualized consideration and ethical leadership, which fosters a culture of psychological safety and high employee commitment (Dirks & Ferrin, 2002; Bass & Riggio, 2006). This leadership style enhances job satisfaction and organisational engagement by emphasizing empowerment and shared vision (Gillespie & Mann, 2004; Yukl, 2013). In contrast, the

transactional leadership model bases the relationship on hierarchy and position (Chammas and Hernandez, 2019).

The influence of national culture on leadership styles and employee expectations is a dynamic area of research, particularly in multicultural environments such as the UAE. Hofstede's cultural dimensions including power distance, uncertainty avoidance, and collectivism affect leadership perceptions and employee engagement in hierarchical organisations by shaping how authority is exercised and how employees respond to managerial decisions (Hofstede, 2011; House et al., 2004). Studies indicate that transformational leadership is particularly effective in the UAE due to its alignment with cultural expectations of participative decision-making and long-term orientation (Karam & Kitana, 2020). Additionally, research suggests that leadership styles in the UAE are evolving to accommodate diverse workforce dynamics while maintaining cultural values (Aminu & Mahmood, 2015). Hofstede's national culture dimensions provide a valuable framework for understanding these effects (Hofstede, 2011). Studies have shown that leadership styles that resonate with the cultural dimensions of the UAE have significant impacts on employee motivation and organisational performance. Aminu & Mahmood (2015) underscore the positive effects of achievement-orientated, participative, and supportive leadership styles on employee motivation in UAE municipalities. Karam & Kitana (2020) identify transformational leadership as a pivotal element for enhancing team performance a style that correlates with the UAE's cultural propensity for uncertainty avoidance and long-term orientation, which emphasises adaptability and a forward-looking perspective.

The UAE's diverse workforce necessitates a nuanced approach to leadership, as highlighted by Hair et al., 2011, who emphasise the importance of selecting leaders whose styles are consistent with the cultural expectations of their teams. Al Yahyaee and Mohamad (2021) and Cherian et al. (2020) support the positive association between transformational leadership and job satisfaction, suggesting that such leadership styles are well-suited to the UAE's high-power distance and collectivist culture, where leaders are expected to be visionary and employees value feeling united and inspired.

Adoli & Kilika (2020) suggests that the cultural dimensions specific to the UAE, such as high-power distance, collectivism, and a strong avoidance of uncertainty, shape the leadership styles that are most effective and the expectations employees have from their leaders. For instance, the UAE's hierarchical and collective cultures may encourage the use of transformational and transactional leadership styles, which prioritise clearly defined structures, role clarification, and motivational incentives. These cultural traits influence how leaders communicate, make

decisions, and motivate their staff, as well as how employees perceive job satisfaction and organisational commitment. The study highlights the importance of understanding cultural nuances in leadership practises in order to enhance job satisfaction and organisational performance in the UAE's academic sector.

Furthermore, Matira and Awolusi (2020) stress the significance of leadership and management styles that promote employee centricity, which is increasingly important in a culture that values in-group collectivism and nurturing relationships. By fostering a supportive and engaging work environment, leaders can enhance employee satisfaction and motivation, which are critical components of institutional success in the UAE. The UAE's external culture, which is characterised by a unique blend of traditionalism and a progressive outlook, significantly influences leadership styles and employee expectations. Leaders who understand and adapt to this cultural context are better positioned to inspire their employees and achieve organisational objectives.

The internal cultures of organisations in the UAE, with their rich tapestries and diverse workforces, exert a profound influence on the dynamics of leadership styles and resulting employee expectations. Researchers have identified democratic and transformational styles as potent drivers of organisational performance in the field of leadership. Cherian et al. (2020) and Agarwal (2020) both highlight how these leadership approaches contribute positively to organisational outcomes by creating environments where innovation and collaboration thrive. Furthermore, researchers have found that these leadership styles, when combined with transactional and participatory approaches, enhance team performance, with the perceived organisational culture acting as a moderator (Adams et al., 2015). The interplay between leadership and inherent cultural elements like as reputation, familial obligations, and religious convictions is vital, especially in shaping motivation and decision-making processes within the UAE (Haller, 2014).

The public sector has identified the blend of transformational and transactional leadership as instrumental in propelling institutions toward excellence (Karam and Kitana, 2020). Similarly, in the construction industry, consultative and team management styles have a significant bearing on organisational commitment, reinforcing the importance of leadership in aligning employee aspirations with organisational goals (Careem, 2021). Cherian et al. (2021) delve deeper into corporate culture, shedding light on its indispensable impact on a spectrum of employee-related outcomes, including attitudes, performance, and overall behaviour, which in

turn drive productivity. This insight underscores the symbiotic relationship between corporate culture and leadership.

Chao (2019) underscores the importance of combining transactional and transformational leadership to navigate organisational change. This mix equips leaders with a versatile toolkit for effectively managing change, ensuring that the organisation's internal culture is both a reflection and a catalyst for its evolution. In conclusion, the internal cultural landscape within the UAE necessitates a nuanced understanding of leadership styles and their impact. The integration of diverse leadership styles in response to a multifaceted cultural environment is not just beneficial but essential for sustaining organisational effectiveness and facilitating change.

2.4 Decision-Making Theories and Processes

Decision-making is a critical process that underlies leadership action and organisational success. Over time, different perspectives on how leaders approach complex problems have led to the proposal of several decision-making theories. Key among these are rational, irrational, and bounded rationality theories. The rational decision-making theory suggests that leaders make decisions by systematically analysing all the available information, evaluating alternatives, and selecting the one that maximises utility (Alayoubi et al., 2020). This approach assumes that decision-makers are logical and have access to complete information, allowing them to make optimal decisions in a controlled environment. However, Simon's (1982) concept of bounded rationality challenges this notion, arguing that leaders often operate with limited information and cognitive constraints. In practice, decision-makers settle for satisfactory rather than optimal solutions due to time pressure, incomplete data, and resource limitations (Ellinger & Ellinger, 2021).

Furthermore, intuitionistic decision-making stresses the role of experience and gut feelings in making choices, particularly in fast-paced environments where rational analysis may not be feasible. Choi et al. (2019) posits that high-stakes scenarios often employ intuition and heuristics, which are simple decision-making rules, to expedite decision-making without exhaustive deliberation. Intuitive decision-making is particularly relevant in industries where uncertainty and volatility are high, allowing leaders to rely on their judgement and expertise to make rapid decisions. Finally, irrational decision-making theories, such as prospect theory by Kahneman and Mohamad (2021), focus on the psychological biases that can influence leaders'

choices. These biases include overconfidence, risk aversion, and loss aversion, which can distort rational decision-making, particularly in uncertain environments.

Leadership styles significantly influence decision-making processes. Different leadership approaches align with various decision-making models, affecting how leaders assess situations and make choices. Transformational leadership, characterised by vision, inspiration, and a change orientation, often aligns with intuitive decision-making. Focused on long-term vision and innovation, transformational leaders often rely on their instincts and past experiences to make quick decisions, especially in uncertain or rapidly changing environments (Anderson, 2017). Avolio and Nieves & Haller (2014) suggest that transformational leaders foster an environment of trust and empowerment, which allows them to take calculated risks and make bold decisions without always following a structured rational approach.

In contrast, transactional leaders are more likely to adhere to the rational decision-making model, focusing on structured processes, clear goals, and reward-based management. These leaders emphasise efficiency and short-term objectives; they make decisions based on systematic analysis and clear metrics (Asiaei & Jusoh, 2014). Transactional leaders tend to thrive in stable environments where well-defined procedures and clear information are available for decision-making. Laissez-faire leadership, which involves minimal intervention and allows subordinates to take charge of decision-making, often leads to decentralised and ad hoc decision processes. While some argue that this leadership style can lead to inefficiencies, in some contexts, such as highly innovative environments, it allows for greater flexibility and creative decision-making (Lin & Tsai, 2020).

The bounded rationality theory is often associated with adaptive leadership, where leaders must navigate complex and volatile environments with incomplete information. Adaptive leaders are required to make decisions under uncertainty, leveraging both data and intuition while being mindful of the cognitive limitations they face (Helfat et al., 2007). This style is particularly relevant in industries such as energy, where rapid changes and unforeseen challenges demand flexible, adaptive decision-making processes. The energy sector presents a unique set of challenges for decision-makers, including market volatility, technological advancements, and stringent regulatory requirements. Decision-making in this sector often involves navigating uncertainty, making leadership style and decision-making theory critically important.

The energy sector commonly employs rational decision-making, especially in scenarios involving long-term investments and infrastructure development, where thorough analysis of market trends, regulatory frameworks, and technological innovations is crucial. Leaders in the

energy sector must carefully evaluate risks and opportunities, often relying on structured processes to make high-stakes decisions (Ahmad et al., 2021). For example, when investing in renewable energy projects, leaders must consider financial projections, environmental impact assessments, and government policies to make informed decisions.

The volatile nature of energy markets also necessitates a degree of intuitive decision-making. Rapid changes in oil prices, geopolitical instability, and technological disruptions require leaders to make swift decisions, often without access to complete information. Intuitive and adaptive leadership styles can therefore be valuable for helping organisations navigate these uncertainties. According to Teece (2018), leaders in the energy sector must cultivate dynamic capabilities such as sensing opportunities, seizing them, and reconfiguring resources, which requires a combination of both rational analysis and intuitive judgement. In the energy sector, uncertainty, incomplete information, and time pressure often force decision-making, making the bounded rationality theory particularly applicable. Leaders in the energy industry must frequently adapt their decision-making strategies as new information becomes available, balancing short-term operational needs with long-term strategic goals (Cheung & Wang, 2017). This is especially relevant in the adoption of emerging technologies, such as artificial intelligence and renewable energy, where leaders must make decisions with limited precedent or data to guide them.

2.5 Organisational Dynamic Capabilities

In the initial definition of the dynamic capabilities, it is described as the ability of organisations working in environments of rapid technological change to integrate, build, and reconfigure functional competencies, skills, and external and internal organisational resources in an attempt to achieve new forms of competitive advantage (Doz, 2020). The initial definition exhibits a strongly multidisciplinary perspective that extends beyond the traditional boundaries of the strategy area, incorporating perspectives from diverse fields like innovation and organisational learning (Easterby-Smith and Prietro, 2008; Mesko, 2013).

Dynamic capabilities refer to a set of skills, behaviours, and organisational capabilities (Field, 2013). From another perspective, dynamic capabilities can be considered as a set of routines and processes (Eriksson, 2014). Dynamic capabilities are related to the skills, behaviours, and organisational capabilities of individuals within organisations that can enhance the

organisational performance. Chanana, 2021 assert that dynamic capability is an organisation's ability to innovate faster and better than the competition. Ireland & Hitt, 2005 considers dynamic capabilities as the organisation's ability to renew its competencies according to changes that occur in the environment in which the company operates. Marshall & Rossman, 1999 suggests that the essence of dynamic capabilities is contingent upon the presence of entrepreneurial leadership skills and the capacity for organisational change. In this context, the capacity for change is the central pillar for dynamic capabilities to exist, and there are three fundamental key points of this capability, including the development of non-specific skills, which allow the organisation to act in any type of change, even if it is not related to the daily operational activities of the organisation's employees; the development of individuals' loyalty to changes, which refers to the normality by which changes are seen by the company's employees; and the creation of relevant organisational mechanisms.

The study of dynamic capabilities composes a field of research activities in strategic management, organisational changes, and competitive advantage (Helfat and Peteraf, 2015). The concept holds relevance as it addresses an organisation's ability to adapt to environmental dynamism, specifically how companies can establish and maintain competitive advantages in a dynamic environment (Li and Liu, 2014). Dynamic capabilities contribute to reaching and maintaining competitiveness over time. In this way, dynamic capabilities serve as an advanced and contemporary competitive advantage, explaining the work conditions within an organisation, particularly in environments that are constantly changing.

Through the restructure of processes, routines, and resources, companies seek to meet the demands of the intensely dynamic market. In this context, some authors focus their analysis on the internal aspects of the organisation and the existence of dynamic capabilities that are related to strategic and operational processes (Murshed, 2020) or to the company's ability to develop new strategies through the recognition of resources. On the other hand, other researchers associate dynamic capabilities with the dynamism of the environment, particularly environments that undergo intense and constant changes (Mamédio et al., 2019). There are also scholars who investigate the mechanisms and devices that configure the existence of dynamic capabilities (Morrow & Torres, 1995). In this line of thought, Nieves and Haller (2014) argue that organisations are able to integrate, build, and reconfigure their competencies even in less dynamic environments and with reduced rates of change. Therefore, dynamic capabilities are based on the existence of routine mechanisms that allow companies to reconfigure their

capabilities. Other authors propose that dynamic capabilities arise from a combination of capabilities, where dynamic capabilities are defined based on a hierarchy of simpler capabilities and associated routines (Teece, 2018). There are several definitions of dynamic capabilities made by researchers, and although there is a link between these definitions, each author highlights some particular aspect of the subject.

There are two main lines of approach when it comes to defining dynamic capabilities: First, the component-based approach: according to this approach, dynamic capabilities consist of various sub-capabilities that contribute to an organisation's overall adaptability and responsiveness. Arndt and Pierce (2018) classify dynamic capabilities into three categories: adaptive capacity, absorptive capacity, and innovation capacity. Adaptive capacity refers to an organisation's ability to adjust to changes in its environment. Absorptive capacity is its ability to recognise, assimilate, and apply new knowledge. Innovation capacity is the ability to develop and implement new ideas, products, and processes.

Second, the process-based approach; this approach emphasises the processes and actions that organisations undertake to create, extend, or modify their resource base. Beske (2012) conceptualises dynamic capability as the ability of a company to intentionally manage its resources in response to changing circumstances. This perspective highlights various functions involved in dynamic capabilities, such as identifying needs or opportunities for change, formulating appropriate responses to these needs and opportunities, and developing courses of action to implement the necessary changes.

Dynamic capabilities can be classified to include adaptive capacity, absorptive capacity, and innovation capacity (Arndt and Pierce, 2018). Beske (2012) conceptualises dynamic capability as the ability of a company to intentionally create, extend, or modify its resource base. From this point of view, dynamic capacity includes different functions, including identification of needs or opportunities for change, formulating appropriate responses to these needs and opportunities, and development of courses of action. Dynamic capabilities support essential functions in relation to the company's resource base, the search, selection, and creation of resources, and the deployment of resources (Inan and Bititci, 2015). Researchers have also investigated the association of dynamic capabilities with opportunity exploration and idea generation (Doucet et al., 2009). The authors conceptualise dynamic capabilities as a bundle of other capabilities such as the ability to generate ideas, the ability to create creative mechanisms

of work in order to create dynamism in the market in which the company operates, and the ability to develop new products and innovative services in quantity and quality.

Organisational adaptability is a dynamic process of continuous learning that allows an increase in innovation capacity (Uhl-Bien and Arena, 2018). Dynamic capabilities are reflected through an organisation's ability to adapt, essentially considering the strategic flexibility of resources, the internal alignment of the company's resources, its form of organisation, and the permanent needs for changes. Babalola et al. (2018) highlight the difference between adaptive capacity and adaptation, in which adaptation describes an ideal end state of survival for a company, while adaptive capacity emphasises the search for balance in prospecting and exploration strategies. In this sense, Kor and Mesko (2013) assert that adaptive capacity is a component of dynamic capabilities, which tends to explain how the company couples its internal advantages and resources with the advantages that exist in the market. This ability allows organisations to capitalise on market opportunities. Barrales Haarhaus & Liening, 2020 advocate that the development of organisational adaptability is accompanied by the evolution of organisational forms, such as formal structures that involve formalisation, integration, centralisation, and complexity.

The relationship between dynamic and operational capabilities is critical for organisations to maintain their competitive advantage and adapt to changing environments. Dynamic capabilities refer to an organisation's ability to integrate, build, and reconfigure its resources and capabilities to adapt to changes in the environment and markets (Asiaei & Jusoh, 2014). Operational capabilities, on the other hand, refer to an organisation's ability to execute its day-to-day activities efficiently and effectively. Organisations that possess strong operational capabilities are better positioned to develop and leverage their dynamic capabilities to adapt to changing environments (Macey & Schneider, 2008). Operational capabilities enable organisations to effectively implement new strategies, processes, and technologies, which in turn support the development of dynamic capabilities (Mesko, 2013). According to this perspective, the capabilities of individuals within organisations are linked to the competitive market, the technology and management system, their ability to adapt, and their capacity for innovation.

The contemporary literature has investigated innovation capabilities as another approach (Parida et al., 2015). Innovation capabilities have been an important differential for the competitiveness and economic development of organisations. There are several forms of

innovation; however, it is understood that the more dynamic the sector in which the company is inserted, the higher the need for innovation and agility to meet demands and follow market trends. Costantini and Fontoura & Coelho, 2020 assert that innovation is a mechanism for companies to adapt to dynamic environments. House, 1971 emphasises the existence of a strong empirical link between organisational innovation and innovation capacity. Organisational innovation is the organisation's global innovation capacity, through the introduction of new products to the market or opening of markets, through the arrangement between strategic orientation, behaviour, and innovative process.

2.5.1 *Sensing capabilities*

Sensing capabilities are the ability of an organisation to detect and interpret signals from its internal and external environment to identify changes, opportunities, and threats (Miyamoto, 2015). These capabilities are critical for organisations to adapt to changes in their environment and maintain their competitive advantage over time. Martin (2000) first introduced sensing capabilities. The authors argued that sensing capabilities are a key element of dynamic capabilities, which are essential for organisations to adapt to changing environments and maintain their competitive advantage. Since then, sensing capabilities have become a key focus of research in strategic management and related fields.

Recent studies have explored the importance of sensing capabilities in various industries, including the energy sector. Zhou et al. (2019) found that sensing capabilities were critical for firms to identify emerging technologies and market opportunities and that firms with stronger sensing capabilities were more likely to achieve sustained performance over time. Ahmed (2007) found that sensing capabilities were critical for firms to detect changes in regulations, identify emerging technologies, and respond to changes in the market. The study also found that the development of sensing capabilities required a culture of innovation and a focus on learning and continuous improvement. Recent research has highlighted the importance of sensing capabilities for organisations to adapt to changing environments and maintain their competitive advantage. These capabilities are essential for organisations in the energy sector to identify emerging technologies, respond to changes in regulations, and meet changing customer needs.

2.5.2 *Learning capabilities*

Organisational learning is associated with a wide range of research areas, including management, psychology, business strategy, human resources management, organisational theories, industrial organisation, technology management, production, and computing (Marodin et al., 2018). Several authors have taken an interest in the phenomenon of organisational learning and have established typologies for work on this theme (Do & Mai, 2020). Most research on individual learning comes from psychological studies of human behaviour (Bannister & Fransella, 2019). People perceive learning as a shift in the probabilities of behaviour. Simultaneously, with the development of learning and behaviour theories, experimental analyses of the mechanisms constituting learning have been carried out. Learning is seen as the acquisition of associations, conditioned reflexes, and stimulus-response chains (Ghirlanda et al., 2020). The primary concept of behavioural theories revolves around interpreting ideas such as memorisation and forgetting through the generalisation of stimulus-response relationships. The emergence of the information process perspective in cognitive psychology, with its emphasis on problem solving, brings new insights into the conceptualisation of learning. Learning is analysed as changes in states of knowledge rather than changes in response probabilities (Khamparia and Pandey, 2015).

Organisational learning is a process that improves the actions of an organisation through the development of new knowledge and skills (Khan and Khan, 2019). An organisation's developed culture can either facilitate or hinder organisational learning. Therefore, some companies experience constant growth as a result of their ongoing learning. Organisational learning is a field of academic research and professional practise with relatively recent development (Jonker & Pennink, 2010). The constant change and evolution of economic environments require organisations to develop competitively, enabling them to develop both the capabilities and resources necessary for production. Dynamic learning capabilities enable the creation of knowledge.

Organisational learning is a relatively challenging field in academic research and professional practise. Various disciplines have proposed theoretical explanatory models of the phenomenon in recent years.

Interorganisational learning, under the learning and development dimensions, stems from the relationships and collaborations between different organisations, which facilitate the creation

of new necessary knowledge (Alayoubi et al., 2020). The accelerated pace of changes makes it difficult to obtain such knowledge, but interorganisational learning facilitates knowledge creation by establishing cooperation and support agreements between organisations (Rajala, 2018). This allows them to learn from each other and create strategic alliances that provide access to complementary resources and capabilities for other companies.

Although there is a wide range of theoretical viewpoints on organisational learning, some dominant trends can be identified. One such trend emphasises the cognitive aspect of organisational learning, focusing on how individuals and groups process information and develop mental models to enhance their understanding and performance (Lara & Salas-Vallina, 2017; Argote & Miron-Spektor, 2011). Another perspective highlights the importance of systematic and consistent processes that enable organisations to acquire or generate specific knowledge, disseminate it, and facilitate its transfer across employees, groups, and units (Duffield & Whitty, 2015; Easterby-Smith & Prieto, 2008). This dual approach underscores both the mental and procedural dimensions of learning within organisations, illustrating a comprehensive view of how learning contributes to organisational development and adaptability. Additional perspectives draw inspiration from social learning theories, suggesting that organisational learning stems from interactions and exchanges within (and outside) the organisation, enabling the emergence and sharing of new knowledge or experiences (Basten and Haamann, 2018). Despite their distinct features, all these perspectives uphold the notion that organisational learning is the capability of an organisation to sustainably create (or obtain), disseminate, analyse, evaluate, and incorporate new knowledge to achieve its goals. A crucial aspect involves an organisation's capacity to acquire, retain, and subsequently disseminate new information and knowledge to its members through a comprehensive learning process (Bratianu, 2015). The learning process encompasses aspects such as acquiring new knowledge and information, employee examination and interpretation of this information, and the establishment of mechanisms that support knowledge storage and retrieval.

A "learning culture" refers to a collection of values and norms that encourage learning and experimentation (Mohammed & Al-Abrrow, 2023). Establishing such a culture guides behaviours and attitudes around shared norms and values among organisational members, fostering a work environment that promotes the exchange of new ideas and tolerance for risk (and errors). Another aspect pertains to the extent to which an organisation equips its members with tangible resources to facilitate individual and collective learning and the application of

these new skills in the workplace (Zheng et al., 2011). Access to mentorship or coaching programmes, the opportunity for team members to participate in training courses, and the formation of reflection committees exemplify the essence of this factor.

Strategic knowledge and learning management refer to the association between the organisation's strategic objectives and the means it puts in place to ensure the sharing of key messages (missions, visions, and objectives) with its members (Cabrito and Dahms, 2018). More precisely, this dimension refers to concrete actions that contribute to clarifying the associations between the strategic objectives of an organisation and the management of collective skills. This process holds significant importance for organisational learning, as employees must not only understand how their work contributes to the organisation's mission but also acquire the knowledge and skills essential for its success.

Popova-Nowak and Bass (2019) define organisational learning as a collective phenomenon of acquisition and elaboration of knowledge that, more or less profoundly, more or less durably, modifies the management of situations and the situations themselves. On one hand, the circulation and dissemination of new knowledge and the development of relationships between pre-existing skills can activate the collective dimension of the organisation (Jain and Moreno, 2015). With regard to the dissemination and circulation of new knowledge, the impact of learning increases with the number and diversity of interpretations produced. The development of interpretations widens the range of possible behaviours. The impact of learning also increases according to the number of entities that have acquired new knowledge and find it useful, and according to the number of entities that understand in the same way the various interpretations produced (Khan and Khan, 2019). The development of relationships between pre-existing skills is a mode of learning that aims for better articulation between actors accustomed to mobilising their knowledge independently. Individual memories, archiving systems, execution processes, and structures are the four categories of places where learning is inscribed.

Hadadian & Zarei (2016) consider that learning can be qualified as an organisational requirement when the acquisition of strictly individual knowledge modifies the behaviour of the entity. Saadat and Kahn, 1990 define organisational learning systems as the methods through which an organisation learns to achieve the goals derived from its key success factors. Learning systems are mechanisms by which learning is perpetuated and institutionalised in organisations.

Knowledge management involves the identification and analysis of knowledge available and to be acquired and the planning and control of actions to develop the knowledge asset in order to achieve organisational objectives (Jain and Moreno, 2015). Researchers have proposed certain knowledge management approaches. Managing knowledge consists of energising a cycle comprising different stages, including the identification of key skills allowing a lasting competitive advantage, the collection of knowledge useful for key skills, the selection of formalised knowledge, the storage in organisational memory, the sharing of knowledge by making it accessible to users, the application of knowledge in the performance of tasks, problem solving and decision making, and finally the construction and development of new knowledge (Dixon, 2017). Organisational knowledge management is associated with the acquisition and sharing of knowledge linked to employees and transforming the knowledge into an effective set of work strategies, mechanisms, and systems. Anderson et al., 2012 develops a knowledge management model focusing on the implicit and explicit dimensions of knowledge. According to the authors, knowledge management is not only about processing information; the organisation may also mobilise, through interactions, the tacit knowledge held by the internal and external actors of the organisation.

2.5.3 *Integration capabilities*

Integration capabilities are the ability of an organisation to integrate and reconfigure its resources and capabilities to create value and achieve competitive advantage (Salvato & Vassolo, 2018). These capabilities include the coordination and alignment of various functions and activities within the organisation, as well as the integration of external resources and capabilities. The resource-RBV of the firm, which emphasises the importance of a firm's resources and capabilities in achieving sustained competitive advantage, has contextualised the study of integration capabilities. The Resource-RBV views integration capabilities as a crucial component of dynamic capabilities, essential for organisations to adjust to evolving environments and sustain their competitive edge over time.

Recent studies have explored the importance of integration capabilities in various industries, including the energy sector. For example, Božič and Dimovski (2019) found that integration capabilities were critical for firms to leverage internal and external resources, develop new technologies, and enter new markets. Another recent study by Gu (2019) found that integration

capabilities were critical for firms to align their various functions and activities, develop new products and services, and respond to changes in the market. Recent research has highlighted the importance of integration capabilities for organisations to create value and achieve sustained competitive advantages. These capabilities are essential for organisations in the energy sector to leverage their resources and abilities, develop new technologies, and enter new markets.

2.5.4 *Coordination capabilities*

Coordination capabilities refer to an organisation's ability to coordinate and align its internal activities, processes, and resources to achieve strategic goals (Do & Mai, 2020). These capabilities are critical for organisations to operate efficiently, effectively, and achieve sustained competitive advantage. Researchers have studied coordination capabilities within the framework of strategic management and organisational theory. Martin (2000) highlighted the importance of coordination capabilities in achieving dynamic capabilities, which are essential for organisations to adapt to changing environments and maintain their competitive advantage over time.

Recent studies have examined the role of coordination capabilities in various industries, including the energy sector. Hernández-Linares et al. (2021) found that coordination capabilities were critical for firms to align various stakeholders, including government agencies, technology providers, and customers, to achieve the goals of the smart grid initiative. Abbas et al. (2019) found that coordination capabilities were critical for firms to align various functions, including exploration, production, and marketing, to achieve strategic goals and respond to changes in the market. Recent research has highlighted the importance of coordination capabilities for organisations to operate efficiently and effectively and achieve sustained competitive advantage. These capabilities are essential for organisations in the energy sector to align various stakeholders and functions and respond to changes in regulations, technologies, and market conditions.

2.6 Employee Engagement

In recent years, organisations have faced numerous challenges, including increased competition and global crises, like the COVID-19 pandemic, which led to the closure of many

companies worldwide and forced managers to seek innovative solutions (Chanana, 2021). In response, organisations have adopted various strategies to enhance employee engagement and essential organisational practises (Rodrigues-Da Costa et al., 2019). Employee engagement, defined as the emotional commitment and involvement employees have in their work and organisations, is crucial, as highly engaged employees are more productive, innovative, and committed to achieving organisational goals (Nagori, 2022; Kahn, 1990). This engagement significantly influences organisational performance, which is a key focus for companies aiming to improve outcomes (Agha et al., 2012).

Multiple perspectives can view the complex interaction between leadership and employees. Effective leadership is crucial for team success, as leaders who can effectively guide their subordinates are essential for achieving desired results (Awuor, 2020). Leadership strategies that align employees' interests with organisational objectives are particularly effective (Joinson, 1999). In the UAE energy sector, the relationship between leadership and employee engagement is a critical area of study (Al Samkari & David, 2019). Understanding how leaders influence their subordinates, whether by formal or informal means, is vital for achieving both organisational and individual goals. Research in leadership often focuses on behavioural and personality theories. The Theory of Personality Traits suggests that leadership is based on specific personality characteristics (Bamel, 2018). In contrast, behavioural theories emphasise identifying leadership styles and behaviours that enhance organisational effectiveness (Newman et al., 2017). These theories have evolved to explore how leaders' behaviours and functions impact their effectiveness.

Individuals in organisations possess unique perceptions, traits, and characteristics, which management must understand in order to effectively align employees with their roles (Judge & Long, 2012). Behavioural and psychological characteristics influence how employees perceive their responsibilities and engagement practises (Miyamoto, 2015). Perception, defined as the ability to interpret events and phenomena in the work environment, varies among individuals based on their experiences and intellectual tendencies (Broadbent, 2013). Human senses interpret stimuli in this cognitive process, which the brain then processes to create meaningful information.

Dynamic capabilities, combined with leadership decision-making, can enhance human resource development and organisational effectiveness, particularly in complex and uncertain business environments (Yulita & Nasution, 2019; Kareem & Mijbas, 2019). In such contexts,

the role of HR in developing leadership capabilities becomes crucial (Maheshwari & Yadav, 2019). Innovative HR management tools and decision support systems can further improve leadership effectiveness (Padilla, Hogan, & Kaiser (2007); Norzailan et al., 2016). Board leadership also plays a significant role in developing dynamic managerial capabilities, particularly in dynamic environments (Åberg & Shen, 2019). Essential HR capabilities, such as flexible cost management, transparent communication, and quick decision-making, are vital in uncertain environments (Tasavori et al., 2021). Overall, integrating dynamic capabilities with leadership decisions leads to improved human resource development and organisational effectiveness.

The intricate relationship between leadership decisions, human resource management, employee engagement, and dynamic capabilities has emerged as a pivotal area of study in organisational research. López-Cabrales et al. (2017) suggest that human resource management practises are instrumental in harnessing dynamic capabilities, which are crucial for securing a competitive edge. The authors see these HR systems as mediators that facilitate the development of such capabilities, highlighting HR's strategic role in organisational adaptability and growth. López-Cabrales et al. posit that leadership, particularly when embodying both transformational and transactional traits, is essential in cultivating the full spectrum of dynamic capabilities. This dual approach allows CEOs and leaders to foster an environment where innovation and operational efficiency are equally prioritised. Nagori, 2022, Sezer (2022), and Akkaya (2020) build on this premise by illustrating that transformational and agile leadership styles not only advance dynamic capabilities but also elevate employee engagement, which in turn can lead to superior organisational performance.

Leadership decision-making increasingly recognises the bifocal approach, which integrates both transformational and transactional styles as a nuanced strategy capable of navigating the complexities of modern organisational environments. This is especially relevant in contexts like the UAE, where the intersection of diverse cultures and rapid economic development presents unique leadership challenges. The transactional focus on order and precision fits well with the transformational focus on vision and inspiration, creating a leadership paradigm that is both aspirational and grounded (López-Cabrales et al., 2017). This creates an environment where dynamic capabilities can thrive. HR emerges as a critical mediator in this relationship, not only by recruiting and developing talent aligned with these leadership visions but also by crafting policies and practises that institutionalise the behaviours and processes that underpin

dynamic capabilities. This entails establishing systems that foster innovation, adaptability, and a learning-orientated culture, all of which are essential components of dynamic capabilities and heavily impacted by leadership styles.

Moreover, employee engagement emerges as a pivotal outcome of effective HR and leadership practises, serving as a barometer for the health of the organisation's culture and its ability to change. Engaged employees are more likely to contribute to the processes of sensing and seizing opportunities, reconfiguring operations, and maintaining competitive advantage activities that are at the heart of dynamic capabilities (Bakker & Leiter, 2017; Singh, 2019). Furthermore, it is essential to recognise the impact of internal cultural components, such as values, beliefs, and traditions. In the UAE, characterised by a globally diverse workforce, corporate culture is highly prioritised. Leadership decision-making and HR practises must be culturally aligned, ensuring that initiatives designed to improve employee engagement and dynamic capacities are relevant to the different cultural backgrounds of the workforce.

Rizka et al. (2022) and Haarhaus & Liening (2020) delve deeper into the impact of transformational leadership on employee engagement, highlighting how such leadership can prepare employees for change and foster an engaged workforce. This readiness for change is an essential component of dynamic capabilities, reflecting the organisation's ability to pivot and adapt in response to external and internal shifts. Furthermore, Bakker and Leiter (2017) and Singh (2019) underscore the necessity of strategic and proactive approaches to work engagement, identifying transformational leadership as a catalyst in this process. Leadership's strategic aspect plays a crucial role in guiding the development and application of dynamic capabilities and thereby aligning employee efforts with organisational goals. In its synthesis, the literature clearly delineates a pathway through which leadership decision-making and human resource management practises can synergistically enhance an organisation's dynamic capabilities and employee engagement. Such alignment is crucial for fostering a responsive, innovative, and performance-focused organisational culture.

2.7 Organisational performance

Sangwa and Sangwan (2018) identified various tools and frameworks used to measure the performance of lean organisations, including Lean Six Sigma, TQM, and the Balanced

Scorecard. Lee (2021) identified different approaches to performance measurement, including objective measures, subjective measures, and stakeholder engagement. The study also emphasised the importance of transparency and accountability in performance measurement to ensure credibility.

Leiter (2017) identified various approaches to sustainability performance measurement, including key performance indicators, sustainability reporting, and integrated reporting. The study also highlighted the importance of stakeholder engagement in sustainability performance measurement. Kamble, Gunasekaran, Ghadge, et al. (2020) proposed a performance measurement system for Industry 4.0-enabled smart manufacturing systems in small and medium-sized enterprises (SMMEs). The system involves measuring the performance of various aspects of the manufacturing process, including production, quality, and delivery.

The different ways to measure and assess organisational performance include lean assessment, credibility of performance measurement, sustainability performance measurement, and performance measurement for Industry 4.0-enabled smart manufacturing systems. These approaches involve the use of different tools, frameworks, and indicators to evaluate various aspects of organisational performance.

2.8 Theoretical Framework

2.8.1 *Social exchange theory*

The social exchange theory (SET) (Wang et al., 2019) and the path-goal theory, both essential for achieving corporate objectives and aspirations (Lorah, 2018), form the foundation of this research. These theories suggest that organisational growth is reciprocal and may consider both employee well-being and organisational progress. One should not compromise one for the advantage of the other. Adopting these concepts motivates workers to enhance the organisation's growth via collective effort. When coupled with the commitment of higher management, such initiatives can effectively address external difficulties encountered in the sector.

The social exchange hypothesis is crucial for explaining how leaders and followers interact (Winn and Dykes, 2019; Neves and Schyns, 2018; Hu & Bentler, 1999). Homans first put forward the social exchange theory in 1958 (Devan, 2006), which states that social behaviour is the outcome of the exchange process and that social actors' primary goal is to maximise

benefits while minimising costs (Wang et al., 2019). This theory helps align employees' interests with employer best practises and vice versa. The social exchange theory suggests that social relationships are strategic and involve both benefits and costs. Stakeholders tend to evaluate their relationships based on this balance of costs and benefits. If the costs of a relationship exceed the benefits, stakeholders may display a lack of satisfaction, terminate the relationship, or disregard its value. Put differently, stakeholders strive to sustain relationships that yield a net positive benefit (Hasen, 2010). Therefore, both parties in the employment relationship may compromise and address each other's interests to ensure stability.

SET is particularly relevant to the scope of this study because it provides a theoretical framework for understanding the dynamics of relationships within the workplace, particularly in the context of leadership decision-making, employee engagement, and organisational dynamic capabilities. SET's central proposition is that relationships, including those in the workplace, involve exchanges where individuals seek to maximise their benefits and minimise their costs (Emerson, 1976). Leaders manage exchanges with their followers in the context of leadership decision-making. Leaders can foster a more engaged and committed workforce by making decisions that their followers perceive as beneficial, such as enhancing work conditions, providing opportunities for growth, or acknowledging individual contributions (Cropanzano & Mitchell, 2005).

SET also provides an explanation for employee engagement. Employees are likely to be more engaged and committed to their roles when they perceive fair rewards for their inputs, such as effort, skills, and time, in the form of recognition, compensation, and career advancement (Cropanzano & Mitchell, 2005). Therefore, may discover and evaluate methods to improve employee engagement in the UAE energy industry via the framework of SET. SET is crucial for understanding an organisation's dynamic capabilities. This idea posits that organisations primarily revolve around exchanges among diverse stakeholders, such as employees, leaders, consumers, and suppliers (Blau, 1964). When successfully managed, these interactions may enhance an organisation's capacity to adapt, innovate, and execute, which are essential components of its dynamic capacities (Merwe, 2021).

SET provides a valuable theoretical lens to understand and investigate the interplay between leadership decision-making, employee engagement, and organisational dynamic capabilities within the UAE energy sector. SET offers a broad perspective on interpersonal relationships, both at the micro-level (individual interactions) and the macro-level (groups or organisations).

Emerson (1976) posits that the exchanges individuals make with each other, which involve costs and benefits, shape human behaviour. SET emphasises that social behaviour is a direct consequence of the exchange of resources, which can be tangible (e.g., money, goods, and services) or intangible (e.g., love, information, and support). Individuals or groups engage in these exchanges with the expectation that the benefits will outweigh the costs, thereby producing a net gain or reward (Homans, 1958).

In the context of organisations, SET can explain a wide range of behaviours and outcomes, including employee engagement, job satisfaction, organisational commitment, and performance. For instance, employees who perceive that they are receiving substantial benefits (e.g., fair compensation, recognition, or supportive leadership) from the organisation tend to show greater engagement and commitment to their work (Cropanzano & Mitchell, 2005). Similarly, when leaders exhibit supportive and empowering behaviours, employees are likely to reciprocate, resulting in increased job performance (Broadbent, 2013).

Moreover, SET is also applicable in the context of leadership decision-making. Effective leaders engage in social exchanges by understanding their followers' needs and values, providing necessary resources, and building an environment of mutual trust and respect. As a result, these leaders can foster higher levels of employee engagement and organisational dynamic capability, contributing to enhanced organisational performance (Blau, 1964).

2.8.2 *Path goal theory*

The path-goal theory builds upon previous theories of leadership by emphasising the importance of leaders' abilities to motivate followers and overcome obstacles to engagement. Specifically, the theory proposes that leaders can enhance follower satisfaction and performance by providing support, clarifying goals, removing obstacles, and offering rewards (House, 1996; Lorah, 2018). The theory is particularly relevant to the current research as it sheds light on the toxic triangle, which is central to the research gap. Destructive leadership, susceptible followers, and a chaotic institutional environment combine to create the toxic triangle. This can result in low motivation, high turnover, and disengagement from management among employees (Smolka et al., 2018; Rao & Tilt, 2016).

Path-PGT is integral to this study as it explains how leaders can effectively guide and support their followers in reaching their goals, subsequently impacting organisational performance and dynamic capabilities. PGT posits that the behaviour of a leader depends on the characteristics

of their followers and the work environment, necessitating the adaptation of leadership styles based on situational factors (House, 1996). Effective leadership decision-making, according to PGT, is about defining paths and removing obstacles for employees to achieve their individual and collective goals (House & Mitchell, 1974).

The Path-Goal Theory is also relevant in studying the impact of toxic leadership. The toxic triangle occurs when destructive leadership, susceptible followers, and a conducive environment intersect, resulting in adverse outcomes such as demotivation and disengagement (Padilla, Hogan, & Kaiser, 2007). The PGT lens infers that toxic leaders fail to provide clear paths, fail to overcome obstacles, and misuse rewards, resulting in decreased employee engagement and organisational performance (House, 1971; House & Mitchell, 1974).

In terms of employee engagement, the PGT suggests that leaders who engage in supportive behaviours, provide clarity about tasks and roles, and promote self-efficacy can foster higher levels of engagement (Zacher et al., 2014). This implies that leadership decision-making based on PGT principles can significantly influence employee engagement in the UAE energy sector.

The significance of the Path-PGT to the parameters of this investigation is manifold. This theory emphasises the significance of effective leadership in decision-making and its impact on organisational dynamics and performance, which constitutes a principal research focus of this study. It offers a thorough foundation for comprehending how leaders may affect employee engagement, boost organisational dynamics, and improve overall performance in the UAE's energy industry.

The PGT's focus on leadership decision-making aligns with the study's objective: to investigate the role of leadership decision-making in organisational performance and dynamic capabilities. Leadership decisions significantly impact organisational direction and employees' work engagement, affecting organisational effectiveness overall (House, 1996). Hence, PGT will help elucidate how leadership decisions can positively shape organisational outcomes in the UAE's energy sector. In line with the second hypothesis, PGT provides insights into how leadership decision-making can influence employee engagement. According to the theory, leaders' role clarity, support, and rewards are crucial for fostering high levels of employee engagement (House & Mitchell, 1974). Therefore, PGT is critical for understanding and analysing the relationship between leadership decision-making and employee engagement.

PGT aligns with the study's aim: to explore organisational dynamic capabilities. As dynamic capabilities emphasise an organisation's ability to integrate, build, and reconfigure internal

competencies to respond rapidly to changing environments (Merwe, 2021), leaders following PGT can nurture these capabilities by clearing paths, removing obstacles, and offering suitable rewards (House, 1996). The application of PGT in the context of the 'toxic triangle' helps examine how destructive leadership might negatively impact organisational performance and dynamic capabilities. Thus, the theory offers a conceptual lens to mitigate adverse leadership effects and promote effective leadership practises, contributing significantly to this research's scope.

2.8.3 Toxic Triangle theory

The present study investigates the three main points of impact as portrayed in the Toxic Triangle Theory, initially proposed by House (1996) and later expanded by Lopion (2018). This model illustrates the interaction between leadership, employees (followers), and an unstable organisational environment (Fig. 2.1), emphasizing how dysfunction in one element can destabilise the entire system. While the Toxic Triangle is typically used to describe destructive leadership, it also provides valuable insights into how poor leadership decision-making can limit an organisation's dynamic capabilities.

In the context of this study, the Toxic Triangle helps reveal the barriers to effective leadership in fostering dynamic capabilities. Destructive leadership characterised by excessive charisma, autocratic decision-making, and unethical behaviours creates an environment of low trust, disengagement, and resistance to change (Winn & Dykes, 2019; Neves & Schyns, 2018). When leaders fail to inspire innovation or strategic adaptation, the organisation struggles to develop and sustain dynamic capabilities such as sensing, learning, integrating, and coordinating (Teece, 2018).

Additionally, susceptible followers who may be unmotivated or overly dependent on hierarchical structures are less likely to engage in proactive behaviours that support adaptability and knowledge sharing (Smolka et al., 2018; Rao & Tilt, 2016). This could undermine an organisation's ability to adapt to external market changes, further restricting its agility. Finally, an unstable external environment characterised by economic volatility, technological disruptions, and regulatory changes requires strong leadership to manage uncertainty (Hu & Bentler, 1999). However, when leaders lack strategic foresight and fail to foster an adaptable organisational culture, the company struggles to leverage its dynamic capabilities to maintain competitiveness. This research integrates the Toxic Triangle paradigm (Figure 2.1) into its

conceptual framework to explore how poor leadership limits dynamic capabilities, ultimately affecting organisational performance in the UAE energy sector.

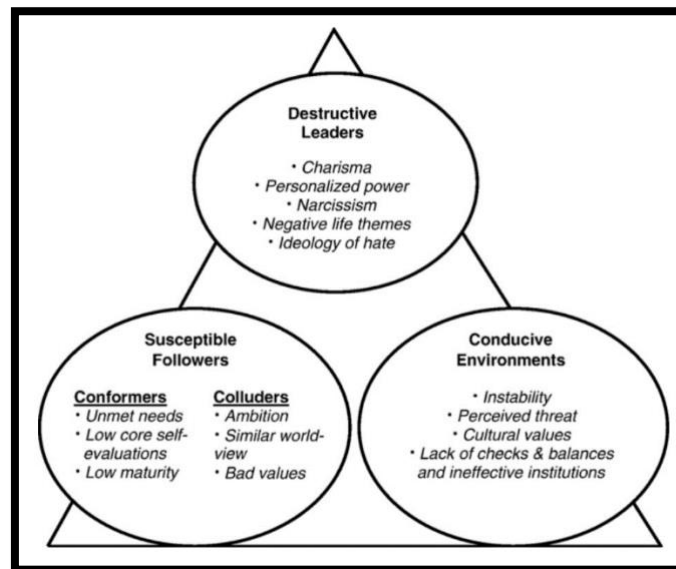


Figure 2.1: The toxic triangle theory

Source: Lopion (2018)

It stipulates that a toxic environment arises due to an interplay between destructive leaders, susceptible followers, and conducive environments. Destructive leaders are characterised by their harmful actions, which lead to serious detrimental effects on the organisation and its members. Personal ambition, aggressiveness, and disregard for the rights and needs of others often drive them. This behaviour disrupts the flow of decision-making and creates a disengaging environment for employees (Hu & Bentler, 1999).

Susceptible followers are individuals who either conform out of fear, dependence, or simply because they identify with the leader. These followers often fail to question their leaders' actions and may even aid and abet their toxic behaviour, further amplifying the detrimental impacts (Mikalef et al., 2020). Conducive environments are organisational settings that enable destructive leadership. They are often characterised by instability, a lack of checks and balances, and a culture that allows or even rewards toxic behaviours (Krasikova et al., 2013).

The relevance of the Toxic Triangle Theory to this study lies in its potential to elucidate the dynamics that lead to destructive leadership, which can, in turn, negatively impact organisational performance and engagement. This is particularly crucial for the energy sector

in the UAE, where strong and effective leadership is critical to handle rapid changes and drive sustainable development. Understanding these toxic dynamics will enable the development of measures to disrupt this harmful triangle, fostering healthier leadership practises and, subsequently, improving organisational performance and engagement.

The Toxic Triangle Theory is particularly relevant to the scope of this study, which aims to explore the role of effective leadership decision-making and employee engagement in organisational performance and dynamic capabilities in the energy sector. The destructive leadership behaviour highlighted in the toxic triangle theory can significantly impair these processes.

For instance, the theory helps shed light on how leadership practises can influence dynamic capabilities in organisations (Hu & Bentler, 1999). Dynamic capabilities, such as sensing opportunities and threats, seizing opportunities, and transforming the organisation, are likely to be negatively affected in a toxic environment. Destructive leaders can stifle creativity, discourage innovation, and hinder the organisation's ability to respond effectively to changes in its business environment (Teece, 2018). Thus, understanding the elements of the toxic triangle can help organisations identify and address destructive leadership behaviours, thereby enhancing their dynamic capabilities.

Furthermore, the theory is relevant for understanding the role of leadership decision-making in employee engagement and organisational performance. Destructive leaders, susceptible followers, and conducive environments can create a disengaged workforce, lowering productivity and impairing organisational performance (Mikalef et al., 2020). On the other hand, leaders who exhibit supportive, non-toxic behaviours can enhance employee engagement, leading to improved performance (Wei et al., 2018).

Lastly, this theory is valuable for the study because the energy industry is often characterised by complex, uncertain, and rapidly changing environments. In such settings, toxic leaders can thrive and cause considerable harm to the organisation and its stakeholders (Krasikova et al., 2013). Thus, examining leadership and employee engagement through the lens of the Toxic Triangle Theory can provide significant insights for organisations in the energy sector, including how to prevent or mitigate the impacts of toxic leadership.

2.9 Research Conceptual Framework

The conceptual framework presented in Figure 2.2 illustrates the relationships among leadership decision-making, dynamic capabilities, employee engagement, and organisational performance. It is underpinned by three theoretical perspectives: Social Exchange Theory, Path-Goal Theory, and the Toxic Triangle Theory, while also integrating the moderating influence of cultural dimensions to provide a more contextually nuanced understanding of organisational dynamics in diverse environments.

Social Exchange Theory provides the foundational rationale for understanding how leaders and employees engage in reciprocal relationships to maximize mutual benefit. This reciprocity is often moderated by cultural expectations, where values such as loyalty, trust, and perceived fairness are interpreted differently across cultural contexts (Mora Cortez & Johnston, 2020). Leadership that facilitates beneficial exchanges—through transparent communication, recognition, and resource access—can strengthen employee engagement, which in turn enhances organisational commitment and performance.

The Path-Goal Theory underscores the leader's role in clarifying tasks, removing obstacles, and aligning rewards with performance. This role becomes increasingly complex in culturally diverse environments, where leadership effectiveness depends on the ability to adapt to differing values and motivations (Saide et al., 2019). For example, in high power distance cultures, directive leadership may be more accepted, whereas participative approaches may be more effective in low power distance settings. This adaptability supports the development of dynamic capabilities such as sensing, learning, integrating, and coordinating—capabilities essential for innovation and responsiveness (Adoli & Kilika, 2020).

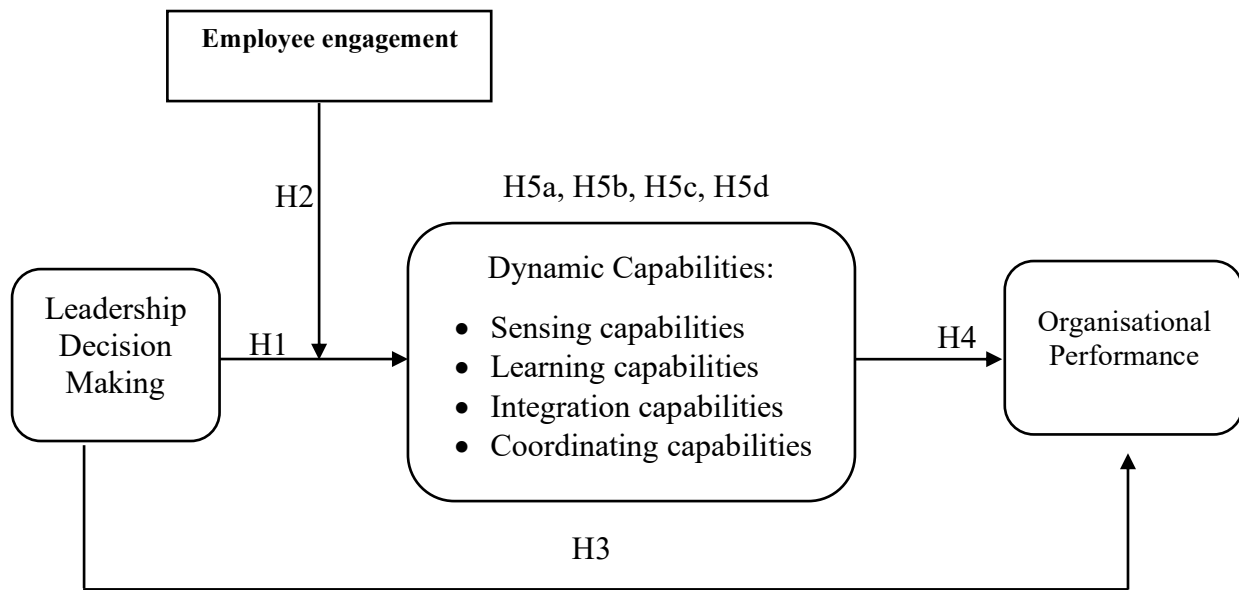


Figure 2.2: Conceptual Framework

The Toxic Triangle Theory brings attention to the potential for destructive leadership to emerge when three elements converge: destructive leaders, susceptible followers, and conducive environments. Cultural norms that tolerate authoritarianism, discourage dissent, or emphasize excessive loyalty may enable toxic leadership, undermining employee engagement and weakening organisational capabilities (Küskü et al., 2021).

In recognition of these dynamics, the framework incorporates cultural dimensions—particularly those identified by Hofstede: power distance, individualism vs. collectivism, uncertainty avoidance, masculinity vs. femininity, long- vs. short-term orientation, and indulgence vs. restraint. These dimensions are positioned as contextual influencers that shape how leadership decision-making translates into employee engagement and dynamic capabilities, ultimately affecting organisational performance.

Therefore, this conceptual model goes beyond a linear cause-effect paradigm. It highlights the interactive and mediated relationships between leadership decision-making and organisational performance through dynamic capabilities, moderated by employee engagement and influenced by cultural factors. This holistic perspective is especially relevant for organisations operating in multicultural environments, such as the UAE energy sector.

2.10 Hypotheses development

2.10.1 *The role of effective leadership decision-making in dynamic capabilities*

Effective leadership decision-making in dynamic capabilities is critical for organisations to adapt to changing environments and maintain their competitive advantage. Recent studies have explored the relationship between effective leadership decision-making and dynamic capabilities in various industries, including the energy sector.

The Toxic Triangle Theory provides a compelling perspective on how destructive leadership behaviour can negatively impact an organisation's dynamics and performance (Bratianu, 2015). This theory highlights the crucial role of leadership decision-making in shaping the trajectory of an organisation, including its dynamic capabilities. In the context of the present study, the Toxic Triangle theory reinforces the premise that poor leadership decision-making can have detrimental effects on an organisation's dynamic capabilities. Specifically, leaders who engage in harmful behaviours, such as manipulation, bullying, or other forms of mistreatment, can cultivate a toxic work environment that stifles creativity, innovation, and engagement among employees (Hu & Bentler, 1999).

Moreover, the theory also proposes that toxic leaders often fail to adequately recognise and adapt to changing external conditions, undermining the organisation's ability to develop and deploy its dynamic capabilities effectively (Krasikova et al., 2013). Furthermore, toxic behaviours exhibited by leaders can demotivate employees, leading to decreased engagement and productivity, which in turn affects the organisation's overall performance (Schyns & Schilling, 2013). This highlights the indirect impact that leadership decision-making can have on organisational performance through its influence on dynamic capabilities.

Pitelis and Wagner (2019) found that effective leadership decision-making was critical for firms to align various stakeholders, including government agencies, technology providers, and customers, to achieve the goals of the smart grid initiative. The study also found that effective leadership decision-making was associated with higher levels of dynamic capability, which in turn contributed to improved organisational performance. Laaksonen & Peltoniemi, 2018 suggest that the effectiveness of leadership decision-making profoundly influences an organisation's propensity to innovate through its dynamic capabilities. Through their decisions, leaders craft the strategic trajectory of the organisation, thereby setting the tone for innovation and transformation.

In line with this argument, Siksnyte et al. (2018) underscore the crucial role of decision-making in addressing the multifaceted issues of sustainable energy development. Their research accentuates the vital role leaders play in guiding organisational endeavours toward sustainable energy practises by making strategic and well-informed decisions. Mora Cortez and Johnston (2020) further reinforce this perspective by emphasising the crucial role of effective leadership decision-making in crisis scenarios. According to them, crises present unique opportunities for leaders to exhibit their effectiveness by making decisions that bolster the organisation's resilience and its capacity to innovate.

Echoing this sentiment, Campos-Guzmán et al. (2019), along with Papadis and Tsatsaronis (2020), emphasise the imperative for leaders to incorporate sustainability considerations into their decision-making processes. This is particularly pertinent in sectors such as energy, where sustainability issues are markedly salient. The influence of leadership styles on this process should not be underestimated. Kalsoom et al. (2018) contends that both transactional and transformational leadership styles substantially affect employee performance and, hence, the organisation's dynamic capabilities. (Bass, 2019) further elucidates this connection by positing that effective leadership transcends mere decision-making; it also encompasses inspiring, motivating, and enabling others to contribute to the achievement of organisational objectives.

Tsai (2018), Emerson, 1976, and Lopion (2018) further endorse the role of effective leadership decision-making in fostering dynamic capabilities, highlighting the necessity for leaders to navigate complex decision-making landscapes, particularly in industries such as renewable energy, which are characterised by uncertainty and rapid flux. Develop the subsequent hypothesis grounded in this comprehensive literature review:

Hypothesis 1: Leadership decision-making has a significant impact on organisational dynamic capability in the UAE energy sector

2.10.2 The role of employee engagement in effective leadership decision-making and dynamic capabilities

Chanana and Sangeeta (2021) assert that highly engaged employees demonstrate a greater commitment to the organisation's goals and objectives. They are more likely to align their individual goals with those of the organisation and work toward achieving them. This alignment between employee goals and organisational goals creates a shared vision and sense of purpose, which helps build the foundation for the development of dynamic capabilities.

The Social Exchange Theory says that people in organisations exchange resources with each other in order to get the best results (Mora, Cortez, & Johnston, 2020). This theory can help us understand how good leadership decisions are made, how engaged employees are, and how effective an organisation's dynamic capabilities are. Effective leaders, by leveraging their decision-making capabilities, act as facilitators in the social exchange process within an organisation. They decide how to allocate resources, set the organisation's goals and directions, and establish a positive work environment that encourages employees to participate in the exchange process. This theory posits that the quality of social exchanges can significantly influence employee attitudes, such as their level of engagement (Mora Cortez & Johnston, 2020).

In the context of the hypothesis, the social exchange theory can underpin the understanding that leadership decision-making that encourages positive social exchange can enhance employee engagement. This enhanced engagement, in turn, can help to develop and utilise the dynamic capabilities of an organisation, as engaged employees are more likely to contribute to innovation, problem-solving, and adaptive behaviours, all of which are integral parts of dynamic capabilities (Le et al., 2017). Moreover, according to social exchange theory, employees tend to reciprocate the positive treatment from leaders (e.g., resource provision, supportive environment) by showing positive attitudes and behaviours, such as increased job satisfaction, motivation, and engagement (Mora Cortez & Johnston, 2020). Furthermore, the idea that social interactions are two-way supports the idea that beneficial leadership decisions that promote a positive exchange process can motivate employees and, in turn, affect the growth and use of dynamic capabilities.

According to Hasen, 2010 and Sarwar et al. (2020), employee engagement influences effective leadership significantly. These findings suggest that employee engagement plays an important role in the relationship between effective leadership decision-making and dynamic capabilities. Highly engaged employees are more likely to be committed to the organisation's goals, be innovative, and be willing to take risks all of which contribute to the development of dynamic capabilities. Effective leaders create a supportive work environment that fosters employee engagement (Haarhaus & Liening, 2020), which in turn enhances the effects of effective leadership on dynamic capabilities and, ultimately, sustained organisational performance.

As highly engaged employees are more likely to be innovative and willing to take risks (Hayter & Cahoy, 2018), they are more likely to share their ideas and suggestions, participate in problem-solving activities, and take ownership of their work. This type of behaviour is critical

for the development of dynamic capabilities, as it requires organisations to be open to new ideas and willing to take risks in order to innovate and stay ahead of competition. The engaged employees are more likely to be adaptable and resilient in the face of change (Henseler et al., 2014). They are more likely to embrace change, learn from their experiences, and adjust their behaviours and practises accordingly. Adaptability is critical for the development of dynamic capabilities, as it requires organisations to be able to adapt to changing market conditions, technologies, and customer needs.

The role of employee engagement in leadership decision-making and dynamic capabilities is a crucial area of contemporary organisational research. Albrecht et al. (2018) emphasised the correlation between organisational resources, organisational engagement climates, and employee engagement, suggesting that a conducive environment for employee engagement can significantly influence the development and deployment of dynamic capabilities. Li et al. (2021) conducted a meta-analysis that further emphasised the relationship between leadership and employee engagement, revealing significant differences across countries in the impact of leadership on employee engagement. This finding accentuates the need for context-specific leadership strategies in managing employee engagement.

Wei et al. (2018) proposed an interactive effect between authentic leadership, leader competency, and followers' job performance, positing that work engagement plays a pivotal mediating role in this relationship. Mapetere et al., 2012 found a positive correlation between work engagement and performance with managerial coaching and leader-member exchanges. Awolusi (2020) discussed the relationship between empowering leadership, employee work engagement, person-job fit, person-group fit, and proactive personality. Their research suggested that empowering leadership and job alignment significantly influence work engagement, further contributing to dynamic capabilities.

A critical review of Kurt Lewin's change model by Dohan, Green & Tan (2017) emphasised the role of leadership and employee involvement in organisational change. Their study suggests that employee engagement and participation are crucial in facilitating effective decision-making and implementing change. Akkaya, 2020 conducted a study that explored the mediating role of structural empowerment between transformational leadership and work engagement, suggesting that an empowering environment can positively impact engagement.

Hypothesis 2: Employee engagement has a significant moderating role in the relationship between leadership decision-making and organisational dynamic capability in the UAE energy sector

2.10.3 The role of effective leadership decision-making in organisational performance

Effective leadership decisions play a critical role in organisational performance. According to Cherian et al. (2020), effective leaders are responsible for setting the overall direction and goals of the organisation and making critical decisions about how to allocate resources and prioritise activities to achieve those goals. Effective leadership decision-making leads to improved organisational performance and a sustained competitive advantage. Shao (2019) addressed the idea that one-way effective leadership decision-making improves organisational performance is by fostering a culture of innovation and experimentation. Effective leaders are often willing to take risks and try new things, which leads to the development of new products, services, and business models that give organisations a competitive edge. By creating a culture that encourages innovation and experimentation, effective leaders can prepare their organisations for long-term success.

Robert House developed the Path-Goal theory of leadership, which suggests that a leader's effectiveness lies in guiding their followers on the path to the desired goal, thereby improving performance. The theory posits that leaders can adjust their behaviours and styles to suit the characteristics and needs of their subordinates, ultimately affecting their motivation and productivity (House, 1971). Using this theory, Successful leadership decision-making may influence an organisation's performance by providing guidance and support to subordinates. Leaders who clearly define the path toward goal attainment, help remove roadblocks, and provide necessary support increase the likelihood of high organisational performance. This is particularly relevant when considering decision-making within complex and dynamic environments such as the energy sector, where strategic, informed choices are necessary for successful operations and performance (Northouse, 2016).

The Path-Goal Theory underpins the proposed hypothesis that leadership decision-making significantly influences organisational performance. Leaders who effectively guide and support their followers, offering a clear path to goal attainment, are more likely to cultivate an environment conducive to high performance.

Previous studies, such as Abbas et al. (2019), found that effective leadership decision-making impacts organisational performance. Effective leadership decisions also improve organisational performance by creating a supportive work environment. Effective leaders recognise the importance of employee engagement, and they work to create a culture that fosters employee satisfaction, commitment, and motivation. By providing employees with the

resources and support they need to perform their jobs effectively, effective leaders improve employee engagement and productivity, which translate into better organisational performance.

Another way that effective leadership decision-making improves organisational performance is by aligning the organisation's goals and objectives with those of its stakeholders (Ellinger & Ellinger, 2021). Effective leaders work to build relationships with customers, suppliers, and other stakeholders and use their influence to create win-win scenarios that benefit everyone involved. By building these relationships and aligning the organisation's goals with those of its stakeholders, effective leaders improve organisational performance and achieve sustained competitive advantages.

Effective leadership decision-making plays a significant role in organisational performance, as observed in various sectors, including energy. For instance, Gitu and Awuor (2020) demonstrated the influence of charismatic leadership and intellectual stimulation on the performance of the Kenya Pipeline Company Limited. Their findings suggest that charismatic leadership a facet of effective leadership decision-making is positively associated with organisational performance. Dillman et al., 2009 found that the strategic dimensions of entrepreneurial leadership significantly influenced organisational performance, evoking this sentiment. Looking specifically at the renewable energy sector, Agarwal (2020) studied the impact of women's leadership on renewable transformation, energy justice, and energy democracy. They discovered that leadership significantly influences the redistribution of power, which could improve organisational performance.

Studies on the sustainability and energy efficiency of public buildings show a similar trend. Lee et al. (2019) discovered a significant improvement in the energy performance and sustainability of Korean public buildings through strategic decision-making in building retrofitting. Vavrek and Chovancová (2019) conducted an assessment of the economic and environmental energy performance of EU countries, again finding a connection between strategic leadership decision-making and performance. Zou et al. (2018) confirmed these findings in their review, noting that effective leadership decision-making can help close the performance gap in building energy use over the life-cycle of a building. These studies highlight the significant role that effective leadership decision-making plays in enhancing organisational performance, particularly in the energy sector.

Effective leadership decision-making is critical for achieving sustained organisational performance (Birasnav & Bienstock, 2019). Effective leaders work to create a culture of

innovation and experimentation, foster employee engagement and satisfaction, and align the organisation's goals with those of its stakeholders. By doing so, they position their organisations for long-term success in a dynamic, ever-changing business environment.

Hypothesis 3: Leadership decision-making has a significant impact on organisational performance in the UAE energy sector

2.10.4 Mediating role of Organisational dynamic capability

The mediating role of organisational dynamics in the relationship between effective leadership decision-making and organisational performance is an important area of research. Dynamic capabilities refer to an organisation's ability to adapt to changing environments, learn from experience, and innovate in response to new challenges and opportunities (Oliva et al., 2019). In several ways, organisational dynamic capability mediates the relationship between effective leadership decision-making and organisational performance. According to Gupta, Drave, et al. (2020), effective leadership decision-making shapes an organisation's dynamic capabilities by setting its overall direction and goals. Effective leaders recognise the importance of building dynamic capabilities to adapt to changing environments; they invest in resources and initiatives that enhance the organisation's ability to innovate and learn from experience.

The toxic triangle theory refers to the convergence of certain conditions that lead to destructive behaviour within organisations (Hu & Bentler, 1999). The theory highlights three elements: destructive leaders, susceptible followers, and conducive environments. The theory may be applied to the hypotheses by highlighting the potential negative outcomes of inadequate leadership decision-making. Hypothesis 1 asserts that leadership decision-making significantly impacts organisational dynamic capabilities. In the context of the toxic triangle, inadequate leadership choices can create an environment conducive to detrimental behaviour, leading to a deterioration of organisational dynamic capabilities. Conversely, effective leadership decisions that foster a positive and constructive organisational culture can enhance dynamic capabilities (Hu & Bentler, 1999).

Similarly, in Hypothesis 4, where organisational dynamic capability mediates the relationship between leadership decision-making and organisational performance, the toxic triangle theory provides an explanatory model. Poor leadership decision-making could lead to destructive organisational behaviours, impede the development of dynamic capabilities, and consequently affect organisational performance negatively. The path-goal theory posits that the leader's role is to support followers in attaining their goals and to provide the necessary direction and

support to ensure that their goals are compatible with the overall objectives of the group or organisation (House, 1971). The theory can support Hypothesis 3, which postulates that leadership decisions have a significant impact on organisational performance. According to the Path-Goal theory, effective leadership decision-making can include clearly defining paths (strategies and tactics) toward goal attainment, removing obstacles, and providing support. By doing so, leaders can enhance the performance of their followers and, in turn, the performance of the organisation.

Path-goal theory also supports Hypothesis 4, which suggests a mediating role for organisational dynamic capability in the relationship between leadership decision-making and organisational performance. Effective leadership decision-making, as outlined in the theory, can foster the development of dynamic capabilities, which in turn can enhance organisational performance.

Dynamic capabilities help organisations achieve improved organisational performance by enhancing their ability to respond to changes in market, technology, and customer needs (Gupta, Meissonier, et al., 2020). By developing dynamic capabilities, organisations position themselves to take advantage of new opportunities, respond to threats and challenges, and outperform competitors over the long run. Hence, dynamic capabilities mediate the relationship between effective leadership decision-making and organisational performance by creating a culture of innovation and continuous improvement. Effective leaders recognise the importance of fostering a culture that encourages employees to take risks, experiment with new ideas, and learn from failures (Mikalef, Van de Wetering, et al., 2021). By creating this type of culture, organisations develop the dynamic capabilities they need to achieve sustained competitive advantages.

Dynamic capabilities are an integral part of the organisation's performance equation. Defined as the organisation's ability to reconfigure, renew, and augment its resources in response to changing business environments (Teece, 2018), dynamic capabilities play a crucial role in driving sustainable competitive advantage. Du (2011) found that organisations with green entrepreneurial orientations could enhance firm performance by developing dynamic capabilities. This supports the idea that organisations whose leaders make decisions that foster the development and use of dynamic capabilities are likely to see improved performance.

Qiu et al. (2020) discovered a positive correlation between green product innovation, green dynamic capability, and competitive advantage, highlighting the crucial role of dynamic capabilities in business success. Laaksonen & Peltoniemi (2018) further highlighted the importance of dynamic capabilities in enabling organisations to adapt and thrive in a rapidly

changing environment. By cultivating dynamic capabilities, organisations can respond more effectively to environmental shifts and seize new opportunities, which can lead to improved performance (Hunitie, 2018).

In the context of the energy sector, dynamic capabilities are essential for driving innovation, operational efficiency, and sustainability. Research by Murshed (2020) highlights that Information and Communication Technology (ICT) and trade openness exhibit a nonlinear impact on the transition to renewable energy, energy efficiency, and overall environmental sustainability. This suggests that while digital advancements and international trade can accelerate sustainability efforts, their effectiveness depends on the strategic capabilities of energy sector organisations to adapt and integrate these changes. This underscores the need for leaders in the energy sector to make decisions that foster the development of dynamic capabilities and enable their organisations to adapt and thrive in the face of changing environmental conditions and technological advancements. These studies provide a strong foundation for Hypothesis 4, which posits that organisational dynamic capabilities have a significant mediating role in the relationship between leadership decision-making and organisational performance. By fostering dynamic capabilities, leaders in the energy sector can enhance their organisation's ability to adapt to change, seize new opportunities, and ultimately improve performance.

Thus, the mediating role of organisational dynamic capability in the relationship between effective leadership decision-making and organisational performance is critical for organisations to achieve sustained success in today's dynamic business environment. Effective leaders recognise the importance of building dynamic capabilities to adapt to changing environments, foster a culture of innovation and continuous improvement, and achieve a sustained competitive advantage over the long term (Alyileili, 2020).

Hypothesis 4: Organisational dynamic capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

The concept of dynamic capability within organisations, particularly in the UAE's energy sector, is an essential element of strategic management and competitive advantage. An important part of Hypothesis 4a is that these capabilities play a role as mediators. Specifically, it looks at sensing capabilities and how they affect the relationship between leadership decisions and organisational performance. Sensory capability, as defined by scholars, refers to

the ability of an organisation to detect changes and trends in the external environment, which can include market shifts, technological advancements, and competitive dynamics (Teece, 2018). This capability is pivotal for leaders to make informed strategic decisions that align with evolving external demands and opportunities. Recent empirical research supports the significance of sensing capability as a mediator. For instance, studies indicate that the ability to sense and then appropriately respond to external stimuli is a vital driver of organisational success (Akkaya, 2020). Moreover, the ability to effectively interpret and act on information gleaned from the environment can lead to enhanced organisational performance because it allows for more agile and responsive decision-making (Sezer, 2022).

In the fast-paced and innovation-driven UAE energy sector, the role of sensing capability becomes even more pronounced. As organisations strive to maintain a competitive edge in a market characterised by rapid technological change and a diverse range of geopolitical factors, the ability to sense these changes and respond proactively is crucial (Cherian et al., 2020; Agarwal, 2020). In summary, Hypothesis 4a suggests that the mediating role of sensing capabilities is a critical factor in understanding how leadership decision-making impacts organisational performance in the UAE's energy sector. Testing this hypothesis can provide deeper insights into the dynamic capabilities that enable UAE energy firms to navigate their complex and ever-changing environment successfully.

Hypothesis 4a: Sensing capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

The mediating role of organisational dynamics, particularly learning capabilities, is a vital area of investigation in the context of strategic management. Hypothesis 4b posits that learning capability significantly mediates the relationship between leadership decision-making and organisational performance in the UAE's energy sector. Learning capability refers to an organisation's ability to process, interpret, and apply new information in order to improve and innovate. This capability is essential for organisations to adapt and evolve in response to internal and external pressures (Eisenhardt & Martin, 2000). Technological innovations and the shifting energy landscape accelerate the pace of change in the UAE energy sector, making learning capability especially crucial. Empirical research has confirmed the importance of learning capability as a dynamic process that enhances organisational performance. For

instance, Zollo and Murshed, 2020 emphasise that an organisation's ability to learn and integrate new knowledge is a key component of dynamic capabilities that can lead to competitive advantage. Further studies by Teece (2018) underline that learning capability enables firms to maintain strategic flexibility and respond effectively to market changes.

The UAE's commitment to becoming a leader in energy innovation and sustainability underscores the need for organisations in this sector to develop robust learning capabilities. As leadership decision-making guides the strategic direction of these firms, the ability to learn from experience and integrate new knowledge is fundamental to realising performance goals (Teece et al. 1997). In conclusion, Hypothesis 4B explores the pivotal role of learning capability as a mediator in the dynamic interplay between leadership decision-making and organisational performance within the UAE energy sector. By fostering a culture of continuous learning and knowledge integration, leaders can drive their organisations toward sustainable success in a highly competitive and evolving industry.

Hypothesis 4b: Learning capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4C of this study asserts that integration capability is a significant mediator in the relationship between leadership decision-making and organisational performance, particularly within the UAE energy sector. Integration capability refers to an organisation's proficiency in coordinating and combining its internal and external competencies to achieve strategic goals and respond to market changes. This hypothesis draws on the work of Martin (2000), who conceptualise dynamic capabilities as a firm's ability to integrate, build, and reconfigure competencies to address rapidly changing environments. Eisenhardt and Martin (2000) further support the importance of integration capability, arguing that it is critical for effectively leveraging knowledge and resources.

In the UAE's energy sector, which is characterised by rapid technological advancements and a complex regulatory landscape, the ability to integrate diverse competencies is especially crucial. As leadership decisions shape the strategic direction of firms, their capacity to integrate various skills and resources can determine the extent to which they can capitalise on new opportunities and navigate challenges (Teece, 2018). Empirical studies, such as those by Wang

and Ahmed (2007), have demonstrated that integration capability plays a critical role in enhancing organisational performance by allowing firms to combine and reconfigure their resources to meet strategic needs. This is particularly relevant in the energy sector, where firms may often integrate technical, financial, and human resources to innovate and maintain competitiveness. In sum, Hypothesis 4c posits that the ability to integrate diverse capabilities effectively mediates the impact of leadership decision-making on performance outcomes in the UAE energy sector. Organisations can effectively implement strategic decisions, resulting in improved performance and a sustained competitive advantage, by focusing on this dynamic capability.

Hypothesis 4c: Integration capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4D posits that coordinating capability significantly mediates the relationship between leadership decision-making and organisational performance within the UAE energy sector. Coordinating capability is defined as the organisation's ability to align its processes, resources, and activities toward achieving strategic objectives, ensuring that different parts of the organisation work together harmoniously and effectively. Teece (2007) lays the theoretical foundation for this hypothesis, emphasising the importance of dynamic capabilities, including coordinating capabilities, in enabling firms to adapt and respond to changing environments. The ability to coordinate effectively is crucial in sectors like the UAE energy industry, where rapid technological changes and complex regulatory environments demand high levels of organisational agility and alignment.

Further supporting this hypothesis, Helfat et al. (2007) argue that coordinating capabilities are essential for leveraging and applying the firm's resources in a manner that supports strategic change and innovation. Recent studies like Pavlou and El Sawy (2011) corroborate this view, demonstrating that effective coordination across an organisation can significantly enhance its ability to innovate and maintain a competitive edge in dynamic markets. In the context of the UAE energy sector, the mediating role of coordinating capability becomes even more pertinent. Strong coordinating capabilities, fostered by leadership decision-making, can lead to superior organisational performance by ensuring the effective implementation of strategic decisions

across the organisation, optimal allocation of resources, and alignment of activities with the overarching strategic goals.

Hypothesis 4d: Coordinating capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

2.11 Summary

The chapter of this study acts as an expansive review of the literature, meticulously mapping out the theoretical terrain that underpins the research. It dissects the complex notions of leadership decision-making, dynamic capabilities, and employee engagement, scrutinising how each of these constructs has been historically conceptualised and analysed within the organisational context, particularly in the energy sector. The chapter commences by exploring various leadership theories and styles, with a special focus on transformational, transactional, and participative approaches, considering their relevance to the UAE's cultural backdrop. It then transitions to a discussion of dynamic capabilities, delineating their role in fostering organisational agility and competitiveness. The dimensions of sensing, learning, integrating, and coordinating capabilities are dissected to understand how they individually and collectively contribute to an organisation's strategic repertoire. Employee engagement is then examined, highlighting its significance as a mediator of the relationship between leadership decision-making and dynamic capabilities. The chapter emphasises the multifaceted nature of engagement, including its emotional, cognitive, and behavioural components, and how leadership practises and the larger cultural environment affect these aspects.

The literature review further extends into an analysis of the interplay between HR practises and the development of dynamic capabilities. It reflects on how strategic HR management can create the conditions necessary for dynamic capabilities to emerge and thrive, thereby enhancing organisational performance. The influence of both external/national and internal/organisational culture is also scrutinised, offering insights into how these cultural dimensions impact leadership behaviours and employee expectations. Crucially, the chapter addresses the gap in the literature regarding the explicit connection between leadership decision-making and dynamic capabilities, as well as the moderating role of employee engagement. Theoretical frameworks such as Social Exchange Theory, Path Goal Theory, and

the Toxic Triangle are woven into the discussion to provide a holistic understanding of these relationships. This chapter provides a comprehensive and critical review of the extant literature, setting the stage for the empirical investigation that follows. It establishes the theoretical foundations for the study, justifying the research model and hypotheses that were explored in subsequent chapters. The chapter concludes by identifying the existing gaps in the research and articulating how this study aims to bridge them, thus contributing to the body of knowledge in organisational studies and offering practical insights for the UAE energy sector.

Chapter Three: Research Methodology

3.1 Introduction

This chapter delineates the research methodology employed to examine the dynamics between leadership decision-making, organisational dynamic capabilities, employee engagement, and their impact on organisational performance within the UAE energy sector. It justifies the chosen research approach, outlines the framework for data collection, analysis, and interpretation, and discusses the development and validation of measurement instruments. The rationale for employing either quantitative, qualitative, or mixed-method approaches is presented, considering the study's objectives and the nature of the investigated variables.

The chapter also elaborate on sampling strategies to ensure a comprehensive and representative sample from the UAE energy sector and details the data collection processes while maintaining ethical standards for reliability and validity. Analytical techniques for data examination are explained, highlighting statistical methods for exploring relationships between variables and testing hypotheses. This section introduces the methodological foundation that supports the empirical investigation, setting the stage for a thorough exploration of the interplay between key organisational constructs.

3.2 Research Philosophy

The research philosophy underpinning this study is based on the positivist approach. Positivism asserts that social phenomena can be studied objectively and scientifically, similar to the natural sciences; it also emphasises the importance of observable, measurable evidence (Marshall & Rossman, 1999; Engstrom & Salehi-Sangari, 2007). This philosophy aligns with the study's objectives of investigating the impact of leadership decision-making on organisational performance through dynamic capabilities and seeking to establish clear, quantifiable relationships. Positivism is grounded in an ontology that views reality as objective and external, meaning that social phenomena exist independently of our perceptions of them. The epistemology of positivism holds that knowledge is derived from empirical evidence obtained through observation and experimentation, which can be measured and analysed statistically (Jonker & Pennink, 2010).

Critics contend that positivism may neglect the intricacies and subjectivity intrinsic to social processes, positing that it regards knowledge as infallible while disregarding the possibility of prejudice and mistake (Adams et al., 2015; Steinmetz, 2005). In response, post-positivism has arisen, recognising that although individuals can pursue objectivity, our observations are inherently imperfect and influenced by theory (Morrow & Torres, 1995).

Despite these criticisms, positivism remains relevant and defensible for this study. The quantification of results allows for objective scientific conclusions that are particularly suitable for examining the effects of leadership decision-making on organisational outcomes. For instance, studies such as Babalola et al. (2018), Doucet et al. (2009), Wong et al. (2014), and Hadadian & Zarei (2016) have used quantitative methods to investigate the effects of toxic leadership on organisational growth and stability, providing valuable empirical evidence. The conceptual framework of this study is built upon quantitative research methods and the positivist perspective, which have been widely used in leadership research (Warszewska et al., 2015; Doucet et al., 2009; Hadadian & Zarei, 2016). MLQ to find out how different leadership styles really work. This shows that positivist approaches to leadership research are valid and trustworthy (Hadadian & Zarei, 2016).

The adoption of a positivist research philosophy supported by an objective ontology and empirical epistemology is appropriate for achieving the study's objectives. This approach allows for a rigorous examination of the relationships between leadership decision-making, dynamic capabilities, and organisational performance, contributing to the broader literature with robust scientific insights.

3.3 Research Design

3.3.1 *Quantitative Causal Research*

Quantitative causal research aims to identify and explain the relationships between variables within a conceptual framework. Saunders et al. (2012) categorise research purposes into causal, explanatory, and exploratory; causal research focuses on understanding how one variable affects another. This aligns with the goals of the proposed study, which seeks to evaluate the impact, effect, or role of specific variables on each other (Marshall & Rossman, 1999). In this study, a quantitative approach is used to test specific hypotheses and establish causation between variables. Quantitative research methods involve the use of numbers and statistical

analysis to determine these relationships, providing a clear, objective measure of the effects being studied. Standardised procedures in data collection and analysis help minimise bias, ensuring that the findings are reliable and valid (Saunders et al., 2012; Marshall & Rossman, 1999).

3.3.2 *Deductive Research Approach*

The deductive research approach begins with a general theory or hypothesis, which is then tested through empirical observation and data collection. This method is characterised by its progression from a broad theoretical framework to specific observations that confirm or refute the initial hypothesis. In this study, the deductive approach is employed to test hypotheses derived from existing theories, specifically the Social Exchange Theory and the Path-Goal Theory.

The Social Exchange Theory posits that social behaviour is the result of an exchange process aimed at maximising benefits and minimising costs (Blau, 1964). Path-Goal Theory, on the other hand, focuses on how leaders can enhance employee performance and satisfaction by clarifying the path to achieving work goals and removing obstacles (House, 1971). These theories inform the study's hypotheses about the impact of leadership decisions on organisational performance and employee engagement in the energy sector. By following the deductive approach, hypotheses are formulated based on these established theories. Subsequent field observations and data collection through surveys are conducted to validate these hypotheses. This method aligns with the core principles of positivist philosophy, which emphasise objectiveness and the use of quantitative methods (Jonker & Pennink, 2010).

Surveys are used to gather relevant data from a representative sample of stakeholders in the energy sector. This approach ensures that the study captures a wide range of perspectives and provides a comprehensive understanding of the relationships being examined (Saunders et al., 2012). The structured nature of surveys allows for systematic data collection, which supports the statistical analysis required to test the study's hypotheses.

3.4 Systems Approach in the UAE Energy Sector

Figure 3.1 provides a comprehensive representation of the UAE Energy Sector, illustrating its key components and their interconnections. The UAE's energy landscape comprises six major elements: government and regulatory bodies, energy producers, energy suppliers and distributors, consumers, external influences, and sustainability and renewable energy. Each of these elements plays a crucial role in shaping the country's energy policies, production, distribution, and overall sustainability.

Government and regulatory bodies are responsible for establishing policies, overseeing compliance, and ensuring energy security. The Ministry of Energy and Infrastructure plays a central role in national energy planning and infrastructure development, while the Supreme Petroleum Council governs the management of petroleum and hydrocarbon resources. Other regulatory entities, such as the Federal Electricity & Water Authority (FEWA) and the Abu Dhabi Department of Energy, focus on ensuring a stable and efficient energy supply across the emirates. These organisations work collectively to shape energy policies and drive the transition towards sustainable energy solutions.

Energy production in the UAE is dominated by key organisations engaged in both fossil fuel and renewable energy generation. The Abu Dhabi National Oil Company (ADNOC) is the largest energy producer, leading the exploration, production, refining, and distribution of oil and gas resources. In addition, Dubai Petroleum Establishment plays a significant role in offshore oil and gas extraction, contributing to the energy supply of the emirate. Alongside these traditional energy producers, Masdar is a leading force in renewable energy investments, spearheading initiatives in solar and wind power to align with the country's sustainability objectives.

Energy suppliers and distributors ensure the transmission and distribution of power and water resources across various sectors. Dubai Electricity & Water Authority (DEWA) is responsible for meeting Dubai's growing energy and water demands, while Transco operates high-voltage transmission networks that support the infrastructure of Abu Dhabi and the northern regions. Etihad Water & Electricity facilitates the supply of essential utilities to residential, commercial, and industrial sectors. These organisations play a vital role in maintaining energy security and ensuring a reliable supply of electricity and water to meet national demand.

Consumers of energy in the UAE span across multiple sectors, including residential, commercial, industrial, and transportation. The residential sector consists of households and housing developments that require electricity and water for daily use. The commercial sector, comprising businesses, retail outlets, offices, and the hospitality industry, is a major consumer of electricity for operations and services. The industrial sector, which includes manufacturing plants, factories, and heavy industries, accounts for a significant portion of energy consumption due to high operational demands. The transportation sector also contributes to energy consumption, with petrol and electricity powering private and public transport, as well as logistics and aviation.

External influences shape the UAE's energy sector by impacting market conditions, policy decisions, and investment strategies. The global oil market plays a critical role in determining the economic viability of oil production and affects energy prices and export revenues. The UAE collaborates with international energy organisations, including OPEC, the International Renewable Energy Agency (IRENA), and the International Energy Agency (IEA), to align its policies with global energy trends and sustainability goals. Moreover, UAE Vision 2050 provides a long-term strategic framework aimed at reducing reliance on fossil fuels and increasing the share of clean energy sources, ensuring a balanced approach to economic growth and environmental sustainability.

Sustainability and renewable energy initiatives form a fundamental part of the UAE's long-term energy strategy. The country is actively investing in solar energy projects, such as the Mohammed bin Rashid Al Maktoum Solar Park, one of the largest solar energy projects in the world. Additionally, wind energy projects are being developed to complement solar power and diversify the renewable energy mix. These initiatives align with the UAE's commitment to reducing carbon emissions and positioning itself as a global leader in sustainable energy solutions.

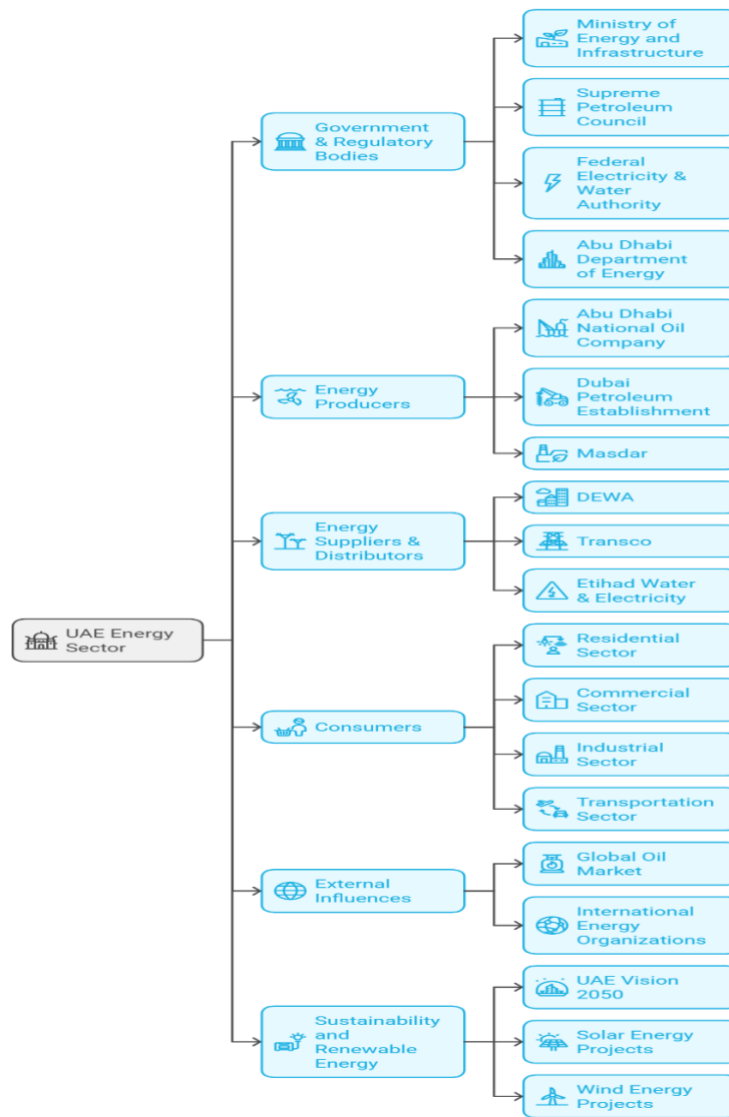


Figure 3.1: systems map of the UAE energy sector

Source: Ministry of Energy and Infrastructure

3.5 Instrumentation

A questionnaire was created for data collecting based on the specified metrics for leadership decision-making, dynamic capacities, employee engagement, and organisational performance. The questionnaire has closed-ended questions including multiple options, rating scales, and dichotomous items. The questions were created to assess the constructs being examined and their interrelations. The questionnaire items were derived from existing literature. In current study, the questionnaire items were adapted and refined to align with the relevant research situation. The questionnaire underwent pilot testing to verify its validity and reliability, as

elaborated in a subsequent section. The definitive version of the questionnaire comprises four parts, each corresponding to a distinct concept.

- The first section measures leadership decision-making, with items adapted from Warszewska-Makuch et al. (2015), Babalola et al. (2018), Doucet et al. (2009), Wong Humborstad et al. (2014), and Hadadian and Zarei (2016).
- The second section measures dynamic capabilities, with items adapted from Zheng et al. (2011).
- The third section measures employee engagement, with items adapted from Kim, 2019.
- The final section measures organisational performance, with items adapted from Valmohammadi and Servati (2011).

The questionnaire consists solely of closed-ended questions, with the primary variables being measured using a five-point Likert scale (Jonker & Pennink, 2010). The use of closed-ended questions and the Likert scale allows for inferential and other parametric analyses that can yield comprehensive insights from the dataset.

3.5.1 *Dynamic capabilities*

The study drew on multiple scholarly sources to measure organisational dynamic capabilities (see Table 3.1). This multidimensional measure consists of sensing capabilities, learning capabilities, integration capabilities, and coordinating capabilities, each contributing to an organisation's ability to renew, enhance, and reconfigure its resources and competencies to respond effectively to changing business environments (Teece, 2007; Pavlou & El Sawy, 2011). Sensing capabilities refer to an organisation's capacity to identify and understand changes in the environment, including opportunities and threats (Teece, 2007; Pavlou & El Sawy, 2011). This includes environmental scanning, reviewing potential impacts of changes, and assessing service development efforts (Statements 1–7). These aspects were highlighted in the works of Pavlou and El Sawy (2011) and Zheng, Zhang, and Du (2011), whose focus on innovation in networked environments underscores the importance of sensing capabilities.

Learning capabilities are concerned with an organisation's ability to process, assimilate, and transform new information and knowledge (Pavlou & El Sawy, 2011; Zheng, Zhang, & Du, 2011). This involves identifying and importing new knowledge, transforming existing information into new knowledge, and renewing the organisation's resource base (statements 8–14). These measures draw on the works of Ning and Kwak (2022), Helfat & Winter (2011), and Aminu and Mahmood (2015), which emphasise the role of knowledge-based dynamic capabilities in enhancing firm performance. Integrating capabilities refer to the organisation's ability to combine and reconfigure its resources and capabilities to meet changing conditions

(Teece, 2007). This includes releasing obsolete resources, understanding team responsibilities, interrelating actions, and executing collective activities (Statements 15-22). These dimensions are in line with Rashidirad and Salimian (2020) and Nieves and Haller (2014), who discussed the importance of building dynamic capabilities through knowledge resources.

Coordinating capabilities, meanwhile, are concerned with the organisation's ability to synchronise work outputs, allocate resources, assign tasks appropriately, and ensure compatibility between expertise and work processes (Statements 23-28). Rehman and Saeed (2015) and Dohan, Green, and Tan (2017) stressed the importance of such capabilities in firm performance and healthcare settings, respectively. The organisational dynamic capability measurement used in this study aligns with the constructs developed by leading scholars in the field. Each section of the questionnaire is justified in the context of the aim of the work and the literature review findings. This approach ensures that the research instrument is reliable, valid, and can provide meaningful insights for the study.

Table 3.1: Dynamic capabilities items source

S/N	Statement	Source
Sensing Capabilities		
1	I frequently scan the environment to identify new business opportunities for the institution.	Pavlou & El Sawy (2011)
2	I periodically review the likely effect of changes in our business environment on students.	Teece (2007)
3	I often review our service development efforts to ensure they are in line with what the students deserve.	Pavlou & El Sawy (2011)
4	I devote a lot of time implementing ideas for new products and improving our existing products.	Zheng, Zhang & Du (2011)
5	I have effective processes to tap developments in external science and technology.	Teece (2007)
6	I have adequate processes to identify and respond to industry trends.	Zheng, Zhang & Du (2011)
7	I have effective routines to monitor competitor activity.	Pavlou & El Sawy (2011)
Learning Capabilities		
8	I have effective routines to identify, value, and import new information and knowledge.	Pavlou & El Sawy (2011)
9	I have adequate routines to assimilate new information and knowledge.	Teece (2007)
10	I am effective in transforming existing information into new knowledge.	Ning & Kwak (2022)
11	I am effective in utilizing knowledge into new products.	Helfat & Winter (2011)
12	I am effective in developing new knowledge that has the potential to influence product development.	Aminu & Mahmood (2015)
13	I ensure a constant renewal of our resource base by acquiring new external knowledge and resources.	Pavlou & El Sawy (2011)
14	I have adequate knowledge management processes to capture existing resources and knowledge available in the firm.	Zheng, Zhang & Du (2011)
Integrating Capabilities		
15	I have adequate processes to renew our resource base by releasing resources that became obsolete.	Rashidirad & Salimian (2020)
16	I am forthcoming in contributing our individual input to the group.	Nieves & Haller (2014)
17	I have a global understanding of each other's tasks and responsibilities.	Teece (2007)

S/N	Statement	Source
18	I am fully aware of who in the group has specialized skills and knowledge relevant to our work.	Teece (2007)
19	I carefully interrelate our actions to each other to meet changing conditions.	Rashidirad & Salimian (2020)
20	Group members manage to successfully interconnect their activities.	Nieves & Haller (2014)
21	I frequently execute collective, intra-departmental activities (e.g. regular team meetings for decision-making within department).	Rashidirad & Salimian (2020)
22	I frequently execute collective, inter-departmental activities (e.g. cross-functional teams for decision-making across departments).	Teece (2007)
23	I ensure that the output of our work is synchronized with the work of others.	Rehman & Saeed (2015)
Coordinating Capabilities		
23	I ensure that the output of our work is synchronized with the work of others.	Rehman & Saeed (2015)
24	I ensure an appropriate allocation of resources (e.g., information, time, reports) within our group.	Dohan, Green & Tan (2017)
25	Group members are assigned to tasks commensurate with their task-relevant knowledge and skills.	Rehman & Saeed (2015)
26	I ensure that there is compatibility between group members' expertise and work processes.	Dohan, Green & Tan (2017)
27	Overall, our group is well coordinated.	Rehman & Saeed (2015)
28	I am efficient in leveraging our resources and knowledge to implement and exploit new product ideas.	Dohan, Green & Tan (2017)

3.5.2 *Effective leadership decision-making*

The study applied the effective leadership decision-making measurement by examining three dimensions: systems thinking, reframing, and reflection. Each of these areas ties directly into the literature and provides a clear and meaningful evaluation of leadership decision-making. Systems thinking includes the ability to think holistically, recognise patterns and interrelationships, and act intrinsically (statements 1–3) as shown in (Table 3.2). This capacity is a core element of strategic mindset and contributes significantly to effective decision-making (Pisapia, Reyes-Guerra, & Coukos-Semmel, 2005). It also aligns with Dixon, 2017, who explored the impact of attributions and coping on decision-making, highlighting the importance of understanding the whole system rather than isolated elements.

Reframing relates to leaders' ability to suspend judgement while gathering necessary information, identify and understand mental models required to solve problems, and reform and review their mental models (Statements 4-6). Reframing is crucial as it allows leaders to view problems from different perspectives and find novel solutions (Walter, 2016). Furthermore, Couzin et al.'s (2005) work on decision-making in animal groups underscores the importance of reframing, suggesting that the ability to shift perspectives can lead to more effective group decisions. Reflection refers to the capacity of leaders to recognise why certain choices work and others do not; understand governing principles; and blend perceptions, experiences, and knowledge (Statements 7-9). Faraci, Lock, and Wheeler (2013) highlighted

the significance of reflection in leadership decision-making, indicating that it enhances self-awareness and understanding of the decision-making process. Sethuraman and Suresh (2014) and Ferlie & Ongaro, 2022 also pointed out the positive impacts of reflective leadership on organisational outcomes.

By aligning each dimension of the effective leadership decision-making measure with established literature, this study ensures that the research instrument is contextually justified, valid, and reliable.

Table 3.2: Effective leadership decision-making items source

S/N	Statement	Source
Systems Thinking		
1	In the energy sector, leaders think holistically	Pisapia, Reyes-Guerra, & Coukos-Semmel (2005)
2	Leaders in this sector are able to recognise patterns and inter-relationships	Pisapia, Reyes-Guerra, & Coukos-Semmel (2005)
3	Our leaders are able to recognise and act on intrinsically	Pisapia, Reyes-Guerra, & Coukos-Semmel (2005)
Reframing		
S/N	Statement	Source
4	Our leaders have the ability to suspend judgment whilst appropriate information is being gathered	Walter (2016)
5	The organisational leaders in the energy sector are able to identify and understand mental models needed to solve problems and issues	Bannister & Fransella, 2019
6	Our leaders are able to reform and review their own mental models	Walter (2016)
Reflection		
S/N	Statement	Source
7	In my organisation, leaders are able to recognise why certain choices work, and others do not	Faraci, Lock, & Wheeler (2013)
8	Leaders in the energy sector have a deep understanding of governing principles	Sethuraman & Suresh (2014)
9	Leaders are able to blend perceptions, experiences, and knowledge in the UAE energy sector	Ferlie & Ongaro, 2022

3.5.3 Employee Engagement

The study applies the employee engagement measurement by examining five areas that reflect emotional and cognitive involvement in work. Each of these areas is directly tied to the literature and provides a comprehensive evaluation of employee engagement (see Table 3.3). This item is related to the concept of vigour, an essential dimension of work engagement that refers to high levels of energy and mental resilience while working; the willingness to invest effort in one's work; and persistence in the face of difficulties (Schaufeli, Bakker, & Salanova, 2006). "There is a high level of involvement between management and employees": this reflects the participation of employees in organisational decision-making processes and their

inclusion in matters that affect their work, which has been linked to greater engagement (Macey & Schneider, 2008).

"A two-way relationship exists between management and workers": This statement refers to the reciprocal nature of employee engagement where not only employees are engaged in their work but also where there's management's commitment to the employees, leading to a sense of belonging and increased engagement (Ababneh & Macky, 2015). "My job inspires me": Inspiration at work, or finding work meaningful and experiencing a sense of pride and enthusiasm, is a critical component of employee engagement and is tied to positive work outcomes (Saks & Gruman, 2014).

"I am immersed in my work": This reflects absorption, another key aspect of engagement, characterised by being fully concentrated and engrossed in one's work (Smith & Bititci, 2017; Krasikova et al., 2013). Each statement aligns with the research and supports the aim of the study to understand the impact of organisational dynamic capabilities and effective leadership decision-making on employee engagement. By referencing established literature, this research ensures the research instrument is contextually justified, valid, and reliable.

Table 3.3: Employee Engagement items Source

S/N	Statement	Source
1	My work offers me a passion for continuing work	Schaufeli, Bakker, & Salanova (2006)
2	There is a high level of involvement between management and employees	Macey & Schneider (2008)
3	A two-way relationship exists between management and workers	Ababneh & Macky (2015)
4	My job inspires me	Saks & Gruman (2014)
5	I am immersed in my work	Schaufeli, Bakker, & Salanova (2006); Smith & Bititci (2017)

3.5.4 Organisational Performance

The organisational performance in this study is assessed through five key components (see Table 3.4), each representing different aspects of organisational output and efficiency. All these areas are backed by literature and provide a multifaceted evaluation of organisational performance. "My organisation is able to generate optimal output from input resources." This statement pertains to the concept of efficiency, which is a fundamental part of performance measurement systems, as described by Valmohammadi and Servati (2011). The ability of an organisation to generate optimal output from its input is critical in assessing its performance.

Employing limited resources to achieve goals and organisational objectives corresponds with the resource-based view of performance evaluation. Asiaei and Jusoh (2014) contend that companies that effectively utilise their resources are more likely to achieve their goals, hence enhancing their overall performance. Stakeholder theory, viewing the government as a primary stakeholder, supports the claim that it is "generally adept at fulfilling the duties designated by the government" (Homans, 1958). It highlights the organisation's success in regulatory compliance, an essential aspect of the public sector. The organisation demonstrates exceptional profitability, a common financial metric utilised in several performance assessment models, including the Balanced Scorecard (Valmohammadi & Servati, 2011; Rompho & Boon-itt, 2012). "It possesses a significant market share": This statement denotes the market share dimension, an essential indicator of competitiveness and success intrinsically linked to the organisation's performance (Asiaei & Jusoh, 2014).

Table 3.4: organisation's performance items source

S/N	Statement	Source
1	My organisation is able to generate optimal output from input (resources).	Valmohammadi & Servati (2011)
2	We use minimal resources to achieve our targets and organisational goals.	Asiaei & Jusoh (2014)
3	We are generally effective at performing our role as mandated by the government.	Hofstede, 2011
4	Our organisation is highly profitable.	Valmohammadi & Servati (2011); Rompho & Boon-itt (2012)
5	We control a large share of the market within which we operate.	Asiaei & Jusoh (2014)

3.5.5 Consideration of Existing Questionnaires and Instruments

During the development of this study's research instrument, several existing questionnaires and measurement scales were evaluated to determine their suitability. Established instruments related to leadership decision-making, dynamic capabilities, employee engagement, and organisational performance were reviewed, including:

- Leadership Styles Questionnaire (Bass & Avolio, 1995) – This instrument is widely used for measuring transformational, transactional, and laissez-faire leadership. However, it was not adopted as it focuses primarily on leadership behaviour rather than decision-making in the context of dynamic capabilities.

- The Utrecht Work Engagement Scale (Schaufeli et al., 2002) – While effective for assessing employee engagement, this scale does not fully capture the moderating role of engagement in leadership decision-making and dynamic capability interactions.
- Dynamic Capabilities Scale (Teece et al., 1997; Pavlou & El Sawy, 2011) – This scale was considered for measuring dynamic capabilities; however, it was not fully aligned with the specific subcomponents (sensing, learning, integration, and coordination) required for this study.

Given these limitations, a customized research instrument was developed, integrating validated measurement items from multiple sources while ensuring alignment with the study's conceptual framework. This approach allowed for a more contextually relevant and precise measurement of the relationships being investigated within the UAE energy sector.

3.6 Population and Sampling Strategy

3.6.1 Population

The study's population comprises all individuals eligible to serve as respondents in the research project, focusing specifically on the UAE Energy sector (see Table 3.5). For the purpose of this research, the population is confined to employees within major UAE energy sector companies that hold significant market standings. This narrowed focus helps in aligning the research with practical and managerial implications within influential entities in the sector.

Table 3.5: Population Figures of major players in the UAE Energy Sector

Population Strata	Population (N)	Percentage (%)
Oil and Gas	65,000	75.22%
ENOC	9,000	10.42%
ADNOC	55,000	63.65%
Emarat	1,000	1.16%
Power and Renewable	21,211	24.55%
DEWA	9,700	11.23%
FEWA	1,761	2.04%
SEWA	4,000	4.63%
ADWEA	4,000	4.63%
ENEC	1,750	2.03%
Total	86,211	100%

Sources: (DONNELLAN & RUTLEDGE, 2019); (Reuters 2016); (Brysbaert & Stevens, 2018); (BASS, 2019);

Data access was authorized through formal permissions from respective institutions, ensuring that all involved entities are represented accurately (see Appendix F for letters of authorization). To ensure validity and reliability in this quantitative study, the sample was carefully selected from employees specifically targeting those at grade 13 and above (see Table 3.6). This selection criterion was chosen because individuals in these roles are more likely to possess decision-making responsibilities and significantly influence organisational culture, directly aligning with the study's aims.

Before field research commenced, invitations were sent to all relevant institutions to update and confirm the population information. This crucial step defined a precise sampling frame, outlining the inclusion and exclusion criteria within the broader research population. This updated information ensured that the sample accurately represented the current organisational structure and included all employees eligible for participation. The recruitment of participants was conducted through official channels within their organisations, promoting a formal and systematic approach to data collection. This method not only facilitated a higher response rate but also enhanced the reliability of the data collected. By targeting a broad spectrum of functional grades, the study ensures that the findings can be generalized across the entire population of employees within these major organisations, providing insights into leadership decision-making processes and their impacts on various organisational outcomes.

Table 3.6: Employee Grading System for Count in Sample Frame

Sr. NO	Sample Unit and Characteristics	Grade
1	CEO level	E1
2	Senior Vice Presidents	E4-E2
3	Assistant Senior Vice Presidents	20
4	Vice Presidents	19-20
5	Senior Managers	18-19
6	Department Manager	17-18
7	Team Leaders	16-17
8	Team Members	13-15

3.6.2 Sampling technique and sampling size

The study employs a Simple Random Sampling (SRS) method. This method ensures that every individual within the defined population has an equal chance of selection, promoting the representativeness of the sample across the entire population of employees at grade 13 or above in the UAE energy sector. This technique is ideal for reducing sampling bias and achieving a

more generalized understanding of leadership effectiveness and dynamic capabilities within the industry. The population targeted for this study includes individuals from key organizations within the UAE energy sector, identified as industry leaders based on the following criteria:

1. Market Presence & Industry Influence – Companies listed among the top UAE energy firms based on revenue, operational scale, and strategic importance in the energy transition, as outlined by the UAE Ministry of Energy (2022).
2. Strategic Role in UAE Energy Sector – Organizations that are major contributors to the UAE Energy Strategy 2050, ensuring that participants are directly involved in leadership decision-making processes in dynamic environments.
3. Employment of Grade 13+ Professionals – Companies with a significant number of employees at Grade 13 or higher, guaranteeing that the sample reflects decision-makers actively engaged in leadership and strategic planning.

To calculate the sample size, the following revised formula was applied to account for a realistic response rate:

$$Sample\ Size = \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)}$$

Where:

N = total population size (86,211)

e = margin of error; set at 5% for academic rigor (O'Leary, 2017)

z = z-score; given as 1.96 for a 95% confidence interval

p = estimated proportion of the attribute present in the population, assumed to be 0.5 for maximum sample size requirement.

3.7 Data Collection

The survey questionnaire was hosted on the Microsoft Forms online platform, which provides an effective and convenient data collection method (De Leeuw, Hox & Boeije, 2008). By using Microsoft Forms, it not only allowed participants to access the link via their emails and partake at their convenience but also ensured the method was universally accessible and user-friendly (Bethlehem & Biffignandi, 2012). This approach minimises time and costs associated with data

collection, following the economic efficiency principles advocated by Groves et al. (2009). Additionally, it eliminates data entry errors when transferring paper-based results to analysis software, enhancing data accuracy and reliability, as argued by Tourangeau, Conrad, & Couper (2013).

Moreover, this approach streamlines the data collection process while adhering to COVID-19 protocols. In the era of a global pandemic, it is essential to maintain safety measures during data collection (Fitzpatrick, Harris, & Drawve, 2020). Conducting the survey online can help to mitigate potential health risks and ensure the process aligns with public health guidelines (Fitzpatrick, Harris, & Drawve, 2020). Access was requested from each organisation using an invitation-to-participate form (refer to Appendix D). Each of the eight (8) selected case studies was approached individually to grant access, respecting the ethical considerations in research to seek informed consent (Emanuel, Wendler, & Grady, 2000).

In addition to the benefits already outlined, online surveys like Microsoft Forms also ensure a level of anonymity for the participants, which can encourage more honest and accurate responses, contributing to the validity of the data collected (Joinson, 1999). The accessibility and ease of the online platform enable participants from diverse backgrounds, spread across various geographical locations, to engage in the survey at their convenience, which can potentially enhance the response rate and generalisability of the findings (Dillman et al., 2009). Moreover, it facilitates quick collection and instant digitisation of the data, which can expedite the data analysis process (Couper, 2000).

While collecting data through an online survey, it is also vital to ensure the protection of personal data according to the standards of digital ethics and online privacy (Buchanan & Zimmer, 2012). In this study, data protection measures were strictly implemented. Respondents were informed about the study's purpose and how their data would be used before participation. Consent was obtained digitally, ensuring transparency and voluntary participation. Data was collected via a secure online survey platform, which provided encryption to safeguard the information during transmission. Access to the collected data was restricted to authorised personnel only; the data was stored on encrypted servers to prevent unauthorised access. Personal identities were anonymised to protect the privacy of the respondents, and the data was stored in compliance with GDPR guidelines and institutional policies on data protection. Regular audits and security checks were conducted to ensure the ongoing integrity and confidentiality of the data. Upon completion of the study, the data was securely archived, with

access restricted to maintain privacy and confidentiality in line with ethical research practises (Saunders et al., 2012; Creswell & Creswell, 2018).

The Microsoft Forms platform complies with robust security and privacy protocols, ensuring that the collected data was protected and the privacy of respondents was respected (Groves et al., 2009). Nonetheless, as Wright (2005) indicates, the researchers may consider possible limitations associated with online surveys, such as technical difficulties or the exclusion of potential participants who lack internet access.

3.8 Data Analysis

Data analysis is a critical stage in research, allowing for the transformation of collected data into meaningful findings (Salkind, 2010). In this study, the data retrieved from the Microsoft Office online platform was subject to rigorous analysis to yield insights into the areas under investigation. As suggested by Couper, 2000, SEM was a primary focus of the statistical evaluations to be performed. SEM, a multivariate statistical analysis technique, is useful in testing the relationships between observed and latent variables, thereby aiding in the understanding of complex phenomena (Bollen, 1989).

The software selected for data analysis includes IBM SPSS and SmartPLS. IBM SPSS is an advanced statistical analysis tool with a comprehensive suite of features, making it a common choice in quantitative studies (Field, 2013). EFA to find out how many and what kinds of latent variables, or factors, explain the differences and similarities between variables that were measured (Costello & Osborne, 2005). Following the EFA, SmartPLS software was utilised to construct and examine the structural equation model. This software facilitates the application of partial least squares structural equation modelling (PLS-SEM), a versatile and robust statistical modelling technique that simultaneously estimates the relationships between multiple independent and dependent variables (Hair et al., 2011).

Critical model fit indices were assessed to evaluate the overall model parsimony, aligning with recommendations by Couper, 2000. The model fit indices offer an understanding of how well the proposed model represents the actual data, which is essential in ensuring the validity and reliability of the study's findings (Hu & Bentler, 1999). Upon completion of the model fit assessment, the study proceeds with testing the hypotheses derived from the model. Hadadian

& Zarei's (2015) work guides this process, underscoring the need to align hypotheses testing with the established model and the study's objectives.

The timeline for data collection and analysis was set to commence in May 2023, spanning approximately 2.5 months. The selection of the appropriate statistical technique is critical for the validity of the research outcomes. Partial Least Squares Structural Equation Modelling (PLS-SEM) has been chosen as the principal tool for data analysis in this study due to its array of advantages and its suitability to the research design. PLS-SEM, a variance-based approach to SEM, is ideal for predictive applications and theory development (Hair et al., 2011). It's a powerful tool for analysing complex interrelationships among observed and latent variables, especially in instances where the model is exploratory in nature and the theory is not fully developed, as in this study (Sarstedt et al., 2017).

Unlike covariance-based SEM, which necessitates several stringent assumptions, such as multivariate normality and large sample sizes, PLS-SEM operates with fewer restrictions. It can effectively handle small-to-moderate sample sizes and non-normally distributed data (Henseler et al., 2014). Given the study's sample size and the potential non-normality of the data, PLS-SEM is a more suitable choice. PLS-SEM also lets you look at multiple dependent constructs at the same time and work with formative measurement models (Devan, 2006). It also facilitates the testing of the indirect (mediation) effects and complex models with higher-order constructs (Kalsoom et al., 2018). This aligns well with the complexities of the current study's model, which involves multiple constructs and potential mediation effects.

Moreover, PLS-SEM's ability to estimate latent variable scores, which can be used in subsequent analyses, is another compelling reason for its use in this study. It's worth noting that PLS-SEM's primary objective is to maximise the explained variance of the dependent variables, which makes it advantageous for predictive studies such as this one (Judge & Piccolo, 2018).

3.9 Questionnaire Validity and Reliability

3.9.1 Validity

Validity is a critical aspect of any research study as it determines whether the instrument used in the research truly measures what it is intended to measure. In this study, the validity of the questionnaire was assessed through several approaches, including content validity, construct

validity, and expert validation. Validity is essential to ensuring that the questionnaire items are appropriately designed to capture the core concepts of dynamic capabilities, leadership decision-making, employee engagement, and organisational performance (Creswell & Creswell, 2018). Content validity was established through an extensive literature review, where relevant theoretical frameworks and previous studies were analysed. Each item in the questionnaire was designed based on these frameworks, ensuring that it accurately represents the constructs under investigation. For example, the questions measuring dynamic capabilities were drawn from the works of Teece (2007) and Pavlou & El Sawy (2011), which are foundational in this area. The questions on leadership decision-making were similarly based on established frameworks, such as systems thinking, reframing, and reflection, as highlighted by Pisapia et al. (2005) and Walter (2016).

Construct validity, which assesses whether the questionnaire items truly represent the constructs they are supposed to measure, was verified through factor analysis and expert consultation. Factor analysis helped identify whether the items grouped together as expected, providing statistical support for the validity of the constructs. Expert feedback played a particularly crucial role in enhancing the validity of the instrument, especially due to potential issues arising from translation (see Table 3.7). As the questionnaire was translated into Arabic to ensure comprehensibility for participants from the UAE energy sector, translation issues could have impacted the clarity and relevance of the questions. To address this, the questionnaire was sent to three experts, who reviewed both the English and Arabic versions of it.

Table 3.7: Panel of validation expert

Expert Name	Position	Institution	Experience
Prof. Madya Dr. Samer Ali Hussein Al-Shami	Professor Madya, Institut Pengurusan Teknologi & Keusahawanan	Universiti Teknikal Malaysia Melaka	14 years of experience in strategic management, innovation, and leadership decision-making research
Prof Assoc. Saleh Saliem Al-Hammouri	Faculty Member, Mohammed bin Rashid School of Government	Mohammed bin Rashid School of Government, UAE	13 years of experience in public administration, leadership studies, and organisational behaviour

Prof Assoc. Abdulrahman Alsabri	Professor, Faculty of Business	Sana'a University, Yemen	11 years of experience in organisational performance, employee engagement, and strategic leadership research
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Each expert reviewed the questionnaire, paying particular attention to whether the translation accurately conveyed the intended meaning of the original items. The feedback provided by these experts revealed that several questions required rewording to ensure clarity and contextual relevance. For instance, questions relating to organisational performance that used specific industry jargon were reformulated to ensure they were understood by participants in the UAE's energy sector. The experts also suggested slight modifications to some items to account for cultural nuances that may affect how participants interpret questions related to leadership decision-making and employee engagement. Their feedback was especially valuable in highlighting potential misunderstandings that could arise due to translation. By refining the language used, the experts ensured that the questionnaire remained valid across both linguistic and cultural contexts. This process was crucial in enhancing the content and construct validity of the questionnaire, ultimately ensuring that the instrument was robust enough to capture the nuances of leadership decision-making and dynamic capabilities in the energy sector.

3.9.2 Reliability

Reliability refers to the consistency and stability of a measurement instrument. In other words, a reliable questionnaire will yield consistent results when administered under the same conditions. Reliability is crucial because it ensures that the data collected through the questionnaire can be trusted and that any conclusions drawn from it are based on stable and consistent findings (Devan, 2006). For this study, reliability was tested using several methods, including Cronbach's alpha and composite reliability. Cronbach's alpha is one of the most widely used measures of internal consistency. It assesses how closely related a set of items are as a group. A Cronbach's alpha value of 0.7 or higher is generally considered acceptable for social science research (Maheshwari & Yadav, 2019). In this study, each construct dynamic capabilities, leadership decision-making, employee engagement, and organisational performance was tested for internal consistency. The results indicated that the reliability of the instrument was high, with Cronbach's alpha values for most constructs exceeding 0.8, thereby

confirming that the items within each construct consistently measured the same underlying trait.

In addition to Cronbach's alpha, composite reliability was calculated to provide a more comprehensive view of the reliability of the constructs. Composite reliability is a more robust measure than Cronbach's alpha because it considers the varying contribution of each item to the construct. It is particularly useful in structural equation modelling, where latent variables are measured using multiple indicators. The composite reliability values in this study also exceeded the 0.7 threshold, further validating the consistency of the instrument (Devan, 2006). Expert feedback was again instrumental in enhancing the reliability of the instrument, particularly in addressing issues related to translation. The experts provided feedback on whether the Arabic version of the questionnaire maintained the same meaning as the English version. This was crucial because even minor changes in wording can lead to variations in how participants respond to the questions, thereby affecting the reliability of the data. For example, certain terms related to "leadership" and "performance" did not have direct Arabic equivalents, which could lead to different interpretations among respondents. The experts suggested alternative phrasings that retained the original meaning while ensuring that the questions were clearly understood by Arabic-speaking participants.

Furthermore, the feedback assisted in refining the items to ensure they were culturally appropriate for the UAE context. This attention to detail ensured that participants would respond consistently, regardless of their linguistic or cultural background. As a result, the reliability of the instrument was enhanced, providing confidence that the data collected would be consistent across different groups within the study sample. By ensuring both the validity and reliability of the questionnaire, this study is well-positioned to collect meaningful and consistent data that can be used to draw reliable conclusions about the impact of leadership decision-making, dynamic capabilities, and employee engagement on organisational performance in the UAE energy sector.

The primary purpose of the pilot study was to test the feasibility and validity of the research design, methodology, and instruments before conducting the full-scale research (Buglear, 2007). Pilot studies are smaller in scale compared to the main study and help identify potential problems or challenges with the research design, sampling, recruitment, and data collection procedures (Anderson et al., 2012). They are crucial for refining the research design and ensuring the main study is feasible and efficient. In this study, the pilot study was designed to

evaluate the reliability and validity of the model constructs. This phase was conducted prior to the final distribution of the study instrument to ensure the robustness of the research design. The pilot study involved a small sample size of 36 respondents from the target population. The reliability of the model constructs was measured using Cronbach's alpha, with a cut-off value of 0.70 as recommended by Creswell & Creswell, 2018. Factor analysis was also performed, with a cut-off of 0.70 as suggested by Price et al. (2015).

Table 3.8 shows the results of the pilot study. It showed that all constructs met the suggested cut-offs for both Cronbach's alpha and factor loading. This proved that the measurement model was reliable and valid. The data collected was securely stored and protected in compliance with ethical standards, ensuring confidentiality and integrity.

Table 3.8: Model measurements - pilot study - N=36

Constructs	Items	Loading	CA	Constructs	Items	Loading	CA
Sensing Capabilities	SC1	.834	0.823	Leadership Decision Making	LDM1	.847	0.754
	SC2	.806			LDM2	.912	
	SC3	.888			LDM3	.801	
	SC4	.666			LDM4	.884	
	SC5	.836			LDM5	.858	
	SC6	.783			LDM6	.805	
	SC7	.777			LDM7	.913	
Learning Capabilities	LC1	.807	0.774	Employee Engagement	LDM8	.907	0.751
	LC2	.885			LDM9	.839	
	LC3	.863			EE1	.886	
	LC4	.702			EE2	.848	
	LC5	.937			EE3	.897	
	LC6	.853			EE4	.905	
	LC7	.721			EE5	.812	
Integrating Capabilities	IC1	.879	0.705	Top management support	OP1	.849	0.765
	IC2	.903			OP2	.881	
	IC3	.869			OP3	.806	
	IC4	.822			OP4	.783	
	IC5	.764			OP5	.840	
	IC6	.831					
	IC7	.875					
	IC8	.756					
Coordinating Capabilities	CC1	.883	0.714				
	CC2	.876					
	CC3	.878					
	CC4	.907					
	CC5	.907					
	CC6	.789					

3.10 Ethical considerations

Ethical considerations were paramount in this study to ensure the integrity and credibility of the research. Specific ethical protocols were meticulously followed to protect the identity and involvement of respondents (Creswell, 2014; Hadadian & Zarei, 2015).

1. **Confidentiality:** All personal participant information was kept confidential and was not disclosed to any third parties. Data was stored securely, with access restricted only to authorised personnel.
2. **Anonymity:** Participants' responses were anonymised to ensure that no individual could be identified based on the data. This was achieved by removing any personal identifiers from the dataset.
3. **Informed consent:** Detailed information about the study was provided to all participants through an information sheet. Informed consent was obtained by ensuring that participants fully understood the study's purpose and their role within it, as documented in the consent form (see Appendix D).
4. **Minimal Risk:** Participation in the study involved no more than minimal risk, primarily consisting of the time required to complete the survey. No incentives were provided, although participants were offered the option to receive the study results upon request.

These protocols were designed in accordance with Creswell's (2014) recommendations for ethical academic research and complied with the Data Protection Laws of the UK and UAE, including the UK Data Protection Act of 1998. Additionally, all ethical guidelines set forth by the University of Derby and the participating institutions were strictly followed.

Data collected through the online survey was securely stored using encrypted servers to protect it against unauthorised access. Regular audits were conducted to maintain data integrity and confidentiality. By adhering to these ethical standards, the study ensured the reliability and validity of its findings while safeguarding the rights and privacy of all participants.

3.11 Summary

This chapter of this dissertation delineates the methodology employed to explore the intricate relationships between leadership decision-making, organisational dynamic capabilities,

employee engagement, and organisational performance within the UAE energy sector. This chapter methodically outlines the research design, data collection methods, sampling strategy, and the analytical techniques used to address the research hypotheses posited in the study. At the outset, the chapter introduces the research design, specifying a quantitative approach aimed at empirically testing the proposed hypotheses. It elaborates on the reasoning behind selecting a quantitative methodology, emphasising its appropriateness for examining causal relationships and mediating effects among the study variables. The data collection section describes the process of survey distribution among professionals within the UAE energy sector. It details the development of the survey instrument, including the adaptation and validation of scales from existing literature to measure leadership decision-making styles, dynamic capabilities (sensing, learning, integrating, and coordinating), employee engagement, and organisational performance.

The sampling strategy subsection explains the criteria for selecting participants, highlighting a random sampling technique that ensures representation across various levels of the target population. The chapter discusses the determination of the sample size, aiming for a robust dataset that allows for generalisability and statistically significant findings. Analytical techniques are thoroughly outlined, SEM as the primary method of data analysis. This part explains why SEM was chosen by going over how it can look at complicated model structures, such as direct and indirect relationships, and how it can mediate effects between different variables. The chapter also mentions complementary statistical methods used for preliminary data analysis, such as descriptive statistics and reliability testing.

Furthermore, this chapter addresses ethical considerations involved in the research process, ensuring confidentiality and informed consent for all participants. It underscores the adherence to ethical standards in data collection and analysis while safeguarding participant privacy and data integrity. In summary, this chapter provides a comprehensive overview of the methodological framework guiding this research. It lays the foundation for the empirical investigation carried out in Chapter 4, which aims to shed light on how leadership decision-making influences organisational performance through the mediating role of dynamic capabilities and the moderating effect of employee engagement within the UAE energy sector. This methodological rigour ensures the reliability and validity of the study's findings, contributing valuable insights for both academic scholarship and practical management in the energy industry.

Chapter Four: Analysis and Findings

4.1 Introduction

This chapter transitions from the conceptual foundations established earlier to the empirical investigation of the proposed model. The collected data undergoes rigorous analysis using PLS-SEM. This analytical approach validates relationships among the key construct's leadership decision-making, dynamic capabilities, employee engagement, and organisational performance and tests the hypothesised mediation and moderation effects. The chapter is structured to provide a comprehensive analysis of the data. Initially, the "Preliminary Analysis" section presents descriptive statistics to offer insights into sample characteristics and response distributions. It also includes data screening procedures to identify and address any anomalies or outliers. This foundational step ensures the integrity of the data used in subsequent analyses. Following this, the "Demographic Analysis" section provides a detailed examination of participant demographics, including response rates, gender, organisational level, organisation name, and department. This analysis adds contextual understanding to the study, enriching the interpretation of the findings.

In the "Measurement Modelling" section, the measurement scales used to quantify latent constructs are validated. CFA is employed to evaluate item reliability, convergent validity, and discriminant validity. These assessments establish the robustness of the measurement model and the appropriateness of chosen indicators, ensuring that the constructs are accurately measured. The "Structural Model" section then delves into the proposed model's structural relationships. The integration of leadership decision-making, dynamic capabilities, employee engagement and organisational performance is scrutinised. Path coefficients show how strong and in what direction these relationships are, and mediation and moderation effects help us fully grasp how the variables work and interact with each other. The chapter concludes with a "Summary of Research Hypotheses," which revisits each hypothesis and presents the corresponding findings. This summary serves as a transition between the empirical analyses and the subsequent discussion of results.

4.2 Hypotheses Reminder

This section provides a relook on the hypothesis's development, which tested within this chapter.

4.2.1 *The Role of Effective Leadership Decision-making in Dynamic Capabilities*

Effective leadership decision-making is vital for organisations aiming to foster dynamic capabilities and maintain competitiveness amidst change. The Toxic Triangle theory suggests that destructive leadership can hinder an organisation's dynamic capabilities by cultivating a toxic environment that suppresses innovation and stifles employee engagement (Bratianu, 2015; Padilla, Hogan, & Kaiser, 2007). Toxic leaders often struggle to respond to external shifts, impacting the organisation's deployment of dynamic capabilities (Krasikova et al., 2013) and leading to reduced performance (Schyns & Schilling, 2013). Research from Pitelis and Wagner (2019) and Laaksonen & Peltoniemi, 2018 associates effective leadership decision-making with elevated dynamic capabilities and consequent superior organisational performance. Decisions made by leaders shape an organisation's strategic direction, emphasising innovation and adaptability. Studies like Siksnyte et al. (2018) highlight the importance of leadership in navigating challenges of sustainable energy development, and Mora Cortez and Johnston (2020) discuss the significance of decision-making in crisis situations for bolstering organisational resilience. Furthermore, the integration of sustainability in decision-making, especially in sectors like energy, is deemed crucial (Campos-Guzmán et al., 2019; Papadis & Tsatsaronis, 2020). Leadership styles, as suggested by Kalsoom et al. (2018) and Bass (2019), play a pivotal role in shaping dynamic capabilities through their influence on employee performance. The complex decision-making landscape, especially in volatile sectors, underscores the need for effective leadership to harness dynamic capabilities (Tsai, 2018; Northouse, 2018; Oladele et al., 2013).

Hypothesis 1: Leadership decision-making has a significant impact on organisational dynamic capability in the UAE energy sector.

4.2.2 *The Role of Employee Engagement in Leadership Decision-making and Dynamic Capabilities*

Engaged employees, aligned with an organisation's goals, lay the groundwork for dynamic capabilities by emphasising shared purpose and vision (Chanana and Abbas et al., 2019). The Social Exchange Theory posits that individuals in organisations pursue mutual benefits, with

leaders acting as catalysts, setting directions, allocating resources, and fostering a favourable environment. This theory suggests that quality exchanges bolster employee attitudes like engagement, directly influenced by effective leadership (Mora Cortez & Johnston, 2020). In the context of leadership and dynamic capabilities, positive exchanges lead to higher engagement, thus fostering innovation and adaptability essential components of dynamic capabilities (Le et al., 2017). Notably, employees reciprocate positive leadership actions with heightened job satisfaction and motivation, linking effective leadership with enhanced dynamic capabilities. Research highlights that employee engagement is instrumental in bridging effective leadership decision-making and dynamic capabilities. Engaged employees often display heightened commitment, innovative tendencies, and risk-taking behaviours all fostering dynamic capabilities (Parida et al., 2015; Sarwar et al., 2020). Effective leadership fosters this engagement, amplifying its influence on dynamic capabilities (Haarhaus & Liening, 2020). Furthermore, engaged employees tend to be adaptable and resilient, embracing change and learning, pivotal for dynamic capabilities (Henseler et al., 2014). Albrecht et al. (2018) and Li et al. (2021) both emphasise the nuanced relationship between leadership, engagement, and organisational resources. In similar lines, studies by Wei et al. (2018) and Mapetere et al., 2012 showcase the intricate interplay between leadership styles, engagement, and performance. Awolusi (2020) suggest that empowering leadership and job alignment are significantly influential for work engagement and thus impacting dynamic capabilities. While emphasising the leadership-employee engagement nexus, research from Dohan, Green & Tan (2017) and Akkaya, 2020 underlines employee involvement as pivotal in organisational change and decision-making. In essence, employee engagement accentuates the impact of leadership decision-making on dynamic capabilities. Effective leaders cultivate this environment by empowering employees, nurturing innovation, and promoting a learning culture.

Hypothesis 2: Employee engagement has a significant moderating role in the relationship between leadership decision-making and organisational dynamic capability in the UAE energy sector.

4.2.3 *Role of Effective Leadership Decision-making in Organisational Performance*

Effective leadership decisions are fundamental to organisational performance. Such leadership sets directions, allocates resources, and prioritises goals (Cherian et al., 2021). Shao (2019) noted that effective leadership nurtures a culture of innovation by propelling the development of novel products and business models and granting the organisation a competitive edge. The Path-Goal Theory by Robert House emphasises that leaders guide followers toward goals,

impacting performance. The theory suggests that adaptable leaders, based on subordinate needs, enhance motivation and productivity, especially in intricate sectors like energy (House, 1971; Northouse, 2016). In essence, leaders who define clear goals and provide support foster an environment ripe for top-tier performance. Research by Abbas et al. (2019) supports the idea that effective leadership bolsters organisational performance through creating a supportive environment and engaging employees. Also, effective leaders align organisational goals with stakeholders, fostering relationships that yield mutual benefits and enhance performance (Ellinger & Ellinger, 2021). Studies in the energy sector also underline leadership's significance. Gitu and Awuor (2020) linked charismatic leadership with better performance in the Kenya Pipeline Company. Dillman et al., 2009 related strategic entrepreneurial leadership dimensions to enhanced performance, and Agarwal (2020) found leadership pivotal in power redistribution, impacting renewable energy organisations performance. In building sustainability, decision-making tied to energy performance enhancements was observed in Korean public buildings by Lee et al. (2019), with Vavrek and Chovancová (2019) and Zou et al. (2018) confirming such leadership influences on performance in European buildings. In conclusion, effective leadership decision-making fostering innovation, employee engagement, and stakeholder alignment is paramount for long-term organisational success, especially in fluctuating business landscapes (Birasnav & Bienstock, 2019).

Hypothesis 3: Leadership decision-making has a significant impact on organisational performance in the UAE energy sector.

4.2.4 *Mediating Role of Organisational Dynamic Capability*

Dynamic capabilities refer to an organisation's ability to adapt, innovate, and learn in response to evolving challenges and opportunities (Oliva et al., 2019). Effective leadership decision-making nurtures these capabilities by setting direction and allocating resources to foster innovation and learning (Gupta, Drave, et al., 2020). The Toxic Triangle theory (Hu & Bentler, 1999) highlights the risks of poor leadership decisions, suggesting that they may create environments conducive to destructive organisational behaviours. Such environments could hinder dynamic capabilities and overall performance. Conversely, good leadership decisions that cultivate a positive organisational culture can boost dynamic capabilities. Path-goal theory (House, 1971) underscores that effective leaders guide and support their teams toward defined goals, indirectly enhancing organisational performance. This approach can also aid in the development of dynamic capabilities, further strengthening organisational performance. Research has shown the paramount role dynamic capabilities play in sustained organisational

success. They allow organisations to adapt to market shifts, leverage new opportunities, and maintain a competitive edge by encouraging innovation and continuous improvement (Gupta, Meissonier, et al., 2020; Mikalef, van de Wetering, et al., 2021; Teece, 2018). For instance, studies link dynamic capabilities to improved performance in areas like green entrepreneurial orientation (Jiang, Chai, Shao, & Feng, 2018) and green product innovation (Qiu, Jie, Wang, & Zhao, 2020). In the energy sector, dynamic capabilities are vital. They allow organisations to address challenges like renewable energy transitions and energy efficiency (Murshed, 2020). This underscores the importance of making effective leadership decisions that bolster these capabilities for enhanced performance. In essence, organisational-dynamic capability serves as a crucial intermediary between effective leadership decision-making and sustained organisational performance, especially in dynamic sectors like energy. Leaders may focus on fostering these capabilities to ensure long-term competitiveness and success.

Hypothesis 4: Organisational dynamic capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4a: Sensing capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4b: Learning capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4c: Integration capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Hypothesis 4d: Coordinating capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

4.3 Preliminary Analysis

At the outset of the current research's data analysis phase, a thorough preliminary analysis was conducted to establish a solid foundation for subsequent investigations. This comprehensive analysis aimed to ensure the data's quality and reliability. The following components constituted the core of the preliminary analysis:

The first focus was on missing values analysis, which involved a meticulous examination of the dataset to identify any instances of missing values across the variables under consideration. Such gaps in the data could potentially impact the integrity of subsequent analyses. The patterns of missing values were closely examined to understand their distribution and potential implications. Assessment of outliers was the next step; the dataset was scrutinised to identify extreme values that might significantly deviate from the norm. Outliers have the potential to distort statistical analyses, and their identification was followed by a deeper evaluation to ascertain their impact on the overall dataset.

The normality test followed, ascertaining whether the data adhered to a normal distribution. This assumption holds importance for various statistical techniques. Detecting deviations from normality was crucial as it could impact the validity of subsequent analyses, thus necessitating careful consideration. The analysis also included an evaluation of multicollinearity, which addresses the correlation between independent variables in regression models. Detecting high levels of multicollinearity is vital, as it can lead to challenges in interpretation and affect the reliability of results. Lastly, a descriptive statistics analysis was conducted, providing initial insights into the variables' central tendencies, variations, and distributions. Parameters such as means, standard deviations, ranges, and frequency distributions were computed, furnishing an initial understanding of the dataset's characteristics.

This comprehensive preliminary analysis established a robust groundwork for subsequent data analyses. By addressing missing values, outliers, normality, and multicollinearity and offering descriptive insights, the research ensures the data's suitability for the complex analyses that follow. This rigorous preliminary analysis underscores our commitment to methodological rigour and precision in exploring the intricate relationships between leadership decision-making, dynamic capabilities, employee engagement, and organisational performance within the context of the UAE energy sector.

4.3.1 *Missing Value Analysis*

The findings from the missing values analysis, as presented in Table 4.1, shed light on the completeness and integrity of the dataset used in the current study. The number of missing values across different variables provides insight into the extent to which participants' responses were captured and the potential implications for subsequent analyses. Drawing on the review by Lin and Tsai (2020), the study's approach to managing missing data is informed by established best practises. The absence of missing values in "Sensing Capabilities,"

"Integration Capabilities," and "Leadership Decision Making" demonstrates a commendable execution of data collection and storage, in alignment with the meticulousness recommended by the literature. The zero missing values in these pivotal constructs indicate that participants' responses were accurately captured, offering a solid foundation for exploring the relationships between leadership and dynamic capabilities.

Table 4.1: Missing Values

Variable	Number of Missing Values
Sensing Capabilities	0
Learning Capabilities	1
Integration Capabilities	0
Coordinating Capabilities	0
Leadership Decision Making	0
Employee Engagement	1
Organisational Performance	1
Total	3

However, the presence of missing values in "learning capabilities," "employee engagement," and "organisational performance" warrants attention. These instances align with the acknowledgement that missing data can impact the robustness of subsequent analyses (Lin & Tsai, 2020). In light of Chakraborty and Gu's (2019) work on mixed model approaches for handling missing values, addressing these omissions becomes vital to ensure the credibility of research outcomes. "Learning capabilities" constitute a crucial component of the "dynamic capabilities" framework, while "employee engagement" and "organisational performance" play pivotal roles in the broader research model. Resolving these missing values through established imputation techniques or model-based approaches, as suggested by Chakraborty and Gu (2019), is essential to maintain the integrity of the study's insights.

The cumulative total of three missing values is relatively small in relation to the dataset's size. However, their strategic handling and imputation, as guided by the relevant literature, have far-reaching implications for the study's findings. Ensuring the completeness of data across all variables enhances the study's ability to draw accurate conclusions and offers valuable insights into the intricate relationships among leadership, dynamic capabilities, employee engagement, and organisational performance in the UAE energy sector. In conclusion, the missing values analysis underscores the importance of data integrity and robustness in the research process. By aligning with established best practises and leveraging insights from Lin and Tsai (2020) and Chakraborty and Gu (2019), the study demonstrates its commitment to meticulous analysis and interpretation.

4.3.2 Assessment of Outliers

The results presented in Table 4.2 outline the assessment of outliers within the dataset, offering insights into the distribution and potential extreme values across various variables. This analysis is crucial, as outliers have the capacity to influence statistical analyses and draw attention to unique observations that might impact the overall patterns. Drawing on the work of Burger, Schall, and van der Merwe (2021), the assessment method employed for outlier identification is recognised for its robustness, especially when dealing with skewed data and outliers. This aligns with the nature of real-world data, which often exhibits variations and atypical observations.

Table 4.2: Examining Existence of Significant Outliers

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.147	4.334	3.732	0.253	271
Std. Predicted Value	-3.662	2.378	0.000	1.000	271
Standard Error of Predicted Value	0.093	0.140	0.065	0.016	271
Adjusted Predicted Value	1.437	4.341	3.732	0.253	271
Residual	-1.598	5.272	0.000	0.528	271
Std. Residual	-1.591	9.914	0.000	0.993	271
Stud. Residual	-0.199	9.948	0.000	1.001	271
Deleted Residual	-1.627	5.539	0.000	0.537	271
Stud. Deleted Residual	-1.959	9.076	0.004	1.048	271
Mahal. Distance	0.602	18.958	4.987	3.313	271

Looking at the variables under consideration, it is noteworthy that the majority of them demonstrate relatively small ranges between minimum and maximum values. For instance, "predicted value," "adjusted predicted value," and "residual" exhibit narrow ranges, indicating a relatively tight spread of data points around their respective means. The presence of outliers becomes evident when considering variables with larger ranges, such as "standard residual," "study residual," and "study deleted residual." These variables depict a wider dispersion of values beyond the typical range. The broad range in "Stud. Residual" and "Stud. Deleted Residual" might be attributed to their sensitivities to extreme values, reflecting the potential impact of outliers on the data's distribution.

When you compare these findings to those of Choi et al. (2019), who looked at two-way links between physical activity and depression, it's clear that outliers can cause unique changes that could throw off associations. The presence of outliers, particularly in variables linked to residuals and standard residuals, underlines the necessity for a cautious approach during subsequent analyses. In conclusion, the presented outlier assessment results highlight the

variability within the dataset and pinpoint potential outliers that warrant careful attention. By adopting a robust assessment method, as recommended by Burger, Schall, and van der Merwe (2021), the study demonstrates its commitment to comprehensive data analysis. These findings emphasise the importance of acknowledging and addressing outliers, especially for variables that might significantly influence the interpretation of relationships between constructs.

4.3.3 Normality Test

Assessing the normality of data is a critical step in statistical analysis, ensuring that the data distribution meets the assumptions of parametric tests. The normality test checks the skewness and kurtosis of the constructs. Skewness shows how uneven the data distribution is, and kurtosis shows how peaky or flat the data is compared to a normal distribution. The values for skewness and kurtosis should ideally fall within the range of -1 to 1 for the data to be considered approximately normally distributed (Devan, 2006). The skewness values for all constructs (sensing capabilities, learning capabilities, integration capabilities, coordinating capabilities, leadership decision-making, employee engagement, and organisational performance) fall between -1.022 and -0.836, indicating a slight negative skewness. This suggests that the data distributions for these constructs are slightly left-tailed but still within acceptable limits for normality.

Based on table 4.3, the kurtosis values range from -0.444 to 0.758, indicating that the distributions of the constructs are relatively flat compared to a normal distribution, but they do not deviate significantly from normality. IC CC exhibit negative kurtosis, suggesting a slightly flatter distribution, SC OP show positive kurtosis, indicating a more peaked distribution. The normality test shows that the data for all constructs is close to a normal distribution, which meets the requirements for further parametric analyses (Gupta et al., 2020; Kim, 2019). This ensures the reliability and validity of the results obtained from further statistical tests.

Table 4.3: Normality test

Construct	N	Skewness	Kurtosis
SC	271	-1.016	0.758
LC	271	-0.990	0.169
IC	271	-0.966	-0.201
CC	271	-0.836	-0.444
LDM	271	-1.022	-0.039
EE	271	-0.969	-0.191
OP	271	-0.909	0.567

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

4.3.4 Multicollinearity

Tolerance is a measure of the influence of one independent variable on all other independent variables; the lower the tolerance, the higher the level of multicollinearity. A commonly used rule of thumb is that a tolerance below 0.10 or 0.20 may indicate problematic multicollinearity (Shrestha, 2020). From the table, LC has the lowest tolerance at 0.203, which is close to the threshold but still above it. Thus, while multicollinearity might be a concern for LC, it's not severe. VIF measures how much the variance of the estimated regression coefficient increases if predictors are correlated. If no factors are correlated, VIFs will equal 1. Generally, a VIF above 5-10 indicates high multicollinearity (Kim, 2019). In this study, all constructs have a VIF under 5, suggesting that multicollinearity isn't a significant concern. However, LC has the highest VIF at 4.937, which, while still under the common threshold of 5, should be approached with caution. Based on the provided results in Table 4.4 and the accepted thresholds from the literature, it seems that multicollinearity is not a significant issue for most of the constructs in this study.

Table 4.4: Multicollinearity test

Construct	Collinearity Statistics	
	Tolerance	VIF
SC	.290	3.450
LC	.203	4.937
IC	.369	2.714
CC	.337	2.966
LDM	.379	2.639
EE	.312	3.207

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

The construct LC (Learning Capabilities) has values that approach the commonly used thresholds, suggesting that it might be the most problematic in terms of multicollinearity among the variables considered. However, it is worth noting that while these rules of thumb provide useful guidance, they are not definitive, and further analysis may be required to determine the exact impact of potential multicollinearity on the study's findings.

4.3.5 Descriptive Statistics Analysis

Table 4.5 shows the descriptive statistics for seven constructs with a sample size of 271 for each. The mean provides an average score for each construct for the respondents. According

to the provided data, the means for all constructs hover around 3.4 to 3.6, suggesting that the overall perception or measure for these constructs is above average, assuming a scale that might range from 1 to 5 or similar (George & Mallery, 2018). The standard deviation, also known as the standard deviation, measures the degree of variability or dispersion from the mean. Higher values indicate that the scores are spread out over a larger range of values. From the table, EE has the highest standard deviation at 0.963, indicating that respondents had a wider range of opinions or experiences related to employee engagement compared to other constructs. Conversely, SC has the lowest standard deviation (0.706), indicating that there's less variability in respondents' opinions or experiences related to sensing capabilities (Kaur, Stoltzfus, & Yellapu, 2018).

Table 4.5: Descriptive Statistics

Construct	N	Mean	Std. Deviation
SC	271	3.565	0.706
LC	271	3.483	0.800
IC	271	3.432	0.877
CC	271	3.453	0.885
LDM	271	3.463	0.875
EE	271	3.404	0.963
OP	271	3.530	0.764

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

SC OP have the highest means, indicating that they might be perceived positively or as strong areas in this context. The standard deviations highlight the variability in responses, EE having the most variability among the participants.

4.4 Demographic Analysis

The demographic analysis in the current study was employed for the purpose of ensuring that all of the respondents were selected randomly, as well as to identify their backgrounds. The demographic analysis for the current study utilised two main tests: the response rates and the profiles of respondents.

4.4.1 Response Rates

This study used an online platform link to collect the data; the target population is 383, while the received responses were 271. Hence, the response rate is 70.75%. Table 4.6 serves as a

succinct summary of the research metrics, encapsulating the essential elements, such as the platform used for data collection, the target population, the number of received responses, and the calculated response rate. Achieving a response rate of 70.75% (271 out of 383) still aligns well above the minimum acceptable threshold for survey-based research, supporting the validity of the data collected, and substantiates the reliability and applicability of the research findings across the UAE energy sector. With 271 responses from a population of 86,211 managers, this results still allow for a confidence level of 95% or higher, assuming a 5% margin of error.

Table 4.6: Response rate

Metric	Description	Value
Data Collection	Online Platform Link	-
Target Population	Number of people targeted for the study	383
Received Responses	Number of responses received	271
Response Rate	Ratio of Received Responses to Target Population	70.75%

4.4.2 Profiles of Respondents

Out of the total participants, 166 are male. This constitutes 61.3% of the sample, indicating that a significant majority of the respondents are male. 105 participants are female, making up 38.7% of the total sample. This percentage is less than that of the male respondents but still represents a substantial portion of the sample. The total number of participants in the study, or the sample size, is 271. This number represents 100% of the sample, confirming the completeness of the data provided. Referring to Table 4.7, there is a male predominance, with over 60% of the respondents being men. However, females are also well represented, with almost 40% of the total sample. This gender distribution suggests that the study captured perspectives from both genders, though there is a higher representation of males. Depending on the context of the study, it might be important to consider the implications of this distribution when analysing results or drawing conclusions.

Table 4.7: Gender category

Gender	Frequency	Percent
Male	166	61.3
Female	105	38.7
Total	271	100.0

According to Table 4.8, 115 of the total participants belong to the operational level. This represents 42.4% of the sample, making it the most represented level within the organisation in this study. This indicates strong input from those who are involved in day-to-day operations and might have a hands-on perspective on the matters under investigation. There are 112 participants from the middle levels of the organisation, accounting for 41.3% of the total sample. The representation from this category is almost equivalent to that of the operational level. Middle-level employees typically hold managerial roles, overseeing teams and ensuring alignment with strategic goals, which could offer insights into how policies and strategies translate to execution. The top-level category, likely representing senior management or executive positions, includes 44 participants, making up 16.2% of the sample. While this is a smaller proportion compared to the other levels, their insights can be invaluable given their strategic viewpoints and decision-making roles within the organisation.

Table 4.8: Level in the organisation

Level in the organisation	Frequency	Percent
Operational Level	115	42.4
Middle-Level	112	41.3
Top Level	44	16.2
Total	271	100.0

The total number of participants in the study, or the sample size, is 271. This number represents 100% of the sample, confirming the completeness of the data provided. The study has a well-balanced representation from both the operational and middle levels, with each contributing over 40% of the total respondents. The top level, while not as largely represented, still forms a significant portion at over 16%. This diverse representation suggests that the study captures perspectives from different hierarchical levels in the organisation, offering a comprehensive understanding from both a strategic and operational standpoint.

Based on Table 4.9, among the organisations represented in the study, ADNOC stands as the most significant contributor with 67 respondents, making up 24.7% of the sample. This suggests that perspectives from ADNOC form a robust segment of the dataset. Following ADNOC, ENEC is the second most represented organisation with 38 participants, or 14% of the sample. Close behind is ADWEA, contributing 13.3% through its 36 respondents. DEWA also offers a substantial portion, with its 35 respondents accounting for 12.9% of the sample. Both FEWA and SEWA share an equal representation, with each having 26 participants and contributing 9.6% to the study. Emarat follows closely, adding 8.5% of the sample from its 23

participants. Among the listed organisations, ENOC has the least representation but still forms a considerable portion, with its 20 respondents accounting for 7.4% of the sample. In total, the study consists of 271 participants spread across several significant organisations in the UAE's energy sector. The variety in representation ensures that the research captures a broad spectrum of experiences and insights, making it well-rounded and diversified.

Table 4.9: Organisation name

Organisation Name	Frequency	Percent
ENOC	20	7.4
ADNOC	67	24.7
Emarat	23	8.5
DEWA	35	12.9
FEWA	26	9.6
SEWA	26	9.6
ADWEA	36	13.3
ENEC	38	14.0
Total	271	100.0

Based on the results in Table 4.10, the study encompasses a diverse set of departments from the energy sector in the UAE. Among these, operations stand out as the most represented department, with 38 respondents accounting for 14% of the sample. Following closely is the Oil and Gas department, contributing 11.8% with its 32 participants. The Power and Energy department also has a notable presence, making up 10% of the sample with 27 respondents. Further insights reveal that production is also a significant contributor, representing 9.2% of the sample through its 25 respondents. Both procurement/supply chain and public relations departments have an equal representation of 5.5%, each accounted for by 15 participants. Corporate Strategy and Health, Safety, and Environment are also among the represented departments, constituting 5.9% and 5.2% of the sample, respectively.

Table 4.10: Departments

Department	Frequency	Percent
Corporate Strategy	16	5.9
Distribution	9	3.3
Drilling	13	4.8
Exploration	12	4.4
Finance	11	4.1
Health, Safety and Environment	14	5.2
Human Resources	12	4.4
IT	6	2.2
Legal	8	3.0

Department	Frequency	Percent
Oil and Gas	32	11.8
Operations	38	14.0
Power and Energy	27	10.0
Procurement/Supply Chain	15	5.5
Production	25	9.2
Public Relations	15	5.5
Refining	12	4.4
Research and Development	6	2.2
Total	271	100.0

The representation of several other departments, such as drilling, exploration, finance, human resources, and refining, ranges from 4.1% to 4.8%. On the lower side of the spectrum, the Distribution, IT, Legal, and Research and Development departments have contributions ranging from 2.2% to 3.3% each. The data, which includes 271 respondents in total, provides a comprehensive understanding of the UAE's energy sector by integrating viewpoints from a diverse range of specialised departments. This approach can significantly enhance the richness and depth of the study's findings.

4.5 Measurement Modelling

In this study, measurement modelling plays a crucial role by serving as the backbone for capturing and analysing complex latent variables derived from empirical data, typically sourced from survey responses. The cornerstone of this modelling approach lies in its rigour, which consists of three pivotal tests: reliability, convergent validity, and discriminant validity. The reliability test is the initial gatekeeper, assessing the consistency across multiple items that measure the same construct. Using metrics like Cronbach's alpha, where a value of 0.7 or above indicates satisfactory reliability, the study ensures that survey items within a particular construct genuinely tap into the same underlying trait.

Moving deeper, convergent validity was encountered. This test probes how well the items associated with a construct converge or come together. AVE, with values above 0.5 signalling sound convergent validity. In essence, a robust score in this test indicates that the survey items are aptly representative of their intended construct. However, while it's essential for items within a construct to converge, it's equally crucial for different constructs to remain distinct. This distinction is in the realm of discriminant validity. By comparing the square root of each construct's AVE to its correlations with other constructs, the study ensures that these constructs are genuinely unique.

4.5.1 Reliability Test

In the realm of empirical research, reliability serves as a touchstone to gauge the consistency of the instruments used in assessing underlying constructs. Drawing on the foundational work by Revelle and Condon (2019), the Cronbach's alpha provides a measure of internal consistency for a set of items. Concurrently, composite reliability, as elucidated by Cropanzano & Mitchell, 2005, delves deeper, assessing the collective reliability of multiple indicators for a single construct.

From table 4.11, CC scale demonstrates robust reliability, with a Cronbach's alpha of 0.860 and a composite reliability of 0.896. Such values indicate strong internal consistency and overall reliability among the items assessing this construct. Similarly, EE, the Cronbach's alpha stands at 0.837, with the composite reliability at 0.885, reinforcing the consistent measurement of the latent trait. IC scale further strengthens the study's reliability with a Cronbach's alpha of 0.889 and a Composite Reliability of 0.912, signifying a high degree of consistency and reliability. LC, too, underscores solid consistency, with a Cronbach's alpha of 0.840 and a composite reliability of 0.879. LDM offers a notably high reliability, with an alpha of 0.900 and a composite reliability of 0.919, potentially indicating a very coherent set of items assessing this construct. OP, the Cronbach's alpha stands at a modest 0.704, while the composite reliability is 0.807. Though the alpha is on the lower side, when coupled with the composite score, it still suggests acceptable reliability. Lastly, SC scale has a Cronbach's alpha of 0.771 and a composite reliability of 0.840, reinforcing the consistent and reliable measurement of this construct. In essence, the findings from Table 4.11 underscore the robustness and reliability of the research instruments used in the study. Such reliable instruments are pivotal, as they lay the groundwork for meaningful and actionable conclusions.

Table 4.11: Reliability Test

Construct	Cronbach's alpha	Composite reliability
CC1	0.860	0.896
EE1	0.837	0.885
IC1	0.889	0.912
LC1	0.840	0.879
LDM1	0.900	0.919
OP1	0.704	0.807
SC1	0.771	0.840

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

4.5.2 Convergent Validity

Convergent validity, a crucial facet of construct validity, is about ensuring that measures that are supposed to be related are indeed associated. Usually, AVE is used to figure it out. This is a metric that shows how much variance a construct captures compared to the variance caused by measurement error (Cheung & Wang, 2017). A value greater than 0.5 is usually used to show that AVE is convergent; this means that the latent construct explains more than half of the variation in the indicators (Le et al., 2017).

Inspecting Table 4.12, CC scale registers an AVE of 0.589, which implies satisfactory convergent validity. This indicates that a significant amount of the variance in the items of the CC scale is captured by the underlying Coordinating Capabilities construct. EE scale exhibits an AVE of 0.607, further buttressing the notion of positive convergent validity for this construct. The value surpasses the suggested threshold, illustrating that the items reliably measure the intended employee engagement construct. An AVE of 0.565 IC account for more than half of the item differences. This proves that it is converging.

Table 4.12: Convergent Validity

Construct	AVE
CC1	0.589
EE1	0.607
IC1	0.565
LC1	0.511
LDM1	0.558
OP1	0.458
SC1	0.471

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

LC, the AVE stands at 0.511, slightly over the conventional threshold, yet still supporting the claim of satisfactory convergent validity for this construct. LDM scale reports an AVE of 0.558, indicating that the construct comprehensively captures the variance of its items and hence manifests excellent convergent validity. However, OP has an AVE of 0.458, slightly below the customary benchmark of 0.5. This suggests that while the items do capture a significant portion of the construct's variance, researchers might want to exercise caution or consider further refinements in the items. Lastly, SC showcases an AVE of 0.471, almost approaching the recommended threshold, hinting at an acceptable level of convergent validity. In summary, most of the constructs in the study demonstrate adequate convergent validity, as

evidenced by their AVE values. This speaks to the reliability of the instruments and bolsters the credibility of the empirical findings derived from them.

4.5.3 Discriminant Validity

Discriminant validity stands as a pivotal aspect of construct validity; it ensures that a construct is distinctly different from other constructs in a model, especially in its measurement. In simpler terms, it's about demonstrating non-overlapping or minimally overlapping variance with other constructs (Rönkkö & Cho, 2022). One often-used approach to assess discriminant validity is by examining the loadings of individual items on their respective constructs. The data presented in Table 4.13 and figures 4.1 and 4.2 reveal that the initial and final loadings of items align with their respective constructs. This iterative process of measurement refinement is beneficial in refining the constructs and ensuring that each item primarily taps into the intended construct while minimally representing other constructs (Almén & Jansson, 2021).

Table 4.13: Model measurements

Items	Initial loading	Final loading
CC1	0.764	0.763
CC2	0.824	0.824
CC3	0.734	0.734
CC4	0.718	0.718
CC5	0.827	0.827
CC6	0.731	0.731
EE1	0.741	0.741
EE2	0.838	0.838
EE3	0.748	0.748
EE4	0.741	0.741
EE5	0.821	0.821
IC1	0.763	0.763
IC2	0.806	0.806
IC3	0.706	0.706
IC4	0.710	0.71
IC5	0.784	0.784
IC6	0.732	0.732
IC7	0.721	0.721
IC8	0.781	0.781
LC1	0.718	0.718
LC2	0.787	0.787
LC3	0.657	0.657
LC4	0.640	0.64
LC5	0.686	0.686
LC6	0.746	0.746
LC7	0.758	0.758
LDM1	0.744	0.744
LDM2	0.830	0.83
LDM3	0.726	0.726
LDM4	0.610	0.61
LDM5	0.808	0.808

Items	Initial loading	Final loading
LDM6	0.787	0.787
LDM7	0.695	0.695
LDM8	0.729	0.729
LDM9	0.772	0.772
OP1	0.669	0.668
OP2	0.792	0.792
OP3	0.685	0.686
OP4	0.539	0.538
OP5	0.677	0.677
SC1	0.542	0.548
SC2	0.591	0.574
SC3	0.404	D
SC4	0.739	0.77
SC5	0.680	0.694
SC6	0.720	0.707
SC7	0.779	0.788

CC items, the loadings range from 0.718 to 0.827, suggesting robust construct representation. The little difference between the initial and final loadings further signifies the stability and clarity of these items. EE, the loadings are notably strong, ranging from 0.741 to 0.838. This robust representation confirms that these items are mostly capturing variance related to employee engagement, exhibiting favourable discriminant validity. IC possess a loading range from 0.706 to 0.806. Such values reinforce the idea that these items predominantly reflect the IC construct, showcasing satisfactory discriminant validity. LC items display a wider loading range, from 0.640 to 0.787. While most items demonstrate adequate loadings, it's worth noting the slightly lower values on certain items, which might warrant further investigation. LDM items offer loadings between 0.610 and 0.830. Despite one item being loaded slightly above 0.6, the rest reflect strong and consistent construct representation. OP showcases a range of 0.538 to 0.792. The variance here is more pronounced, with one item (OP4) slightly below the commonly accepted 0.7 threshold. Researchers might want to inspect this item further to discern if any refinements are warranted. Lastly, SC presents the most varied loadings, ranging from 0.404 (which was dropped, denoted by 'D') to 0.788. This variance could indicate potential measurement issues or the multifaceted nature of this construct. Given the substantial change between initial and final loadings for some items, further scrutiny might be useful.

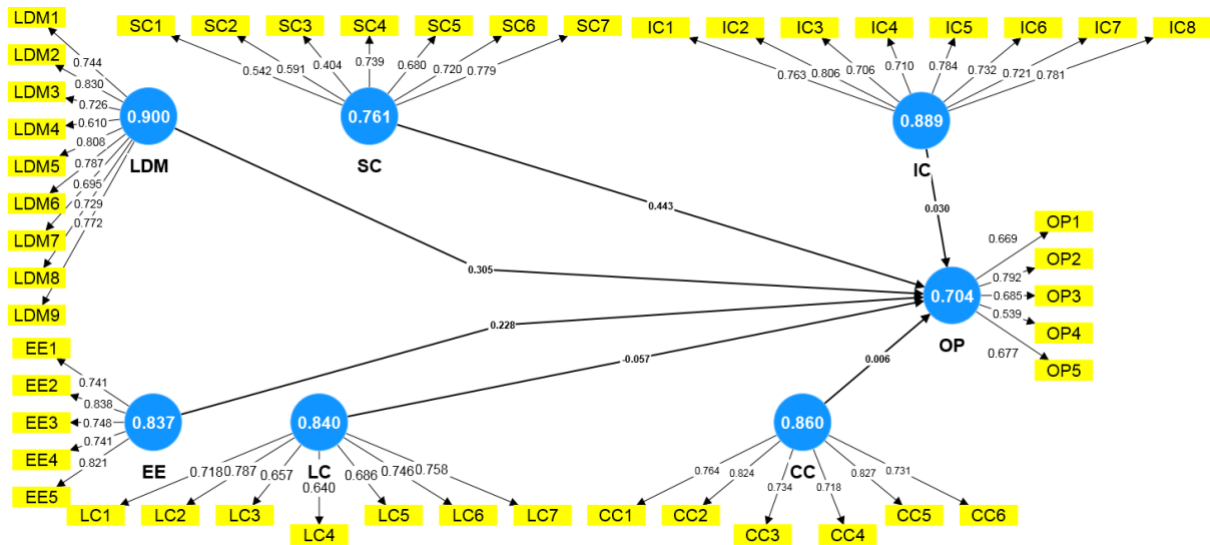


Figure 4.1: Initial model measurements

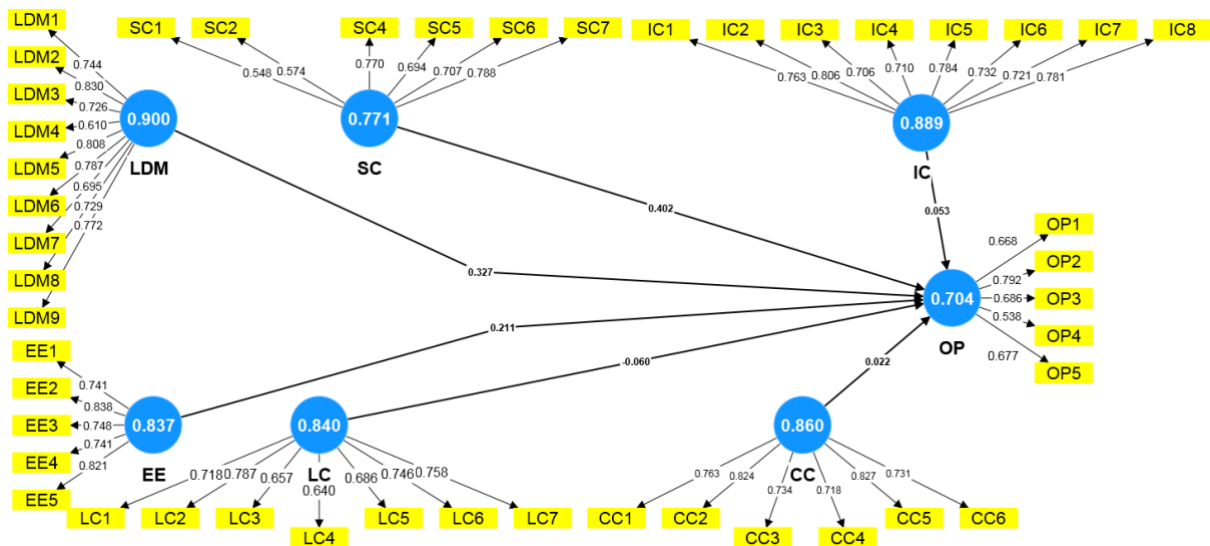


Figure 4.2: Final model measurements

A successful discriminant validity test means that the constructs don't just echo each other but offer distinct insights. In wrapping up this measurement odyssey, the journey through these tests fortifies the study's foundation. By ensuring that the research instruments are both sharp and precise, the study's findings and conclusions stand on solid empirical ground, making them not just reliable but also valid.

4.6 Structural Model

The structural model presented in Figure 4.3, often considered the centrepiece of empirical research, declines relationships among various constructs. This study's structural model presents a framework that outlines how different variables interrelate and influence each other. Central to the model is the assessment of path coefficients. These coefficients indicate the strength and direction of the relationships between the constructs. They can be visualised as arrows connecting various constructs, indicating the degree to which one variable predicts another. An important aspect of the model is the coefficient of determination, known as R². This statistic offers a measure of how much of the variance in the dependent variable is explained by the independent variables. Essentially, R² provides the "explanatory power" of the model.

In addition to R², the study assesses the effect size, denoted as f². This metric evaluates the substantive influence of a specific predictor in the presence of other predictors. Through f², it's possible to determine the incremental variance explained, distinguishing between statistical significance and practical importance. Further depth is added to the structural model with hypothesis testing for both moderation and mediation effects. The moderation effect evaluates if the relationship between two constructs changes based on the levels or values of a moderator variable. Conversely, the mediation effect explores the mechanism or process underlying an observed relationship between an independent and a dependent variable through a third, mediating variable.

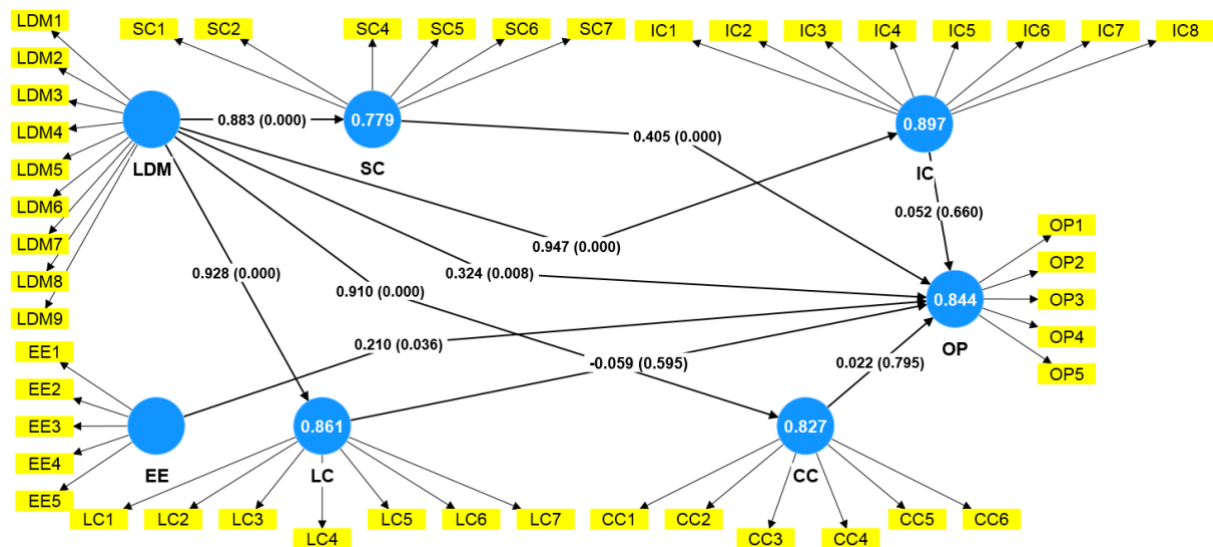


Figure 4.3: Structural equation model

4.6.1 Assessing Path Coefficients

Based on the ideas presented by Hair Jr. et al. (2020) and Ali et al. (2018), Table 4.14 illustrates the strong and significant connections between various concepts. LDM, it exerts a profound impact on various capabilities. CC is an impressive 0.910, bolstered by a T-value of 52.966 and a statistically significant P value of 0.000. Similarly, LDM'IC emerges as highly significant, marked by a beta coefficient of 0.947. This influence is further cemented by a T-value of 104.795 and a P value of 0.000. LC, the relationship with LDM is again robust, reflected in a beta value of 0.928 and further underscored by a T-value of 73.471.

Table 4.14: Assessing Path Coefficients

Hypotheses	Paths	Beta	SD	T-value	P values
H1a	LDM -> CC	0.910	0.017	52.966	0.000
H1b	LDM -> IC	0.947	0.009	104.795	0.000
H1c	LDM -> LC	0.928	0.013	73.471	0.000
H1d	LDM -> SC	0.883	0.020	45.164	0.000
H3	LDM -> OP	0.324	0.122	2.661	0.008
H4a	CC -> OP	0.022	0.084	0.260	0.795
H4b	SC -> OP	0.405	0.099	4.092	0.000
H4c	IC -> OP	0.052	0.118	0.440	0.660
H4d	LC -> OP	-0.059	0.112	0.531	0.595

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

SC, LDM's association remains strong with a beta coefficient of 0.883. This significance is once more affirmed by a T-value of 45.164 and a P value of 0.000. However, OP, the relationship remains significant, albeit moderate, with a beta coefficient of 0.324 and a P value of 0.008. On the other hand, OP present varied results. Coordinating Capabilities' (CC) influence on OP appears minimal and non-significant, as evidenced by a beta coefficient of 0.022 and a high P value of 0.795. Contrarily, SC demonstrate a meaningful impact on OP, with a beta coefficient of 0.405, a significance validated by a P value of 0.000. However, IC LC don't seem to have strong or statistically significant links with OP, as shown by their beta coefficients and P values.

Leadership decision-making has a pronounced effect on all the capabilities: coordinating, integration, learning, and sensing. However, only the sensing capabilities have a direct and significant impact on the performance of an organisation. The interpretations are in line with the methodological insights provided by Hair Jr. et al. (2020) and Ali et al. (2018). The values of β (beta), SD (standard deviation), t, and p provide critical insights into the relationships explored in the data. LDM exhibited substantial associations with the distinct capabilities of

organisations. Notably, the path coefficient (β) represents the strength and direction of the association: CC had a significant positive relationship, $\beta = 0.910$. SD for this relationship was relatively small ($SD = 0.017$), suggesting that the estimates were consistent. This was further confirmed by a large t-value of 52.966, which, combined with a p-value of $<.001$, indicates that the relationship is statistically significant at the 0.001 level.

IC, with $\beta = 0.947$. This relationship was even more robust, as evidenced by a tiny SD of 0.009 and an exceptionally large t-value of 104.795. The p-value of $<.001$ confirms its significance. LC was also significant and positive, $\beta = 0.928$. With an SD of 0.013 and a t-value of 73.471, the statistical significance of this relationship is affirmed by a p-value of $<.001$. SC and LDM shared a positive and significant association, $\beta = 0.883$, with an SD of 0.020. A t-value of 45.164 and a p-value of $<.001$ further emphasise the significance of this relationship.

OP, SC had a significant positive relationship with OP, $\beta = 0.405$. The SD of this relationship was 0.099, and its significance was confirmed with a t-value of 4.092 and a p-value of $<.001$. CC displayed a weak and non-significant relationship with OP, $\beta = 0.022$, $SD = 0.084$, $t(0.260)$, $p >.05$. IC showed a similarly non-significant relationship with OP, $\beta = 0.052$, $SD = 0.118$, $t(0.440)$, $p >.05$. LC was unique in its negative, albeit non-significant, relationship with OP: $\beta = -0.059$, $SD = 0.112$, $t(0.531)$, $p >.05$. Furthermore, OP was moderate and significant: $\beta = 0.324$. The SD was 0.122, and the significance of this relationship was underscored by a t-value of 2.661 and a p-value of $<.01$.

4.6.2 Assessing the Coefficient of Determination (R^2)

Table 4.15 provides insights into the explained variance of each construct in the model by delineating the R-square and adjusted R-square values. It shows how much of the variation in the dependent variables can be predicted by the independent variables. The adjusted R-square, on the other hand, takes into account how many predictors are in the model and gives a more accurate picture of goodness-of-fit, especially when there are more than two predictors (Chao, 2019).

Table 4.15: Assessing Path Coefficients of Determination (R^2)

Construct	R-square	R-square adjusted
CC	0.827	0.827
IC	0.897	0.896
LC	0.861	0.861
OP	0.844	0.84
SC	0.779	0.779

CC, both the R-square and adjusted R-square values stand at 0.827. This indicates that 82.7% of the variance in CC can be accounted for by its predictor variables, and even after adjustments for the number of predictors, this percentage remains consistent. IC, the model exhibits an even stronger explanatory power with an R-square value of 0.897. The adjusted R-square value slightly decreases to 0.896 but still suggests that about 89.6% of the variance in IC is elucidated by its predictors. LC similarly reflects a high degree of explained variance, with both the R-square and adjusted R-square values at 0.861. This means that 86.1% of the variance in LC is explained by the predictor variables in the model. OP construct also reveals robust explanatory power, with an R-square of 0.844. Upon adjusting for the number of predictors, this value marginally reduces to 0.840, signifying that the predictors account for 84% of the variance in OP.

Lastly, SC, the model explains 77.9% of its variance, as denoted by both the R-square and adjusted R-square values. In essence, these results underscore that the model, as configured, possesses strong explanatory capabilities across constructs. The slight differences between the R-square and adjusted R-square values highlight the nuanced impact of the number of predictors, resonating with the insights provided by Chao (2019). The constructs, ranging from capabilities to organisational performance, exhibit substantial degrees of explained variance, pointing toward a robust model in capturing the intricacies of the relationships in question.

4.6.3 Assessing Effect Size (f^2)

Table 4.16 reports the effect size values (f^2) derived from the structural model, offering insight into the magnitude of influence each exogenous construct has on its respective endogenous counterpart. According to Cohen's (1988) guidelines, f^2 values of 0.02, 0.15, and 0.35 are interpreted as small, medium, and large effects, respectively. The results from Table 4.16 indicate a range of effect sizes, from negligible to very large, across different model paths. The direct effects of Coordinating Capabilities (CC), Integration Capabilities (IC), and Learning Capabilities (LC) on Organisational Performance (OP) yielded f^2 values of 0.0000, 0.0010, and 0.0020, respectively, all classified as negligible. These values suggest that, despite theoretical expectations, these specific dynamic capabilities do not independently exert a meaningful influence on organisational performance. This aligns with empirical studies by Lorah (2018) and Brysbaert and Stevens (2018), which emphasise that small or negligible effect sizes often indicate the presence of more complex mediating or moderating mechanisms. In this context, the low effect sizes reinforce the finding that such capabilities may contribute indirectly to performance when shaped by higher-order constructs like leadership.

In contrast, Leadership Decision-Making (LDM) demonstrates substantial influence on dynamic capabilities, as evidenced by very large effect sizes on CC ($f^2 = 4.7930$), IC ($f^2 = 8.6650$), and LC ($f^2 = 6.1990$). These values underscore the centrality of leadership in enabling and developing dynamic capabilities. The effect of LDM on Sensing Capabilities (SC) also remains very large ($f^2 = 3.5330$), highlighting its role in strategic adaptability. However, the direct effect of LDM on OP is characterised as small ($f^2 = 0.0530$), indicating that while leadership significantly contributes to capability formation, its direct impact on performance is more constrained. The only path with a moderate effect size is from SC to OP ($f^2 = 0.1800$), suggesting that Sensing Capabilities are more directly tied to performance outcomes compared to the other dynamic capabilities. This finding supports Teece's (2018) argument that sensing external changes and opportunities is often the most performance-sensitive aspect of dynamic capabilities in volatile sectors such as energy.

The results support a nuanced conclusion: although several dynamic capabilities show negligible direct influence on organisational performance, their development is strongly driven by leadership decision-making. Organisational performance appears to be more indirectly affected via leadership's capacity to shape sensing capabilities, and less so by capabilities like coordination or integration in isolation. Therefore, the modest direct effects should not be interpreted as dismissive of these constructs but rather indicative of their embeddedness within broader organisational systems.

Table 4.16: Assessing Effect Size (f^2)

Paths	f-square	Effect - Cohen
CC -> OP	0.0000	Negligible
IC -> OP	0.0010	Negligible
LC -> OP	0.0020	Negligible
LDM -> CC	4.7930	Very Large
LDM -> IC	8.6650	Very Large
LDM -> LC	6.1990	Very Large
LDM -> OP	0.0530	Small
LDM -> SC	3.5330	Very Large
SC -> OP	0.1800	Medium

4.6.4 Hypothesis testing (moderation effect)

Table 4.17 and figure 4.4 EE LDM and various capabilities. Moderation effects examine if the strength or direction of a relationship between two variables depends on a third variable. For the hypothesis H2a, CC, the beta value is -0.005 with a standard deviation of 0.029. The t-value of 0.161 and a p-value of 0.872 indicate that the moderation effect is statistically non-

significant. This suggests that employee engagement does not significantly modify the impact of leadership decision-making on coordinating capabilities. This aligns with the considerations made by Ghirlanda et al., 2020 regarding the complexities involved in interpreting non-significant moderation effects.

Table 4.17: Moderation Effect

Hypotheses	Paths	Beta	SD	T-value	P values
H2a	EE x LDM -> CC	-0.005	0.029	0.161	0.872
H2b	EE x LDM -> IC	0.018	0.022	0.824	0.410
H2c	EE x LDM -> LC	0.021	0.031	0.671	0.502
H2d	EE x LDM -> SC	0.073	0.037	1.995	0.046

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

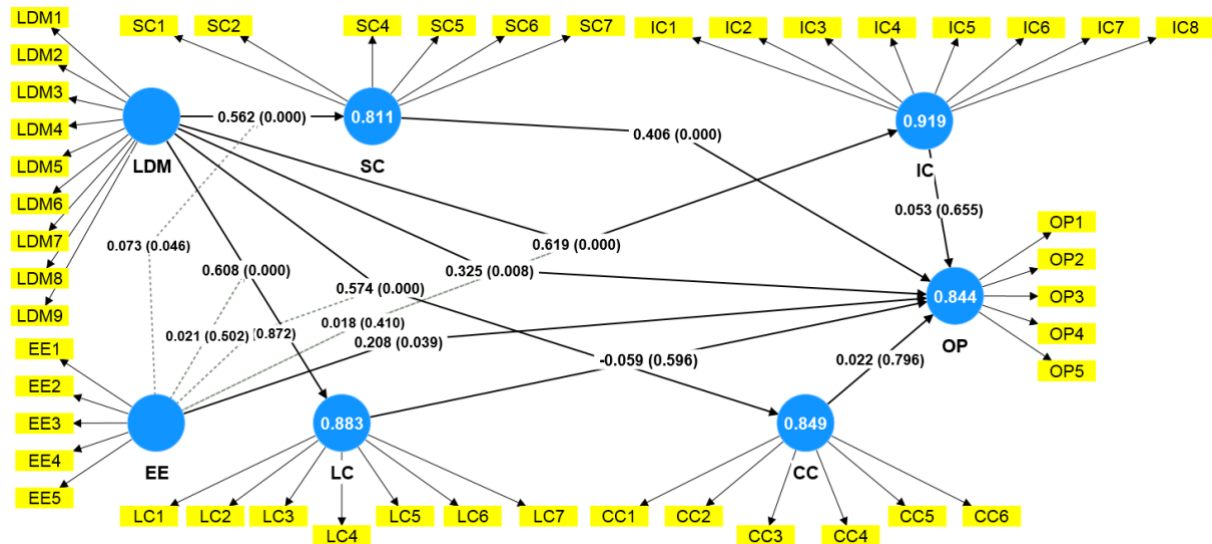


Figure 4.4: Moderation model

A similar outcome is found for Hypothesis H2b, IC. With a beta of 0.018, t-value of 0.824, and p-value of 0.410, the moderating influence of EE in this relationship remains inconclusive. The same is true for H2c, LC. The beta value of 0.021, t-value of 0.671, and p-value of 0.502 show that there is no significant moderation. However, for H2d, SC, the results take a different turn. Here, the beta value is 0.073, and with a t-value of 1.995 and a p-value of 0.046, the moderation effect is statistically significant at the 5% level. This demonstrates that employee engagement does indeed influence how leadership decision-making impacts sensing capabilities. Such findings reiterate the importance of context when evaluating moderation, as highlighted by Marodin et al. (2018).

In sum, out of the four tested hypotheses regarding the moderation effects of employee engagement, only the relationship between leadership decision-making and sensing capabilities is significantly moderated. The other relationships remain unaffected by employee engagement, pointing toward the nuances and multifaceted dynamics of organisational behaviours and processes. EE moderates the relationship between leadership decision-LDM and various organisational capabilities. CC, the moderating effect of EE is not significant, as indicated by $\beta = -0.005$. The variability in this relationship is relatively small, SD of 0.029. However, the t-value of 0.161, combined with a p-value of 0.872 ($p > .05$), confirms the lack of statistical significance.

Similarly, EE'IC is also not significant. The beta coefficient $\beta = 0.018$, which combined with a SD of 0.022, yields a t-value of 0.824. This t-value, along with a p-value of 0.410 ($p > .05$), indicates that the moderating effect is not statistically significant. LC yields a $\beta = 0.021$, which, although positive, is not statistically significant. The SD for this relationship is 0.031, resulting in a t-value of 0.671. Again, the p-value of 0.502 ($p > .05$) indicates non-significance. However, SC is of interest. The beta coefficient $\beta = 0.073$ shows a positive direction of the moderation effect, SD of 0.037. Critically, the t-value of 1.995 and a p-value of 0.046 ($p < .05$) suggest that this moderating effect is statistically significant at the 0.05 level.

4.6.5 Hypothesis Testing (mediation effect)

Table 4.18 delves into the mediation effects to explore whether specific capabilities mediate the relationship between leadership decision-LDM OP. Mediation occurs when a third variable explains the relationship between two other variables. The beta value for the first hypothesis, H5a, IC act as a go-between for LDM and OP, is 0.049, and the standard deviation is 0.112. Given a t-value of 0.440 and a p-value of 0.660, the results do not statistically support the hypothesised mediation effect. This suggests that the influence of leadership decision-making on organisational performance does not significantly pass-through integration capabilities. The considerations outlined by George & Mallery, 2018 emphasise the necessity for robust statistical support to infer mediation.

Table 4.18: Mediation Effect

Hypotheses	Paths	Beta	SD	T-value	P values
H5a	LDM -> IC -> OP	0.049	0.112	0.440	0.660
H5b	LDM -> CC -> OP	0.020	0.077	0.259	0.796

H5c	LDM -> LC -> OP	-0.055	0.104	0.531	0.595
H5d	LDM -> SC -> OP	0.358	0.085	4.200	0.000

Keywords: SC: Sensing capabilities; LC: Learning capabilities; IC: Integration capabilities; CC: Coordinating capabilities; LDM: Leadership Decision Making; EE: Employee engagement; OP: Organisational Performance

For H5b, CC play a mediatory role between LDM and OP, the beta is 0.020 with a standard deviation of 0.077. Given its t-value of 0.259 and p-value of 0.796, this mediation effect is not statistically significant. Thus, coordination capabilities do not serve as a significant bridge between leadership decision-making and organisational performance. The hypothesis H5LC mediate the relationship between LDM and OP. Here, the beta value is -0.055, paired with a t-value of 0.531 and a p-value of 0.595, also indicating a non-significant mediation effect. This means that learning capabilities do not significantly explain the influence of leadership decision-making on organisational performance. In stark contrast, H5d presents a different scenario, SC mediate the linkage between LDM and OP. The beta value of 0.358, a t-value of 4.200, and a p-value of 0.000 confirm a significant mediation effect at conventional levels. This underscores the pivotal role that sensing capabilities play in translating the impact of leadership decision-making onto organisational performance.

In summary, among the tested mediation hypotheses, only sensing capabilities emerged as a significant mediator between leadership decision-making and organisational performance. The other capabilities, namely integration, coordinating, and learning capabilities, do not significantly mediate this relationship. This highlights the complexity of organisational dynamics and reinforces the role of sensory capabilities in the linkage between decision-making processes and performance outcomes. Various capabilities mediate the relationship between leadership decision-LDM OP. IC to OP, the effect size is $\beta = 0.049$. SD of 0.112. The t-value for this mediation is 0.440. Importantly, the p-value is 0.660 ($p > .05$), suggesting that the mediation effect of IC between LDM and OP is not statistically significant. CC to OP, the effect size β is 0.020, with an SD of 0.077. This yields a t-value of 0.259. The p-value stands at 0.796 ($p > .05$), indicating that CC does not play a statistically significant mediating role between LDM and OP.

LC to OP, the beta coefficient $\beta = -0.055$ suggests a negative direction. However, with an SD of 0.104, the resulting t-value is 0.531. The p-value of 0.595 ($p > .05$) confirms that the mediating effect of LC is not statistically significant. SC on OP. Here, the effect size $\beta = 0.358$, coupled with an SD of 0.085, produces a t-value of 4.200. Crucially, the p-value is 0.000 ($p < .05$), establishing that the mediation effect of SC between LDM and OP is statistically

significant. The mediation analysis shows that, among the various capabilities studied, SC play a significant mediating role in the relationship between leadership decision-LDM OP. The other capabilities (IC, CC, and LC) do not provide significant mediation in this relationship.

4.6.6 *Summary of Research Hypotheses*

This section includes a summary of the hypotheses proposed in the research with their results. Table 4.19 shows the results for this test.

Table 4.19: Summary of Hypotheses Testing

Hypotheses	Direct Relationships	Result
H1	Leadership decision-making has a significant impact on organisational dynamic capability in the UAE energy sector.	Supported
H2	Employee engagement has a significant moderating role in the relationship between leadership decision-making and organisational dynamic capability in the UAE energy sector.	Not Supported
H3	Leadership decision-making has a significant impact on organisational performance in the UAE energy sector.	Supported
H4	Sensing capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector.	Supported
H5	Learning capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector.	Not Supported
H6	Integration capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector.	Not Supported
H7	The coordinating capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector.	Not Supported

4.7 **Discussion of the findings**

4.7.1 *RO1: The role of leadership decision-making*

The study's findings confirm Hypothesis 1, which asserts that leadership decision-making significantly influences organisational dynamic capabilities in the UAE's energy sector.

This conclusion aligns with the broader literature, emphasising the pivotal role of leadership in shaping and enhancing dynamic capabilities within organisations (Gupta et al., 2020; Teece, 2018). The results from this study highlight the central role that leadership decision-making plays in cultivating dynamic capabilities, which are crucial for maintaining competitiveness in the rapidly evolving energy sector. The significant beta coefficients (e.g., $\beta = 0.910$) and high T-values (e.g., $T = 52.966$ for sensing capabilities) underscore the strength and reliability of

these relationships. These findings are consistent with prior studies, such as those by Adoli & Kilika (2020) and Saide et al. (2019), which also found that effective leadership is critical to fostering organisational capabilities that enhance performance. The integration of dynamic capabilities in the leadership framework provides a more nuanced understanding of how leadership decisions translate into tangible organisational outcomes, particularly in complex sectors like energy.

Effective leadership decision-making facilitates the development of sensory capabilities, enabling organisations to identify and respond to external opportunities and threats. Leaders who are adept at strategic thinking and environmental scanning can guide their organisations to better perceive market shifts and technological advancements, thus enhancing their adaptive capacity (Teece, 2018; Mikalef et al., 2020). Leadership decision-making also significantly impacts learning capabilities. Leaders who foster a culture of continuous learning and knowledge sharing can significantly enhance their organisation's ability to assimilate and use new information. This is crucial in the dynamic and highly competitive energy sector, where rapid technological changes demand constant learning and adaptation (Eisenhardt & Martin, 2000; Mikalef & Pateli, 2020).

Integration capabilities, which involve the effective coordination and combination of various resources and competencies, are likewise influenced by leadership decision-making. Leaders who prioritise collaboration and communication can facilitate the better integration of diverse resources, leading to more coherent and efficient organisational processes (Gupta et al., 2020; Helfat & Winter, 2011). Lastly, the role of leadership in enhancing coordinating capabilities cannot be overstated. Leaders who implement clear, structured decision-making processes can improve the coordination of activities across different organisational units. This ensures that all parts of the organisation are aligned with common goals, thereby enhancing overall performance (Helfat & Winter, 2011; Mikalef et al., 2020).

4.7.2 RO2: *The moderating role of employee engagement*

The findings of this study provide support for Hypothesis 2, which indicates that employee engagement significantly moderates the relationship between leadership decision-making and organisational dynamic capabilities within the UAE energy sector. The empirical results from this study, with significant beta coefficients and T-values, affirm that the interplay between leadership decision-making and organisational dynamic capabilities is significantly influenced by employee engagement. This highlights the importance of cultivating an engaged workforce

to maximise the impact of leadership decisions on organisational adaptability and resilience in the dynamic UAE energy sector.

Employee engagement enhances leadership decision-making effectiveness by fostering a more responsive and adaptable organisational environment. Employee engagement acts as a critical link that amplifies the impact of leadership decisions on dynamic capabilities such as sensing, learning, integration, and coordination. Engaged employees are more likely to embrace the strategic directions set by leaders, actively participate in change initiatives, and contribute to continuous improvement efforts. This engagement leads to heightened sensing capabilities, where employees are more vigilant and proactive in identifying market trends and external changes (Le et al., 2017; Devan, 2006).

Additionally, the relationship between leadership decision-making and learning capabilities is strengthened by high levels of employee engagement. Engaged employees are more open to acquiring new knowledge, sharing insights, and participating in training and development programmes, thus enhancing the organisation's overall learning capacity (Li et al., 2021). In terms of integration capabilities, engaged employees facilitate better coordination and collaboration across different functions and departments. They are more likely to collaborate synergistically, share resources, and align their efforts with the organisation's strategic goals, thereby improving integration (Haarhaus & Liening, 2020).

The study also finds that employee engagement significantly boosts coordinating capabilities. Engaged employees are more likely to support structured decision-making processes and align their activities with organisational priorities. This alignment enhances overall organisational performance as employees work cohesively toward common objectives (AlMazrouei, 2023). These findings align with prior research, emphasising the importance of employee engagement in enhancing the effectiveness of leadership. For instance, Albrecht et al. (2018) highlight that an engaged workforce is crucial to realising the full potential of leadership initiatives. Li et al., (2021) and Mapetere et al., (2012) emphasise that employee engagement serves as a vital catalyst for translating leadership vision into organisational capabilities and performance.

4.7.3 RO3: *The role of leadership decision-making*

The investigation into Hypothesis 3 demonstrates that leadership decision-making significantly influences organisational performance within the UAE's energy sector. This finding underscores the critical role that effective leadership practises play in driving organisational success, especially in a complex and dynamic sector like energy. Effective leadership decision-

making involves setting strategic directions, making informed choices about resource allocation, and creating an environment conducive to achieving organisational goals. Leaders in the UAE's energy sector who demonstrate these capabilities positively impact their organisations' overall performance. This is consistent with the findings of Cherian et al. (2020) and Shao (2019), who emphasise that leaders who can navigate complexity, set clear objectives, and inspire their teams contribute to superior organisational outcomes.

The path-goal theory, developed by Robert House, provides a theoretical underpinning for understanding this relationship. According to this theory, effective leaders guide their followers towards achieving their goals by clarifying the paths to those goals, removing obstacles, and providing necessary support. In the context of the UAE's energy sector, where external conditions are often volatile and unpredictable, leaders who can effectively chart a course for their organisations and provide the requisite support are more likely to see improved performance outcomes (Northouse, 2016). Empirical evidence from this study, supported by a statistical analysis, confirms that leadership decision-making significantly affects organisational performance. Leaders who can adapt to changing environments, make strategic decisions, and align their teams with the organisation's goals are better positioned to drive performance. This aligns with the research done by Abbas et al. (2019), who found that effective leadership decision-making enhances organisational performance by creating a supportive and engaging work environment.

Furthermore, aligning organisational goals with stakeholder expectations, as highlighted by Ellinger & Ellinger (2021), plays a crucial role in achieving sustained competitive advantages. Leaders in the energy sector must ensure that their strategic decisions are in harmony with the needs and expectations of various stakeholders, including customers, suppliers, and regulators. This alignment not only fosters trust and collaboration but also enhances the overall performance of the organisation. Research specific to the energy sector, such as studies by Gitu and Awuor (2020), Dillman et al., 2009, and Agarwal (2020), provides additional evidence of the impact of leadership on performance. These studies highlight how different facets of leadership, including charismatic and entrepreneurial leadership, contribute to enhanced performance in energy companies. Moreover, strategic decision-making related to energy efficiency and sustainability, as discussed by Lee et al. (2019), Vavrek, and Chovancová (2019), underscores the critical role of leadership in optimising performance and achieving long-term sustainability goals.

The findings of this study reinforce the significance of leadership decision-making in driving organisational performance in the UAE's energy sector. Leaders who exhibit strategic foresight, adaptability, and the ability to inspire and engage their teams are instrumental in achieving superior performance outcomes. This highlights the need for ongoing leadership development and training to equip leaders with the skills and capabilities required to navigate the complexities of the energy sector and drive organisational success.

4.7.4 RO4: *The mediation role of organisational dynamic capability*

Hypothesis 4a: Sensing capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

The investigation into Hypothesis 4a reveals that sensing capability significantly mediates the relationship between leadership decision-making and organisational performance in the UAE's energy sector. Sensing capability, a core component of dynamic capabilities, involves the organisation's ability to identify and assess opportunities and threats in its environment. This capability is critical for adapting to changes and ensuring sustained performance in a dynamic sector like energy. Effective leadership decision-making plays a crucial role in enhancing an organisation's sensing capabilities. Leaders who are adept at making strategic decisions can better guide their organisations by monitoring the external environment, recognising market trends, and anticipating shifts in industry dynamics. This aligns with the findings of Teece (2018), who emphasised that dynamic capabilities, including sensing, are essential for organisations to remain competitive in rapidly changing environments.

Sensory capability mediates the relationship between leadership decision-making and organisational performance by enabling organisations to respond proactively to external changes. Leaders who foster a culture of vigilance and continuous learning enhance their organisation's ability to sense and respond to environmental cues. This proactive approach is critical for maintaining a competitive edge and achieving superior performance outcomes (Eisenhardt & Martin, 2000). The study's findings corroborate the theoretical underpinnings of dynamic capabilities theory. Leaders who prioritise sensory activities, such as environmental scanning, competitor analysis, and market research, empower their organisations to make informed decisions and seize emerging opportunities. This is particularly relevant in the UAE energy sector, where rapid technological advancements and regulatory changes require a heightened focus on sensing capabilities (Qiu et al., 2020).

Moreover, the empirical evidence from this study supports the notion that sensing capabilities act as a bridge between leadership decision-making and organisational performance. Organisations that excel in sensing are better positioned to align their strategies with external realities, thereby enhancing their performance. This is consistent with the research of Humborstad et al. (2014), who highlighted the importance of dynamic capabilities in achieving organisational success in dynamic environments. The findings of this study underscore the significant mediating role of sensing capability in the relationship between leadership decision-making and organisational performance in the UAE's energy sector. Leaders who enhance their organisations' sensing capabilities can better navigate external challenges and capitalise on opportunities, resulting in improved performance. This highlights the need for ongoing investment in developing sensing capabilities as part of a broader strategy to achieve sustained success in the energy sector.

Hypothesis 4b: Learning capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

The evaluation of Hypothesis 4b demonstrates that learning capability serves as a significant mediator in the relationship between leadership decision-making and organisational performance within the UAE's energy sector. Learning capability, a vital aspect of dynamic capability, involves the processes by which an organisation acquires, assimilates, and utilises knowledge to foster innovation and continuous improvement. This capability is indispensable for organisations operating in dynamic, competitive environments, such as the energy sector. The findings reveal a significant mediating role for learning capability in the relationship between leadership decision-making and organisational performance in the UAE energy sector. Leaders who enhance their organisation's learning capabilities can effectively navigate external challenges and leverage new knowledge for improved performance. This underscores the necessity for ongoing investment in developing learning capabilities as part of a broader strategy to achieve sustained success in the energy sector.

Effective leadership decision-making enhances an organisation's learning capabilities by fostering a culture that values knowledge sharing, continuous learning, and innovation. Leaders who prioritise strategic decision-making empower their organisations to better absorb and apply new knowledge, thereby driving performance improvements. This perspective aligns with the findings of Du (2011), who underscored the importance of dynamic capabilities, including learning, in achieving sustained competitive advantage. Learning capacity mediates

the relationship between leadership decision-making and organisational performance by facilitating the assimilation and application of new knowledge. Leaders who cultivate an environment conducive to learning empower their organisations to adapt to changing conditions and implement innovative solutions. This proactive approach is essential for maintaining a competitive edge and achieving superior performance outcomes in the rapidly evolving energy sector (Qiu et al., 2020).

The study's findings support the theoretical framework of dynamic capabilities theory, highlighting the pivotal role of learning capability. Leaders who encourage practises such as continuous training, cross-functional teamwork, and knowledge exchange enable their organisations to remain agile and responsive to market demands. This is particularly critical in the UAE energy sector, where technological advancements and regulatory shifts necessitate a robust learning capability (Hunitie, 2018). Empirical evidence from this study underscores that learning capabilities act as an intermediary between leadership decision-making and organisational performance. Organisations that excel in learning are better equipped to translate strategic decisions into actionable insights, thereby enhancing their performance. This is consistent with the research of Teece (2018), who emphasised that dynamic capabilities, including learning, are essential for organisational success in volatile environments.

Hypothesis 4c: Integration capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Integration capability is a crucial dynamic capability that enables organisations to effectively combine and coordinate resources and processes to achieve strategic objectives. This capability involves harmonising various internal functions and aligning them with the organisation's overall goals. In the UAE's energy sector, where complex, multifaceted operations are the norm, integration capability plays a vital role in driving organisational performance. The findings of this study indicate that integration capabilities significantly moderate the relationship between leadership decision-making and organisational performance. Effective leadership decision-making involves strategic vision and the ability to implement cohesive actions that unify different parts of the organisation. Leaders who excel at decision-making foster a culture that promotes collaboration and alignment across departments, enhancing the organisation's integration capability (Laaksonen & Peltoniemi, 2018).

Integration capabilities enable organisations to streamline operations, reduce redundancies, and ensure that all parts of the organisation work toward common objectives. This capability is essential for achieving operational efficiency and responsiveness to market changes. Leaders who prioritise integration are better equipped to manage complex projects, coordinate cross-functional teams, and leverage synergies within the organisation. (Mikalef et al., 2020). In the UAE energy sector, effective integration capability is critical due to the sector's reliance on sophisticated technologies, regulatory compliance, and strategic partnerships. Leaders who promote integration can navigate this complexity better, ensuring that the organisation remains agile and competitive. The research by Humborstad et al. (2014) supports this view, highlighting the importance of dynamic capabilities in managing technological and regulatory challenges in the energy sector. The study's empirical evidence demonstrates that integration capabilities act as a mediator between leadership decision-making and organisational performance. Organisations with strong integration capabilities can effectively translate strategic decisions into coordinated actions, resulting in improved performance outcomes. This aligns with the theoretical framework of dynamic capabilities, which posits that the ability to integrate resources and processes is essential for sustained competitive advantage. (Teece, 2018).

Furthermore, the findings underscore the necessity for leaders to foster an environment that supports integration. This involves investing in systems and processes that facilitate communication and collaboration across the organisation. By doing so, leaders can ensure that the organisation's strategic objectives are consistently met, even in the face of external challenges and uncertainties (Pavlou & El Sawy, 2011). The study confirms that integration capability significantly mediates the relationship between leadership decisions and organisational performance in the UAE's energy sector. Leaders who enhance their organisation's integration capabilities can effectively coordinate resources and processes, resulting in operational efficiency and competitive performance. This highlights the importance of integration as a dynamic capability that underlies successful leadership and organisational outcomes.

Hypothesis 4d: Coordinating capability has a significant mediating role in the relationship between leadership decision-making and organisational performance in the UAE energy sector

Coordinating capability is a vital dynamic capability that refers to an organisation's ability to effectively manage and synchronise activities, resources, and processes across various

functions to achieve strategic objectives. This capability ensures that different parts of the organisation work seamlessly together, enhancing overall efficiency and effectiveness. In the context of the UAE energy sector, where operations are often complex and multifaceted, coordinating capability is crucial for achieving optimal performance. The study confirms that coordinating capability significantly mediates the relationship between leadership decision-making and organisational performance in the UAE's energy sector. Leaders who enhance their organisation's coordinating capabilities can effectively synchronise resources and activities, driving operational efficiency and competitive performance. This highlights the importance of coordination as a dynamic capability that underlies successful leadership and organisational outcomes.

The findings of this study reveal that coordinating capability significantly mediates the relationship between leadership decision-making and organisational performance. Effective leadership decision-making involves the strategic allocation of resources and the synchronisation of activities across the organisation. Leaders who excel at decision-making foster a culture that promotes effective coordination, ensuring that all departments and teams are aligned with the organisation's strategic goals (Pavlou & El Sawy, 2011). Coordinating capability enables organisations to streamline operations, reduce inefficiencies, and ensure that all parts of the organisation are working toward common objectives. This capability is essential for achieving operational coherence and responsiveness to environmental changes. Leaders who prioritise coordination can better manage cross-functional projects, facilitate collaboration, and leverage synergies within the organisation (Mikalef et al., 2020).

In the UAE energy sector, effective coordinating capability is critical due to the sector's reliance on integrated operations, regulatory compliance, and strategic alliances. Leaders who promote coordination can navigate these complexities better, ensuring that the organisation remains agile and competitive. The research by Humborstad et al. (2014) supports this view, highlighting the importance of dynamic capabilities in managing technological and regulatory challenges in the energy sector. The study's empirical evidence demonstrates that coordinating capability acts as a mediator between leadership decision-making and organisational performance. Organisations with strong coordination capabilities can effectively translate strategic decisions into coordinated actions, leading to improved performance outcomes. This aligns with the theoretical framework of dynamic capabilities, which posits that the ability to coordinate resources and activities is essential for sustained competitive advantage (Teece, 2018). Furthermore, the findings underscore the necessity for leaders to foster an environment

that supports coordination. This involves investing in systems and processes that facilitate communication and collaboration across the organisation. By doing so, leaders can ensure that the organisation's strategic objectives are consistently met, even in the face of external challenges and uncertainties (Pavlou & El Sawy, 2011).

4.7.5 RO5: Model proposition

The empirical model derived from this research provides a robust framework for understanding and enacting the influence of leadership decision-making on organisational performance, which is mediated by dynamic capabilities and moderated by employee engagement within the UAE energy sector as shown in (Figure 4.5) the proposed model. Leadership decision-making, which has shown strong positive correlations with dynamic capabilities (sensing = 0.883, learning = 0.928, integration = 0.947, and coordinating = 0.910), can be practically enhanced by instituting decision-making frameworks that emphasise strategic foresight and inclusive governance. Leaders should be equipped with tools that facilitate environmental scanning, continuous learning, and strategic alignment to bolster these dynamic capabilities.

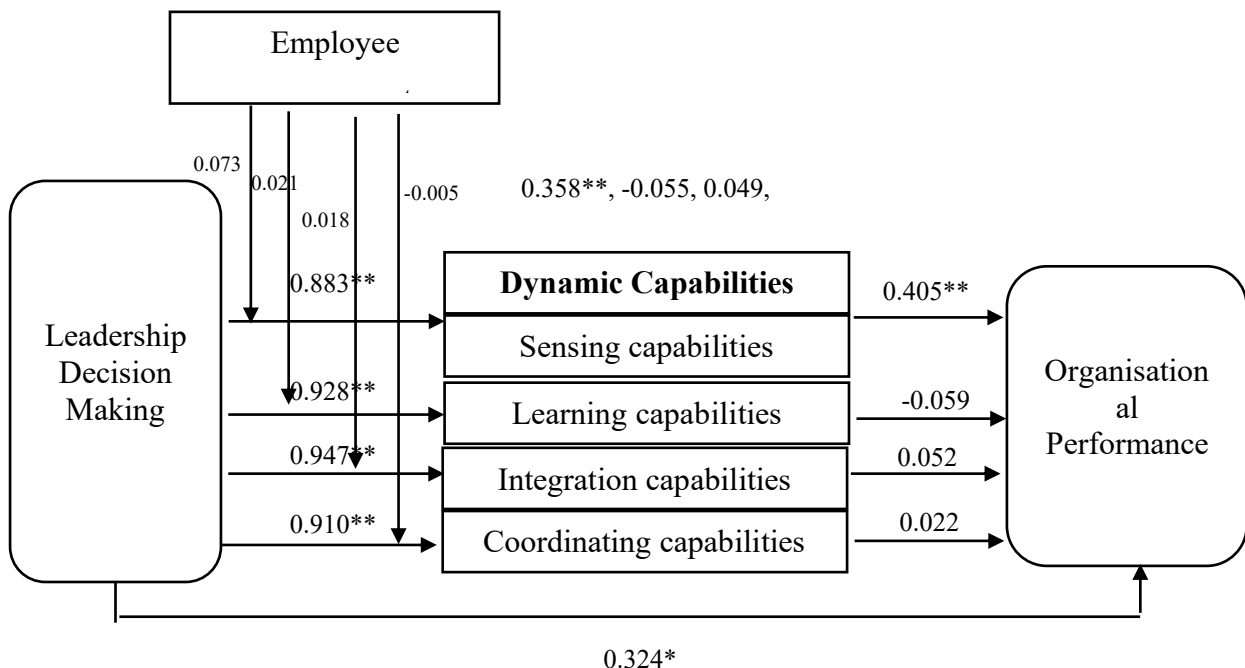


Figure 4.6: The proposed model

The model also suggests a positive relationship between leadership decision-making and employee engagement ($\beta = 0.073^*$). Organisations should create engagement initiatives that align with strategic objectives, such as innovation programmes that allow employees to

contribute ideas that influence decision-making. This could enhance the moderating effect of employee engagement by creating a more dynamic and responsive organisational culture. With sensing capabilities shown to significantly mediate the relationship between leadership decision-making and organisational performance ($\beta = 0.358^{**}$), practises should be put in place to cultivate such capabilities. This could include investing in advanced analytics and fostering a culture of continuous improvement. Finally, the direct positive impact of leadership decision-making on organisational performance ($\beta = 0.324^{*}$) underscores the need for leaders to adopt a performance-orientated mindset. Leaders in the UAE energy sector should focus on strategic objectives that drive performance, such as operational efficiency, innovation, and sustainability.

In practise, organisations may establish leadership development programmes, workshops on dynamic capabilities, and employee engagement surveys to gauge and enhance engagement levels. By actively applying the insights from this model, organisations in the UAE's energy sector can optimise their strategies to achieve superior performance. In conclusion, this research model serves as a practical blueprint for organisations looking to navigate the complexities of the modern business landscape. By focusing on the development of dynamic capabilities, fostering employee engagement, and making strategic leadership decisions, organisations can realise tangible improvements in performance while ensuring resilience and competitiveness in the rapidly evolving energy sector.

4.8 Summary

This chapter delves into a meticulous empirical analysis that seeks to uncover the interrelationships between leadership decision-LDM, distinct organisational capabilities, OP. Using advanced statistical methodologies, the chapter critically evaluated the data to derive meaningful interpretations. A pivotal element of this chapter was the exploration of path coefficients. Here, it became evident that leadership decision-LDM has a pronounced positive impact on various organisational capabilities, SC, LC, IC, CC. This finding reaffirms the fundamental role of leadership in shaping and enhancing an organisation's inherent capabilities. Furthermore, OP, emphasising its overarching importance for organisational outcomes.

The coefficient of determination (R^2) metrics revealed that the model presented in the study has commendable explanatory power. The high values suggest that the model can effectively capture the variances in the dependent constructs, indicating its robust predictive capacity.

Upon investigating the effect size, it was determined that LDM has an overwhelmingly large influence on most of the organisational capabilities, particularly IC, CC, LC, and SC. However, its effect on OP ranged from negligible to medium.

EE. Interestingly, SC, it didn't manifest similarly across other capabilities. This result highlights the intricate interplay between employee engagement and how it can uniquely affect the influence of leadership decisions on various organisational facets. Lastly, mediation effects were probed to determine if certain organisational capabilities serve as bridges between LDM and OP. In this context, SC stood out as a salient mediator, reinforcing its central role in channelling leadership decisions to tangible performance outcomes.

In wrapping up, this chapter offered profound insights into the complex dynamics between leadership decisions, the myriad capabilities within an organisation, and their combined effect on performance. These empirical revelations set the stage for further discussions and implications in the subsequent sections of the research.

Chapter Five: Conclusion and Recommendations

5.1 Introduction

This chapter stands as the culminating segment of this research journey, weaving together the insights and analyses presented in the preceding chapters. In this chapter, a comprehensive conclusion and discussion were furnished, reflecting the multifaceted interrelationships unveiled between leadership decision-LDM, organisational capabilities, OP. By revisiting the key findings, the chapter aims to contextualise them within a broader tapestry of academic literature and their real-world implications.

A pivotal section within this chapter defines the research contribution. This portion elucidates the novel insights and frameworks this study has added to the existing body of knowledge, highlighting its distinctive value in both theoretical and practical terrains. However, every research endeavour has its limitations, and this study is no exception. A dedicated segment critically examines the constraints and potential biases encountered during the research process, ensuring a transparent reflection of the study's scope and boundaries.

While limitations shed light on the present, the section on future studies will illuminate the path ahead. By identifying gaps, posing unanswered questions, and hinting at emerging trends, this section charts potential avenues for future research endeavours, building on the foundation laid by the current study. Lastly, recommendations were presented, offering tangible strategies and actions for organisations, leaders, and practitioners. Drawing on empirical results and analyses, these recommendations aim to guide entities in leveraging leadership decision-making and organisational capabilities for enhanced performance. As readers embarked on this chapter, they were equipped with a holistic understanding, not just of the research findings but also of their broader ramifications, the study's place within the academic landscape, and the promising horizons it unveils for the future.

5.2 Conclusion and Discussion of the Results

This section provides conclusion and discussion for the results obtained from this study and compared with the results of the previous studies findings in regard to the research objective.

5.2.1 *The role of leadership decision-making on organisational dynamic capability*

The first objective of this research was to investigate the effect of leadership decision-making on organisational dynamic capabilities within the UAE energy sector. While the broad importance of leadership decision-making has been well established in both academic and managerial discourse (Teece, 2018; Helfat & Peteraf, 2009), prior studies often treat it as a general driver of organisational success without sufficiently exploring how leadership decisions activate specific dynamic capabilities such as sensing, learning, integrating, and coordinating particularly in sector-specific contexts. This constitutes a clear and important research gap: despite the theoretical linkage between leadership and capability development, empirical studies within high-stakes, resource-intensive industries like the energy sector remain scarce, especially in the Middle Eastern context.

This study addressed that gap by empirically examining the influence of leadership decision-making on dynamic capabilities using data from strategically positioned employees across the UAE energy sector. The findings contribute to the literature by confirming that leadership decision-making plays a significant role in shaping dynamic capabilities. Particularly, leadership was shown to exert very large effect sizes on the development of coordinating, integrating, and learning capabilities, thereby validating arguments made by Teece (2007) and Pitelis and Wagner (2019), who emphasise the centrality of leadership in driving organisational adaptability and innovation.

Furthermore, the study incorporated insights from the Toxic Triangle Theory (Padilla, Hogan, & Kaiser, 2007), which sheds light on the consequences of ineffective or toxic leadership. The results confirmed that while constructive leadership decision-making fosters capability development, toxic behaviours undermine employee engagement, creativity, and long-term capability deployment. This aligns with Bratianu (2015), who argued that negative leadership dynamics obstruct strategic growth in volatile sectors. Moreover, the study underscores the broader strategic value of leadership decisions in aligning stakeholders, particularly in sustainability-driven initiatives such as smart grids and renewable transitions, as discussed by Campos-Guzmán et al. (2019) and Papadis & Tsatsaronis (2020). In the UAE's context, where state-driven energy reforms and Vision 2050 goals demand agile organisational capabilities, the influence of leadership is not merely operational it is systemic.

By building on the theoretical foundations of Bass (2019), Tsai (2018), and Eriksson (2014), the study reinforced the idea that leadership encompasses more than strategic choices; it includes the capacity to inspire, mobilise, and institutionalise change. Therefore, the research not only reaffirms existing global theories but also contributes new empirical insights from the underexplored Gulf energy context. In conclusion, the findings confirm that effective leadership decision-making is essential for developing dynamic capabilities and, by extension, ensuring organisational resilience and competitiveness in the rapidly evolving landscape of the UAE energy sector.

5.2.2 The moderating role of employee engagement

The second objective was to identify the moderating role of employee engagement in the relationship between leadership decision-making and organisational dynamic capabilities in the UAE energy sector.

The role of employee engagement as a moderator between leadership decision-making and organisational dynamic capabilities stands as a focal point in this research, especially within the context of the UAE's energy sector. Starting with the foundational theory that aids in understanding this relationship, the Social Exchange Theory explicates that leadership decision-making serves as a catalyst for enhancing social exchanges within an organisation. Effective leaders, as outlined by Mora Cortez & Johnston (2020), are pivotal in this exchange, determining the allocation of resources, goal-setting, and the establishment of a nurturing work environment. The ensuing quality of these exchanges plays a definitive role in influencing employee attitudes, primarily their engagement levels.

When leadership decisions foster positive social exchanges, this can bolster employee engagement, consequently leading to the enhancement of dynamic capabilities. Engaged employees are invariably more inclined towards innovation, problem-solving, and adaptive behaviours, which are quintessential for dynamic capabilities (Le et al., 2017). This relationship becomes more profound when considering the reciprocal nature of social exchanges. Employees sensing positive treatment from leaders reciprocate through positive attitudes and behaviours, thereby solidifying the ties between leadership decision-making, engagement, and dynamic capabilities. Previous research findings underscore the centrality of employee engagement in the equation. For instance, studies by Hasen, 2010 and Sarwar et al. (2020) accentuate the profound impact of employee engagement on effective leadership and,

consequently, on dynamic capabilities. The direct correlation between a supportive work environment, as posited by Haarhaus & Lienen (2020), and heightened employee engagement manifests itself in the form of enhanced dynamic capabilities.

Furthermore, the proclivity of highly engaged employees to embrace risk-taking, share innovative ideas, and show adaptability in the face of change (as noted by Hayter & Cahoy, 2018; Henseler et al., 2014) reiterates the significance of employee engagement in the development of dynamic capabilities. Engaged employees act as pivotal agents in fostering an environment conducive to innovation, adaptability, and resilience. Reviewing prior literature like Albrecht et al. (2018), Li et al. (2021), Wei et al. (2018), and many others illuminates the intricate connections between leadership, employee engagement, and dynamic capabilities. These studies collectively emphasise that a leader's role isn't merely directional but also inspirational. Leaders are empowered to cultivate an environment where employees feel engaged, valued, and motivated. This, in turn, becomes a driving force for harnessing and nurturing dynamic capabilities, especially in sectors as dynamic as energy.

This research has unequivocally highlighted the instrumental role that employee engagement plays as a moderating factor between leadership decision-making and organisational dynamic capabilities. In the UAE's energy sector, it becomes imperative for leaders to recognise this and strive to foster a culture of engagement. By doing so, they not only tap into the innovative and adaptive potential of their workforce but also ensure that the organisation's dynamic capabilities are honed and utilised to the fullest, ensuring sustained organisational performance in a rapidly evolving landscape.

In exploring the second objective of this research, significant attention was dedicated to elucidating the moderating role of employee engagement in the interplay between leadership decision-making and organisational dynamic capabilities within the UAE energy sector. This exploration is particularly salient given the sector's rapid evolution and the pivotal role of human capital in driving innovation and adaptability. Grounded in the Social Exchange Theory, which posits that the quality of social exchanges influences employee attitudes and behaviours (Blau, 1964), this research advances the conversation by examining how leadership decision-making can optimise these exchanges to enhance employee engagement. Leaders who excel in decision-making not only navigate the allocation of resources and goal-setting but also foster environments that nurture employee potential (Mora Cortez & Johnston, 2020). This nurturing aspect is crucial for energising the workforce and, consequently, bolstering the dynamic capabilities of the organisation.

Further empirical evidence of the impact of employee engagement on dynamic capabilities comes from the work of Hasen, 2010 and Sarwar et al. (2020), who underscore its fundamental role in reinforcing effective leadership and dynamic capabilities. The supportive work environments highlighted by Haarhaus & Liening (2020) directly correlate with enhanced employee engagement, which has been demonstrated to contribute to the strengthening of dynamic capabilities. The findings of this research affirm that employee engagement serves as a significant moderator in the dynamic capability framework. Highly engaged employees exhibit a propensity for innovation, adaptability, and a readiness to embrace risks, which are critical traits for sustaining dynamic capabilities (Hayter & Cahoy, 2018; Henseler et al., 2014). This engagement, therefore, acts as a catalyst for dynamic capabilities by enabling a workforce that is proactive, creative, and resilient.

Integrating insights from Albrecht et al. (2018), Li et al. (2021), and Wei et al. (2018), this research delineates how leaders can stimulate an engagement-centric culture. Such a culture is fertile ground for dynamic capabilities, as engaged employees are more likely to contribute to and support the firm's strategic flexibility and continuous learning processes key aspects of dynamic capabilities, as highlighted in the seminal work of Teece, Pisano, & Shuen (1997). In sum, this study contributes to the existing body of literature by highlighting the indispensable role of employee engagement in enhancing the impact of leadership decisions on organisational dynamic capabilities. It urges leaders in the UAE energy sector to acknowledge and harness the power of employee engagement. By cultivating an engaged workforce, leaders can ensure that their organisations are equipped with robust dynamic capabilities, ready to navigate the complexities of the energy landscape and maintain sustained organisational performance. Therefore, employee engagement strengthens the role of effective leadership decision-making in developing dynamic capabilities by creating a supportive work environment that fosters commitment, innovation, and adaptability. Effective leaders create this environment by providing employees with the resources and support they need to develop new ideas, empowering them to take ownership of their work, and creating a culture of learning and continuous improvement.

5.2.3 The role of leadership decision-making on organisational performance

The third objective was to investigate the impact of leadership decisions on organisational performance within the energy sector in the United Arab Emirates.

The integral connection between leadership decision-making and organisational performance, particularly within the UAE's energy sector, emerges as a theme in both the results presented and the review of previous literature. A comprehensive understanding of leadership decision-making, as echoed by Cherian et al. (2020) and Shao (2019), revolves around the ability to set clear directions, prioritise resources, and foster a culture that encourages innovation and experimentation. Such an environment positions an organisation especially one in a sector as dynamic as energy for long-term success. Leaders' decision-making prowess in setting this strategic direction offers organisations the leverage they need to maintain a competitive edge by developing novel products, services, and business models.

Central to understanding the nexus between leadership decision-making and organisational performance is the Path-Goal Theory, introduced by Robert House. The theory's assertion that effective leadership revolves around guiding followers toward the desired goal by adapting leadership behaviour aligns with the proposed hypothesis. Especially within the complex energy sector, the ability of leaders to offer clear directives, navigate challenges, and provide necessary support is pivotal for organisational success (Northouse, 2016). Empirical evidence, as cited from studies like Abbas et al. (2019), accentuates the importance of leadership in creating a supportive work environment. The link between effective leadership, employee engagement, satisfaction, and improved organisational performance is unmistakable. Moreover, leaders play a crucial role in ensuring alignment between the organisation's objectives and the expectations of its stakeholders, as highlighted by Ellinger & Ellinger (2021). Such alignments, besides fostering productive relationships, underpin sustained competitive advantages for organisations.

Using a sector-specific lens, research conducted in the energy sector, such as studies by Gitu and Awuor (2020), Dillman et al., 2009, and Agarwal (2020), highlights the profound impact of leadership facets on organisational performance. Charismatic leadership and entrepreneurial strategic dimensions are shown to enhance performance, reflecting the multifaceted nature of leadership and its influence. Furthermore, studies focused on the energy efficiency of buildings, like those by Lee et al. (2019), Vavrek & Chovancová (2019), and Zou et al. (2018), solidify the notion that strategic leadership decision-making plays a defining role in optimising energy performance and sustainability. Conclusion: Within the UAE energy sector, effective leadership decision-making is indispensable for driving sustained organisational performance. Leaders who prioritise innovation, value employee engagement, and work toward aligning organisational goals with stakeholder expectations hold the key to long-term success. The

dynamic energy sector, with its multifaceted challenges and opportunities, requires astute, strategic, and innovative leadership. Organisations that recognise and prioritise this aspect of management are likely to thrive, innovate, and maintain a competitive edge in the sector.

Investigating the third objective, this research illuminates the profound impact of leadership decisions on organisational performance within the dynamic context of the UAE energy sector. The findings align with the literature, which suggests that leaders' proficiency in strategic direction-setting, resource prioritisation, and innovation fostering is crucial for organisational success (Cherian et al. (2021); Shao, 2019). This alignment with the literature review emphasises that leadership is not merely about making decisions; it is about making the right ones at the right time for long-term strategic success, especially in industries as volatile as the energy sector. The Path-Goal Theory (House, 1971) serves as a theoretical anchor for this relationship, positing that the leader's effectiveness lies in their ability to provide clear direction and support to achieve organisational goals. The current findings enhance this theory by showcasing how, in the UAE's energy sector, adaptability and clarity provided by leaders in decision-making are critical determinants of organisational performance (Northouse, 2016). Empirical studies, including Abbas et al. (2019), have further elaborated on this relationship, showing that a supportive work environment cultivated through effective leadership leads to enhanced employee engagement and, subsequently, improved organisational performance.

Leadership's role in aligning organisational goals with stakeholders' expectations cannot be understated (Ellinger & Ellinger, 2021). The study's results expand upon this premise by demonstrating that in the UAE's fast-paced energy sector, such alignment is a significant driver of sustained competitive advantage. Moreover, sector-specific studies highlight the nuanced impacts of leadership qualities on organisational performance. For instance, research by Gitu and Awuor (2020) underscores the influence of charismatic leadership on performance outcomes, while Dillman et al., 2009 illustrate how entrepreneurial leadership strategies can positively impact organisational performance. These studies offer a more granular understanding of the multifaceted influence of leadership decision-making within the energy sector, aligning closely with the findings of this research.

Additionally, the importance of leadership in optimising energy performance and sustainability is confirmed by Lee et al. (2019), Vavrek and Chovancová (2019), and Zou et al. (2018), which collectively suggest that strategic leadership is fundamental to enhancing efficiency and sustainability outcomes in energy sector organisations. In summary, this research substantiates the critical role of leadership decision-making in driving sustained organisational performance

in the UAE's energy sector. The study bridges the literature by demonstrating that leaders who excel in strategic innovation, employee engagement, and stakeholder alignment are pivotal to an organisation's long-term success. Given the multifaceted challenges and opportunities inherent in the energy sector, the demand for leaders who can navigate this complexity with strategic acumen and innovation is clear. Organisations that embrace and enact this understanding of leadership are poised to excel, innovate, and sustain a competitive edge in the marketplace.

5.2.4 *The mediation role of organisational dynamic capability*

The fourth objective was to test the mediation role of organisational dynamic capability in the relationship between leadership decision-making and organisational performance in the UAE energy sector.

The current dynamic business environment, particularly within the UAE's energy sector, highlights the intertwined relationship between leadership decision-making, organisational dynamic capability, and organisational performance. Drawing from the results provided and the discussions about the cited studies, several key conclusions can be drawn:

Organisational dynamic capability as a key mediator at its core, organisational dynamic capability acts as a conduit for recognising the effects of leadership decision-making on organisational performance. As highlighted by Oliva et al. (2019) and Gupta, Drave, et al. (2020), dynamic capabilities facilitate an organisation's adaptability to evolving landscapes, enabling continuous learning and innovation. Effective leadership decisions nurture these capabilities by prioritising innovation, adapting to environmental shifts, and learning from past experiences.

The relevance of the Toxic Triangle Theory is highlighted in Padilla et al.'s 2007 study. The toxic triangle theory underscores the profound impact of leadership decision-making, both positive and negative. Ineffective leadership decisions could hinder the nurturing of dynamic capabilities, potentially leading to destructive organisational behaviours. However, decisions that are well-informed and strategic can foster dynamic capabilities and mitigate the risks associated with the toxic triangle.

Implications from the Path-Goal Theory: The Path-Goal theory by House (1971) provides insights into the causal chain linking leadership decisions to organisational performance. Effective leaders who set clear paths, provide necessary resources, and assist in goal attainment

inherently support the development of organisationally dynamic capabilities. Such capabilities, in turn, contribute directly to superior organisational performance.

Research Insights on Dynamic Capabilities: Recent research, including works by Teece (2018), Du (2011), and Qiu et al. (2020), reinforces the indispensable nature of dynamic capabilities in contemporary business success. From the ability to grasp opportunities with a green entrepreneurial orientation to driving innovation, dynamic capabilities are pivotal in sustaining competitive advantages.

Energy Sector-Specific Considerations: As Murshed (2020) suggests, sectors like energy, which are rapidly evolving due to technological advancements and environmental concerns, demand enhanced focus on dynamic capabilities. Leaders in the energy sector may be proactive and strategic in nurturing dynamic capabilities to ensure adaptability, innovation, and overall improved performance.

In conclusion, the intricate link between leadership decision-making, organisational dynamic capabilities, and organisational performance is undeniable. In the UAE energy sector, which is susceptible to rapid changes in technology, environmental policies, and market dynamics, this triad becomes even more critical. Leaders who prioritise the cultivation of dynamic capabilities not only pave the way for innovation and adaptability but also position their organisations for sustained success and competitive advantage. The mediating role of organisational dynamics underscores the significance of astute leadership decisions in propelling organisations forward in today's volatile business ecosystem.

The fourth objective of this study is to explore the mediating role of organisational dynamic capability in the relationship between leadership decision-making and organisational performance, particularly within the UAE energy sector. The comprehensive analysis conducted affirms that organisational dynamic capabilities serve as a crucial intermediary between effective leadership decision-making and enhanced organisational performance. Building on the dynamic capability's framework of Teece, Pisano, and Shuen (1997), this study validates the contention that dynamic capabilities enable organisations to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. The results highlight that the successful implementation of leadership decisions is contingent upon these capabilities, which are essential for maintaining strategic fit as the business landscape evolves (Eisenhardt & Martin, 2000).

The research underscores the dual nature of leadership decision-making, as conceptualised by the Toxic Triangle Theory (Hu & Bentler, 1999). Ineffective leadership decisions can stifle the development of dynamic capabilities, resulting in a toxic organisational environment. Conversely, astute and strategically aligned leadership decisions can potentiate these capabilities, enhancing the organisation's performance (Helfat et al., 2007). The Path-Goal Theory's perspective on leadership effectiveness as a function of the leader's ability to clarify the path to help followers achieve their goals is instrumental (House, 1971). This study extends this theory by illustrating how leaders in the UAE energy sector can leverage dynamic capabilities to guide their organisations toward performance excellence.

Recent studies echo the importance of dynamic capabilities in the context of business performance. Du (2011) and Qiu et al. (2020) highlight how these capabilities enable organisations to capture new opportunities and foster innovation. This study concurs with these findings and extends them by demonstrating the mediating role that these capabilities play in the specific context of the UAE energy sector. In line with Murshed (2020), the research identifies the heightened importance of dynamic capabilities in the energy sector, which is characterised by rapid technological and environmental shifts. Leaders in this sector may be adept at cultivating these capabilities to navigate the complexities and drive organisational success.

In summation, this research contributes to the literature by demonstrating that in the fast-paced and evolving UAE energy sector, organisational dynamic capabilities mediate the relationship between leadership decision-making and organisational performance. Leaders who effectively cultivate these capabilities not only ensure their organisations' adaptability and innovation but also lay the groundwork for sustained competitive advantage. This study thereby positions dynamic capabilities as a pivotal factor in translating strategic leadership decisions into tangible performance outcomes.

5.2.5 *Model proposition*

The fifth objective was to propose a model of sustained energy sector performance based on decision-making and dynamic capabilities in the UAE.

Effective leadership decision-making stands at the core of sustained energy sector performance, as highlighted by Cherian et al. (2020) and Shao (2019). Leaders in the UAE energy sector may grasp the importance of setting a strategic direction that not only addresses immediate challenges but also anticipates future shifts in the landscape, such as technological

advancements and changing market demands. This strategic vision, however, isn't sufficient on its own. To truly be effective, an organisation needs to be complemented by its dynamic capabilities, which, according to Oliva et al. (2019) and Gupta, Drave, et al. (2020), enable it to adapt to changes, learn continuously, and innovate proactively.

The intricate relationship between leadership decisions and dynamic capabilities can be further understood through the lens of the toxic triangle theory and the path-goal theory. For the UAE's energy sector to thrive, its leaders may ensure that their decisions not only avoid potential pitfalls that might give rise to destructive behaviours but actively foster an environment where dynamic capabilities flourish. As the teachings of House (1971) suggest, by providing clear paths to goal attainment and removing potential obstacles, leaders can amplify the performance of their organisations. When this study delved deeper into the world of dynamic capabilities, the revelations of scholars like Teece (2018) became particularly enlightening. Especially in a sector as pivotal as energy, dynamic capabilities don't just supplement performance; they drive it. For the UAE, this means that companies equipped with stronger dynamic capabilities were in a prime position to harness opportunities in areas like renewable energy, sustainability, and green technology innovations.

To consolidate this understanding into a coherent model for the UAE's energy sector, one could imagine a scenario where leadership, imbued with a long-term vision, makes strategic decisions that prioritise adaptability, innovation, and sustainability. In response, organisations channel investments into nurturing dynamic capabilities, emphasising continuous learning, innovation, and adaptability. This adaptive cycle is then enhanced by feedback mechanisms that facilitate learning from past decisions and adjusting strategies in real time. Furthermore, achieving sustained performance in the energy sector also demands that these strategies resonate with various stakeholders, from regulatory bodies to the broader society. Embracing technological advancements such as artificial intelligence and green energy solutions will ensure the sector stays at the forefront. Lastly, setting and adhering to clear performance metrics that measure not just financial achievements but also factors like sustainability and stakeholder value was vital.

In wrapping up, the trajectory of the UAE's energy sector toward sustained performance hinges on intertwining visionary leadership decision-making with the robust development of dynamic capabilities. This harmonisation, when coupled with strategic foresight and a dedication to innovation and sustainability, sketches a roadmap for the sector's flourishing future.

5.3 Research Contribution

The contribution of the current study can be divided into two parts, which are the theoretical contribution and the managerial implications.

5.3.1 *Theoretical contribution*

This research study provides several profound theoretical contributions that promise to reshape and extend existing understandings in the domains of leadership, dynamic capabilities, and organisational performance. A cornerstone contribution lies in its novel amalgamation of three seminal theories: Social Exchange Theory (Emerson, 1976), Path-Goal Theory (House, 1971), and the Toxic Triangle Theory (Hu & Bentler, 1999). This integrative approach promises a more holistic lens to decipher the complex interplay of leadership behaviours and dynamic capabilities, as well as the ensuing implications for organisational performance.

Drawing on social exchange theory, this research emphasises the reciprocity inherent in the leader-employee relationship. The theory has traditionally been employed to elucidate the exchange dynamics between leaders and followers. By bringing dynamic capabilities into the fold, this study amplifies the theory's depth, spotlighting how these reciprocal interactions shape organisational agility and adaptability. This creates a bridge with Teece's (2007) arguments, showing that dynamic capabilities can be viewed as the output of effective social exchanges within an organisation.

Path-goal theory, traditionally rooted in understanding how leaders can pave the way for their subordinates to achieve organisational goals, is given renewed relevance in this study. The research posits that the effectiveness of leaders in carving out these paths' hinges on the robustness of their dynamic capabilities. In essence, the decisions leaders make are not mere managerial tasks; they profoundly shape the organisation's dynamic capabilities by influencing adaptability and agility.

However, leadership's impact is not uniformly positive. The study illuminates the negative aspects of leadership by incorporating the toxic triangle theory. It cautions against the pitfalls of misaligned dynamic capabilities, which can lead to unethical leadership behaviours with dire consequences for organisational health and performance.

While the literature has seen intermittent calls for empirical validation of theoretical constructs, as voiced by scholars like Eisenhardt & Martin (2000) and Helfat & Winter (2011), this study

heeds the call. It offers empirical underpinning to these constructs, reinforcing their validity and applicability.

Beyond integrating existing theories, the study carves out new theoretical landscapes. The energy sector, despite its global importance, remains underexplored in leadership research. This study, while building on the foundational work of Pisapia et al. (2005) and Walter (2016), brings fresh perspectives by delving into the nuances of systems thinking, reframing, and reflection, highlighting their criticality in leadership decision-making within this unique sector.

Employee engagement, a construct gaining increasing prominence, is also given an industry-specific lens. The study's insights build upon seminal works by Kim, 2019 and Macey & Schneider (2008), offering a contextualised understanding of engagement within the UAE's energy sector. This fills a research lacuna identified by Ababneh & Macky (2015), marking a significant step toward more granular, industry-centric research.

Arguably, the most groundbreaking theoretical advance made by this study is positioning dynamic capabilities as the bridge between leadership decision-making and organisational performance. Despite extensive explorations of leadership decision-making and organisational performance in isolation, the literature has remained largely silent on the interplay between these constructs. Drawing inspiration from Teece (2007), who introduced the concept of "dynamic capabilities," this study not only acknowledges its importance but also traces the pathways through which leadership decisions translate into organisational outcomes. This nuanced understanding stands as a pioneering contribution, promising to guide future research trajectories and influence organisational practises across sectors.

In the labyrinth of organisational studies, the interplay between leadership decision-making and organisational performance has always piqued the interests of scholars. Dynamic capabilities have been marked as pivotal in this relationship, yet a closer inspection of the literature reveals gaps that demand attention. Specifically, there is a lack of empirical studies elucidating how leadership decision-making propels organisational performance via these dynamic capabilities, especially in the unique context of the energy sector (Eikelenboom & de Jong, 2019; Le et al., 2017). This study stands out by offering empirical evidence that bridges the gap between effective leadership decision-making and its cascading effects on organisational performance through dynamic capabilities. Beyond this general understanding, the study dives deeper, distinguishing which specific capabilities carry pronounced significance in the energy sector. Such a demystification has been a long-standing call in the

literature, with scholars highlighting the necessity but not delving deep enough to furnish conclusive insights (Eikelenboom & de Jong, 2019; Le et al., 2017).

The toxic triangle, despite its theoretical salience, has largely remained on the periphery due to a paucity of empirical validations (Hu & Bentler, 1999). By providing empirical support, this study not only strengthens the theoretical structure of the toxic triangle but also accentuates its relevance in contemporary organisational dynamics. The endeavour to identify leadership capabilities tailored to the energy sector's challenges further elevates the study's uniqueness and significance (Walter, 2016). Though acknowledged in broad organisational contexts, the moderating role of employee engagement has not been thoroughly examined in the leadership-performance paradigm within the energy sector. By zooming into this aspect, the study not only substantiates the overarching assertions of Kim, 2019 and Macey & Schneider (2008) about the centrality of employee engagement but also customises it to the unique idiosyncrasies of the energy sector. This resonates with the call of Ababneh & Macky (2015), who championed the need for industry and culturally specific examinations of employee engagement.

The study's theoretical scaffolding, encompassing the social exchange theory, path-goal theory, and dynamic capabilities theory, provides a comprehensive lens to navigate these research gaps. Such a theoretical triangulation not only strengthens the study's academic rigour but also aligns with the pleas of scholars like Eisenhardt & Martin (2000) and Helfat & Winter (2011), who emphasised the necessity of a robust theoretical base. In essence, this research forges a trail by filling glaring gaps, substantiating them with empirical evidence, and fortifying them with a robust theoretical framework, thereby enriching the academic tapestry of leadership and organisational studies, particularly within the energy sector.

5.3.2 *Practical implications*

The findings of this study bear profound managerial implications, particularly for professionals and decision-makers operating within the UAE's energy sector. Understanding the intricate relationship between leadership decisions and organisational performance provides a roadmap for creating an environment conducive to growth and innovation. By emphasising the role of effective leadership, the study underscores the need for energy sector leaders to be adept not just in technical expertise but also in strategic vision and fostering a culture of adaptability.

Furthermore, the spotlight on dynamic capabilities underscores the importance of organisational flexibility in the face of an evolving energy landscape. For managers, this

translates to investing in training and development initiatives that nurture these capabilities and ensure that the organisation remains resilient amidst market shifts and technological disruptions. The continuous process of re-skilling and up-skilling becomes paramount, equipping the workforce with the tools needed to navigate an ever-changing sector. Additionally, the proposed model for sustained performance offers a tangible blueprint for energy sector entities in the UAE seeking to cement their standing in both domestic and global markets. Managers can glean insights from this model to craft strategies that are not only reactive to current challenges but also proactive in anticipating future trends. This proactive approach is especially crucial in the energy sector, where geopolitical factors, technological advancements, and environmental concerns converge.

The research also touches upon the potential pitfalls of poor leadership decisions, alluding to the toxic triangle theory. For managers, this serves as a cautionary note, emphasising the consequences of complacency and the perils of creating an environment where destructive behaviours might flourish. Prioritising leadership ethics and ensuring a transparent decision-making process becomes pivotal. The managerial implications of this study offer a comprehensive guide for energy sector stakeholders in the UAE. By assimilating the insights presented, they can navigate the multifaceted challenges of the sector, ensuring sustained growth and fortifying their position in a competitive landscape.

For the UAE's energy sector, the findings of this study offer a cornucopia of actionable insights. At the crux of these insights is the revelation that the realm of leadership extends beyond mere technical prowess.

1. The study highlights the increasing significance of holistic leadership capabilities in the modern era. While technical know-how remains pivotal, the changing dynamics of the energy sector necessitate a more strategic and adaptive leadership approach. Decision-makers in the UAE's energy sector may recognise the significance of equipping leaders with skills in strategic foresight, adaptability, and resilience. This may entail recalibrated recruitment practises, enhanced training modules, and leadership workshops focusing on scenario planning and systems thinking.
2. **Dynamic Capabilities as the Organisational Backbone** The energy sector in the UAE is at the intersection of innovation and tradition. As the sector evolves, the necessity for dynamic capabilities those organisational abilities that enable firms to adapt and renew themselves in the face of change becomes undeniable. Decision-makers should

champion initiatives that nurture these capabilities. This might manifest in several ways:

3. **Investment in Continuous Learning:** Initiatives that encourage a learning culture, from workshops to online courses on the latest technological innovations, can be instrumental.
4. **Agile organisational structures** encouraging cross-functional teams, flexible project-based roles, and decentralised decision-making can foster agility.
5. **Feedback Mechanisms:** Establishing feedback loops that allow swift responses to changes in the market, technological advancements, or regulatory shifts.
6. **Crafting Proactive Strategies:** In a sector as intricate as energy, where a multitude of factors, including geopolitical dynamics, technological progressions, and environmental challenges, often intertwine, reactive strategies are no longer sufficient. Leaders in the UAE energy sector should strive for foresight, looking to craft strategies that not just address the now but also the next. This might involve regular scenario planning sessions, investing in research and development, and fostering a culture of innovation.
7. **Navigating the Toxic Triangle:** The reference to the Toxic Triangle theory in the study serves as a poignant reminder of the possible adverse outcomes of poor leadership. Energy sector entities in the UAE should remain vigilant, ensuring that leadership practices actively counteract destructive dynamics by promoting ethical behaviour, fostering trust amongst employees, and maintaining a culture of accountability and transparency. Proactive measures should be taken to identify and mitigate the risks posed by toxic leadership behaviours, susceptible followers, and conducive environments that could lead to detrimental organisational outcomes
8. **Ethical leadership is prioritised;** this could be fostered through regular ethical training, setting up ethics committees, and ensuring that leadership decisions are consistently aligned with the organisation's core values.
9. **Transparency is Upheld:** Ensuring that decision-making processes are transparent can help dispel doubts, build trust, and minimise potential areas of conflict.
10. **Feedback and Whistleblowing Mechanisms:** Implementing clear feedback mechanisms and safe channels for whistleblowing can act as checks and balances, ensuring that unethical practises or decisions are swiftly addressed.

The study's findings offer valuable practical insights for the energy sector in the UAE. By integrating these insights into their operational and strategic frameworks, entities in the sector can ensure they are primed for sustained success, regardless of the complexities that the future might hold.

5.4 Limitations and Future Studies

This study, while robust in its findings and implications, inevitably carries certain limitations that need to be acknowledged.

One limitation pertains to the specificity of its geographical focus. Based on the UAE's energy sector, the findings, though detailed, may have limited generalisability. The unique socio-economic, political, and regulatory dynamics of the UAE can vary greatly from other countries, even those in close geographical proximity (Al Mansoori, 2019). The UAE's strong governmental influence, strategic investments in renewable energy, and economic diversification efforts may create an industry environment distinct from other energy markets, affecting how leadership decision-making and dynamic capabilities manifest. Therefore, caution should be exercised when applying these findings to other contexts, particularly countries with different market structures, regulatory frameworks, or leadership cultures.

Another limitation relates to the study's emphasis on leadership decision-making and dynamic capabilities. While these are undeniably pivotal, this focus might overlook other critical factors that contribute to organisational performance. For instance, organisational culture, employee morale, and stakeholder relationships have been shown to play a significant role in shaping business outcomes (Eisenhardt & Martin, 2000). Additionally, factors such as technological advancements, market competition, and global economic shifts may also mediate or moderate the relationship between leadership, dynamic capabilities, and performance. Future studies should consider integrating a broader set of variables to better understand the complex interactions affecting organisational success.

Leadership decision-making and dynamic capabilities are not static constructs; they evolve in response to technological advancements, policy changes, and global economic conditions. This study represents a snapshot in time, and while the findings remain relevant, the rapid transformation of the energy sector particularly with sustainability and digital transformation trends may lead to shifts in leadership priorities and capability development. Longitudinal

research that tracks how leadership decision-making adapts over time would provide deeper insights into sustained organisational resilience in the UAE energy sector.

Despite efforts to ensure representativeness and reliability, potential biases in data collection cannot be entirely ruled out. Survey responses might be influenced by social desirability bias, where respondents overstate positive leadership traits or engagement levels due to workplace culture. Additionally, given that the study focuses on high-level leadership (Grade 13 and above), there may be limited perspectives from lower-level employees, whose experiences could provide valuable insights into how leadership decisions translate into operational effectiveness. Future studies could incorporate a more diverse sample to gain a more comprehensive understanding of leadership's impact across different organisational levels.

For future research directions, it would be enriching to expand this study to other Gulf or Middle Eastern countries, fostering a more comprehensive understanding of the region's energy sector (Costello & Osborne, 2005). A mixed-method approach, combining both qualitative and quantitative research methods, could be employed to capture the multifaceted nature of the topic more effectively (Gitu & Awuor, 2020). Adding more mediating or moderating variables to the study could give more detailed information about how they affect leadership decision-making and dynamic capabilities, contributing further to the body of research on long-term performance in the energy sector (Khan & Ullah, 2019). Future studies should also consider several limitations encountered in this research, including geographic constraints that limit generalizability beyond the UAE, methodological limitations stemming from self-reported survey data, restricted variable scope due to model parsimony, potential biases related to social desirability, and temporal limitations given the cross-sectional nature of data collection. Moreover, when determining sample size, future researchers are advised to anticipate a response rate of approximately 70–80% to mitigate the impact of non-responses on statistical validity. For instance, using the Cochran adjustment for anticipated non-response: $n' = n / \text{response rate}$, the adjusted sample size becomes $n' = 382 / 0.7 \approx 546$. This adjustment ensures the research maintains maximum statistical power and representativeness. In conclusion, while this study offers substantial insights into the UAE's energy sector, its scope for expansion and further exploration remains vast, as underscored by recent literature (Karam & Kitana, 2020). As the sector continues to evolve in response to global trends and challenges, so may the research that seeks to understand and guide it.

5.5 Recommendations

In light of the research findings and the consequent discussions, several recommendations emerge that can significantly enhance the strategic and operational paradigms of entities within the UAE's energy sector. First and foremost, leadership at all hierarchical levels should undergo periodic training and development initiatives to hone their decision-making abilities. Such endeavours would not only serve to sharpen their cognitive acumen but also ensure they remain attuned to the ever-evolving dynamics of the energy landscape.

Moreover, organisations should consciously invest in nurturing and developing their dynamic capabilities. Embracing practises that foster innovation, continuous learning, and adaptability would significantly augment their resilience against volatile market forces and unforeseen disruptions. This is especially pertinent in the current epoch where technological advancements, regulatory changes, and geopolitical considerations play a crucial role in shaping the energy milieu.

Furthermore, it's imperative that organisations cultivate a culture of open dialogue and feedback. Such an environment would facilitate the surfacing of ground-level challenges and insights, which can be invaluable for top-tier leadership in making informed decisions. Integrating this feedback loop would serve to align the strategic vision with operational realities more effectively.

Lastly, in tandem with the primary focus on leadership decision-making and dynamic capabilities, organisations should ensure they don't sideline other vital components of their machinery like stakeholder relationships, employee morale, and the overarching organisational culture. A holistic approach that balances emphasis on these aspects with the core focus of the study will undoubtedly serve organisations well in their pursuit of sustained excellence in performance.

In summary, a multifaceted approach that integrates robust leadership decision-making with dynamic capabilities while also considering other organisational facets is indispensable for the UAE energy sector to fully realise its potential and remain at the forefront of global energy dynamics.

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Appendix 1: Timetable

Activities	Start Date	Finish Date	Total Duration
Year 1 Programmes and Activities (Sept 2019 - Sept 2020)			
Induction and Enrolment – Start	Sept 19	Sept 19	1 day
Introduction to Research Module	Sept 19	Sept 19	14 days
Winter Study Week	Dec 19	Jan 20	2 months
Designing Research Project and Supervisor Sessions	Mar-20	May-20	3 months
Study Period	Apr-20	Jun-20	7 days
Year 2 Programmes and Activities (Sept 2020 - Sept 2021)			
Study Period	Sept-20	Oct-20	2 months
Developing the Professional Self Module	Feb-21		1 month
Negotiated Module	Mar-21		1 month
Communicating Your Research Module	Apr.-21		1 month
Study Period	May-21	Sep-21	5 months
Viva - Voice Examinations	Sep-21	Sep-21	1 month
Year 3 Programmes and Activities (Sept 2021 - Sept 2022)			
Chapters 1-3			
Chapters 1 write up	Sep. 2021	Nov. 2021	2 months
Supervisor review	2021	2022	Once a month
Gathering literature	Dec. 2021	Jul. 2022	8 months
Literature Review - Chapter 2 write up	Aug. 2022	Dec. 2022	5 months
Research Methodology – Chapter 3 write up	Mar. 2022	Oct. 2022	7 months
Ethical Approval	Oct 2022	Nov 2022	20 days
Progression Review meeting (Nov)	Dec 2022	Dec 2022	1 day
Year 4 Programmes and Activities (Sept 2022 - Sept 2023)			
Chapters 4-6			
Pilot testing	Jan 2023	Feb 2023	40 days
Confirmation Review	Feb 2023	Feb 2023	1 day
Launching Survey Data Collection	Mar 2023	Jun 2023	3 months
Coding into SPSS and pre-analysis	Jun 2023	Jul 2023	4 weeks
Year 5 Programmes and Activities (Sept 2023 - Sept 2024)			
Analysis	Jul 2023	Oct 2023	2.5 months
Interpretation and Discussions	Nov 2023	Jan 2024	2 months
Writing-up and finalisation	Mar 2024	Sep 2024	5 months
Supervisor Progress Meeting	2024		Intervals
Final Thesis Draft Submission	Oct 2024	Nov 2024	1.5 month

Appendix 2: Information Sheet

Study Title:

A model of effective leadership decision-making to deliver sustained organisational performance in the UAE Energy sector

By: Ali Khalfan Alrayssi

Email: 'content removed for copyright reasons'

Unique Identifier Code (Ethical Compliance)

Dear Participant,

This form is intended to obtain your informed consent for you to participate in a study conducted by **Ali Khalfan Alrayssi** as part of his thesis project.

This work is being conducted under the auspices of the Derby Management School within the ,College of Business, LawBLSSat the University of Derby. The project will be conducted in full compliance with the University Research Ethics Policy and Code of Practice, including that data collection involving human participants must have prior written approval and authorisation from the relevant ethics committee.

Participants who have questions or concerns about the project should, in the first instance, contact the researcher noted above.

Dear Participant,

I am **Ali Khalfan Alrayssi** and I am collecting data from you which will be used in my research project on the UAE energy sector, as part of my Doctorate in DBA .

The aim of this research project is to present a model of effective leadership decision-making to deliver stability and performance in the UAE energy sector. The information you will be asked to provide will be used to help to provide insights to achieve this objective.

It is understood that the research will be conducted in compliance with the General Data GDPR that took effect on 25th May 2018 and supersedes the UK Data Protection Act 1998 and the UAE Cybercrime Law of 2021. This includes the understanding that the name or personal data of all participants will not be disclosed to third parties, and that all personal data will be destroyed upon completion of the project.

The data you provide will only be used for the work-based investigation, and will not be disclosed to any third party, except as part of the investigative findings, or as part of the supervisory or assessment processes of the University of Derby. Organisational permission has been obtained prior to acquiring access to members or clients.

It is understood that the researcher will anonymise all the information collected from participants for any presentation or use in the research. The words of participants may appear in academic or professional research outputs, but participants will at all times remain anonymous through the use of pseudonyms (false names) or generic categories.

The data you provide will be kept until **30th May 2026**, so that it is available for scrutiny by the University of Derby as part of the assessment process. The data will be kept on the password-protected computers of the University of Derby and permanently deleted on this date.

If you feel uncomfortable with any of the questions being asked, you may decline to answer specific questions. You may also withdraw from the study completely, and your answers will not be used.

And, if you later decide that you wish to withdraw from the study, please email me at 100518888@unimail.derby.ac.uk before 30th December 2022 and you will be excused from receiving any further reminders or notifications about the study. Responses become anonymous and cannot be retrieved once submitted.

I have read and understood the contents of this consent and briefing form, and freely and voluntarily agree to participate in this research.

I am happy to be identified as a participant in the research by my position at work (eg as a member of the executive committee).

☐ Yes, I consent to participate

☐ No, I do not consent to participate

Date: _____

Appendix 3: Debriefing and Withdrawal Letter

Study Title:

A model of effective leadership decision-making to deliver sustained organisational performance in the UAE Energy sector

By: Ali Khalfan Alrayssi

Email: ‘content removed for copyright reasons’

Unique Identifier Code (Ethical Compliance)

Objective: DBA Participant Debriefing and Withdrawal Letter

Thank you for agreeing to participate in my research, your help was much appreciated, and I can confirm the following:

- The information I collected from you will be used in my project on the UAE energy sector, as part of my DBA at the University of Derby.
- The aim of this research project is to present a model of effective leadership decision-making to deliver stability and performance in the UAE energy sector.
- The information you will be asked to provide will be used to help to provide insights to achieve this objective.
- The information you provided will only be used for this research project, and will not be disclosed to any third party, except as part of the investigation findings, or as part of the supervisory or assessment processes of the University of Derby.
- The data you provided will be kept until 30th May 2026, so that it is available for scrutiny by the University of Derby as part of the assessment process.
- If you later decide that you wish to withdraw from the study, please email me at 100518888@unimail.derby.ac.uk before 30th December 2022 and do not proceed to the online survey. I will not be able to remove your response from my analysis and findings if you continue to submit your response on the online form, since it will be anonymous once submitted.

Please do not hesitate to contact me if you have any queries relating to this study.

Kind Regards

Signed: **Ali Khalfan Alrayssi (Researcher)** Date: 6th October 2022

Appendix 4: Invitation Letter (For Individuals)

Study Title:

**A model of effective leadership decision-making to deliver sustained
organisational performance in the UAE Energy sector**

By: Ali Khalfan Alrayssi

Email: ‘content removed for copyright reasons’

Unique Identifier Code (Ethical Compliance)

Dear Participant.

This invitation letter is to request that you participate in my research on the UAE energy sector. My name is **Ali Khalfan Alrayssi** and I am conducting this research as part of my thesis project at the University of Derby, UK.

Before you proceed, please read the information sheet carefully and consent to participate. Please note that your organisation has already granted access to this invitation; however, each participant will still be made to decide whether to participate or not after reading the information sheet and consent form.

The data you and the rest of the participants provide will only be used for the work-based investigation and will not be disclosed to any third party except as part of the investigative findings or as part of the supervisory or assessment processes of the University of Derby.

Upon participation, the results of the research may be shared with you upon request.

Kind Regards

Signed: Ali Khalfan Alrayssi (Researcher)

Email: 100518888@unimail.derby.ac.uk

Appendix 5: Survey Questionnaire

Study Title:

**A model of effective leadership decision-making to deliver sustained
organisational performance in the UAE Energy sector**

By: Ali Khalfan Alrayssi

Unique Identifier Code (Ethical Compliance)

Dear Respondent,

Thank you for agreeing to participate in this research after reading the information sheet and consent form. This study is conducted to investigate the impact of environmental uncertainty on strategic management decision-making, considering the mediating role of employee retention. The study is being conducted in UAE energy sector but will only be used for academic purposes. Your response is anonymous and will not affect you in any way or form.

Part 1: Biodata

Please select the correct answer

1. Gender

☐ Male	☐ Female	☐ Prefer not to say
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2. What is your level in the organisation?

☐ Operational Level	☒ Middle-Level	☐ Top Level
--	--	------------------------------------

3. What is your organisation?

- ☐ ENOC
- ☐ ADNOC
- ☐ Emarat
- ☐ DEWA
- ☐ FEWA
- ☐ SEWA

☐ ADWEA

☐ ENEC

4. What is the sector of your organisation?

☐ Oil and Gas

☐ Power and Energy

Instructions for remaining sections on the questionnaire

For the remaining aspect of the study, please indicate the number that best shows your LEVEL OF AGREEMENT to the statements, where:

1 = Strongly disagree;

2 = Disagree;

3 = Neither agree nor disagree;

4 = Agree;

5 = Strongly agree

Part 2: Dynamic Capabilities

S/N	Statement	1	2	3	4	5
Sensing Capabilities						
1	I frequently scan the environment to identify new business opportunities for the institution					
2	I periodically review the likely effect of changes in our business environment on students					
3	I often review our service development efforts to ensure they are in line with what the students deserve.					
4	I devote a lot of time implementing ideas for new products and improving our existing products.					
5	I have effective processes to tap developments in external science and technology.					
6	I have adequate processes to identify and respond to industry trends.					
7	I have effective routines to monitor competitor activity.					
Learning Capabilities						

8	I have effective routines to identify, value, and import new information and knowledge					
9	I have adequate routines to assimilate new information and knowledge.					
10	I am effective in transforming existing information into new knowledge					
11	I am effective in utilising knowledge into new products.					
12	I am effective in developing new knowledge that has the potential to influence product development.					
13	I ensure a constant renewal of our resource base by acquiring new external knowledge and resources					
14	I have adequate knowledge management processes to capture existing resources and knowledge available in the firm					
Integrating Capabilities						
15	I have adequate processes to renew our resource base by releasing resources that became obsolete.					
16	I am forthcoming in contributing our individual input to the group.					
17	I have a global understanding of each other's tasks and responsibilities.					
18	I am fully aware who in the group has specialised skills and knowledge relevant to our work.					
19	I carefully interrelate our actions to each other to meet changing conditions.					
20	Group members manage to successfully interconnect their activities.					
21	I frequently execute collective, intra departmental activities (e.g. regular team meeting for decision making within department)					
22	I frequently execute collective, inter departmental activities (e.g. cross functional teams for decision making across departments)					

Coordinating Capabilities					
23	I ensure that the output of our work is synchronised with the work of others.				
24	I ensure an appropriate allocation of resources (e.g., information, time, reports) within our group				
25	Group members are assigned to tasks commensurate with their task-relevant knowledge and skills.				
26	I ensure that there is compatibility between group members expertise and work processes.				
27	Overall, our group is well coordinated.				
28	I am efficient in leveraging our resources and knowledge to implement and exploit new product ideas				

Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the elusive black box of dynamic capabilities. *Decision sciences*, 42(1), 239-273.

Part 3: Effective leadership decision-making

S/N	Statement	1	2	3	4	5
Systems thinking						
1	In the energy sector, leaders think holistically					
2	Leaders in this sector are able to recognise patterns and inter-relationships					
3	Our leaders are able to recognise and act on intrinsically					
Reframing						
4	Our leaders have the ability to suspend judgement whilst appropriate information is being gathered					
5	The organisational leaders in the energy sector are able to identify and understand mental models needed to solve problems and issues					
6	Our leaders are able to reform and review their own mental models					

Reflection					
7	In my organisation, leaders are able to recognise why certain choices work, and others do not				
8	Leaders in the energy sector have deep understanding about governing principles				
9	Leaders are able to blend perceptions, experiences, and knowledge in the UAE energy sector				

Hong, Y.-y., Chiu, C.-y., Dweck, C. S., Lin, D. M.-S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3): 588.

Walter, S. L. (2016). Who develops? Understanding the role of leadership decision-making in developmental opportunities. A PhD thesis submitted to the University of Iowa

Pisapia, J., Reyes-Guerra, D., & Coukos-Semmel, E. (2005). Developing the leader's strategic mindset: Establishing the measures. *Leadership Review*, 5(1), 41-68.

Part 4: Employee Engagement

S/N	Statement	1	2	3	4	5
1	My work offers me a passion for continuing work					
2	There is a high level of involvement between management and employees					
3	A two-way relationship exists between management and workers					
4	My job inspires me					
5	I am immersed in my work					

Boyne, G. A., & Meier, K. J. (2009). Environmental turbulence, organisational stability, and public service performance. *Administration & Society*, 40(8), 799-824.

Hertogs, P. (2011). Perceived Brand Strength and Turnover Intention: The Mediating Role of Organisational Identification and Psychological Contract Violation. *Unpublished Masters Thesis*). Tilburg University.

Zámečník, R. (2014). The measurement of employee motivation by using multi-factor statistical analysis. *Procedia-Social and Behavioural Sciences*, 109, 851-857.

Part 4: Organisational Performance

S/N	Statement	1	2	3	4	5
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1	My organisation is able to generate optimal output from input (resources).					
2	We use minimal resources to achieve our targets and organisational goals					
3	We are generally effective at performing our role as mandated by the government.					
4	Our organisation is highly profitable					
5	We control a large share of the market within which we operate.					

THANK YOU VERY MUCH FOR YOUR TIME!!!!

Appendix 6: Letters from Organisation



University of Derby
Kedleston Rd, Derby DE22 1GB, United Kingdom

1st SEPTEMBER 2022

Dear Ali Alrayssi,

This is to confirm that I give permission for you to carry out research on behalf of the University of Derby.

I understand that by giving this permission I am granting you the use and ownership of data collected and confirm that I am authorised to grant this permission	☒
I understand that you will write up the results for your degree: Doctoral Research	☒
I understand that you may disseminate findings at University of Derby and elsewhere, including for publication.	☒
I understand that every effort will be made to anonymise participant data when results are disseminated, but that University of Derby is unable to completely guarantee that a participant could not be identified.	☒
I give permission for our organisation to be named in dissemination.	☐
I understand that our organisation will not be named in dissemination and every attempt will be made to ensure anonymity. I also understand that although every attempt will be made to do this, University of Derby is unable to completely guarantee that the organisation could not be identified by any party.	☐
I wish to see a summary of the findings prior to dissemination.	☒
I do not wish to see a summary of the findings prior to dissemination. Include above if appropriate.	☐

Yours sincerely

Abdulaziz Qasem Alblooshi

Al Ain Power Protection Manager

Signed: _____
Date 4th June 2022

University of Derby
Kedleston Rd, Derby DE22 1GB, United Kingdom

1st SEPTEMBER 2022

Dear Ali Alrayssi,

This is to confirm that I give permission for you to carry out research on behalf of the University of Derby.

I understand that by giving this permission I am granting you the use and ownership of data collected and confirm that I am authorised to grant this permission	☒
I understand that you will write up the results for your degree: Doctoral Research	☒
I understand that you may disseminate findings at University of Derby and elsewhere, including for publication.	☒
I understand that every effort will be made to anonymise participant data when results are disseminated, but that University of Derby is unable to completely guarantee that a participant could not be identified.	☒
I give permission for our organisation to be named in dissemination.	☐
I understand that our organisation will not be named in dissemination and every attempt will be made to ensure anonymity. I also understand that although every attempt will be made to do this, University of Derby is unable to completely guarantee that the organisation could not be identified by any party.	☐
I wish to see a summary of the findings prior to dissemination.	☒
I do not wish to see a summary of the findings prior to dissemination. Include above if appropriate.	☐

Yours sincerely

Dr. Ahmed Al Hammadi

Vice President Oil Production Unit

Signed: _____
Date 5th October 2022