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Leveraging Organisational Culture and Organisational Learning to Future-Proof an Organisation in the UAE's Dynamic Energy Sector

Strategies for Future Survival in the UAE's Energy Sector

Ahmed Khalifa AlQubaisi

Global Doctorate in Business Administration

Durham University Business School and Emlyon Business School

22nd January 2025

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List of Abbreviations

CSP: Concentrated Solar Power.....	2
CVF: Competing Values Framework.....	45
ERP: Enterprise Resource Planning	68
GDP: Gross Domestic Product	1
GW: Giga Watts	2
MNE: Multi-national Enterprise	23
PV: Photovoltaics	2
RBV: Resource-based View	29
SME: Small and Medium-Sized Enterprise	23
UAE: United Arab Emirates	1
UK: United Kingdom	11
USA: United States of America	21

Statement of Copyright

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Abstract

Title: Leveraging Organisational Culture and Organisational Learning to Future-Proof an Organisation in the UAE's Dynamic Energy Sector

The current research aims to explore how firms in the energy industry of the United Arab Emirates (UAE) can develop their organisational culture and learning behaviours to strengthen their chances of survival. The UAE's energy sector is dynamic and complex, and there is a lack of research exploring the integration of organisational culture typologies and organisational learning behaviours. This study focuses on how organisational culture can be leveraged to improve long-term survival prospects in the energy sector. The research is underpinned by dynamic capabilities theory, with its elements also integrated into the concepts of organisational culture and learning, thereby contributing to better survival of firms in the energy sector. A multi-firm case study approach following Eisenhardt's technique is used, involving in-depth interviews. Utilising purposive sampling, 15 managerial-level employees from a total of four case firms (medium and large firms) in the UAE's energy sector are interviewed to collect qualitative data. The thematic analysis is conducted via a case and cross-case analysis. The case analysis reveals the characteristics of culture and learning of the individual case firms; meanwhile, the cross-case analysis leads to the development of seven themes, which include the dynamics of the UAE's energy sector, the alignment of culture in an organisation's framework and policies, the characteristics of organisational culture, the current efforts being implemented by case firms for future planning and survival, facilitators of organisational learning, factors that hinder organisational learning and strategies for future survival. The findings suggest that firms with a strong culture of learning, open communication, and alignment between organisational policies and renewable energy goals are better positioned to navigate challenges and ensure long-term sustainability. This research highlights the critical role of organisational culture and learning in adapting to the energy transition and provides practical recommendations for firms aiming to enhance their strategic capabilities. Theoretically, it extends the dynamic capabilities framework by highlighting the role of cultural dimensions in fostering organisational learning, adaptability and firm survival in complex environments. Practically, it offers actionable insights for energy firms and policymakers to cultivate

cultures that emphasise innovation, collaboration and continuous learning, ensuring resilience and competitiveness in an evolving market landscape. The generalisability of this study to other regions or industries is restricted by its geographical focus on the UAE. In the future, the research could be expanded to include other countries and sectors in order to compare the cultural and organisational influences.

Keywords: Organisational culture, organisational learning, dynamic capabilities theory, energy sector, United Arab Emirates, firm survival

1 Introduction

1.1 Research Context

In terms of worldwide economic importance, the energy industry is indispensable. To guarantee the continuous availability of energy sources to satisfy the rising worldwide requirement, it is crucial to preserve the industry's viability and robustness (IEA, 2019). The effects of climate change, global threats and technical upheaval are just a few of the obstacles and unknowns that the energy industry must contend with (Biroi, 2022). To overcome these obstacles and remain successful over the long run, energy firms must be agile and quick and perpetually learn and relearn. Such firms are notoriously prone to failure, and the problem continues to become more critical (ICAEW, 2022). For example, since the middle of 2021, 31 energy firms have collapsed due to the fast rise in bulk market costs for gas and electricity, leading to uncertainty among customers and advisors and generating worries regarding the regulatory framework and bankruptcy procedure throughout the energy industry (Cyrus, 2021). A growing number of issues are occurring in the energy industry, from cyberattacks to faulty machinery to natural catastrophes (McKinsey, 2020). The collapse of a single link in the energy delivery network can have far-reaching consequences for customers, companies and even critical facilities. Despite ongoing attempts to enhance adaptability, the regularity and intensity of these breakdowns emphasise the importance of higher investments in technological advances and infrastructure, along with enhanced risk mitigation and reaction techniques (ICAEW, 2022).

The energy industry in the United Arab Emirates (UAE) provides an interesting and novel setting in which to examine the connections among organisational culture, organisational learning and unlearning, and firm survival. The energy industry in the UAE has seen both opportunities and obstacles as a result of the country's rapid economic and societal change in recent years. The UAE's huge hydrocarbon and natural gas deposits make it a major participant in the international energy market (UAE, 2020). Therefore, the energy industry is vital to the country's economy, making up a sizeable percentage of its GDP (ITA, 2022). The UAE has invested heavily in green energy in recent years, positioning itself as a global champion in the industry (The Economist, 2022).

The UAE's energy industry is facing a number of obstacles, including the need to broaden its energy balance, cut carbon emissions and adjust to the evolving global energy marketplace (WAM, 2021). Therefore, it is vital to comprehend how organisations in the UAE's energy industry can enhance and improve their chances of survival by employing an appropriate blend of organisational culture, learning behaviour and unlearning.

Presently, 92.6% of the UAE's energy comes from thermoelectric power (Global Data, 2022). However, the nation is trying to wean itself off thermal electricity and embrace renewable sources of energy. By 2030, the nation hopes to have met 30% of its electricity requirements with renewable sources (Global Data, 2022; UAE, 2023). Moreover, the UAE is making efforts to include pumped hydro in its diverse portfolio of energy sources. The Al Hatta pumped storage facility is scheduled to be the first to do this once it starts full operations in 2026 (Media Office, 2020). The goal of the initiative is to generate energy from stored water from the current Hatta Dam during times of high demand. Aiming to have 75% of the UAE's total electricity production come from renewable energy sources by 2050, the initiative began as part of the Dubai Renewable Energy Strategy 2050 (UAE, 2022).

The green energy industry, particularly solar, is anticipated to become the largest provider of pure energy possibilities. The government of the UAE recognises the potential for solar power production and is allocating vast tracts of undeveloped territory to solar farms (both photovoltaic [PV] and concentrated solar power [CSP]) to fulfil both domestic and international demand (Global Data, 2022). By 2050, the UAE hopes to have generated half of its energy from carbon-free sources, primarily through solar PVs. While Dubai wants to obtain 75% of its energy from renewables by 2050, Abu Dhabi expects to build 5.6 GW of solar PV capacity by 2026 (Global Data, 2022). These goals are meant to facilitate the speedy installation of green power facilities across the nation.

Additionally, the UAE has introduced innovative policies concerning green energy and energy conservation (ITA, 2022). Understanding climate change and its consequences, the nation is looking into new ways to generate the electricity it needs to keep its economy running. Its development strategy to generate new knowledge along with an expansion of green energy, skills and employment is consistent with the objectives of the Paris

Agreement and the UAE's Net Zero by 2050 Strategic Initiative, the first of its kind in the Middle East.

1.2 Background

Research on firm survival could benefit from increased cohesion and focus, as it currently appears to be fragmented and scattered. Previous studies have tended to concentrate on factors such as firm growth (Audretsch, Coad and Segarra, 2014), survival (Freixanet and Renart, 2020), exit (Chirico et al., 2019) and resilience (Iborra, Safón and Dolz, 2019). The focus on firm exit as a form of firm failure (which is considered to be the opposite condition to survival) is highly prevalent in past research even though it is understood that firm exit is not necessarily indicative of failure to survive. For instance, emerging research has indicated that entrepreneurs may explicitly start businesses with the aim of making an early exit through the sale of the business. In addition, the rhetoric in prior research also treats the survival of a firm as being dichotomous to firm failure.

The foundational work of McGrath (1999) brought to the attention of academics the notion that failure is an integral component of business occurrence, and since then, the study of business failure has grown in importance. Despite the subsequent enormous growth in the volume of literature on the topic, numerous questions remain unanswered about why several businesses collapse (Jenkins and McKelvie, 2016; Corner, Singh and Pavlovich, 2017; Wennberg and DeTienne, 2014). In a wide sense, failure is any unfavourable difference between real and desired results (Lattacher and Wdowiak, 2020). There are three distinct meanings that emerge when we attempt to understand the idea of business failure, as follows: first, failing in reference to a business's absence from a marketplace; second, failing in business terms; and third, failing as described from the entrepreneur's own perspective. According to the first school of thought, one of the most important indicators of a business's eventual collapse is the length of time it remains in the marketplace (Mitchell and Singh, 1993). Taking an ecosystem perspective, this seems like a very reductionist way of thinking about failure (Soto-Simeone, Sirén and Antretter, 2020). In other words, a firm's failure to thrive in one market does not have to signify the end of its operations; the business might simply refocus its attention elsewhere and become successful in a different economic climate (Josefy et al., 2017).

The second school of thought considers the reasons for the closure of a company (Signori and Vismara, 2018; Khelil, 2016). This factor mainly refers to bankruptcies and insolvencies (Shepherd, Wiklund and Haynie, 2009), but it also includes companies that are not yet insolvent but are still losing money and are not very economically viable (Ucbasaran et al., 2012). The reasons for a company's closure may be more impartial or even good. A business may cease operations for a variety of reasons, including the owner's retirement or the pursuit of new interests or career paths (Wennberg and DeTienne, 2014). Considerations pertaining to health or relationships could also play a role, as could unforeseen situations, such as legislative restraints, conflict or a pandemic (Corner, Singh and Pavlovich, 2017).

Finally, the subjective school of thought places the onus of failing on the founder themselves rather than on the company's ability to continue operations (Ucbasaran et al., 2012). A firm's demise is a classic example, as it represents the founder's own personal failing (Christensen and Bower, 1996; Nobel, 2011). Nonetheless, there are situations in which the business continues to operate but the founder leaves because the company's growth is less than desirable (Ucbasaran et al., 2010). Those with higher education and work experience are argued by the study's authors to be more likely to take this final plunge because they anticipate greater success (Gimeno et al., 1997).

However, based on the above discussion, this primarily pertains to how failure is perceived after it occurs. Another body of research has evaluated firm failure from the perspective of why it occurs and outlined the following two parameters: deterministic and voluntarist. In contrast to the deterministic perspective – which holds that leaders have minimal to no influence over their surroundings and that extrinsic variables are what ultimately lead to firm failures – the voluntaristic perspective maintains that internal variables, such as operational determinations and deliberate behaviours, are what ultimately lead to firm failures.

Deterministic research draws on concepts concerning financial systems and political vulnerability, both of which are deemed to be part of a larger institutional backdrop (Hager et al., 1996; Helmig, Ingerfurth and Pinz, 2013; Luo and Tung, 2007). Researchers of business governance contend that variables such as fluctuating demand among customers,

intense competition and stringent regulations all have an impact on company profits (Zahra and Bogner, 2000). Additionally, advancements and developments in technology cause product disruption and force certain firms to leave the market (Massa, Tucci and Afuah, 2017; Tushman and Anderson, 1986). The function of enterprise populations in a particular market as well as how errors may result from dense markets are explored from contrasting perspectives in the literature on organisational ecosystems (Amankwah-Amoah, 2016).

Studies influenced by the voluntaristic perspective – in contrast to determinism research – contend that companies' strategy choices decide not only their success but also their failure to succeed (Kücher and Feldbauer-Durstmüller, 2019; Cannon and Edmondson, 2005). Elements within an organisation's control consist of factors such as the management's decisions, the calibre of its people, its possession of unique skills and tools, and the accessibility of its cash reserves (Amankwah-Amoah, 2014). Choosing a unique central approach and shaping the company to execute it is how successful firms stay in business and acquire an edge over the competition (Porter, 1980). Research into business failure has shown that new companies have a higher loss rate than older ones (Levinthal and Rerup, 2006). Nevertheless, established businesses with a history of strategy perseverance might continue to fail in today's advanced and highly regulated business climate if they lack the technical and administrative abilities necessary to compete. Business skills (i.e. competing technological advances; Lee and Malerba, 2017) and congruence with external circumstances are more important than entity age, according to a number of research works (Thornhill and Amit, 2003).

Research on firm failure may have explored the discontinuation of operations of larger firms. The research on firm survival is largely focused on new ventures and small and medium-sized enterprises (SMEs) (Soto-Simeone, Sirén and Antretter, 2020). The concepts of “newness liability” and “smallness liability” become relevant here. In short, according to Stinchcombe's (1965) theory, new organisations face the risk of novelty, with a greater likelihood of failure than established companies due to a dearth of capital and steady ties within and outside of the organisation (Cafferata, Abatecola and Poggesi, 2009). This also applies to brand-new businesses, arguing that smaller enterprises are

more likely to fail than larger ones because the latter possess greater assets (both monetary and otherwise) to weather the storms that inevitably arise in the years immediately following their marketplace debut (Cafferata, Abatecola and Poggesi, 2009). There is an inextricable connection between the significance of a company's size and its age in understanding its continued existence, as well as the vulnerability of novelty and small size.

Perhaps due to the smallness liability, research on the survival of large firms is lagging far behind the research on SME survival. When such studies have been conducted, they have typically focused on whether a business was able to remain operational in a specific local or foreign market. Therefore, it has traditionally been considered a corporate unit-level success within a particular industry or nation. Researchers, following the lead of other studies, have typically treated mortality here as a dichotomous variable (e.g. Gaur and Lu, 2007; Kronborg and Thomsen, 2009; Shaver and Flyer, 2000; Shaver, Mitchell and Bernard Yeung, 1997). Many theoretical works have taken this view as their starting point, with survival in the market seen as the best possible result (e.g. Morrison, Breen and Ali, 2003) and marketplace departure viewed as a sign of failure (e.g. Gaur and Lu, 2007; Tsang, 1997). It is noteworthy that this has always been the situation, independent of the means of exit. For the most part, academics have viewed departure as an unsuccessful endeavour (e.g. Shaver and Flyer, 2000; Shaver et al., 1997), presuming that it is always a bad thing when an operational entity is shut down or its control is moved via a merger or purchase. New research, some of which has taken a socioeconomic tack, has hinted at the benefits of aggregation and the drawbacks of competitive perseverance (Leithwood and Louis, 2021), calling into doubt the worth of a particular diverse firm's continuous operations in the context of a specific market.

Due to the binary nature of survival in this setting, very little research has compared the successes and failures of companies which exit and those that stay in the marketplace. Therefore, the literature fails to consider diverse companies' motivations or reflect the subtleties of how firms compete with one another. Leaving a particular marketplace is not evidence of failing any more than remaining in it is proof of achievement. Companies may be "failing" (going from annual losses to leaving an industry) but thriving (or at least

doing well) in some respects (e.g. organisational learning or reducing dependence on another organisation). A company, likewise, can exist even if it is not fulfilling its mission. Kodak, which was a former Fortune 10 business that suffered enormous setbacks for its workers and stockholders when it failed to adapt to the shift towards digital photos, declared bankruptcy in 2012. Following filing for insolvency and shuttering a number of divisions, which included digital photos, the firm eventually returned from dormancy in 2013 (McGrath, 2013). Such examples show that a company can “fail” yet remain in business by taking measures such as filing for insolvency to eliminate indebtedness (Bigman, 2013) or simply withdrawing from an industry in which it no longer remains competitive (Mitchell and Singh, 1993).

Thus, Josephy et al. (2017) suggest a three-dimensional conception of firm survival along the continuum of (1) activities, (2) control and (3) liquidity in light of the dispersed and fractured emphasis on firm survival. Continuity of activities, market presence, control and financial health are on one extreme of the range. On the other extreme, there are insolvency/bankruptcy, interruption of activities (which can include closure or market departure) and disruption of control (which can include sale/acquisition). However, Josephy et al. (2017) stress the fact that despite presenting results along each measure as two opposing extremities of a continuum, they do not imply that one end of the continuum symbolises achievement (or good performance) and that the other end symbolises failing (or negative performance). Rather, they isolate either achievement or failure along one criterion and compare it to its opposite in order to determine whether a company has continued along that particular aspect of survival. Thus, this conceptualisation has been adopted in the present study for firm survival.

Dynamic capabilities, as well as the sourcing and continuous development of these capabilities, are essential for the continued existence of businesses, and this is widely agreed on despite the fact that the idea of firm survival versus firm failure continues to be disputed in the literature (Capron and Mitchell, 2009; Pierce, 2009; Kim and Rhee, 2009). In order for a business to gain an edge in the market, it must first establish what capabilities it possesses (Salomon and Jin, 2010). To adapt to a shifting business climate, companies need to have the ability to reorganise their resources and capabilities in order

to come up with novel methods for creating value. This is where dynamic capabilities come in (Eisenhardt and Martin, 2000). However, for the development and deployment of dynamic capabilities, certain foundational elements need to be present. Dynamic capabilities entail addressing intricate resource transformation challenges by means of interpersonal and collaborative learning methods (Salvato and Vassolo, 2018). Employee cultural orientation, which entails a willingness to accept new ideas and change as necessary, can act as a source of motivation (Tajeddini et al., 2006). Organisational culture affects knowledge acquisition and utilisation, influencing a company's ability to handle uncertain situations and interpret various stimuli (Nahapiet and Ghoshal, 1998). This research highlights the importance of organisational culture as a foundation for learning behaviours and its consequences for long-term survival despite the fact that the link between organisational culture and dynamic skills is little understood (Ghosh and Srivastava).

Organisational culture is defined as

the pattern of basic assumptions which a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, which have worked well enough to be considered valid, and therefore to be taught to new members as the correct way to perceive, think, and feel concerning those problems. (Schein, 1987, p. 383)

This means that an organisation's culture may be thought of as a collection of interrelated aspects, such as the prevailing leadership style, management processes and routines, conversation and collectively held assumptions about what constitutes strength or weakness (Cameron and Quinn, 2011; Cook and Yanow, 1993). A total of four different types of organisational culture have been identified based on the competing values framework, as follows: clan culture, hierarchy culture, market culture and adhocracy culture (Cameron and Quinn, 2011). The different types of cultures create different outcomes. For instance, if a firm develops an adhocracy culture, an extent of risk-taking and innovative behaviour will be encouraged, whereas if a firm has a clan culture, team linkages will be encouraged (Cameron and Quinn, 2011). However, hierarchy culture does not encourage innovation and risk-taking and is characterised by a highly structured

work environment. Thus, different types of organisational cultures generate various effects, with some promoting adaptability and learning while others hinder the same.

Organisational learning, as described by Kim (1993), is a “continuing phenomenon” or “organisational competence” that “exchanges learning outcomes from people to businesses and vice versa”. However, according to DiBella, Nevis and Gould (1996), it is an organisation’s “potential” (or “procedures”) to continue or increase productivity in light of past achievements. Miller (1996) has defined the concept of organisational learning as a group effort to instinctively communicate and assimilate the norms of behaviour of individuals within an organisation.

According to Yukl (2009), organisational learning is a multilevel process in which individuals seek knowledge independently and collaboratively via joint action and reflection. Individuals put to use the information they have gathered or developed, whereas collective expertise is built via the pooling, elaboration, testing and use of the expertise of many. As such, information becomes ingrained in company norms and practices, such as policies and procedures; it evolves into a part of the organisational environment that shapes the aspects of information that people within the organisation acquire and how they acquire them. Higgins and Aspinall (2011) provide a similar definition of organisational learning: the practice of gaining, absorbing and implementing knowledge in the context of an ordinary routine. According to Lipshitz, Popper and Friedman (2002), organisational learning is not a unified procedure undertaken by all employees in the same way. Instead, it is a collection of unrelated sub-processes carried out by a wide variety of organisational processes, wherein multiple organisational entities contribute to varying degrees and in multiple ways. Furthermore, organisational learning has been highlighted by Crossan et al. (1999) as a critical method for attaining strategy renewal. An organisational learning process, such as collecting information, developing a new understanding, and distributing and integrating it throughout a corporation, may become a crucial organisational advantage and allow firms to refresh themselves for enhanced competitive operational success (Bontis et al., 2002).

Crossan et al. (1999) have broken down the organisational learning process into the following four distinct phases, with two occurring at the individual level and the other

two at the organisational level: intuiting, interpreting, integrating and institutionalising. This taxonomy of organisational learning takes a multifaceted approach to combine learning theories at the interpersonal, social and corporate levels. Individuals engage in intuitive processing and interpretation, groups engage in interpretive processing and integration, and institutions engage in organisational processing and institutionalisation. Individuals' goals, plans and behaviours may be influenced by their capacity for intuitive thinking, which is the unintentional awareness of trends and opportunities underlying individual perspectives. Interpretation is communicating one's observations and ideas to others to explain and provide significance for their experience. When people in a networked system work together to integrate, they build common mental representations. For anything to be institutionalised, it must be maintained and modified via the application of intuitive, interpretive and integrative mechanisms to the established routines and standards (Crossan et al., 1999). This conceptualisation of organisational learning will be used in the present study.

Organisational learning has a non-linear influence on company survival and resilience, as stated by Battisti et al. (2019). Moreover, different learning methods have different outcomes for a business. Carmeli and Schaubroeck (2008) have come to a similar conclusion, noting that learning behaviour increases an organisation's chances of being prepared for the present and the future. Jones and Macpherson (2006) have found that organisations that open their borders to external knowledge acquisition, explore the knowledge environment, integrate and institutionalise knowledge, and maintain a culture that promotes the advancement of inter-organisational correlations are more likely to survive than those that do not. In addition, Rezazade Mehrizi and Lashkarbolouki (2016) have defined four processes for unlearning outdated and problematic routines for businesses to benefit from organisational learning, as follows: recognising, revitalising, parallelising and marginalising.

According to Crossan and Berdrow (2003), the effects of organisational learning do not always generate positive effects. To be more precise, Annosi et al. (2020) have discovered that a team's organisational learning is enhanced by the team's shared culture, vision and values. As Garud, Dunbar and Bartel (2011) state, firms only exhibit learning behaviours

when new stories are created in response to out-of-the-ordinary experiences, which is a cultural phenomenon. While the researchers have found that cultural factors play a part in narrative formation, they have also discovered that more work needs to be done to formally investigate the impact of organisational culture in shaping learning within the framework of organisations' ability to thrive.

1.3 Problem Statement

Over the past 10 years, key actors in critical industries have been put in jeopardy due to mishandling, arrogance and inefficient regulation. Financial markets worldwide (Stiglitz, 2010), the United Kingdom's (UK) train industry (Shaoul, 2004), health coverage in Switzerland (Pietro et al., 2015) and the Danish emergency medical services are just a few examples (Fyns. dk, 2017). In each of these instances, a company's insolvency or near insolvency has jeopardised the provision of a vital public utility. After the financial meltdown of 2008, when the world's financial stability was at risk, the phrase "too big to fail" was created to describe the most important actors in the financial system in general. More than 50% of the companies listed on the Fortune 500 in 2000 no longer exist today because they could not adapt to the growing transformation that was occurring externally (Murray and Meyer, 2020). Moreover, it is predicted that by 2027, companies listed on the S&P index will have an average lifespan of only 12 years (Hillenbrand *et al.*, 2019). This high failure rate can be attributed to systems, procedures and business strategies that create stiffness and render it extremely difficult or impracticable for large organisations to survive in the long term (Doz and Wilson, 2018). Furthermore, Schumpeterian theories assume that a company's failure to adapt to a quickly evolving context is the primary cause of its demise. Firms face a severe and perilous environment when unexpected and disruptive events, such as a global financial crisis, occur. Moreover, organisations within the energy industry are subject to extremely volatile market conditions, such as fluctuating prices, policy changes and the growing move towards green energy solutions.

Enterprises' multiple potential reactions to these occurrences or environmental stimuli lead to some surviving and others failing (Merendino and Sarens, 2020). Their capabilities constrain their ability to respond at three stages (Parker and Ameen, 2018). In the first instance, businesses vary in the number of assets they govern. In the early aftermath of a

global recession, liquidity and asset restrictions tighten, resulting in decreased survival odds (Roper and Turner, 2020). Organisations also vary in the assets they do not own but may gain access to via ownership agreements with other companies. Due to environmental shocks, enterprises with varying management and ownership structures have different chances of surviving (Salvato et al., 2020). Third, firms vary in their capacity to harness and transform resources, whether internally or externally managed, to react to environmental stimuli – a capability known as adaptability (Augier and Teece, 2009). Such skills describe how companies respond to abrupt and dramatic market fluctuations (Makkonen et al., 2014).

From an evolutionary viewpoint, a firm's survival is the result of its classification and learning methods in an ecosystem with a finite capacity and diverse assets (Barnett, Greve and Park, 1994). Some characteristics of economic growth (e.g. efficiency and revenue) or health will be defined by a disparity of capital allocations (Nelson and Winter, 1982). An organisation's survival chances are improved because of the strategic advantage it gains from managing multiple sources (Barnett, Greve and Park, 1994). The resource-based theory stresses that to preserve a long-term competitive advantage, firm resources must be valuable, rare, inimitable and not substitutable (Barney, 1991). Individual firms' positions on the fitness spectrum change over time owing to the influence that flexibility and knowledge have on a company's ability to modify and adapt (Nelson and Winter, 1982). As a result, survival probability may be described as the combined result of market contact intensity acting as a natural selection mechanism and the varied rates of organisation learning and adaptability that an organisation possesses (Dosi et al., 1995).

Embedded within this concept of organisational learning and adaptability is the presence of an effective organisational learning regime (Sosna et al., 2010). Only when organisations learn from external stimuli and hold organisational memory can their initiatives towards survival be successful. Argyris (1994) defines organisational learning as how firms seek strategies to handle their internal assets and resources and then become competent in intellectual capital by developing, procuring, exchanging and modifying old routines to reveal new information (Huber, 1991). Organisational learning is a critical component of strategic revitalisation, according to Crossan et al. (1999). An important

part of a company's success might be its involvement in learning activities, such as obtaining or developing new information and then disseminating and integrating it.

Understanding vital information and integrating this into the key operational processes are crucial for increasing efficiency, optimising operational costs and enhancing performance. Thus, the process of organisational unlearning occurs, wherein the firm discards old routines and replaces them with newer, more strategic ones (Tsang, 2008). One of the most essential features of organisational unlearning is a company's deliberate recognition that the knowledge it is using and the routines it is implementing are no longer helpful (Tsang and Zahra, 2008).

Such a learning and unlearning environment can only be fostered by creating a workplace culture that rewards employees for their willingness to learn new information regularly. To achieve a high degree of learning and long-term survival in a company, it is necessary to create an environment in which people are encouraged and assisted in developing or maintaining an entrepreneurial mindset. For instance, a culture that emphasises risk-taking and innovation is likely to generate higher levels of learning than a firm with a highly hierarchical culture. Firms with a strong entrepreneurial culture have a desire and willingness to engage in global business operations and an emphasis on communicating and acquiring knowledge about their target markets and consumers, according to Dimitratos and Plakoyiannaki (2003). In addition, studies have demonstrated that companies' survival and success depend on their attempts to meet the demands of their consumers and create long-term partnerships. The attitudes, values and preconceptions of an organisation's culture may facilitate or hinder the learning process and can impact the effectiveness of the change process (Argote, McEvily and Reagans, 2003). Thus, a company's organisational culture is among the characteristics commonly regarded as vital in ensuring that the firm adapts to changes that are occurring externally.

Various learning activities are influenced by a company's cultural setting, according to DeLong and Fahey (2000). The organisational culture directly impacts how a firm's individuals perceive the value, importance and validity of the information they possess. Moreover, it acts as an interface between individuals' knowledge and the organisation's collective knowledge. Finally, the culture of an organisation influences how new

information may be created, institutionalised and distributed. Learning outcomes at the interpersonal, team and organisational levels are all influenced by an organisation's culture, which controls how these results are interpreted and used in a given environment.

Research indicates that organisational culture and its typologies are crucial in enabling the learning and unlearning processes required for organisational survival (Lyu et al., 2020). The impact of clan culture on learning can be both positive and negative. While it can promote collaboration and information exchange, its inward focus may impede optimal learning conditions and individual creativity. This has been noted by various researchers (Sanz-Valle et al., 2011; Büschgens et al., 2013; Cameron et al., 2022). Adhocracy culture can promote creativity and adaptability, but it can also result in managerial difficulties and organisational breakdown (Sanz-Valle et al., 2011; Ogbeibu, Senadjki and Gaskin, 2018; Palanisamy, 2008). Hierarchical cultures impede innovation and adaptability, and the impact of market culture on long-term learning remains uncertain (Oh and Han, 2020; Slater and Narver, 2022).

Despite the theoretical emphasis on learning and adaptability, there remains a significant gap in the understanding of how organisational culture intersects with these processes to enhance survival, especially in energy firms. Although existing studies suggest that organisational culture can foster or hinder learning (DeLong and Fahey, 2000), little attention has been paid to the specific cultural mechanisms that influence adaptability in the energy sector, especially in the UAE context. While some studies have explored the role of culture in facilitating or obstructing learning, there is still insufficient empirical evidence on how different cultural types – such as clan, adhocracy, hierarchical and market cultures – affect organisational learning and, by extension, the long-term survival of firms. Research on cultural typologies in relation to learning outcomes and strategic responses to market shifts is fragmented, with some findings suggesting that clan cultures promote collaboration but hinder creativity (Sanz-Valle et al., 2011), while adhocracy cultures may facilitate innovation at the cost of organisational stability (Palanisamy, 2008). Hierarchical cultures are often seen as stifling innovation, and the role of market cultures in fostering long-term learning remains unclear (Oh and Han, 2020).

This gap in the literature has significant practical implications. In the face of rising external pressures – particularly in the energy sector, where market volatility and policy shifts are pervasive – firms need to develop robust, culture-driven learning frameworks that can sustain their competitiveness and survival. Additional research is required to comprehend the mechanisms that underlie these cultural typologies and their incorporation with learning that can enable firms to develop safeguards that strengthen their survival. Thus, the central research question that this study will attempt to answer is as follows: ‘How can different types of organisational culture (clan, adhocracy, hierarchical and market) be effectively integrated with organisational learning to enhance the survival prospects of firms, particularly in the energy industry of the UAE?’

1.4 Research Aim and Objectives

The aim of this study is to explore how firms in the energy industry of the UAE can develop their organisational culture and learning behaviours to strengthen their chances of survival. The following objectives are identified:

- To explore how energy firms in the UAE anticipate and plan their survival
- To understand how organisational culture and learning can mobilise an energy firm in a direction that facilitates survival
- To recommend strategic plans/safeguards that energy firms can adopt to strengthen their survival in the UAE

1.5 Research Questions

The study’s central research question is as follows: ‘How can different types of organisational culture (clan, adhocracy, hierarchical and market) be effectively integrated with organisational learning to enhance the survival prospects of firms, particularly in the energy industry of the UAE?’ This question will be answered based on the following sub-questions:

1. How do energy firms in the UAE anticipate and plan for their survival in the dynamic and competitive energy industry?

2. How can organisational culture be leveraged to mobilise energy firms in a direction that enhances their survival prospects in the UAE?
3. What are the key factors that facilitate or hinder organisational learning within energy firms, and how do these factors contribute to their ability to strengthen their survival strategies?
4. What strategic plans and safeguards can energy firms in the UAE adopt to effectively integrate organisational culture and learning, thereby enhancing their long-term survival and competitiveness?

1.6 Significance of the Research

1.6.1 Practical Significance

First, this study will help businesses in the UAE energy industry improve their organisational culture in ways that encourage learning and unlearning. The results will aid companies operating in the nation's energy industry in becoming more flexible in response to the dynamic nature of the market. Second, the findings of this research will aid firms in creating an atmosphere of learning. The results may indicate that businesses in the UAE energy industry should put more effort into creating a culture of learning in which workers are actively encouraged to acquire and apply novel knowledge and abilities. One way to accomplish this is by facilitating training, mentorship and teamwork.

In addition, the research may highlight the significance of promoting unlearning. It might also imply that businesses should work to overcome inefficient beliefs and customs that limit their capacity to adjust to a dynamic marketplace. This can be accomplished by routinely reviewing current procedures, welcoming constructive critique and discarding outmoded methods. The findings of this research will ultimately encourage businesses to implement feedback systems. The findings could indicate that businesses should implement systems for feedback to track and assess how effectively they are learning and unlearning. Gathering employee input, implementing critical performance indicators and employing strategy adjustments are all examples of actions that fall under this category.

1.6.2 Theoretical Significance

The present research study has considerable theoretical significance. In the first place, this research will add to what is already known about organisations' learning and unlearning, especially as it pertains to the UAE's energy industry. Existing theories on corporate learning and unlearning will be supported by the results of this research. The study will also add to the body of knowledge on the influence of organisational culture on learning and unlearning within a business. The results of the investigation can be used to discover more about how company culture affects learning and unlearning. This can help with the creation of fresh theories on how corporate culture affects learning and unlearning in businesses. In addition, the study's findings may also be applied to the discussion of emerging markets in general and the UAE energy industry in specific academic journals. Finally, in light of the UAE's recent fast economic growth and change, this research may shed light on how businesses in other developing countries can cultivate a corporate culture that encourages learning and unlearning in such settings.

1.7 Novelty of the Research

The novelty of this research lies in its unique focus on the intersection between organisational culture, learning and survival within the specific context of the energy industry in the UAE. While much of the existing literature has explored the relationship between organisational culture and performance, few studies have explicitly addressed how different cultural typologies – such as clan, adhocracy, hierarchical and market cultures – integrate with organisational learning to enhance firm survival. This research aims to bridge this gap by examining how these cultural frameworks influence a firm's ability to adapt to environmental stimuli, manage market volatility and respond to disruptive forces in a highly dynamic and competitive sector such as energy. The UAE's energy industry is particularly relevant given its rapid transformation from traditional fossil fuels to sustainable energy solutions, which has created a unique set of challenges and opportunities for organisations operating within it.

Moreover, this study contributes to the broader field of organisational theory by extending the concept of organisational learning and unlearning beyond traditional views of adaptive strategies. Integrating insights from dynamic capabilities theory, this research emphasises how culture-driven learning processes can act as a strategic safeguard for long-term survival. While previous studies have examined organisational learning in isolation or in broader industries, the current research uniquely focuses on how cultural factors specifically shape learning behaviours and survival strategies in the energy sector. The insights generated will not only deepen academic understanding of cultural typologies and organisational learning but also provide practical recommendations for firms seeking to navigate the complexities of an ever-changing market.

1.8 Overview of Research Methodology

The research's overarching goal is to discover what it takes for businesses in the UAE energy industry to improve their corporate culture in ways that boost their capacity for learning and unlearning and, thus, their chances of survival. To achieve this goal, the study is underpinned by an interpretivist paradigm. Understanding people's perspectives, feelings and interpretations in their social environment is central to social constructionism, a theory that recognises the subjective character of truth. As it acknowledges that complicated social phenomena are socially created and moulded by people's views and interactions, this paradigm is well suited to researching phenomena such as an organisation's culture and learning processes.

This study employs an abductive methodology to understand the phenomenon of firm survival. It aims to understand how organisational culture and learning impact a firm's ability to overcome challenges and achieve long-term survival in the energy industry by examining the underlying mechanisms and dynamics. Abduction offers researchers an opportunity to clarify assessments that contradict established theories, which presents an intriguing philosophical challenge (Piekkari, Plakoyianni and Welch, 2010).

This investigation makes use of a multi-firm case study approach, modelled after the Eisenhardt case study technique. This method uses in-depth interviews, field notes and archival research to shed light on an occurrence of interest. Organisational learning and

culture are examples of complicated social processes that are amenable to this method of investigation.

The researcher will conduct interviews using purposive sampling, a subtype of non-probability sampling, to collect qualitative data (Campbell et al., 2020). The information will be gathered from prominent administrators in the energy industry. The participants will be chosen from a number of case study companies, allowing for an appropriate level of inductive theory development from multiple cases (Eisenhardt, 1989). This research focuses on the UAE's energy industry, which is undergoing significant changes due to climate change, geopolitical risks and technology disruptions. The UAE aims to shift towards renewable energy sources, making it an interesting setting within which to study the impact of organisational culture, learning and business survival. To select the research sample, a purposive sampling approach is employed with a theoretical basis to case selection in order to obtain unique insights. This approach helps with appropriate data saturation while ensuring in-depth understanding. The criteria for selection include a diverse range of energy sources, such as hydrocarbons and renewables, to examine organisational learning and unlearning mechanisms. Medium and large firms are included, while small enterprises are excluded due to limitations in resources and capabilities for dynamic change. The historical context of these firms, including their founding period and early activities, is considered, as it can affect their organisational culture and adaptation to new energy paradigms.

Eisenhardt (2021) observed that the number of case study companies remains highly variable, with a minimum of two case companies. The selection of these companies will be based on theory, not chance. The process of purposive sampling entails the intentional and deliberate selection of cases that provide distinctive and valuable insights, in contrast to the arbitrary sampling techniques that are frequently employed in empirical research. The process of selecting cases based on specific criteria facilitates the identification of diverse perspectives, particularly within a constructionist paradigm. The assessment of the suitability of replication logic is crucial in determining whether true reproduction or speculative reproduction is necessary. In order to analyse several facets of the phenomena,

the researcher of this study looks at cases with divergent attributes. The sample is designed to encompass medium and large firms in order to achieve a high degree of variability.

1.9 Limitations of the Study

The absence of generalisability is a critical limitation of this study. The observational research design and contextual factors that impact the relationship being studied may restrict the relevancy of the results to the UAE setting. Anticipating the potential impact of contextual factors on the identified relationship and pre-provided explanations is a challenging task.

Moreover, a significant constraint arising from the research methodology is the inability to directly witness the long-term viability of firms in the future during the period of data gathering. Nonetheless, the research may provide insight into the process by which managers develop their expectations regarding their companies' future viability, as well as their strategies for anticipating and preparing for potential scenarios. This facet offers significant perspectives on the adaptive methodologies and decision-making procedures utilised by managers.

Another important drawback of this study is the potential for bias. Qualitative research entails the possibility of the investigator's personal biases or preconceptions potentially impacting their evaluation of the scrutinised data. Thus, it is imperative to recognise and contemplate the plausible influence of bias on the research's reliability and accuracy while construing the findings.

The investigation's scope may be further limited by time constraints. The temporal extent of the study may inhibit the quantity of information that can be gathered and evaluated. Finally, resource limitations may have hindered the researcher's ability to comprehensively examine all pertinent variables and their interrelationships.

1.10 Structure of the Thesis

This chapter has provided a comprehensive introduction to the background, problem and significance of the study while outlining the aim, objectives and research questions along

with the scope, methodology and limitations. The remainder of the study is structured as follows:

Chapter 2: Literature Review: This chapter will examine the pre-existing literature on organisational culture, learning and unlearning and will provide a theoretical paradigm (dynamic capabilities) for the research. It will explore the relationship between organisational culture and learning, concentrating on how the culture of a company can facilitate or impede its learning and unlearning processes in the context of firm survival. In addition, the chapter will investigate the impact that organisational learning and unlearning have on firm survival.

Chapter 3: Methodology: This chapter will describe the research design, which is an Eisenhardt-based qualitative multi-firm case study. It will explain why this methodology was chosen and how it will be utilised to answer the research questions. The sampling strategy, selection criteria, methods of data acquisition and techniques for data analysis will also be discussed.

Chapter 4: Results and Analysis: The research findings, including the outcomes of the case studies and the analysis of the gathered data, will be given in this chapter. Insights into how businesses in the UAE energy sector can cultivate an organisational culture that encourages learning and unlearning will also be presented.

Chapter 5: Discussion: In this chapter, the study's findings will be contextualised within the existing literature. The chapter will also analyse the consequences of the results for practice as well as theory, addressing the research's philosophical and practical significance. In addition, the chapter will address the study's limitations and offer recommendations for future research.

Chapter 6: Conclusion and Recommendations: This concluding section will provide a concise overview of the study's major takeaways and results. It will advise UAE energy firms on how to improve their odds of survival by fostering a culture that encourages learning and unlearning. Future research directions and wider applications to the study's topic – organisational learning and unlearning – will be discussed as well.

2 Literature Review

2.1 Introduction

Rapid external changes within the energy sector have caused several energy firms to exit the market due to their inability to adjust to the market shifts. Large energy firms in several countries, such as the United States of America (USA), the UK, France and Brazil, have exited the market due to insolvency issues (Cyrus, 2021; Credit Risk Monitor, 2020). While the energy sector has always been volatile, the increasing focus on renewable energy, increasingly complex global trade negotiations and highly dynamic price fluctuations present newer challenges that energy firms are not equipped to manage (PricewaterhouseCoopers, 2020). There is a need to make appropriate strategic decisions that will enable energy firms to survive and thrive in the long term. Thus, such companies should concentrate on organisational learning and transition into learning firms to retain a strong position in a dynamic market with intensely high competition (Soelton, 2023). A firm's success is determined by its workforce's capacity to adapt to changing circumstances, rapidly develop new knowledge, adopt technology improvements and learn more quickly than competitors (Salim and Sulaiman, 2011). According to Tortorella et al. (2020), organisational learning is a successful technique for enhancing and preserving a firm's long-term efficiency, advancements and market power. It has been shown that adaptive learning is essential to creating and shaping a company's future more successfully, according to Achtenhagen, Melin and Naldi (2013). Research by Pedler and Burgoyne (2017) examined the value of learning for firms, focusing on organisational competence and the capability to use collective knowledge. The researchers argued that in this turbulent period, learning is particularly vital to companies since it teaches them how to do things differently in order to improve their overall results. The significance of organisational learning in ensuring the longevity of an organisation cannot be overstated.

Due to the significance of organisational learning in promoting firm survival, the factors that promote this factor in a company need to be evaluated. One important factor is organisational culture – without a culture that supports learning, an organisation may struggle to adapt and remain viable (e.g. Annosi et al., 2020; Garud, Dunbar and Bartel, 2011; Lawrence, 2018; Lyu et al., 2020). More specifically, if an organisation possesses

a culture marked by a high degree of openness and risk-taking, the learning and unlearning rates will increase the chances of firm survival (Lawrence, 2018). Thus, in keeping with the linkage between organisational culture and learning and firm survival, the current chapter first discusses the concepts relating to firm survival. Following this, the literature review underpins the study via the dynamic capabilities theory and outlines organisational culture and organisational learning as core capabilities that firms need to develop to survive. Organisational culture, its conceptualisation and its dimensions are outlined in detail. Furthermore, organisational learning and how learning facilitates firm survival are discussed. Finally, the chapter specifies the role of culture in facilitating organisational learning and firm survival.

2.2 Firm Survival

Numerous previous studies have analysed firm survival after inception as a function of competence (e.g. Aspelund, Berg-Utby and Skjevold, 2005; Ganotakis, 2010; Paradkar, Knight and Hansen, 2015; Audretsch and Mahmood, 1995; Jin et al., 2016). These studies typically grouped all exits into one category, but more recent research has concentrated on the variety of ways in which organisations leave a given market situation (e.g. Ucbasaran et al., 2012; Coad, 2014; Jenkins, Wiklund and Brundin, 2014; DeTienne and Cardon, 2010; DeTienne, McKelvie and Chandler, 2015). Many corporations are forced to dissolve due to financial difficulties, while others opt to leave while they are still on top. In practice, businesses may choose from a wide variety of potential exits. Several businesses have exited the industry in various ways following their establishment, which has been widely documented (Coad, 2014). Some firms must shut down due to financial problems, but others choose to do so for various reasons (Donthu and Gustafsson, 2020). For certain companies, mergers and acquisitions provide a viable exit strategy (Kirtley and O'Mahony, 2020). Firms that opt to exit due to company failure are distinct from those that decide to exit for other causes. Firms that exit due to company failure are more likely to have failed to adapt to external changes and market dynamism (Karabag, 2019).

It has been shown in certain research works that firm selling is a distinct exit strategy from company dissolution (e.g. Coad, 2014; Soto-Simeone, Sirén and Antretter, 2020). There are four distinct ways to leave a business, as described by Wennberg et al. (2010): harvest

liquidation, distress liquidation, harvest sale and distress sale. A crisis sale is selling a company in economic difficulties, whereas a harvest sale is selling a successful business that currently operates after the innovator steps down as a controlling shareholder (Wennberg et al., 2010). Voluntary liquidation differs substantially from insolvency, even though both are options for struggling enterprises (Justo, DeTienne and Sieger, 2015).

According to Coad (2014), firms go into voluntary liquidation when they are no longer financially viable or when their owners decide to pursue alternative possibilities. Voluntary liquidation is “essentially non-viable” since it often occurs when a company has failed or has been considered untenable. When discussing why businesses fail, DeTienne, McKelvie and Chandler (2015) distinguished between monetary and non-monetary factors, such as the owner’s tenure and their outlook on the company’s future. No matter how well a company does, its owners always have the option of voluntarily dissolving it (Coad, 2014). There should be clear distinctions between exit strategies in these areas, but failing to do so might lead to incorrect conclusions about the causes, effects and results of business departure. Regardless of the many exit strategies that firms may choose to employ, one of the causes of the failure of a business is a lack of appropriate resource management within the organisation (Thornhill and Amit, 2003). However, a significant gap found in past research is that much focus is placed on new firm survival and the survival of SMEs, with very little emphasis centred on larger firms that may be market leaders. This represents a gap because there is a marked difference between SMEs and multi-national enterprises in terms of the resources they possess and the organisational routines they have developed.

The strategic advantage gained by managing resources improves an organisation’s chances of survival (Barnett, Greve and Park, 1994). To maintain a long-term benefit, assets must be valued, uncommon, unique and not easily substituted, according to the resource-based theory (Barney, 1991). Each organisation has a different standing on the performance scale throughout time because it depends on the firm’s capability to change and adapt to varying conditions (Nelson and Winter, 1982). Consequently, survival likelihood is a function of market interaction severity functioning as a process of survival of the fittest and the varying rates of organisational learning and adaptation (Dosi et al.,

1995). However, to facilitate the right degree of learning and boost the likelihood of firm survival, the role of organisational culture needs to be explored. For instance, Annosi et al. (2020) found that the prevalent culture, qualities of vision and values that a team shares lead to stronger organisational learning. Looking at a firm from the perspective of dynamic capabilities theory will enable an understanding of organisational culture and learning as dynamic capabilities that firms can tap into to gain survival certainty in a dynamic environment. This is necessary because – according to Kemp (2024) – strategic planning involves a systematic approach to anticipating prospects in order to ensure that present choices are suitable in light of forthcoming issues and possibilities. The concept of strategic planning involves the incorporation of preventive and adaptive measures, such as the evaluation of potential outcomes of current decisions through risk evaluations, as well as the utilisation of exchange and dialogue approaches, including the facilitation of innovative discussions regarding prospects for the future (Wollenberg, Edmunds and Buck, 2000).

According to Miller (2011), the capacity to envision and utilise various possibilities for the future, as opposed to becoming constrained by specific forecasts, empowers leaders to identify mechanism restrictions and interactions as well as growth. This ability also enables them to identify and respond to alterations in the circumstances that occur, in addition to reassessing the presumptions that underlie their understanding of current events. According to Becker (2002), some scholars contend that the utilisation of planning and anticipation may facilitate the development of a more lucid perspective on forthcoming difficulties and prospects that stem from heightened levels of ambiguity and intricacy. The provision of suitable explanations for forthcoming advancements may prove advantageous in managing fast-paced settings, as suggested by various scholars (Becker, 2002; Vecchiato and Roveda, 2010; von der Gracht et al., 2010; Teece, 2014). As forward-thinking practices and technologies affect a company's ability to acquire knowledge and adapt to changes in the marketplace, they have become recognised as essential precursors of developing dynamic capabilities (Vecchiato, 2015).

Strategic anticipatory thinking, for example, may be seen as a micro-foundation of the ability to recognise upcoming possibilities and dangers (Vecchiato, 2015) due to its

capacity to provide insight into the future development of the forces associated with outside transformations. Peter and Jarratt (2015) conducted a comprehensive analysis of the application of anticipatory thinking in strategic planning. Their research emphasised the crucial function of anticipatory thinking in developing the capacity for recognising and interpreting abrupt shifts in the surroundings, which is regarded as a fundamental organisational skill for anticipating future risks and securing a firm's sustained business competitiveness. Thus, the focus of the present study is how this anticipatory behaviour can be cultivated in the form of learning behaviour under the appropriate culture to enable firms to develop safeguards towards their long-term survival.

2.3 Dynamic Capabilities Theory

2.3.1 Understanding Dynamic Capabilities

Evolutionary economic analysis (Winter, 2017), the resource-based perspective of the firm (Wernerfelt, 2016) and organisation development are some of the philosophical forebears of the dynamic capabilities' framework (Lipshitz, 2000). The origins of dynamic capabilities may be traced back to Schumpeterian competitiveness (Ambrosini and Bowman, 2009), in which an organisation might gain an edge over its rivals by effectively destroying and replacing resources in order to make room for new ones that have the capacity to generate value (Teece, 2009). The resource-based perspective of business, upon which new research on dynamic capabilities is founded, argues that a firm's resources provide a necessary framework for creativity (Ferreira, Coelho and Moutinho, 2020; Coppola, Vollero and Siano, 2023). Both the resource-based perspective and the dynamic capabilities view place a focus on the identification and acquisition of complementary groupings of capabilities, as will be explained in further detail below (Abu-Rumman et al., 2021; Helfat, 2022). Numerous researchers, beginning in the mid-1990s, have provided both empirical and theoretical studies highlighting different facets of dynamic capabilities (Teece, 2007; Teece et al., 1997; Schilke, Hu and Helfat, 2018; Eisenhardt and Martin, 2000). Assumptions about the use of dynamic capabilities to impact positional (Baden-Fuller and Teece, 2019), capacity configurational (Eisenhardt and Graebner, 2007) and zero-level/operating capability changes are widely held (Schilke,

Hu and Helfat, 2018). It is thus impossible to examine the dynamic capabilities perspective without also considering the resource-based perspective.

The resource-based view (RBV) of a firm has its roots in the strategic management literature and can be attributed to the work of Barney (1991). Work on the resource-based perspective can also be attributed to Wernerfelt (1984), and its origins can be found in the early work of Penrose (1959), who postulated that a firm is an administrative unit with several resources at its disposal that lend to an increased performance rate and competitive advantage. The concept of resources that a firm can possess and which can lead to better performance of the firm was also originated by Penrose (1959). Furthermore, Penrose (1959) argued that the resources a firm holds have to be unique to the company, which can lead it towards a greater advantage in the market. This perspective was further advanced by the work of Rubin (1973), who argued that there is an absolute requirement for the ownership of resources to belong to the firm in order for the resources to be usable. Penrose (1959) first made the case that internal factors constrain a company's ability to grow but that it may utilise its resources to generate external possibilities. However, the core of the Penrosian reasoning is that the expansion of the 'firm' can only occur in a setting where powerful corporations are unrestrained by the state and exert unrivalled influence. While Penrose (1959) had concentrated on the global elements of a corporation, the study addressed two players – the state and the corporation – as the influences of development, which is consistent with the resource-based approach, as described by Connell (2008). The RBV examines organisation strategies and holds that businesses are made up of diverse assets, elements of manufacturing and combinations of resources which enable them to carry out their strategies of choice (Srivastava, 2001). Barney (1991) assumed two things throughout his early work regarding organisations: (a) resources exist in a diversified form, spread among contending enterprises, and (b) resources remain stationary. Organisational competitiveness has been characterised as the interaction between an in-house assessment of strengths and weaknesses and an external evaluation of possibilities and risks (Barney, 1991). According to proponents of the RBV, a company's success or ability to maintain market superiority relies on the resources within its command. The long-term viability of a sought-after resource possessed by a corporation relies upon how readily it could be replaced or even replicated.

As defined by Barney and Arikan (2001), resources include observable and abstract commodities that companies draw from when formulating and enacting strategies. However, Bowman and Ambrosini (2003) broadened the meaning of resources to include everything that might be assumed as an asset or liability for an organisation. Everything a firm possesses, from its resources and competencies to its operational strategy and the data and expertise at its disposal, may be used to formulate an approach that will increase its productivity (Barney, 1991). Furthermore, Massa, Tucci and Afuah (2017) described resources as stockpiles of accessible elements managed or administered by a firm, further emphasising the inextricable bond between the two. Resources are resolute commodities which are hard to emulate, as Warner and Wäger (2018) observed. In addition to being a supplier or a provider of support, resources also have their own unique qualities (Mahoney and Pandian, 1992): an organisation's resources may be remarkably varied. They do not have to be fully owned by the firm, and they are not even required to exist physically for the firm to benefit from them.

Furthermore, the significance of a commodity is determined by the process through which businesses create and obtain it in critical industry mechanisms that might or might not necessarily be fully competitive. Vital resources likewise allow businesses to adopt methods well suited to the industry in which they compete (Lei and Slocum, 2005). As a result, each firm's mobilisation of its assets must take into account the unique characteristics of the setting in which it operates (Cao and Shi, 2020). The financial and operational worth of either a physical or immaterial asset may vary tremendously based on the characteristics of the corporation as well as the context wherein the enterprises engage. According to the resource-based approach, in order to provide a sustainable strategic advantage, a resource must be valued, unique and irreplaceable, in addition to being backed by proven capabilities, causal ambiguity and institutional mechanisms (Bocken and Geradts, 2020). The complexity of reproducing a resource in a dynamically complicated setting will render it expensive for many other businesses to mimic (Hunt and Madhavaram, 2019). When a company has access to dynamically complicated resources, it may create and execute initiatives which reduce its financial expenditure or boost its profits.

It has been established that resources are important if and only if they allow a company to develop and implement plans that increase its profitability and performance (Barney, 1991). Given the resource-based approach, one definition of competitiveness is adopting a valuation approach distinct from those adopted by existing or future rivals (Barney, 1991). Many studies have identified resources employed to implement future growth techniques (de Oliveira, Carneiro and Esteves, 2019; Agyapong, Maaledidong and Mensah, 2021). Value-adding assets include those that Barney and Clark (2007) classified as structural infrastructure, fiscal equity, intellectual capital and institutional resources. However, many empirical studies have been conducted in criticism of the resource-based paradigm, with a primary emphasis on how an organisation may preserve its resources in order to increase its competitive advantage (Dierickx and Cool, 1989; Wernerfelt, 1984; Martín-de-Castro et al., 2006). Despite the existence of empirical research and the fact that the resource-based perspective is concerned with improving a firm's competitive advantage, it is not possible to show the RBV in a purely hypothetical setting (Bromiley and Rao, 2016). Moreover, Teece et al. (1997) pointed out that although the resource-based approach does address an organisation's dynamic capacity, it does so without explaining how the firm is meant to construct its resources in a constantly shifting environment. Additionally, apart from strategic decision-making, product development and alliance-building, very little is documented on how an organisation might gather or increase its resources (Eisenhardt and Martin, 2000).

Differentiating dynamic capabilities from the more realistic change management is an additional possibility. Dynamic capabilities, as the term suggests, centre on the in-house resources and methods of a company to foster innovation in terms of both resources and competencies, which in turn paves the way for a more flexible approach to adaptability and market-making. Although organisational change is a planned, organised activity with the ultimate goal of moving firms from their present to their ideal state, it is most effective when it involves the participation of all levels of the company. Thus, the dynamic capabilities framework expands the resource-based perspective to the discussion on how businesses initially establish firm-specific commodities and possibility multipacks, as well as how they regenerate their sustainable advantage (Teece, 2018). In addition, the framework draws inspiration from the behavioural theory of companies transaction costs

theory and the theory of evolution (Teece, 2017; Helfat and Martin, 2014). Thus, management choices involving resource utilisation for capacity building or innovation performance are included in the dynamic capabilities model (Pitelis and Wagner, 2019). There are transactional and switching expenses involved with any asset or capacity exchange, and there are benefits to particular coordination methods within certain conditions, all of which are taken into account by the dynamic capabilities paradigm (Sune and Gibb, 2015).

The RBV is inadequate in addressing these concerns, as it prioritises assets as the primary driver of competitive edge. Teece and Pisano (1994) highlighted that the primary distinction between the RBV and the dynamic capabilities theory lies in the latter's recognition of learning procedures as the drivers of competitive advantage, whereas the former places more importance on the existence of knowledge-based resources. With the external environment being so volatile, Teece and Pisano (1994) centred their attention on the significance of an organisation's management. The phenomenon of organisational reactions to unpredictability in the corporate setting is a key factor in understanding the challenges faced by previously effective entities, which may encounter drift in strategy and fall short in accomplishing their objectives (Wohlgemuth and Wenzel, 2016).

2.3.2 Dynamic Capabilities and Strategic Management

Broadly, strategic management is concerned with the means through which businesses acquire and retain a strategic edge, with the primary goal of ensuring their continuation and expansion (Teece, 2020; Schilke, Hu and Helfat, 2018; Wilden et al., 2016). Particularly important in dynamic contexts – where wealth-generating valuable, rare, inimitable and organised resources that provide a competitive edge may quickly turn irrelevant – is the need to constantly adapt to new circumstances (Teece et al., 1997). Enterprises have been continually adapting, renewing, reconfiguring and creating their assets and capabilities in accordance with the economic landscape in order to survive. For example, due to increased rivalry on a worldwide scale, another, more suitable framework is needed to comprehend the means by which competitiveness is established and sustained in rapidly dynamic sectors. Several large firms seem to have followed a “resource-based strategy” centred on the acquisition of important technological resources. Nevertheless,

such an approach has been shown to be insufficient for maintaining a competitive edge over the long term (Teece et al., 1997). Companies that have shown they can respond quickly and innovate products quickly and easily while also possessing the managerial acumen to successfully integrate and reposition intrinsic and extrinsic capabilities have emerged as the ones to succeed in today's globalised economy. Experts in the field have noticed that organisations might amass a wealth of resources in the form of advanced technologies without necessarily possessing any functional capabilities.

Innovative organisations face the strategic issue of identifying and developing the intrinsic and extrinsic competencies necessary to generate valued goods as well as commodities in an environment characterised by Schumpeterian innovation-based competitiveness, competitive pressure, growing yields and the “creative destruction” of old capabilities. This lends credence to the idea that gaining an edge over the competition calls for the use of both existing and novel skills that are unique to an individual company (Nag and Gioia, 2012). Although strategic philosophy has done a good job of describing how organisations maintain and protect existing competitiveness, it has struggled to demonstrate how they acquire and use novel skills to create a market advantage in environments of rapid development. The concept of dynamic capabilities is captured by this difficulty in strategy formulation. Among the many theoretical frameworks on which the idea of dynamic capabilities relies is the evolutionary economy. The strategy draws from the research of scholars such as Penrose (1959) on firm resources, Williamson (1985) on marketplaces and groupings and the selectivity of resources, and Teece (1982) on the contribution of firm-specific resources and isolating pathways.

For the most part, the idea of dynamic capabilities was originally explicitly developed in a working paper by Teece et al. (1990). The authors of the study felt motivated to investigate why once-thriving businesses were now suffering or collapsing due to their inability to adjust to the evolving conditions of their industries and marketplaces (Leemann and Kanbach, 2021). In their own words, Teece et al. (1990, p. 11) argued that

our perspective of the company is something more than the usual resource-based perspective... it is not just the combination of resources that count, but the

processes by which businesses learn and acquire new knowledge and capabilities, and the pressures that constrain the direction and speed of this operation.

It was stated in a later publication by Teece and Pisano (1994, p. 537) that the RBV does not go far enough in explaining the factors that lead to a company's success, such as "speedy response", "fast and timely innovative products" and "the managerial capability to effectively integrate and reposition exogenous and internal capabilities". Strategy formulation, it was said, plays a major role in "acclimating, consolidating, and restructuring internal and exterior organisation skills, funds, and competencies required towards the dynamic world", which is especially important when the external environment evolves (Teece and Pisano, 1994, p. 537).

After identifying the shortcomings of RBV, Teece et al. (1997, p. 516) proposed a solution – dynamic capabilities, which they described as "the firm's capacity to integrate, create, and reconfigure internal and external competencies to handle dynamically changing surroundings". This is generally accepted as the very first literary definition of the term. The dynamic capabilities approach is often credited to Teece and Pisano (1994); however, they drew heavily on Nelson and Winter's (1982) *An Evolutionary Theory of Economic Change*, which discusses the importance of procedures and how they could either facilitate or impede a company's ability to expand into new markets or adapt to shifting conditions. Moreover, whereas Porter's (1980) concept of strategic advantage is built on protected market dominance, both Teece et al. (1997) and Nelson and Winter (1982) emphasised an efficient perspective to performance measurement.

2.3.3 Defining Dynamic Capabilities

The research suggests that the dynamic capabilities paradigm is an insightful perspective through which to examine the processes and outcomes of strategic transformation inside organisations (Pitelis and Wagner, 2019). To compete effectively, businesses need dynamic capabilities (Obeso et al., 2020; Teece, 2007; Amit and Han, 2017) to identify and respond to threats and opportunities, capitalise on those opportunities and adapt to changing market conditions by adjusting the mix of their extrinsic and intrinsic investments. The phrase "dynamic capabilities" has been defined somewhat differently by several academics. Researchers who have already presented classifications for

dynamic capabilities drew from a variety of methodological approaches, and as a result, their perspectives on the phenomena vary. Primc and Cater (2016) provided helpful explanations for these divergent perspectives (Canhoto et al., 2021). It is clear from the reviewed literature that different authors place varying amounts of attention on various components of dynamic capabilities (Teece, 2017, 2018). Madsen (2010) distinguished three interpretations of dynamic capabilities, as follows: those that focus on the outcomes of dynamic capabilities (Canhoto et al., 2021; Zahra, Sapienza and Davidsson, 2006), those that emphasise the influence of external environments (Eisenhardt and Martin, 2000) and those that emphasise the internal strengths or operations that make a firm dynamic.

It has been argued by several authors that a business may make a competitive return for a limited time if it has capabilities but that it cannot maintain supra-competitive profits in the long run unless it experiences extreme luck (Leemann and Kanbach, 2021). Teece et al. (1997) noted that successful companies in the international market are those that can react quickly, innovate products rapidly and adapt to changing market conditions and have managers that can successfully organise and reposition intrinsic and extrinsic skills (Nwachukwu and Vu, 2020; Zollo et al., 2016). As a way to highlight two facets of the approach that were formerly underemphasised, they referred to the potential to acquire additional types of competitive advantage as “dynamic capabilities”. Strategic management plays a crucial function in adjusting, consolidating and reconfiguring an organisation’s intrinsic and extrinsic capabilities, assets and competencies to fit the needs of its global setting (Amit and Han, 2017; Primc and Cater, 2016). They described dynamic capabilities as a company’s capacity to combine, create and modify intrinsic and extrinsic competencies to handle rapidly evolving situations (Helfat and Raubitschek, 2018; Warner and Wäger, 2018). Definitional clarity about organisational and competitive capabilities is required for comprehension. An organisation’s core competencies are those that “determine the firm’s core business”, while other capabilities are “firm-specific resources that are collected in interconnected groupings to allow unique tasks to be done” (Teece et al., 1997).

Dynamic capabilities, according to Eisenhardt and Martin (2000), are “the firm’s procedures that employ resources, including, especially, the procedures to combine, rearrange, acquire, and liberate resources to meet, and perhaps even generate a market shift”. Thus, dynamic capabilities are “organisational and strategic processes by which businesses accomplish novel resource configurations when markets originate, collide, divide, change, and perish”. Managers use dynamic capabilities to shift the asset base and come up with novel value-adding methods (Hernández-Linares et al., 2020), as proposed by Eisenhardt and Martin. An organisational capability is “a high-level procedure (or group of routines) that, coupled with its corresponding input streams, imparts onto an organisation's management a combination of selection possibilities for creating substantial consequences of a certain kind”, as defined by Winter (2003). The below table outlines several definitions that have been developed since Teece’s (1997) work.

Table 1: Definitions of dynamic capabilities.

Authors	Definitions
Teece (2000, p. 35)	Possessing keen perception, swift action and skill in capitalising on chances.
Griffith and Harvey (2001, p. 597)	The ability to effectively coordinate with organisations worldwide is an example of a global dynamic capability that may provide a company with a competitive edge in the global marketplace.
Zollo and Winter (2002, p. 343)	“A dynamic capability is a learned and stable pattern of collective activity through which the organisation systematically generates and modifies its operating routines in the pursuit of improved effectiveness”.
Winter (2003, p. 991)	Dynamic capabilities are “those that operate to extend, modify or create ordinary capabilities”.
Zahra et al. (2006, p. 918)	“Dynamic capabilities represent the firm’s ability to reconfigure a firm’s resources and routines in the manner envisioned and deemed appropriate by its principal decision-makers”.

Wang and Ahmed (2007, p. 35) “A firm’s behavioural orientation to constantly integrate, reconfigure, renew and recreate its resources and capabilities and, most importantly, upgrade and reconstruct its core capabilities in response to the changing environment to attain and sustain competitive advantage”.

Eisenhardt and Martin (2000, p. 1107) “The firm’s processes that use resources to match and even create market change, dynamic capabilities thus are the organisational routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die”.

Helfat et al. (2007, p. 1) “The capacity of an organisation to purposefully create, extend or modify its resource base”.

Romme, Zollo and Berends (2010) When present, these capabilities let a company adapt to new circumstances without losing its strategic value.

Felin and Powell (2016) A collection of “adaptive processes” that allow businesses to change or reconfigure their “baseline capabilities”, detect changes in customer demand and respond accordingly through the introduction of novel products and services, the adoption of new technologies, the application of lessons learned from market events and the pursuit of untapped market niches.

Zahra et al. (2006), Teece (2000), Helfat (2007) and Winter (2008) are only a few of the academics who have used the terms “ability” and “capacity”. The word “ability” was coined by Teece et al. (1997) of the original school of thinking to stress the significance of strategic management. The word “capacity” has been employed by other researchers, including Helfat (2007), to describe how dynamic capabilities are first about the ability to carry out activities for a competitive advantage and second about the repetition of those actions.

Eisenhardt and Martin (2000), Teece et al. (1997) and Zollo and Winter (2003) are just a few of the academics who have described dynamic capabilities as processes or routines. According to Eisenhardt and Martin's research from 2000, "dynamic capabilities" are organisational and strategic habits. Companies may "achieve novel resource configurations when markets arise, collide, divide, change, and perish" via the use of these practices (Eisenhardt and Martin, 2000, p. 1107). These regulars also provide the foundation from which the company may acquire, integrate, reorganise and free up resources to respond to shifts in the market. In contrast, Zollo and Winter (2002, p. 343) considered dynamic capabilities to be routines since they are "learned and stable patterns of collective action through which an organisation may systematically produce and adjust its operational routines in pursuit of increased effectiveness". In this sense, dynamic capabilities have a stable framework. According to Teece et al. (1997), a company's "dynamic capabilities" are its "organisational procedures that are intended to assist the firm in adapting to fast changes in its competitive environment", whether at the business unit level or the corporate level. When taken as a whole, it is clear that these perspectives are consistent with one another, with authors like Teece et al. (1997). Consider that routines are a common way in which the skills that make up dynamic capabilities become ingrained in an organisation (Faulker and Campbell 2006).

Based on the literature reviewed, it seems that dynamic capabilities are a subset of organisational capabilities within the framework outlined above. Organisational capabilities have been defined in various ways. They were described by Amit and Schoemaker (1993) and Teece et al. (1997) as an organisation's ability to efficiently deploy resources to carry out a variety of tasks or activities with the goal of enhancing performance. A company's "capability" was defined in a similar way by Helfat and Peteraf (2003): it is the firm's capability to perform a set of activities and make use of internal capabilities to accomplish a goal. Many writers have drawn distinctions between a wide range of organisational skills, including operational, dynamic, substantive and meta-capabilities (Collis, 1994; Inan and Bititci, 2015; Zahra et al., 2006).

2.3.4 Examples of Dynamic Capabilities

Scholars have defined and categorised dynamic capabilities in many ways but generally agree that they have to do with the operations and activities of a company. A wide variety of dynamic capabilities exist, including those that allow for resource integration, resource reconfiguration, resource creation and resource destruction. As a result, researchers have wondered whether dynamic capabilities work independently, whether they could be combined and whether they may be most appropriate for a given business and set of circumstances. While dynamic capabilities are often defined in generalities, Eisenhardt and Martin (2000, p. 1107) suggested that they “really comprise of recognisable and distinct procedures”, and there are many such instances in the field of management. Acquisitions and new product development are good instances of dynamic capabilities since they refresh and realign an organisation’s resources. Much academic evidence has attempted to shed light on the application of certain dynamic capabilities by providing real-world instances. Among the many empirical studies conducted, Helfat (1997) suggested that research and development (R&D) is a flexible competence in a practical example of the US oil and gas sector. The researcher illustrated that R&D efforts might be improved to accommodate price fluctuations in the marketplace and looked into the function of supplementary assets in achieving R&D objectives. According to research by Karim and Mitchell (2000), organisations may adapt to changing market conditions by reorganising their asset package and making structural changes to their resource base via acquisitions and mergers.

According to research on high-technology organisations conducted by Danneels (2002), product innovation is a dynamic capacity since it results in long-term organisational transformation. More significantly, the investigation showed that expanding a company’s product line leads to a regeneration of the company’s underlying competencies and abilities. In order to repurpose resources and respond to changing external conditions, businesses often need to reorganise their internal structures, as demonstrated by the findings of a study by Karim (2006). In their examination of major league organisations, Barreto (2010) claimed that asset divestiture is a dynamic capability. Their research centred on the dynamic capacity of “human resource divestiture”, and they argued that the managers’ judgement and awareness and the “environmental input in the manner of

organisational efficiency compared to ambitions” (Moliterno and Wiersema, 2007, p. 1085) are crucial to the development of this talent. Such illustrations provide credence to the thesis that dynamic capabilities demonstrate similarities among organisations, as they imply that the operations at which these capabilities are used are widespread and well acknowledged.

Dynamic capabilities, according to Eisenhardt and Martin (2000), explain differences and unequal organisational profitability since they are both specific and pathway contingent in their development. In the words of Eisenhardt and Martin (2000, p. 1108), “[j]ust as there are better ways to hit a golf ball or ski a mogul field, there are more or less effective ways to execute particular dynamic capabilities” – meaning that even when executed perfectly, a dynamic capability may not provide the desired effect or result. This may occur due to internal and external factors, such as difficulty in foreseeing how a dynamic capability would affect the productive capacity. The administrative and managerial procedures that support and allow for the implementation of dynamic capabilities were called micro-foundations of dynamic capabilities by Helfat et al. (2007). Searching for new possibilities and avoiding possible pitfalls is one example, as is having the foresight to predict or detect shifts in client demand, technology advancements and the nature of the competition (Teece, 2009).

In order to adapt to the ever-changing needs of the market, businesses rely on their dynamic capabilities, which are a kind of intangible capital (Easterby-Smith and Prieto, 2008). Value is created when a company’s dynamic capabilities increase its effectiveness in managing its operations and procedures. To put such capabilities at the centre of corporate performance is to attribute value in the form of economic gains directly to that which they enable. Dynamic capabilities have been shown to favourably impact several aspects of corporate performance that contribute to financial profitability by a number of studies. Research by Deng et al. (2003) indicated that innovative and successful organisations are those with the capacity to generate patents via productive research activities (and thus yield more economic returns). Hsu and Wang (2010) also illustrated that dynamically capable enterprises might successfully deploy their intellectual capital. Such assets contribute positively to the economic earnings of a company. According to

Wamba et al. (2017), a company's performance may be boosted by investing in its dynamic capabilities, which enable it to improve its customer relationship management. In a service economy, Nayak, Bhattacharyya and Krishnamoorthy (2022) noted a favourable correlation between a company's marketing and technical prowess and its financial success. According to the dynamic capability theory, capabilities are dynamic if they are intrinsic to the organisation, as well as unique and difficult to replicate by other parties (Teece et al., 1997). According to Teece (2007), dynamic capabilities cause a shift in an organisation's resource base, which in turn generates new information – which then leads to competitive advantages and enhanced performance.

2.4 Organisational Culture

2.4.1 Conceptualisation and Overview

Culture makes a difference between various institutions, including societies, organisations, industries and professions (Conner, 1991; Hinds, Liu and Lyon, 2011). Furthermore, organisational culture comprises tangible and intangible aspects, including individuals' values and fundamental assumptions concerning their firms and the external environment. Cameron and Quinn (2011) highlighted that organisational culture has been defined with over 150 meanings identified. The sociological and anthropological aspects, which propose that varying companies have different cultures and that firms are cultures as well, outline an important differentiation of the types of organisational culture (Cameron and Quinn, 2011). Furthermore, Cheung-Judge and Holbeche (2012) noted that organisations are cultures in that culture is a technique utilised in interpreting an organisation's life process, not just a component of the organisation.

Furthermore, organisational culture is the pattern of values, conventions, beliefs, attitudes and assumptions that may not have been explicitly stated but that influence how people behave and things get done in organisations. According to Singh and Singh (2019), values are the factors that affect how individuals and organisations behave, and norms are unofficial rules of behaviour that serve as guidance for acceptable behaviour. Additionally, while certain organisations may share similar principles or standards, there may still be variations in behaviour and activity based on the specific work environment in which they operate. Similarly, organisational culture is a pattern of shared attitudes and

expectations among the organisation's members (Schwartz and Davis, 1981; Barney, 1986). Thus, the behaviour of groups and individuals in an organisation is shaped by the norms produced by these expectations and beliefs. Alternatively, according to Greenberg and Baron (1995), an organisation is a structured social system comprised of individuals and groups coming together to achieve predetermined and agreed-on goals.

Ravasi and Schultz (2006) presented another perspective, defining organisational culture as the collective mental conditioning that sets members of one organisation apart from others. Furthermore, they explained that organisational culture should not only entail employees but also comprise individuals dealing with aspects including but not limited to the consumers, suppliers and authorities. Similarly, according to Hogan and Coote (2014), organisational culture could be a shared set of fundamental presumptions that a group develops as it works through issues with outward adaptation and internal integration and that has proven to be effective enough to be taught to new members as the proper way to view, think about and feel about those problems. Thus, the majority of definitions typically place a strong emphasis on shared beliefs and expectations as crucial components of organisational culture. These beliefs and expectations, which are sometimes difficult to articulate, give rise to norms that guide how groups and individuals behave within the organisation and can vary from one firm to another. Furthermore, from these definitions, organisational culture clearly refers to a set of unwritten regulatory principles that express the organisation's way of thinking, concepts and decision-making processes. Organisational culture is also one of the most crucial components of the inputs into a company's entire system.

Moreover, understanding organisational culture can be related to the following three dimensions: values, assumptions and artefacts (Schein, 1985). Assumptions are related to the fundamental rules, policies and procedures, and behaviour guiding an organisation. Meanwhile, artefacts comprise aspects such as the layout of the office, clothing choices, logos and mission statements (Cameron and Quinn, 2011). Furthermore, they are an organisation's symbolic and dramaturgical elements, such as its traditions (Hatch, 1993). Finally, values entail shared visions, considering the desirable behaviour modes and acceptable attitudes in an organisation (Joshi, Lazarova and Liao, 2009). Notably,

organisational values are vital in a workplace since they affect the employees' behaviour, attitudes and outcomes (Leiter et al., 2011). According to Hofstede et al. (1990), organisational cultures are shaped by the values of the founders and important leaders, but ordinary members are affected by these cultures through common practices. Thus, the members adopt the principles of the founders and leaders. Therefore, values in a firm are an essential aspect of the organisational culture, as they play a key role in shaping that culture, which becomes part of the organisation's member practice in the future.

2.4.2 Understanding Organisational Culture

Culture, according to Pettigrew (1979, p. 574), "is the system of such publicly and collectively recognised meanings working for a particular group at a given moment". Pettigrew's (1979) description was incorporated into the idea of organisational culture, according to Deshpande and Webster (1989). Schwartz and Davis (1981, p. 33) agreed and added that "culture is the sociological or behavioural glue that maintains an organisation together". It is possible to apply an organisational lens to Schwartz and Davis's (1981) and Smircich's (1983) definitions of culture. Organisational culture, according to Denison (1984, p. 5), is "the underlying principles, beliefs, and practices that define a company as a distinct entity". Meanwhile, corporate culture was defined by Davis (1984) as "the network of shared concepts and beliefs that forms the significance of an enterprise for its individuals and behaviour in their company supplies them with the guidelines for functioning" (Mullins, 2007, p. 7).

Gordon (1991, p. 397) defined corporate culture as "an organisation-specific framework of broadly held beliefs and attitudes that give birth to normal behavioural patterns". According to Schein (2010, p. 1), the term "corporate culture" is more common in the business world when referring to a firm's established way of doing things. A similar argument might be made that there is little difference between corporate culture and organisational culture. Culture in the workplace is "the structure of common values and ideas that help employees comprehend organisational productivity and so offer them standards for behaviour in the company", as stated by Deshpande and Webster (1989, p. 4). An additional pattern-based definition of organisational culture was provided by Schein (1985): "a pattern of basic premises, formed or evolved by a particular group as it

learns to deal with its difficulties of outward adaptation and intrinsic cohesion” (Mullins, 2007, p. 7).

According to Barney (1986, p. 657) and Sathe (1985), “[o]rganisational cultures represent the collective, shared meaning of existence in the organisation and how life in this setting is to proceed”, respectively, and “organisational cultures typically are defined as a complex set of values, beliefs, assumptions, and symbols that define the way a firm conducts its business”. In their seminal work, O’Reilly and Chatman (1996) described the organisational structure as “a set of common values (that define what is essential) and standards that define proper attitudes and behaviours for organisational members (how to feel and act)”.

From a historical viewpoint, it is possible to divide organisational culture into two distinct eras – the 1980s and the 1990s – based on the criteria given above. Schwartz and Davis (1981) are examples of researchers who took a pattern-based approach to the concept of organisational culture in the 1980s; in the 1990s and beyond, researchers such as O’Reilly and Chatman (1996) took a system-based approach to the definition. This divergence in opinion shows that it was not until the 1990s that the concept of organisational culture was formally recognised.

Despite the fact that there are several ways of conceiving organisational culture, it is stated that attitudes, objectives and preconceptions are essential aspects of the definitions. In the 1980s, several academics highlighted not only those three aspects but also others. After the 1990s, the three components became the primary focus of studies examining the concept. The idea of organisational culture may have entered its period of generalisation in the 1990s after having been examined and expanded from a variety of angles in the 1980s. This perspective is supported by the development of the notion of organisational culture. While topics on organisational culture had been discussed as early as the 1940s (Tharp, 2009), serious research on organisational culture did not begin until the 1980s.

Japanese firms showed strong worldwide competitiveness in rivalry with US corporations in the late 1970s and early 1980s, and this could not be explained by the then current viewpoints, such as cultural identity or hierarchy of authority of enterprise (Schein, 1988). This sparked a surge of curiosity on the topic, and since then, researchers in both the

classroom and the field have been probing the nature of corporate culture in ever more depth (O'Reilly, Chatman and Caldwell, 1991). From this vantage point, it may be said that the 1980s represented an era of theoretical advancement in which investigation on organisational culture was conducted in a variety of ways and that the concept had settled into a relative consensus by the 1990s. In the field of organisational culture, Schein (2010) is widely considered to be a leading expert. In particular, the scholar's three tiers of cultural analysis in organisations have been extensively interpreted and discussed. Artefacts, professed ideals, and fundamental assumptions and beliefs are what make up an organisation's culture, in the researcher's view.

Very extensively discussed in the field of organisational culture is the competing value framework developed by Cameron and Quinn (1999), who categorised organisational culture into four types – hierarchical culture, market culture, clan culture and adhocracy culture – which will be discussed in further detail in the next section.

2.4.3 Dimensions of Organisational Culture

One of the essential aspects driving every organisation is the ability to control and impact the workers' behaviour utilising formal control systems, including financial metrics and social controls, such as socially acceptable behaviour and norms (Hartnell et al., 2019; Chatman and O'Reilly, 2016). Similarly, compliance rates in an organisation can be enhanced by the norms or organisational culture present in the firm. For example, Boyd and Richerson (2005) explained that most of the people in an organisation will comply with what the rest of the group is doing, considering the fear of rejection and seclusion. Moreover, according to Crandall, Eshleman and O'Brien (2002), groups with defined acceptable behaviours and attitudes result in the member individuals feeling acceptance and positivity. This factor is essential since people may end up socially excluded if there are no such attitudes and behaviours acceptable to comply with within a group (Crandall, Eshleman and O'Brien, 2002). Furthermore, Chatman et al. (2014) outlined three conditions to foster the generation of compliance with norms, including that the expected behaviour should be clearly defined, that the group's members should strongly agree on the norms, and that the group should reward those who comply and reject the non-

complying individuals, considering the significance of adhering to established social norms.

In addition, strong alignment between a firm's strategic purpose and employee behaviour has been identified as one of the predictors of strong organisational culture (Gordon and DiTomaso, 1992; Jones, Jimmieson and Griffiths, 2005). Hackman and Wageman (2005) stated that a group's efficiency can be increased and that members can focus on overcoming non-routine challenges when there is great intensity and agreement on specific norms. Similarly, Chatman et al. (2014) pointed out that having a strong organisational culture ensures that a group's perception of commitment, distinctiveness and longevity is significantly higher.

However, according to Srensen (2002), the advantages of organisational culture can be observed in stable and unchanging contexts, but these advantages disappear quickly in more dynamic circumstances. In other words, their study found that while a strong organisational environment improves financial outcomes in stable market circumstances, the same culture has the opposite effect in turbulent market times. As stated by Sørensen (2002), stable business conditions can result in better financial outcomes for the organisation when there is a strong organisational culture, reliability and employee consensus. However, Sørensen (2002) highlighted that a strong organisational culture leads to worse performance under volatile conditions because of the organisation's stability and dependability, which limit its capacity to change. Furthermore, Amabile and Pratt (2016) discovered a connection between a strong organisational culture and behavioural and cognitive consistency among group members. This is because non-compliance is not allowed in a strong, cohesive group (Kaplan et al., 2009).

Tellis et al. (2009) conducted an extensive analysis of 759 organisations and found that an organisation has a better chance of developing radical innovation if its culture encourages taking risks and is oriented towards long-term objectives. Similarly, Bartlett and Ghoshal (1988) discovered that businesses consistently outperform their competitors and produced more inventions when their organisational culture is centred on creativity and innovation. According to Teece, Peteraf and Leih (2016), a firm must actively encourage creativity and flexibility as its norms to continue operating under more volatile

organisational circumstances. The authors researched 271 manufacturing facilities and found that employees are more productive in environments where flexibility is emphasised and encouraged. Still, the existence of control and adaptation ensures that those innovative ideas are put into practice.

Saebi, Lien and Foss (2017) noted that numerous studies have revealed that cultures that strongly emphasise flexibility, adaptability and risk-taking have a better chance of guaranteeing that the business innovates and adapts in response to shifting market conditions. According to Shimizu and Hitt (2004), the assumption that culture encourages a homogenous approach to simplify behaviour directly conflicts with this emphasis on organisational adaptability and flexibility. Furthermore, when an organisation's culture is adaptable, businesses may use its inherent strength and thrive in significantly volatile circumstances (Altman and Baruch, 1998).

Thus, the type and strength of organisational culture are essential in fostering organisational-level outcomes, irrespective of the market conditions. This section outlines that strong organisational cultures may not always be advantageous because the type of culture dictates how a business will respond in more turbulent market environments. Therefore, considering the intensity and focus of the organisational culture is important when determining the performance of employees. The primary premise is that employees will consistently come up with creative ideas if the firm has a culture of flexibility and adaptation, which will subsequently improve the performance of the business. However, if the organisation's culture values conformity and homogeneity, it will not be able to thrive in market settings that are always changing.

Therefore, organisational culture can be viewed as a holistic idea represented by a combination of aspects that make up culture, such as dominating leadership styles, management procedures and routines, discussions, definitions of success and collectively practised unconscious behaviours (Cameron and Quinn, 2011). Due to the complexity and integrative nature of organisational culture, the current study employed Quinn's (1988) competing values framework (CVF). According to Cameron and Quinn (1999), the CVF has two dimensions, as follows: a horizontal dimension continuum with contrasting values of internal focus versus external focus and a vertical dimension continuum with

contrasting values of flexibility versus control. While the “control” value emphasises order, predictability and stability, the “flexibility” value focuses on voluntariness, dynamism, decentralised decision-making and empowered authority. The “external focus” value emphasises interactions with the external environment, specifically adaptation and competitiveness, for adapting to external change, while the “internal focus” value emphasises integration, unity and cooperation within an organisation to maintain the existing organisation. As a result, the CVF approach makes it easier to categorise organisational culture into four different groups, as follows: a hierarchical culture which emphasises control with an internal focus; a market culture focusing on control with an external focus; a clan culture which emphasises flexibility with an internal focus; and an adhocracy culture which emphasises flexibility with an external focus.

Thus, clan culture, adhocracy culture, hierarchical culture and market culture are the four types of organisational culture (Wei, Samiee and Lee, 2013; Durst, Hinteregger and Zieba, 2019). Clan – or supportive – cultures feature leadership, cohesion, involvement and employee-focused teamwork (Büschgens, Bausch and Balkin, 2013). An entrepreneurial culture or adhocracy embodies traits such as innovation, creativity and adaptability (Cameron and Quinn, 2011). According to Alofan, Chen and Tan (2020), hierarchical culture comprises a set of norms and regulations to manage operations within an organisation. Market culture primarily focuses on competition and achieving company goals (Cameron and Quinn, 2011). Clan culture is predicated on the tenets and values of human affinity, cooperation, attachment, trust, loyalty and support (Akanji et al., 2019). For employees to be inspired and motivated to create an organisational culture of excellence in a clan culture, managers must act democratically (Miguel, 2015). Interpersonal relationships are active in a firm with an effective company culture. When members of the organisation trust in, are devoted to and portray ownership in it, they act responsibly and establish a sense of ownership (Pierce, Kostova and Dirks, 2001). Clan culture entails various aspects, including teamwork, participation, employee involvement and open communication. Business leaders with a clan culture promote collaboration and empower their employees (Chan, 1997). The primary purpose of clan culture is to enhance employee performance via dedication, a sense of ownership and accountability (Wei, Samiee and Lee, 2013). In this light, clan culture impacts organisational performance

positively, according to research findings on organisational culture (Chuang, Morgan and Robson, 2012). However, Givens (2012) countered this idea by highlighting that clan culture comprises employee relation concerns rather than enhancement of productivity and effectiveness within the company. In a compromise between the two points of view, Kotrba et al. (2012) supported the clan culture's indirect contribution to performance improvement while acknowledging its direct contribution to increased effectiveness and efficiency. In this case, business leaders in clan cultures promote employee engagement and loyalty to the company because dedicated workers can successfully complete tasks and fulfil their responsibilities (Chuang, Morgan and Robson, 2012).

Organisation members may need clarification on their job assignments in an adhocracy or entrepreneurial culture, including the significance and impact of the assignment on achieving organisational goals (Veisoh et al., 2014). Adhocracy values and presumptions include development, risk-taking, innovation, diversity, independence and adaptation (Hartnell et al., 2019). Business leaders in an adhocracy culture devote more funds to R&D and support employee participation in original and creative research projects (Ogbeibu, Senadjki and Gaskin, 2018). Innovation and creativity are crucial in an adhocracy culture to boost output and enhance services within the company. Adhocracy culture ultimately leads to innovation and transformation (Fiordelisi, 2014). According to research on organisational culture, an adhocracy culture and an innovative entrepreneurial culture are positively correlated (Naranjo-Valencia, Jiménez-Jiménez and Sanz-Valle, 2011). Other research findings have also demonstrated a good association between adhocracy culture and long-term financial effectiveness (Hartnell et al., 2019).

Business managers prioritise implementing efficient control mechanisms across the entire organisation in hierarchical cultures. Members of hierarchical organisations adhere to norms and regulations, and each activity is governed by predetermined rules and processes (Hartnell et al., 2019). Clear communication lines, stability, consistency and reinforcement are all characteristics of hierarchical cultures (Ogbeibu, Senadjki and Gaskin, 2018). The ultimate objectives of a hierarchical culture are effectiveness and efficiency. According to study results, financial success and a hierarchical culture are negatively correlated (Pfeffer and Veiga, 1999). Moreover, in accordance with other

research, there is a negative association between customer integration and a hierarchical culture (Cao et al., 2015).

Organisation members in a competitive culture have specific goals to raise their compensation through market success (Pfeffer and Veiga, 1999). Competition culture entails aspects including (a) information collected about customers and competitors, (b) appropriate goal setting, planning and decision-making and (c) task-focused leadership. Market aggression and success are also components of competition culture. Similarly, open communication, competition, competence and achievement are also included in the competition culture (Miguel, 2015). Business managers in a competitive environment prioritise external effectiveness through market management and ensure competitiveness through market success. Miguel (2015) pointed out that business managers need to understand their customers and the market's priorities to thrive in a competitive market. In addition, they must retain customer-driven leadership in a competitive culture since customer satisfaction is valued highly in this environment (Pfeffer and Veiga, 1999). Business managers' satisfaction with the company's owners is the other priority in a competitive culture.

Furthermore, high market share, revenue, profit, growth and productivity are the ultimate goals of a competitive culture (Hartnell et al., 2019). Thus, different types of organisational culture produce different results for a firm. Since the current research is focused on facilitating firm survival through the mechanism of organisational learning, the types of cultures and their influence on organisational learning will be evaluated.

2.4.4 Organisational Culture and Dynamic Capabilities

The manner in which employees interact with one another and with the company as a whole is shaped by the values, beliefs, conventions and behaviours that constitute the organisation's culture (Cameron and Quinn, 2011). This plays a key role in a company's interactions with its staff, clients and other stakeholders.

The study of dynamic capabilities has become more prominent in the area of strategic management in recent years. A company's dynamic capabilities lie in its capacity to generate novel business strategies and tools in response to evolving market circumstances (Teece et al., 1997). The field of dynamic capabilities research endeavours to comprehend

the fundamental building blocks and mechanisms that constitute the essence of any dynamic capability and facilitate the creation and implementation of said capabilities. An organisation's capacity to perceive shifts in the external setting and subsequently utilise deliberate exploring to generate novel and valuable understanding that may be employed to alter the present resource pool is a crucial aspect (Bingham et al., 2015; Eisenhardt and Martin, 2000).

The process of exercising dynamic capabilities involves the resolution of intricate resource reconfiguration issues. This necessitates a social and collective learning approach, as noted by Salvato and Vassolo (2018). The employees' cultural orientation, which is reflected in their openness and willingness to embrace novel concepts and change, serves as a motivating factor, as highlighted by Tajeddini et al. (2006). The capability of organisations to acquire knowledge and effectively utilise what they have learned varies, indicated Hsu (2007). This capability has the potential to be impacted by various aspects of organisational culture, such as standards of exchange, partnership and teamwork, as noted by Nahapiet and Ghoshal (1998). Furthermore, the process of acquiring knowledge in such environments necessitates the ability to navigate through diverse stimulation and interpret uncertain information. The level of uncertainty in a situation is positively correlated with the impact of culture. Culture acts as an interpersonal effect by fostering confidence, which in turn diminishes the perceived magnitude of risks in uncertain situations and promotes collaborative determination. Moreover, culture serves as a repository of organisational interpretations, which allows for shared reasoning as well as understanding among individuals. These findings have been supported by previous research conducted by Boisot (1995) and Mahler (1997). This consideration of organisational culture as a critical foundational element upon which dynamic capabilities are built and deployed has not been studied extensively (Ghosh and Srivastava, 2020). Thus, the current study considers organisational culture as a foundation for the development of learning behaviours that can then propel the firm towards greater chances of long-term survival. This research will also have theoretical implications towards the theory of dynamic capabilities as well as organisational culture.

2.5 Organisational Learning

2.5.1 Conceptualisation

Organisations adapt independently despite the deployment of systematic learning methodologies. Certain methods may be popular, but this does not mean they guarantee efficient internal operations. Improper learning procedures could lead to erroneous conclusions. Consequently, businesses rely on methodical strategies to develop their capacity for deliberate learning. Mechanisms such as these are studied in organisational learning (Bontis, Crossan and Hulland, 2002; Crossan, Lane and White, 1999). Such learning promotes introspection into the outcomes of actions taken by teams and individuals, enhanced comprehension of contemporary entities and improved planning (Argote and Miron-Spektor, 2011).

In essence, organisational learning is the source of an organisation's competitive edge (Bell, Whitwell and Lukas, 2002). Firms have difficulty implementing organisational learning (Edmondson, 2018; Baxter, Colledge and Turner, 2017) despite its significance for performance. This is because the notion is heavily theoretical and has a scant functional direction (Weerawardena, O'Cass and Julian, 2006). There is simultaneously a conceptual as well as an applied route throughout the field of organisational learning. The former academically envisions organisational learning potential (Tsang, 1997).

Nevertheless, a perfect learning organisation has still not been achieved, and this is likely due to the absence of comprehensive recommendations for putting into practice the competencies recommended by the research (Garvin, Edmondson and Gino, 2008). Organisational learning is a structured initiative, but "research does not yet enrich the practice of professionals by providing a greater pragmatic as well as holistic vision" (Vera and Crossan, 2004, p. 236). However, the latter discusses firms' use of strategies (e.g. intellectual capital and post-failure assessments) to facilitate organisational learning (Liu, 2017; Garud and Kumaraswamy, 2005). These methodical techniques provide useful advice on organisational learning deployment but are difficult to evaluate and compare.

The term "organisational learning" refers to how businesses continually adapt and improve by incorporating new information, norms and practices (Fernández-Mesa and Alegre, 2015; Chiva, Ghauri and Alegre, 2014). Its goal is to implement strategic changes

in organisational systems (Jerez-Gómez, Céspedes-Lorente and Valle-Cabrera, 2005). Businesses that operate in volatile contexts must prioritise organisational learning if they want to adjust to changing conditions relatively more rapidly than competing rivals (Baker, Mukherjee and Gattermann Perin, 2022). The essence of organisational learning as just an exercise in expanding one's horizons makes it a fertile ground for exploring new methods of understanding within an enterprise (Baker, Mukherjee and Gattermann Perin, 2022). The complexity and rapid evolution of modern corporate settings underscore the growing significance of such a skill (Hanelt et al., 2020). Learning within an institution may be seen as an administrative effort requiring oversight and preparation. Operational knowledge development, acquisition and incorporation within an institution are essential concerns. The ability to handle data to effectively boost productivity is essential for any firm looking to learn and evolve (Grover et al., 2018).

In addition, organisational learning is recognised as a powerful tool for enhancing the production and consumption of new information in businesses (Bontis, Crossan and Hulland, 2002). It can only be comprehended by recognising how individuals learn (De Toni and Pessot, 2020). Conversely, the complexity of the organisational setting far exceeds that of the learner's milieu. Organisational learning embraces communication among persons inside the organisation, engagement among firms as an institution, and communication between the institution and its environment (Blackler, 1993). While earlier studies treated organisational learning as a straightforward mechanism, recent publications have described it as a significantly richer and much more varied phenomenon (Levinthal and Rerup, 2006). Notwithstanding consensus indicating organisational learning involves intrinsic adaptability prompted by outward difficulties and hostile contextual forces, the idea of organisational learning appears to be generally poorly articulated or theoretically disordered (Levinthal and Rerup, 2020). It is possible that the lack of concrete directives is to blame for the distorted understanding of such learning (Garvin, Edmondson and Gino, 2008; Argote, 2011).

Therefore, it is certain that learning is seen as a constructive feature of an enterprise, as it contributes to the preservation of stability or control. To survive in today's harsh economic climate, companies must be nimble, adaptable and open to new ideas

(Christopher, 2000; Kotter, 2012; Argote, 2011). Learning, nevertheless, frequently inspires businesses to reaffirm once-effective procedures that are now obsolete because of alterations in the extrinsic economic context (Levinthal and March 1993). Thus, businesses must foster an environment where old information is routinely challenged and eliminated. Organisational unlearning refers to erasing old expertise to create room for novel information to be learned (Argote and Miron-Spektor, 2011). It may be characterised as the practice of questioning, recognising and eliminating current information, procedures, prevailing reasoning and preconceptions that obstruct the production and formation of novel learning (Morais-Storz, Stoud Platou and Berild Norheim, 2018; Bettis and Prahalad, 1995).

During economic downturns, businesses must “unlearn” the mistake of relying on previously acquired expertise (Fiol and Lyles, 1985; Sosna, Trevinyo-Rodríguez and Velamuri, 2010). To allow for novel information, it is necessary to first remove the stumbling blocks established by outmoded expertise (Tsang and Zahra, 2008; Pentland et al., 2012). For example, Tsang (2008) performed a case study of Sino–foreign strategic partnerships and discovered that executives of acquired strategic partnerships had greater trouble than those of new strategic partnerships in transmitting the expertise of procedures. This is because acquired joint ventures would have to undergo an extra stage of unlearning old procedures to adopt new standards (Tsang and Zahra, 2008; Howells and Scholderer, 2016). Becker and Bish (2019) added that we should give less weight to what individuals stopped undertaking and instead try to figure out what new ways of doing/thinking emerged to substitute the old methods. For this reason, unlearning seems most useful whenever it is linked to relearning (Becker and Bish, 2019).

It is important to note here that the present research distinguishes organisational learning as a process and a resource that firms can possess and that the learning organisation is an ideal entity that routinely processes new knowledge and discards old knowledge (Senge, 1990). Since the learning organisation is an ideal firm that has optimised the learning process, every company should strive to become one. However, this conceptualisation of the learning organisation by Senge (1990) has been criticised for being too idealistic and

utopian (e.g. Seddon and O'Donovan, 2010), and it has been said that the foundational elements of this concept are not sound (e.g. Caldwell, 2011).

A long-standing point of contention in the literature on the learning organisation is whether it ought to be considered fundamentally independent from organisational learning. Numerous scholars and academics have concluded that any business proficient at organisational learning should be a “learning organisation” and vice versa (e.g. Garvin, 1993; Goh and Richards, 1997). However, some authors choose to retain a difference by exclusion, avoiding the discussion altogether and instead relying exclusively upon one of the two theoretical constructs. Several academics, such as Easterby-Smith et al. (2004) and Shipton (2006), stress the importance of these differences and exert every effort to explain them. For Tsang (1997), who is said to have made the distinction between the concepts of a learning organisation and organisational learning, there is a very clear distinction between the two. Tsang (1997) noted that the central premise of organisational learning is to understand how an organisation learns. In contrast, the central premise of the learning organisation concept is the consideration of ideal pathways that an organisation must use to develop into a learning organisation. Thus, since the present study evaluates how an organisation learns and how this organisation can ensure its survival by implementing the right organisational culture, the descriptive understanding of organisational learning has been adopted in this study.

2.5.2 Understanding Organisational Learning

According to Yavas and Celik (2020), organisational learning is how a company modifies its collection of knowledge based on collective experience. In 1978, various scholars, including Argyris and Schon, established the foundation for organisational learning (Chuah and Law, 2019). “The identification and remediation of error through a process of reflection and feedback” is the essence of organisational learning, as interpreted by these researchers (Chuah and Law, 2019). Organisational learning was defined similarly by Xie (2019) as the capability of an organisation to conduct itself in a professional manner. It is also possible to judge a person’s level of knowledge based on how well they comprehend the attributes of the products offered by a particular business. Obtaining new insights and integrating those insights into established procedures to make those practices

more efficient is an essential part of organisational learning (Antunes and Pinheiro, 2019). The process by which an organisation becomes aware of the connections it has established between the actions it has taken in the past, the results those actions have generated and the potential actions it will take in the future is what scholars refer to as organisational learning (Hendri, 2019).

Lin and Huang (2020) also supported expanding the definition of organisational learning, agreeing that it is a method that assists businesses in amassing and implementing new information to improve their operations. Given the fact that a firm can expand its knowledge without changing the way it operates, some academics define organisational learning as the process of expanding the range of behaviours that are considered acceptable (Leithwood and Louis, 2021). When one of a company's components acquires knowledge that it believes may be useful to the business, Khan and Khan (2019) viewed this as evidence that the organisation has learned something. Martínez-Costa, Jiménez-Jiménez and Dine Rabeah (2018) defined organisational learning as how individuals and organisations develop new conceptual frameworks and worldviews.

The cognitive and behavioural perspectives are the primary reference points for investigating organisational learning (Odor, 2018). According to Leithwood and Louis (2021), cognitive theorists explain organisational learning as encouraging curiosity and evidence-based interpretation. Halim, Ahmad and Ramayah (2019) asserted that individual cognitive processes are given much credit in the cognitive view of organisational learning. According to this perspective, learning occurs when new information is acquired, stored and retrieved (Secchi and Cowley, 2020). Overall, based on the understanding of the cognitive perspective, organisational learning is the process by which individuals acquire and employ new knowledge and skills. This can occur through cognitive processes such as paying attention, perceiving, remembering and problem-solving (Secchi and Cowley, 2020).

Furthermore, regarding organisational learning, the behavioural perspective emphasises the importance of rewards and punishments. According to this viewpoint, learning occurs when an individual is exposed to a limited set of environmental stimuli and then provided feedback on how they respond to them (Basten and Haamann, 2018). Behavioural

theorists argue that people learn new habits by associating their actions with positive results. From a behavioural standpoint, organisational learning involves teaching new behaviours while rewarding old ones (Lin and Huang, 2020). Several types of behaviour, such as observation, imitation and feedback, can help with this.

Multiple ideas have been put forth to try and make sense of organisational learning. The “single-loop” and “double-loop” learning model proposed by Argyris and Schön is an early theory from 1978 (Egloffstein and Helbig, 2021). The term single-loop learning describes the method of learning whereby mistakes are identified and corrected without examining the organisation’s core beliefs and values (Watad, 2019). By analysing past performance and making minor adjustments to established practices, policies and procedures, single-loop learning allows firms to quickly identify and address problem areas (Brix, 2019). In this method, feedback cycles are used to keep track of the company’s progress, assess whether current practices produce the desired results and make adjustments as needed. Single-loop learning seeks to optimise current procedures in order to increase their efficacy and productivity (Brix, 2019).

Meanwhile, in double-loop learning, employees are encouraged to challenge the company’s core beliefs and assumptions (Azadegan et al., 2019). Double-loop learning occurs when a company examines its mental models and assumptions, determines how effectively they lead to the intended results and makes any necessary adjustments (Ahmad et al., 2019). Double-loop learning fosters original thought, inventive problem-solving and adaptability in changing circumstances rather than merely enhancing existing methods (Azadegan et al., 2019). This learning model is most successful when the learner is self-reflective, open to feedback and willing to challenge their assumptions. It also requires an attitude that prizes novelty, originality and moderate risk-taking (Watad, 2019). While organisations using a double-loop learning model may face more ambiguity and uncertainty, they may also be better able to adjust to and respond to complex, ever-changing environments.

One of the newest models for organisational learning is “organisational knowledge creation”, developed by Nonaka and Takeuchi in 1995 (Tan and Tan, 2020). This paradigm suggests that tacit knowledge (i.e. the knowledge that is not easy to put into

words) is transformed into explicit knowledge as part of the learning process within an organisation (i.e. the knowledge that can be transcribed, coded and shared) (Tan and Tan, 2020). Knowledge acquisition, knowledge transfer, knowledge application and novel accomplishments are all learning components. Therefore, theory reasoning alone is insufficient for learning, and it can only be accomplished through direct bodily participation in processing and integrating knowledge (Lateef and Omotayo, 2019).

However, according to North and Kumta (2016), the capacity for learning within an organisation is not only determined by the amount of knowledge that individuals and firms already possess but also by the mechanisms and processes already in place to integrate that knowledge. For learning to flourish, there must be a supportive business environment that allows for time for reflection on actions taken in the past and the results they produced. Individuals within the system must be prepared to confront unsettling truths about their thinking and behaviour to foster an environment conducive to learning (Hanaysha, 2016). It is also critical to support individuals and groups to think creatively and take calculated risks in search of novel solutions, and setbacks should not be viewed as failures but as natural steps into the realm of possibility to find new solutions to old issues (Abdi et al., 2018).

Organisational learning is a complex concept that is garnering an increasing amount of academic attention (Salas-Vallina, Alegre and Fernandez, 2017). Based on the insights obtained from the available literature, organisational learning can be defined as the process by which a firm improves its performance and adapts to new environments by applying lessons learned in the past. It is also the process by which an organisation enhances its practices, strategies and systems by combining the individual learning and collective application of its employees (Salas-Vallina, Alegre and Fernandez, 2017). Training and development programmes, knowledge sharing and cooperation, experimentation and innovation, feedback and evaluation, and continuous improvement processes are examples of how an organisation can learn and grow (Lara and Salas-Vallina, 2017).

The findings of the studies also revealed that organisational learning aims to enhance a company's capacity to evolve and adapt so that it can better serve its constituents and

achieve its long-term objectives. Furthermore, the research also reflected how organisational learning improves a company's problem-solving abilities, creativity, nimbleness, decision-making, employee performance and competitiveness by allowing it to learn from past mistakes and apply that information to future actions. The quality of an organisation's learning processes and mechanisms, the commitment of its leadership and employees to continuous learning and development and the nature of its business and industry are significant determinants of the impact of organisational learning on performance.

The literature has also demonstrated that firms can only realise the full benefits of organisational learning if they devote the time and effort required to cultivate learning cultures, allocate sufficient funds and other resources to learning initiatives, and regularly evaluate and fine-tune learning procedures to ensure their continued efficacy. It is possible to gain insight into the processes and outcomes associated with organisational learning using the conceptual structure and theories of organisational learning. Organisational learning has been shown to increase both success and competitiveness in the real world.

2.5.3 Dimensions of Organisational Learning

Crossan et al. (1999) broke down the organisational learning process into four distinct phases, with two occurring at the individual level and the other two at the organisational level: intuiting, interpreting, integrating and institutionalising. This taxonomy of organisational learning takes a multifaceted approach to combine learning theories at the interpersonal, social and corporate levels. Individuals engage in intuitive processing and interpretation, groups engage in interpretive processing and integration, and institutions engage in organisational processing and institutionalisation. Individuals' goals, plans and behaviours may be influenced by their capacity for intuitive thinking, which is the unintentional awareness of trends and opportunities underlying individual perspectives. Interpretation is communicating one's observations and ideas to others to explain and provide significance for their experience. When people in a networked system work together to integrate, they build common mental representations. In order for anything to be institutionalised, it must be maintained and modified via the application of intuitive, interpretive and integrative mechanisms to the established routines and standards

(Crossan et al., 1999). This conceptualisation of organisational learning is used in the present study. The figure below outlines the dimensions of organisational learning developed by Crossan et al. (1999).

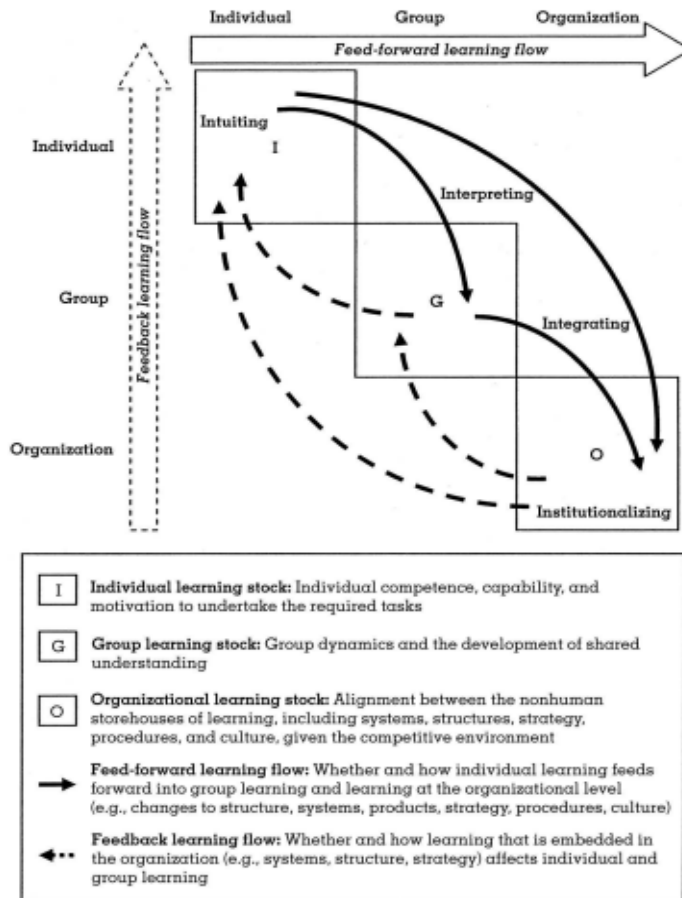


Figure 1: Organisational learning framework.

(Source: Crossan et al., 1999)

2.5.4 Organisational Learning as a Dynamic Capability

Organisational learning and dynamic capabilities share some parallels, but when it comes to capacity growth, they are quite different. Given the fundamental essence of learning, organisational learning is a valuable component for establishing capabilities. Furthermore, it can be more innovative, unexpected and subversive than dynamic capabilities, which are associated with organised, consistent and scheduled behaviours that aid in the development of routines (Zollo and Winter, 2002). Nonetheless, whenever a firm's learning processes are more methodical, organisational learning can conceivably

then become “second-order” dynamic capabilities (Collis, 1994). In order to generate creative solutions and shape the maturation of a firm’s abilities, learning is essential (Shahzad et al., 2020). By accumulating encounters and creating new knowledge throughout the general business, learning improves a company’s dynamic capabilities (Chien and Tsai, 2012; Jiao et al., 2010). The assimilation capability serves as the cornerstone of the functionality method, assisting businesses in integrating and gathering the combined or collaborative information of their employees (Darawong, 2018; Iansiti and Clark, 1994). Additionally, because dynamic capabilities are sophisticated, they arise from the path dependency on the company’s available funds, and their development is contingent on the firm’s involvement in knowledge construction (Hamid Hawass, 2010). As new information must build upon existing knowledge, this route interdependence is a learning process (Chien and Tsai, 2012; Eisenhardt and Martin, 2000). Consequently, it has been suggested that a firm’s learning capacity must be dynamic and will help in dealing with the intricacy of information production and dissemination within companies (Ingelgrd et al., 2002).

There is strong proof that organisational learning aids in the refinement and integration of dynamic capabilities, and several investigations have demonstrated the importance of learning in building these abilities (Curado et al., 2018; Farzaneh et al., 2020). Easterby-Smith and Prieto (2008) claimed that dynamic capabilities assume a generally consistent, anticipated and explanatory structure and are highly dependent on an up-to-date understanding of the alteration of resources, competences and norms. As suggested by Hung et al. (2010), knowledge management and organisational learning culture could indeed produce institutional areas of expertise and dynamic capabilities. According to Wang et al. (2015), learning improves a company’s awareness of and responsiveness to chances, as well as its flexibility in responding to shifts in the market. Subba-Narasimha (2001) stated that learning, management of human resources and business planning all contribute to the growth of dynamic capabilities. As a result, organisational learning is capable of evolving to meet changing needs and industry demands (Liao et al., 2008).

By acquiring and making use of new information and experiences, organisations can boost their efficiency and effectiveness in order to succeed. Individual and group learning are

both part of this process, which happens at all organisational levels. Meanwhile, a company's dynamic capability is its agility in the face of environmental shifts. It entails a system of procedures and practices that allow the firm to detect shifts in its surroundings, grasp chances and reorganise its resources and capabilities to take on fresh challenges. Adapting to and making the most of shifts in the external world are made possible through organisational learning, and it may be thought of as a capability in its own right. A company's capability to assess patterns in its setting, grasp chances and reorganise its capabilities and assets can be enhanced by drawing lessons from its history and trying out new concepts. Organisational learning, then, is interlinked with the concept of dynamic capabilities. A company's ability to adjust to new circumstances will be greatly hampered without its employees' willingness to change and acquire knowledge. Consequently, businesses that value learning and provide opportunities for individual growth are more likely to build flexible capabilities and sustain competitiveness over time. Thus, organisational learning is considered a dynamic capability that a firm can develop.

2.5.5 How Learning Facilitates Firm Survival

Organisational learning is a core strategic capability that is functional in explaining the successes of a firm due to the capacity of adaptability generated (Alegre and Chiva, 2008; Barkema and Schijven, 2008). Comprehensive quantitative analysis illustrates that whenever organisations fail relative to rivals or anticipated outcomes, they are much more inclined to alter their approach. Nevertheless, the likelihood of seeing modifications to the company system is contingent on the combined effects that both poor and strong results can have, as the willingness of top management to adapt could also be linked to slack resources. Organisational learning has been studied recently for its effects on numerous dimensions of corporate success, including productivity, effectiveness, competitiveness and growth; customer satisfaction; employee retention; and shareholder value (Santos-Vijande, López-Sánchez and Trespalacios, 2012; Dunphy, Turner and Crawford, 1997). Several academics have been looking at the function of organisational learning well within the emergency preparedness paradigm since the global financial situation. They are trying to determine whether businesses that have been through crises before performed better during the most recent economic downturn. Madsen and Desai (2010) investigated the impact that open disclosure of information regarding repeated

failures has on the organisational learning of firms in light of the occurrence of subsequent failures. Furthermore, Cucculelli and Peruzzi (2018) examined whether businesses have learnt because of emergency preparedness and how modern information channels, including SME communities and networking sites, have contributed significantly to structuring the learning experience. Organisational learning and intrinsic company characteristics, including the CEO's background, employment and attrition, were examined by Mateut (2017) in light of the recession's impact on these businesses.

Taken as a whole, the results of such scholarly investigation suggest that managerial behaviours and choices are influenced by the presence of past unpleasant memories and circumstances. As a result of this learning experience, enterprises that experience market volatility will hopefully be much more prone to using responsive methods in future conflict scenarios. Businesses' culture and strategic position may play a role in their abilities to learn from past crises. Similarly, companies in mature industries that base their strength on a network of cross-functional linkages ought to be particularly prone to changing their actions to the fluctuating economic situations. This is likely because firms in these regions tend to mimic and follow the actions of others around them, in addition to the high quality of communication within the region. Tacit expertise and beliefs are developed over prolonged periods in mature industries and then disseminated to the greater community to promote low-cost collaboration, profitability and competitive regulation. While enterprises in industrial sectors can decrease their rejuvenation capability throughout economic slowdowns (Giuliani, 2013; Robertson, Casali and Jacobson, 2012), they could be better positioned to withstand and learn from situations if they are capable of modelling themselves after enterprises that are more successful through the downturn.

While the above insights outline the role of learning in strengthening a company's position during times of crisis, several studies have outlined an association between organisational learning and firm survival. For instance, Carmeli and Schaubroeck (2008) noted that when organisations engage in learning behaviour, they are more likely to develop present and future survivability preparedness. Their study aimed to identify the role of organisational learning in ensuring that a firm develops long-term survival in the face of international

crises. The research methods adopted by Carmeli and Schaubroeck (2008) were quantitative, with a 106-survey rate; the primary dependent variable was crisis preparedness, and the primary independent variable was learning behaviour from failures. The control variables included firm size, age, performance, and industrial and technological risk. The findings of the research outlined that when organisations engage in learning behaviour, they are more likely to develop present and future survivability preparedness. The primary limitations of this research were that the sample size was small and that there was no consideration of what factors drive organisational learning, nor any model provided on how learning could be facilitated in an organisation.

Extending this perspective of the link between organisational learning and firm survival, Jones and Macpherson (2006) found that the opening up borders to external knowledge acquisition, exploring the knowledge environment, integrating and institutionalising knowledge, and maintaining a culture that promotes the development of inter-organisational linkages were significant for firms. The researchers evaluated how firms can access external forms of knowledge and direct organisational learning to undergo strategic renewal. The research method was a case study that looked at three cases. The work focused on the context of firm strategic renewal and organisational learning measured using normative, mimetic and coercive learning. According to Jones and Macpherson (2006), successful companies have a culture that encourages the growth of inter-organisational links and that is open to acquiring expertise from outside the firm. Their research did not empirically test these variables and only derived these insights through the case studies.

While organisational learning is meant to deliver positive results, such generalisations relating to organisational learning were outlined to be inaccurate by Crossan and Berdrow (2003). They identified that organisational learning is not inherently positive and that its effect can depend on its unique context. Their study aimed to develop a framework that integrates the process of strategic renewal with organisational learning. The research was conducted using a qualitative approach and a single case study method while focusing on a government firm. Crossan and Berdrow (2003) focused on strategic renewal, the 4I framework and the process of organisational learning. Organisational learning was shown

to be contingent on its specific environment. Therefore, it is not always a good thing, as was previously assumed by the researchers. The authors concluded that using the 4I framework could enable firms to manage the interconnectedness of strategy and organisational learning and understand whether learning can generate positive outcomes based on the organisational context. The research only focused on a single case study firm.

Furthermore, Rezazade Mehrizi and Lashkarbolouki (2016) outlined that for firms to derive any value from organisational learning, they need to undergo four stages for unlearning old and problematic routines, as follows: realising, revitalising, parallelising and marginalising. They also discussed the traps firms can enter while enacting these steps. However, their research only focused on a single case study and did not consider the clear case of organisational culture.

Moreover, Gong, Zhang and Xia (2017) noted that while a previous experience of failure or success that a firm has can drive up the prices of acquisition, it only results in non-linear learning from the feedback. Their study aimed to evaluate the effect of various failures and successes and how they inform organisational learning behaviour for long-term growth. The research used secondary quantitative data on 462 firms, evaluating 848 acquisitions undertaken. It focused on S&P 500 indexed firms and emphasised the failure and success rate along with acquisition premiums. The researchers noted that while a previous experience of failure or success can drive up the prices of the acquisition, it only results in non-linear learning from the feedback. The study found mixed results of learning from experience and its likely effects. Since the research only focused on stock market performance, it could not provide evidence for why and how a firm's past experiences generate scattered learning.

This variance in outcome was noted in the study carried out by Battisti et al. (2019), who stated that organisational learning impacts firm survival and resilience via non-linear processes, with various learning mechanisms having diverse effects on the firm. Battisti et al. (2019) aimed to identify the link between organisational learning and the resilience of firms during a financial crisis. They conducted a longitudinal analysis of 245 firms during the global financial crisis. The study variables included survival, performance and stability as impacted by organisational learning. Battisti et al. (2019) were able to identify

that there is an influence of organisational learning on firm survival and resilience through non-linear processes, with different learning mechanisms having varied effects on the company. For instance, practice-based learning and proximal learning were associated with survival but not sustained performance or stability. However, the research was not a true longitudinal study, only analysing time series data from existing datasets.

While the above discussion outlines empirical evidence that attempts to link organisational learning and firm outcomes, establishing such a causal link between them is challenging. In other words, as Yeo (2003, p. 71) noted,

[i]t must be realised that the effects occur over many steps and interventions to create the learning organisation may be complex. To make claims that certain elements result in improved organisational performance requires taking into account several layers of causal relationships.

Moreover, as indicated above, the study by Battisti et al. (2019) outlined that there is a variance of outcome based on several conditions and that organisational learning does not always generate positive effects towards firm survival. This makes it necessary to carry out an exploratory study that focuses on the mechanisms and processes that underlie organisational learning to develop an understanding of precisely how it can potentially strengthen firm survival. Furthermore, the present study is not focused on identifying the effect of organisational learning on firm survival but rather on attempting to understand the underlying mechanisms that lead firms with a higher degree of organisational learning and unlearning towards better chances for survival. One of the primary gaps in past research was that there was no consideration or exploration of the mechanism with which firms can enhance organisational learning to strengthen their chances of survival.

2.6 The Integrated Role of Organisational Culture and Learning

Numerous studies have emphasised the significance of culture in the process of organisational learning, as evidenced by the works of Annosi et al. (2020) and Garud, Dunbar and Bartel (2011). According to Annosi et al. (2020), the dominant culture, collective vision and values within a team play a significant role in enhancing organisational learning. This facilitates the team's ability to interpret their experiences

and convert knowledge into organisational memory. Garud, Dunbar and Bartel (2011) observed that the advancement of narratives due to atypical experiences stimulates learning behaviours within companies. Nevertheless, additional investigation is required to explicitly examine the impact of organisational culture on the process of learning.

According to Crossan and Berdrow's (2003) proposition, the effects of organisational learning may not always be advantageous. However, Annosi et al. (2020) argued that organisational learning can be improved by ensuring that it is in line with the team's culture, mission and principles. Jones and Macpherson (2006) emphasised the importance of external knowledge acquisition, knowledge environment exploration, knowledge integration and institutionalisation, and the cultivation of a culture that promotes inter-organisational connections for the purpose of organisational survival.

The scrutiny and control of employee conduct and productivity by upper management are crucial in the process of organisational knowledge acquisition (Akella, 2007). The extent to which the amalgamation of organisational learning and culture occurs can be contingent upon the particular circumstances. The concept of organisational learning as a means of regulating employee conduct and the constraining agency is a topic of contention in nations such as the UK, where labour interests frequently clash with those of the workplace, as noted by Fanariotis (1999). Advocates of organisational learning contend that the implementation of democratic structures does not erode the human element of employees' outlook or result in mistreatment. However, collaborative learning and cooperation can be hindered by individual concerns, power dynamics and restricted access to information, as posited by Othman and Hashim (2004) and Mullins (1999).

The culture of a firm is a crucial factor in facilitating organisational learning and promoting the sustainability of the enterprise. According to Lawrence (2018), the likelihood of successful organisational learning initiatives is higher in a culture that places emphasis on the values of exploration, experimentation and innovation. Nonetheless, it is important to note that not all cultural typologies are conducive to yielding favourable results when assimilated with the process of organisational learning, aimed at ensuring the survival of the firm. Rieger and Klarmann (2022) discovered that a significant degree of collaboration is imperative to foster knowledge sharing within a clan culture, whereas

an adhocracy culture promotes seeking external sources for solutions, which is crucial for acquiring knowledge (Limaj and Bernroider, 2019).

According to Lawrence (2018), the process of unlearning and relinquishing outdated practices can be facilitated by a culture that promotes openness and a dedication to change. According to the research conducted by Lyu et al. (2020), organisations that exhibit adaptability by unlearning their routines can experience a noteworthy enhancement in their intellectual capital. This improvement is observed to be influenced by the entrepreneurial attitude of the organisation. Annosi et al. (2020) have underscored the significance of the dominant culture, collective vision and values among team members in enhancing organisational learning and the assimilation of knowledge into organisational memory.

Previous research studies (Lyons et al., 2018; Lyu et al., 2020) have indirectly implied the importance of organisational culture in facilitating both learning and unlearning processes, which are crucial to ensuring the survival of an organisation. According to Cook and Yanow (1993) and Brown and Duguid (2001), an individual's adaptability, decision-making, communication and knowledge transfer within an organisation are influenced by culture. The effective dissemination and institutionalisation of new information are influenced by the organisational culture, which determines the conditions under which such information is produced and applied across different levels.

To conclude, the significance of organisational culture cannot be overstated in relation to organisational learning and the longevity of enterprises. The aforementioned factors are impacted by it, including but not limited to the contextualisation of experiences, the codification of knowledge, narrative development, decision-making, adaptability, communication and knowledge transfer. The extent to which culture and learning are integrated can be contingent upon contextual factors, and certain cultural forms may not necessarily yield favourable results. The cultivation of an organisational culture that places emphasis on traits such as openness, experimentation, creativity, cooperation, adaptability and an entrepreneurial mindset has the potential to augment learning behaviours and promote resilience within the energy industry of the UAE.

2.6.1 Clan Culture, Organisational Learning and Firm Survival

Clan culture focuses on deeper personal ties, involvement and collaboration, with mutual support, affiliation and collaboration as its foundational ideals (Hartnell, Ou and Kinicki, 2011). Such success factors are critical to building a dedicated workforce and maintaining companywide support (Cameron and Quinn, 2011). As postulated by Huber (1991) and Day (1994), a collaborative culture influences continuous organisational learning mechanisms, including information collection and exchange. Furthermore, Kostova (1999) claimed that trust-based teamwork among organisation members proactively affects information exchange and learning mechanisms. Lopez et al. (2004) noted that a participative approach supports the exchange of perspectives and consolidation of expertise by fostering discussion and discourse at many levels of the organisational hierarchy.

Sanz-Valle et al. (2011) found no impact of clan culture on organisational learning in a Spanish corporate environment, despite testing the association among four different categories of organisational culture provided by Quinn's research and organisational learning suggested by Huber (1991). Since organisational learning sometimes requires an exterior focus, they concluded that their findings were attributable to the inward-looking aspects of clan culture. Crossan et al. (1999) emphasised the importance of establishing an equilibrium between feed-forward learning, which uncovers novel information from intrinsic and extrinsic contexts, and feedback learning starting to learn, which utilises previously acquired expertise. Clan culture emphasises the importance of "doing things together", which fosters a people-focused environment, places a premium on team cohesion, autonomy and strategic competency planning, and extensively encourages the 4I blueprint of organisational learning with learning flux that emphasises both experimentation and commodification.

Clan culture, however, can have detrimental impacts on both corporate learning and business longevity. Some group cultures, for instance, frown upon or even punish those who express an alternative viewpoint (Büschgens et al., 2013). Employees may be less likely to query authority figures and conventional wisdom in clan cultures, where group unity and uniformity are valued above all else (Cameron et al., 2022). This can inhibit

creativity and make it harder for the business to respond to shifting market circumstances. Lack of responsibility and prioritising the requirements of the group over the needs of the company can also result from a clan culture. There is a risk that in a group culture, workers will put more emphasis on maintaining personal ties than on working together to achieve corporate objectives (Cameron et al., 2022). If this occurs, the company risks losing its control and its ability to concentrate on its most important goals.

Therefore, it is crucial for businesses to find a compromise between promoting a feeling of belonging while also welcoming different perspectives and being open to change. Effective management and leadership are needed to foster an atmosphere of creativity and flexibility while keeping workers connected to the company's mission and values (Sharifirad and Ataei, 2014). Clan culture can have both beneficial and detrimental impacts on organisational learning, as noted by Sanz-Valle et al. (2011), Büschgens et al. (2013) and Cameron et al. (2022); organisational learning might create sub-optimal learning conditions since it requires an outward-looking focus and clan culture is inward-looking. Furthermore, the researchers also noted that clan culture could also prevent individual creativity in favour of group unity or cohesion, which could then impede learning. However, clan cultures are also known to promote the exchange of information and collaboration, which are conditions that can ensure learning (Hartnell, Ou and Kinicki, 2011). Thus, there is a need to identify how organisations can adopt clan culture integrated with organisational learning in a manner that facilitates the firm in strengthening its survival.

2.6.2 Adhocracy Culture, Organisational Learning and Firm Survival

An adhocracy culture is predicated on adaptability, transparency and originality; it encourages the development of original thinkers and the pursuit of business opportunities (Hartnell et al., 2019). Companies with an adhocracy culture tend to be flexible and accepting of mistakes, particularly in sectors requiring quick responses (Chang, 2010). Based on their research, Sanz-Valle et al. (2011) concluded that a primarily adhocracy culture, with its focus on encouraging members to acquire knowledge and insights from outside sources, positively impacts organisational learning. It has been emphasised that significantly greater thresholds of entrepreneurial expertise, risk-taking perceptions and

the reassurance of entrepreneurship have an optimistic impact on knowledge production. Some evidence-based analyses on the influence of adhocracy culture on learning have demonstrated that where there is added the ability to modify an organisation, organisational learning practices would be higher (Ogbeibu, Senadjki and Gaskin, 2018).

Organisational approaches to analysing achievements and shortcomings and inspiring individuals to engage in developing innovative solutions using the ERP system were proven to substantially and significantly affect both expertise generation and preservation operations by Palanisamy (2008), who looked into the consequences of creative organisational culture on organisations deploying ERP systems. According to Nonaka, Toyama and Konno (2000), an open framework fosters a culture of creativity and innovation by removing barriers to externalisation, which refers to transforming the core competencies held by individuals into the more easily communicated and understood intellectual capital of a collective. In order to improve organisational learning activities, Crossan et al. (1999) concluded that a company must be adaptable and welcoming to outside ideas and input rather than adopt an insular, inward emphasis. Thus, considering an outward-facing culture such as the adhocracy culture, the research can develop a solid understanding of facilitating organisational learning and firm survival. There is only a general and broad conceptual link between clan culture, adhocracy culture and organisational learning.

Nevertheless, an adhocracy culture can also have detrimental impacts on learning and can affect the long-term sustainability of a firm (Behram and Özdemirci, 2014). One of the difficulties of this culture is that it can contribute to a dearth of order and authority. Adhocracy cultures, which value novelty and experimenting over strict routine and continuity, may lack the self-control necessary to accomplish their objectives (Rai, 2012). This could manifest in a lack of responsibility and a failure to produce outcomes. Another possible issue of an adhocracy culture is that it can contribute to a loss of uniformity and clarity. Such cultures tend to be less focused on long-term goals and more concerned with immediate gratification (Noone et al., 2022). Employees may become disoriented and out of step with the company's strategic direction as a result.

Therefore, it is essential for companies to carefully control their adhocracy culture and ensure that it is matched with their strategic aims and objectives. This calls for strong leadership and management that can foster a culture of creativity and calculated risk-taking without losing sight of the bigger picture. Companies also need to combine the need for freedom and experimentation with the requirement of order and oversight in order to guarantee that their adhocracy culture is not rendered disorderly or contradictory. As per the above discussion, an adhocracy culture can have diverse outcomes towards organisational learning in a firm. For instance, while it can foster originality, flexibility and resilience (e.g. Sanz-Valle et al., 2011; Ogbeibu, Senadjki and Gaskin, 2018; Palanisamy, 2008), it can also result in a failure of organisation, management and clarity (e.g. Behram and Özdemirci, 2014). Thus, it becomes necessary to explore the mechanisms under which adhocracy culture typology can generate positive outcomes for the development of organisational learning, which can lead to a firm strengthening its chances of survival.

2.6.3 Hierarchy Culture, Organisational Learning and Firm Survival

Companies with organised processes establish rules and policies, and the leadership focus is on dependable, quick, smooth-flowing output. According to academics, firms should prioritise autonomous procedures to promote learning (Benner and Tushman, 2003; Su et al., 2011). In addition, learning necessitates the acquisition of new data and understanding. Collaboration and teamwork improve the exchange of information among group participants (Zorlu, 2011). When one leader shares their expertise with another, both parties benefit from the expansion of their collective knowledge. By giving senior executives a better grasp of differences in existing technology, goods, procedures and marketplaces; this can have an impact on utilisation and exploratory learning (Brady and Davies, 2004; Floyd and Lane, 2000). Lee and Choi (2003) claimed that poorly structured guidelines and standards prefer to allow participants to talk and engage among themselves in order to generate expertise. Nevertheless, research indicates that the effect of institutionalisation on learning is not simple to anticipate due to the conflicting connections (Dawesa et al., 2007). Participatory decision-making, which can improve learning, has also been considered in the literature (Bapuji and Crossan, 2004). According to Leonard and Sensiper (1998), a hybrid of formal, non-hierarchical and adaptable

organising structures is the best foundation for a deliberate learning programme. However, by restricting employees' capacity to analytically analyse and put forth radical innovations, hierarchical cultures can impede originality and invention. In such environments, decision-making is most often concentrated at the apex, which can deter workers from thinking outside of the box or trying new methods. This can lead to lost chances and a lack of business adaptation.

Fundamental to the ideals of a hierarchical system are authority, effectiveness and security, with equal stress placed on devotion and dependability (Hartnell et al., 2019). Organisations with this form of culture place a premium on standards, structure and evaluation to boost productivity (Cameron and Quinn, 2011). Members of hierarchical organisations bear the responsibility for guaranteeing that official interactions take place, which reduces their openness to information sharing. This is because the focus of such firms is on the system's proper functioning and on rigid standards instead of the people who make up the structure (Schein, 1993). Moreover, a culture of hierarchy can slow or stifle the sharing of valuable information and cause individuals to be hesitant to acquire the new skills and understandings that are necessary for innovative circumstances (Spanos and Prastacos, 2004). The movement of information between various layers of a corporation can be hampered by the strict communication routes that are common in hierarchical cultures. As a consequence, workers may find it challenging to benefit from errors or adjust to shifting conditions due to a dearth of knowledge about the institution's assets, flaws, possibilities and dangers. Sanz-Valle et al. (2011) hypothesised that a desire for security and control within a hierarchical society would have a detrimental impact on organisational learning and then discovered that this was the case. From the viewpoint of the 4I paradigm, institutionalisation – which includes businesses utilising learning at multiple levels – necessitates regulating institutions and processes to direct the knowledge acquisition of individuals in the organisation. However, because decision-making authority is centralised at the top in bureaucratic societies, workers at subordinate organisational levels may feel less empowered. As a result, workers may feel helpless and unmotivated because they are given little to no say in matters. According to Lawrence et al. (2005), the dominance produced by a hierarchical culture aids learning activities to some degree by lowering the likelihood of opposition during merger or institutionalisation

procedures. Consistency, routinisation and centralisation, according to Nonaka et al. (2000), facilitate the transition from verbal to knowledge acquisition, which is necessary to guarantee that knowledge transfer is consistent with that of the organisation. In addition, hierarchical cultures might not be as flexible in the face of quick change, making them less suited to the rapidly changing and fiercely aggressive economic landscape of today. Institutions that are capable of learning and adapting rapidly are more likely to prosper in such settings. Organisational hierarchies that are sluggish to adapt to new circumstances often have inefficient and rigid decision-making structures. Furthermore, workers in hierarchical environments may be less likely to query or dispute the decisions of their superiors, which can slow the pace of transformation in the company (Oh and Han, 2020). As such, businesses may find it harder to adopt emerging solutions, marketing strategies or market dynamics, potentially putting them at a competitive deficit, particularly in comparison to their more adaptable rivals. Overall, it can be concluded that companies with organised processes and autonomous procedures prioritise learning and collaboration to acquire new data and understanding. However, hierarchical cultures hinder innovation, information sharing and adaptability, potentially putting them at a competitive disadvantage in a rapidly changing business environment (Oh and Han, 2020). Flexibility and the ability to learn quickly are crucial for organisations to thrive and stay competitive. Thus, in light of the discrepant findings in past research on how hierarchical culture affects organisational learning, it becomes necessary to explore the mechanisms that underlie the role played by this culture. It is critical to study the role that hierarchical culture could play in the process of a firm developing learning behaviours to strengthen its possibility for survival in the dynamic energy industry.

2.6.4 Market Culture, Organisational Learning and Firm Survival

Market culture is predicated on a logical worldview that places a premium on efficiency, rivalry and well-defined objectives. A fast reaction is emphasised in market culture to guarantee competing performance, and executives who are very passionate about inspiring their employees to accomplish their goals are favoured (Cameron and Quinn, 2011). According to Crossan et al. (1999), the primary function of organisational learning is to accomplish strategy regeneration, and firms are required to strike an

equilibrium between research and utilisation in order to achieve successful renewal. March (1991) added that a basic reason to keep an equitable strategy is to allow groups to endure rivalry for scarce resources. Resource competition, which is encouraged by market culture, inherently generates conflict between the transmission of understanding from people to institutions and groups and vice versa. Individuals who work in a market-oriented society have a preference for acquiring tasks that provide obvious and explicit knowledge; moreover, they closely watch the learning experience to improve the accuracy of the knowledge outcome (Rai, 2011).

As workers are incentivised to go above and beyond for customers, market cultures can foster a clear emphasis on wants and desires. This has the potential to increase client happiness and devotion, two factors that can contribute significantly to a company's long-term prosperity. Furthermore, market environments often foster a feeling of urgency as well as a readiness to take chances, which can enable invention and experimenting (Gallagher et al., 2008). Market cultures stress satisfying consumer requirements and expectations. This emphasis on client happiness can lead to increased customer trust and higher revenue, which can be major drivers of long-term success. In a market culture, workers are often extremely driven to rapidly accomplish measurable outcomes. This feeling of urgency can encourage action and creativity and help organisations adjust to shifts in the marketplace. Market environments often promote experimenting and risk-taking, which can nurture creativity and help organisations remain ahead of the competition (Jaworski and Kohli, 1996). The importance of quantifiable outcomes is highly valued in market societies. This emphasis on performance can help companies find places for growth and constantly aim for greatness.

However, market cultures may promote an emphasis on the here and now rather than the long-term benefits of preparing and learning (Slater and Narver, 2022). Opportunities for development and creativity may be lost as a consequence. In addition, workers in a market society may be fiercely competitive and intent on improving their own standing. Teamwork and knowledge exchange, which are crucial for organisational learning, can be hampered by this. Market cultures can both promote and discourage risk-taking because workers might be more concerned with averting loss than with undertaking

deliberate chances (Baker et al., 2022). As such, new ideas and experiments may be stifled. Market cultures can also intensify the strain to succeed at all costs, raising philosophical dilemmas and jeopardising the firm's core principles. There has been limited focus in past research on the role that market culture plays in facilitating organisational learning. Nevertheless, from the above discussion, it can be concluded that such a culture may provide an essential condition of external market evaluation and risk-taking (Baker et al., 2022) while also hampering long-term learning (Slater and Narver, 2022). Since this has implications for the long-term sustainability of a firm, there is a need to evaluate the mechanisms of how market culture can enable learning and push companies in a direction that safeguards their potential for future survival, particularly in the energy industry.

2.7 Conclusion

Overall, the focus of this research in the energy industry is crucial. The energy sector has a dynamic and rapidly changing environment. Due to the UAE's huge reliance on its oil reserves as well as its recent drive towards greener sources, the nation's energy industry is undergoing rapid changes. Amid these transformations is the challenge that firms face in terms of anticipating the changes that are emerging. If the companies in the UAE's energy industry fail to understand the market forces and thus fail to learn and unlearn, they might face firm failure. Since the UAE is undergoing a rapid change – wherein the country plans to meet at least 30% of its energy needs from renewable sources by 2030 – there is an urgent need for an exploration of how energy firms can implement strategic safeguards towards the strengthening of their survival. Based on the research identified and discussed in this chapter, it is understood that learning may help companies develop a more anticipatory outlook and enhance their chances of survival. However, research is not detailed on what are some of the mechanisms under which organisational learning (and unlearning) behaviours may direct a firm towards a more survival-oriented future, especially given the evidence that indicates that learning is not guaranteed to enhance survival probabilities. Furthermore, it has been identified that different culture typologies have varying effects on learning behaviours and other firm outcomes, which also makes this a critical topic to explore. Any one culture type can have varying outcomes and can

result in either positive or negative outcomes on the role that learning plays in a firm's survival. In addition to the rapid changes that are occurring in the UAE's energy industry, the context provides an interesting avenue to study the role that culture plays given the multicultural nature of the nation's workplaces. In addition, there is a substantial gap in the research in terms of examining how organisational culture and learning can be leveraged to enhance the chances of firm survival, both theoretically and in the context of the UAE's energy industry. Thus, the present study explores how firms in the country's energy industry can develop their organisational culture and learning behaviours to strengthen their chances of survival.

3 Research Methodology

3.1 Introduction

The aim of this study is to explore how firms in the energy industry of the UAE could develop their organisational culture and learning behaviours to strengthen their chances of survival. In order to meet this goal, the research has adopted a multi-firm case study approach. This chapter explores the methodology employed in the thesis, encompassing various subjects, such as ontological and epistemological aspects and ethical considerations. Following that, it proceeds to examine social constructionism as a research paradigm. This section delineates the fundamental characteristics of social constructionism and elucidates its influence on the research methodology.

Then, the chapter delves into the subject of study design, encompassing the comprehensive framework of the research endeavour, the curation of research methodologies and the determination of research inquiries. It also covers the concept of research strategy, which pertains to the process of determining the approach to be employed in conducting research, including the selection of research methods and data sources. Next, the chapter discusses the research method, which lays out the best approach for this study. It additionally delves into the topic of the research setting and case selection, encompassing the process of identifying the research context and selecting the cases to be examined. It discusses the criteria utilised for case selection and the methods employed to guarantee the representativeness of the sample. Subsequently, the chapter delves into the topic of data collection, wherein the utilisation of semi-structured interviews is discussed as a viable approach for gathering data. It offers guidance on the proper techniques for conducting interviews and analysing the data derived from them. The chapter additionally covers the topic of data analysis, which comprises within-case and cross-case analysis. It offers instructions on the process of analysing data and the derivation of conclusions from the acquired data. The chapter concludes with a discussion of ethical concerns, including the measures taken to guarantee the study's integrity and shield the participants' rights and well-being.

3.2 Ontological and Epistemological Considerations

The discourse encompasses three fundamental concepts, the first of which is ontology, which pertains to the essence of organisational occurrences. The second field of inquiry is epistemology, which concerns itself with the basic tenets of information pertaining to occurrences. The third domain of inquiry pertains to procedure, which covers with the various approaches and techniques employed in the research of occurrences. The synthesis of these presumptions from philosophy gives readers comprehension regarding the researcher's approach towards investigating the phenomenon in question. According to Guba and Lincoln (1989), ontological suppositions pertain to inquiries regarding the fundamental principles of the truth. As stated by Pittaway (2005, p. 18), an ontology that perceives the external environment as "unchanging and immutable" poses a challenge due to the pre-paradigmatic status of dynamic capabilities, which are concerned with change. The routines that underlie a firm's dynamic capabilities must be linked to the development of real-time comprehension and expertise in order to remain pertinent as well as sufficiently broad, without excessive reliance on prior knowledge (Eisendhardt and Martin, 2000). The present research proposes an ontology that encompasses a social realm of significations, where people who dwell within this realm possess unique cognitions, construals and significances. The researcher's exploration of the external environment is demonstrated through the utilisation of specific research methodologies and interpretive methods, such as interviews, to elucidate the emotions and internal cognitions of the participants.

As per Crotty's (1998) definition, epistemology refers to a method of comprehending and elucidating the means by which we acquire knowledge. According to Maynard (1994), epistemology is a field of study intended to establish a philosophical basis for determining the types of understanding that can be attained as well as how to ensure that the results are satisfactory and valid. The current research adopts a constructionist epistemological stance. According to Crotty (1998), constructionism refers to the perspective that every aspect of understanding and significant reality is dependent on individual practices, which are created through conversations among people as well as their environment. This process occurs within the framework of society, where understanding is produced and

conveyed. The current investigation employs a constructionist epistemology, drawing on Silverman's (2021) perspective that regards actualities in society as outcomes of interactions between individuals and asserts that the comprehension of these facts is integral to their existence. Within the realm of dynamic capabilities investigation, the theoretical framework of constructionism places significant emphasis on the individual perceptions and culturally established implications that influence a company's views and responses to changes in its surroundings.

According to the constructionist viewpoint, dynamic capabilities cannot be considered mere unbiased capabilities that are present in isolation from individuals within a firm (Teece, 2007). Organisational participants engage in social mechanisms of comprehension and understanding in order to construct opinions about environmental shifts based upon their individual expertise and lived experiences alongside their interpersonal relationships. Dynamic capabilities research from a constructionist perspective emphasises the significance of comprehending the cultural and social atmosphere in which organisations function, as well as how this milieu influences their perception and comprehension of external shifts. This viewpoint underscores the importance of the researcher's involvement in the real-life observations of organisational participants and their examination of the unique interpretations these individuals attribute to shifts in their surroundings, which can then influence their decision-making and impact their firm's outcome.

In general, the constructionist perspective offers a significant theoretical framework for comprehending the process by which companies establish and sustain dynamic capabilities in a perpetually evolving context. This point of view highlights the significance of organisational individuals in shaping their own perceptions of the world. It can also assist researchers in creating more intricate and context-specific insights into the development and maintenance of dynamic capabilities over a period.

3.3 Research Paradigm – Social Constructionism

The concept of knowledge in the realm of social sciences is subject to debate, as it is intangible and a reflection of the perception of the entity that creates it. This viewpoint

suggests that understanding is produced throughout the frameworks of daily existence, thereby indicating that the perception of the truth is a product of society (Crotty, 1998). Crotty (1998, p. 42) presented a “constructionist” viewpoint that combines reality as an objective and subjective assessment into a unified viewpoint. According to this perspective, all understanding and substantial reality are dependent on individual practices, which are generated through connections among humans as well as the external environment. Furthermore, information is created and broadcast throughout the framework of society. Thus, one’s understanding of any item is contingent upon the consensus among different individuals, and the cumulative effect of successive interpretations engenders a communal significance (Goethals and Sorenson, 2007). The procedure of comprehension and meaning making occurs within a socioeconomic framework as well as necessitates a social constructionist viewpoint, as highlighted by Segre (2016). This viewpoint underscores the communal procedures whereby people and communities establish their perception of truth (Dodd and Anderson, 2007).

Social constructionism posits that people – as well as organisations – create their own truths by attributing significance to what they see and do via the external environment. Within the framework of dynamic capabilities, it can be inferred that a company’s ability to identify, capitalise on and adapt to potential opportunities and challenges is not solely determined by its tangible resources or competencies. Rather, it is influenced by the manner in which organisational agents perceive and comprehend shifts in the surrounding milieu.

Organisational learning can be comprehended as the mechanism through which firms generate novel interpretations and comprehensions of their surroundings and employ this knowledge to enhance their efficacy, as viewed from this standpoint. This necessitates a transformation in the company’s shared comprehension of effective and ineffective practices, as well as a readiness to explore novel methodologies and concepts. Moreover, the procedure of unlearning entails the act of questioning and deconstructing pre-existing convictions and presumptions that may have lost their relevance or utility. The procedure can prove to be challenging since both individuals and organisations tend to develop a strong attachment to their current modes of cognition and operational practices.

Unlearning is a crucial process for firms to effectively adjust and react to evolving circumstances, as well as to prevent themselves from becoming entrenched in obsolete methodologies.

In general, the theoretical perspective of social constructionism offers a valuable framework for comprehending the mechanisms involved in organisational learning and unlearning. This approach underscores the influence of social and cultural elements in shaping individuals' perception of reality and underscores the significance of being adaptable, experimental and flexible in adapting to evolving situations, which can then enable firms to establish safeguards towards their survival in the future.

3.4 Research Design

The constructivist perspective on the world of organisations is characterised by a more subjective worldview in which everything is open to transformation. The primary objective of constructivist research is to potentially offer novel perspectives to comprehend an organisational phenomenon, as exemplified in this investigation concerning the interconnections among organisational culture, organisational learning and organisations' continued existence. As per Yin (1994), constructivist research tends to generalise in an intellectual and thoughtful sense. The present research conducted a qualitative examination of the comprehensive data obtained through semi-structured interviews, with the aim of exploring the phenomenon and process-oriented characteristics of organisational culture, organisational learning (unlearning) and firm survival. While Miles and Huberman (1979) acknowledged the potential benefits of collecting qualitative data, they also cautioned against the difficulties of relying only on qualitative analysis for specific forms of information. Moreover, Miles (1979) warned that qualitative research frequently fails to surpass mere anecdotal accounts. However, Yin (1994) argued that qualitative investigations can potentially address these limitations by means of using a rigorous approach.

The present investigation employs qualitative analysis to formulate a theoretical framework regarding the relationship between organisational culture, learning and improved firm survival outcomes. The acquisition of qualitative data serves as a means

of ascertaining significance from the standpoint of the participants, detecting widespread trends and investigating the outlooks and evaluations that people hold throughout their surroundings (Creswell et al., 2007). The rationale for utilising qualitative analysis is supported by the implementation of a social constructionist paradigm, the necessity to contemplate the objective–subjective plurality and the “collective unconscious” within the scope of the present investigation, and a demand for comprehensive, intricate and subjective information to elucidate the issue of firm survival – as affected by organisational culture and learning – in the context of the highly dynamic energy industry. This investigation utilises case evidence that facilitates the construction of a robust bridge from qualitative information to a theory-building study. The inquiry and design of the study are characterised by thorough focus and techniques, as advocated by Eisenhardt (2021), Eisenhardt (1989a) and Eisenhardt and Graebner (2007).

3.5 Research Strategy

Robson (2002) proposed a framework for research design that comprises five crucial elements, namely the objective, principle, questions for investigation, approaches and sampling tactics. According to Robson (2002), two distinct research styles exist, including a fixed structure, which involves the pre-specification of every component prior to collecting data, and a flexible structure, which involves the sorting out of the five framework elements at the conclusion of the research. Notwithstanding, it should be noted that the adaptable layout does not overlook the pre–data gathering components. Rather, it commences using an unambiguous goal and objective, delineates each of the five factors, and continuously evaluates and modifies the framework as needed, as posited by Robson (2002).

According to Robson (2002), non-experimental designs are utilised for qualitative research within an established structure, while experimental methodologies are employed for explanatory investigations. The adaptable technique is deemed more suitable for exploratory research. According to Yin (2018), the case study design, which is characterised by its flexibility, can serve as a clarifying, narrative or speculative tool. Robson (2002) highlights that the primary difference between a fixed design and adaptable structure lies in the predetermined criteria established prior to collecting data.

Thus, the present study has adopted an adaptable methodology that incorporates the gathering of primary qualitative data to investigate both the exploratory and explanatory questions of the research. The parameters of the study were established prior to the commencement of the data gathering but were subsequently refined and developed throughout the course of the investigation. The determination of the appropriate sample size was made subsequent to the development of the theoretical framework.

The methodology employed in this research is based on the case study approach, which allows for flexibility in design. According to Eisenhardt's (1989a) definition, a case study is a research strategy that centres on comprehending the dynamics that exist within a singular setting. The utilisation of this research approach here is primarily motivated by two key factors. The primary objective of the current study is to offer elucidations that elucidate the correlation among the continuity of a company, its organisational culture and its organisational learning. Additionally, the study endeavours to comprehend how companies can ensure their longevity by capitalising on these dynamic capabilities. The process of the research is primarily focused on constructing theories rather than testing them. It could be argued that a case study is a suitable approach for conducting research aimed at developing theories, as suggested by Eisenhardt (1989a) and Yin (2014). The secondary rationale behind the present study is to address the inquiries pertaining to the "how" and "why" by examining the interconnections among firm survival, knowledge acquisition and cultural aspects. Yin (2018) posited that alternative approaches may also provide solutions to such inquiries. Due to the intricacy of the research subject, a more comprehensive understanding of the sector and focused conversations that provide a deeper understanding of the investigation instead of breadth are necessary. Thus, the present research work employs a case study strategy.

Despite their widespread use, case studies have faced criticism for their supposed lack of impartiality and thoroughness (Rowley, 2002) as well as the challenges associated with generalising results from specific scenarios (Farquhar, 2012). Additionally, demonstrating case study outcomes can be problematic, as there are concerns about the absence of rigorous methodology in certain instances (Piekkari, Plakoyiannaki and

Welch, 2010). In summary, the criticism identified in multiple investigations is being discussed.

Piekkari, Plakoyianni and Welch (2010) maintained that despite the drawbacks associated with case investigations, they remain an invaluable study methodology. Additionally, the researchers recognised Eisenhardt (1989a) and Yin (2018) as the most prominent scholars in the field of corporate research on case studies in general. They have played a significant role in establishing the credibility of case studies as a method of inquiry and have provided academics with the required resources and approaches to conduct research using case studies. Dubois and Gadde (2014) contended that the methodologies highlighted in the previous research are applicable solely to numerous case studies which depend on reproduction reasoning, prioritise an ordered sequential approach and are affected by the perspective of positivism.

Yin (2018) posited that the case study approach should prioritise the utilisation of several cases, typically ranging from four to six, in order to achieve equilibrium and enhance the probability of potential theoretical reproduction or resemblance throughout scenarios. According to Yin (2018), the use of numerous case studies can facilitate academics in achieving true reproduction or predicting divergent outcomes. Other studies that express a similar viewpoint to Yin's (2018) are those of Eisenhardt (1989a) and Farquhar (2012). Due to their ability to replicate and expand on the results of each person's examples, Eisenhardt (1989a) considered case studies to be strong instruments for theory building. According to their inquiry, the process of replicating case studies can serve to validate assertions or generate more complex theoretical frameworks.

Moreover, the utilisation of multiple cases allows researchers to conduct comparative, contrasting or exploratory analyses of an issue throughout different scenarios (Farquhar, 2012) or to examine between and within every environment. Eisenhardt and Graebner (2007) suggested that using several cases facilitates a comprehensive examination of the research issue, which in turn allows for speculative development. Proponents of in-depth case studies, such as Dyer and Wilkins (1991), have argued that prioritising deep cases over multiple surface-level cases is crucial and should be emphasised. The study posited that "deep cases" are preferable to "surface cases" due to the greater amount of contextual

information available to the researcher and the resulting limitation on the researcher's ability to convey all of the contexts addressed successfully. The research indicated that conducting a more comprehensive investigation of cases can contribute to a more nuanced depiction of the circumstances in which these incidents take place.

In a previous investigation on the topic of developing theories utilising numerous cases, Van Maanen (1979) said that theories generated out of extensive knowledge of a single case tend to be far more precise since the investigator considers the unique nuances of that situation. Consequently, it could be argued that although multiple studies may overlook novel theoretical implications or challenge pre-existing ones, a single case study affords the examiner the chance to delve into the intricate contextual details encompassing the case being examined (Dyer and Wilkins, 1991). Siggelkow (2007) contended that in case study research, the primary objective of the development of theories is to present a novel perspective on the studied environment. To achieve this, scholars must persuade the audience that the suggested philosophical claim is credible while demonstrating that the selected case offers some evidence to support it.

Dubios and Gadde (2014) explicated that the persistent discourse surrounding the advantages and disadvantages of single and multiple cases indicates that a consensus has not yet been achieved regarding the appropriateness of either approach. When conducting a study that involves interdependent characteristics, it is advisable to focus on a single case in depth rather than expand the number of cases employed. While the decision may be influenced by the issue that is under scrutiny, this approach was recommended by Dubios and Gadde (2002). Easterby-Smith, Thorpe and Jackson (2018) presented an alternative viewpoint regarding the rationale behind utilising singular or multiple instances. The present study underscores the fact that proponents of constructionism frequently promote the use of singular scenarios, whereas the utilisation of multiple cases tends to align with the positivist model of thinking. Nonetheless, it is worth noting that there exists an intermediary stance in the realm of case study research, wherein researchers generate inspiration via the contrasting positivism and interpretive frameworks.

In addition, Dubios and Gadde (2014) questioned the notion of deep cases provided by Dyer and Wilkins (1991), arguing that the significance of such cases will rely on what an academic intends to accomplish – which means that, as a result, the researcher could overlook certain important details. The authors acknowledged that a thorough analysis of complex scenarios can be accomplished by iteratively revisiting and re-evaluating the procedure of investigation, affording the researcher the opportunity to acquire more information – or what Miles (1979, p. 597) characterised as “instances of utter” frustration followed by “instances of illumination”. In accordance with Eisenhardt and Graebner’s (2007) perspective, the method of constructing theory necessitates an iterative approach, whereby a researcher iteratively engages with case data, current literature and theoretical constructs.

Eisenhardt (1989b) highlighted the significance of reproduction logic in the formation of theory through case studies. The researcher contended that complicated concepts are formulated through the utilisation of reproduction logic. Here, specific examples are used to lend credence to generalisations and rule out the possibility of random connection, leading to more reliable conclusions that are crucial for creating new theories. Furthermore, Eisenhardt and Graebner (2007) asserted that theories founded on replication logic possess superior grounding, accuracy and generalisability. Yin (1994) posited that in order to achieve replication, it is necessary to utilise multiple cases as investigations that facilitate the reproduction, comparison or extension of an established theory.

Eisenhardt (1989b) presumed that the use of the multiple case study approach offers numerous benefits in the development of theory. The implementation of this strategy involves a process of replication logic, which allows for an organised recognition of trends and connections among the investigation’s facts, as stated by Yin (2018). The utilisation of logic that involves the examination of numerous examples to confirm or contradict predictions results in the development of a theory that becomes more encompassing and applicable compared to one that is based on a single case study (Eisenhardt and Graebner, 2007; Eisenhardt, 2021). The research conducted in the present study involves a cross-case examination as a means of identifying patterns within the qualitative evidence. This

method was chosen in order to prevent any potential data processing bias, as suggested by Eisenhardt (1989a).

This study aims to comprehend the survival of firms through the utilisation of organisational learning and culture. To achieve this objective, a multiple-case approach with the greatest variance is employed. According to Seawright and Gerring (2008), the greatest variance case is classified as an exploratory case. The goal of using this type of case is to learn as much as possible regarding the events, steps and consequences of the case (Flyberg, 2006). According to Saunders et al. (2019), an exploratory investigation aims to obtain a better understanding of or elucidate the unique difficulty, challenge or condition being investigated, with the purpose of revealing the underlying occurrences.

It is noteworthy that the utilisation of multiple cases in the present research was not intended for the sole reason of replication but instead to enhance comprehension of the phenomenon being investigated. The concept of ‘interpretive-sense making’, as described by Welch et al. (2011), pertains to the researcher’s focus on comprehending specific instances rather than formulating generalisable laws. The current research adopts an abductive approach to comprehend the firm survival phenomenon. The study may gain insights into how organisational culture and learning contribute to a firm’s ability to navigate challenges and ensure long-term survival in the energy industry by investigating the underlying mechanisms and dynamics. The act of abduction presents an intriguing chance for researchers to elucidate a philosophical conundrum by endeavouring to offer clarifications for assessments that are incongruous with established theories (Piekkari, Plakoyianni and Welch, 2010).

According to Dubios and Gadde (2002), abduction is when researchers change their perspective on a phenomenon. It is clear from reading Eisenhardt (2007, p. 25) that “while laboratory experiments isolate the phenomena from their context, case studies emphasise the rich, real-world context in which the phenomena occur”. The ‘rich, real-world events’ are what lead scholars to believe that the pre-existing literature plays a major role in the data abduction and seclusion of pre-existing notions.

The author posited that comprehending an issue that lacks a solution necessitates the classification of extant information to identify unverified or unclassified data. According

to Eisenhardt (1989b, p. 536), “[a] priori specification of constructs can also help to shape the initial design of theory-building research”. The researcher holds a divergent view from Gioia and Pitre’s (1990) suggestion of “enforced ignorance” of previous components and disapproves of the application of purely inductive and constant thinking, as proposed in the initial literature on qualitative positivism by Eisenhardt (1989b). The researcher proposes the utilisation of Peircian reasoning in the process of abductive integration between information and theory. This approach aligns with Eisenhardt’s (2018) assertion that one should have a comprehensive understanding of the existing literature and subsequently identify a problem that lacks a definitive solution.

The researcher referenced Piekkari and Welch’s work (2017) to elucidate that an abductive conclusion is stimulated by unexpected observations that cannot be accounted for by current images and preconceived notions. The process of abduction entails the identification of a theoretical structure that can account for a given scientific anomaly. In order to illustrate the application of abductive reasoning, the researcher referred to the technique of Graebner and Eisenhardt (2004), who utilised the pre-existing concept of “courtship” in order to separate and explain the evidence demonstrating organisational integration as courtship. Thus, the researcher’s theory–method compatibility reflected a qualitative and abductive approach, similar to the most recent findings of Eisenhardt et al. (2004, 2019).

3.6 Research Methodology

The present study investigates the mechanisms employed by firms to ensure their survival by leveraging organisational learning and culture. It adopts constructionist thought and employs qualitative data analysis. A study conducted by Leech and Onwuegbuzie (2007) underscored the potential of qualitative research to yield broad perspectives as well as elucidate the significance that people attribute to diverse observations. Yin (2018) observed that case studies are particularly conducive to conducting comprehensive investigations and, therefore, tend to prioritise data that is qualitative. The rationale behind this approach is to facilitate comprehension of an interpersonal phenomenon by performing a comprehensive analysis of the occurrence from an integrated viewpoint, employing verbal communication and scrutinising the perspectives of participants in the

environment they live in (McAdam, 2004). Additionally, the qualitative approach allows for the examination of a phenomenon from several angles, which makes it possible to disclose and comprehend the phenomenon's many features (Baxter and Jack, 2008). Specifically, qualitative research and constructionism philosophy help scholars generate an understanding of the phenomena they are studying by better comprehending the respondents' personal implications, as noted by Saunders et al. (2018).

Despite the acknowledged advantages of qualitative research, this methodology is not without its recognised limitations and criticisms. Gummesson (2005) identified a primary challenge of this methodology as analysing and determining the meaning of information, which can be a daunting task due to the extensive amount of data gathered. In contrast, the research emphasises the importance of treatments and research methodologies that are clear, stringent and replicable by others as well, arguing that evaluation is inappropriately ascribed to a qualitative investigation. In contrast to quantitative research, qualitative research places greater emphasis on the understanding of data due to its less structured nature and the absence of a primary goal of reproduction. The primary objective of qualitative research is to engage in a deliberate exploration of significance and understanding.

Birkinshaw, Brannen and Tung (2011) argued that despite the obstacles stated, qualitative methodology offers scholars the advantage of gaining hands-on research expertise via being exposed to an in-depth historical context without first facing penalties. Thus, in order to leverage the profound contextual comprehension of the chosen case, the current study employed a qualitative approach.

Bernard and Ryan (2009) posited that various techniques can be employed to gather qualitative data, such as interviews, focus groups and observations, in order to bolster the use of qualitative methodology. Nevertheless, the present research exclusively employed interviews as its primary data collection method. The study aimed to gain an in-depth knowledge of firm survival mechanisms with the aid of organisational culture and learning, with the goal of identifying sophisticated insights. According to Hesse-Biber (2010), interviews are a recommended method for eliciting people's perspectives, as they afford participants the chance to assume the role of specialists while the person being

interviewed interprets the truth based on their own experiences. According to Rubin and Rubin (2004), interviews are not only congruent with the constructionist model of thinking but also serve as a valuable tool for gathering comprehensive data and can be adapted to meet the requirements of participants. Furthermore, Adu (2019) characterised interviews as a potent instrument for collecting information that is utilised to document the lived experiences of subjects, their perspectives on an issue, and the various justifications underlying their opinions, behaviours and choices. McAdam (2004) posited that interviews serve as a means of facilitating a symbiotic relationship between the interviewer and interviewee, thereby providing a platform for the acquisition of excellent knowledge pertaining to the participant's environment. The level of knowledge obtained is contingent upon the participant's ability and inclination to engage.

The present investigation has employed semi-structured interviews because they afford the possibility of eliciting further information and expanding upon the replies provided by those who participate (Saunders et al., 2016). According to Fox (2006), such interviews enable the researcher to pose inquiries in a consistent manner while utilising questions that are ambiguous. Noaks and Wincup (2004) asserted that the flexibility of the method enables researchers to adapt their methodology to suit the interviewees' target market. In addition, interviews that are semi-structured afford both investigators and participants the chance to engage in unstructured discourse and modify the lexicon employed during the exchange (Madill and Barkham, 2011).

3.7 Research Setting and Case Selection

As indicated in Chapter 1 of this research, the research context is the UAE's energy industry. Climate change, geopolitical dangers and technology upheavals threaten the energy business, which must supply global energy demand. Studying organisational culture, learning and business survival in the UAE's energy industry is intriguing. The country's hydrocarbon and natural gas deposits make it a global energy player. To cut carbon emissions and diversify its energy mix, the nation is investing extensively in green energy. The UAE wants to produce 30% of its power from renewable sources by 2030 and 75% by 2050. To attain these aims, it is dedicating enormous investment towards solar farms and implementing new green energy and energy-saving measures.

These represent dynamic changes in the industry which could impact the firm survival of the energy firms operating in the UAE. Such a drastic change from the nation's oil-based focus may prompt the energy firms to significantly change their *modus operandi*, which makes the UAE an interesting research setting in which to explore the linkages between organisational culture, learning and firm survival. The focal point of this investigation pertained to the manner in which these alterations require the undertaking of both acquiring and relinquishing knowledge in organisational contexts. As the energy industry undergoes a transformation, it is imperative for businesses to not only acquire novel knowledge and skills pertaining to green energy but also relinquish deeply entrenched habits linked with the conventional oil-based paradigm. The process of both acquiring new knowledge and letting go of outdated beliefs will have a direct influence on the organisational culture and, consequently, the long-term viability of these companies.

Thus, the research setting and sampling frame are the UAE's energy industry, from which the sample was chosen purposively. The process of purposive sampling involves the selection of cases that have an opportunity to provide unique insights into the research, as opposed to the arbitrary sample selection method that is typically employed in empirical studies (Eisenhardt and Graebner, 2007). Limiting the amount of the collection of data by selecting cases according to their ability to provide distinctive perspectives is a strategy that blocks the study's objectives from encompassing a broad range of cases. Seale (1999) noted that the richness of particulars in qualitative data may pose a challenge for researchers since broad sampling could possibly lead to overwhelming amounts of data. An excessive amount of data can impede the analysis process by obstructing the researcher's capacity to acquire an in-depth awareness of every instance and restricting the potential to provide detailed descriptions that can improve interchangeability. The deliberate selection of cases based on specific requirements for sampling is of greater significance than merely restricting the scope of data collection. This methodology aids in identifying cases that offer a diverse range of viewpoints for the research, which is particularly useful in a constructionist framework to understand multiple interpersonal truths (Patton, 2002). In the current study, the criteria for selection necessitated the participation of enterprises that encompassed a diverse range of energy sources. This comprised conventional hydrocarbon-based energy sources in addition to emerging

renewable energy sources, such as solar, wind or nuclear power. The theoretical basis for this criterion was rooted in organisational learning theory, which differentiates between single-loop learning and double-loop learning. Single-loop learning is characterised by making small adjustments to current processes, whereas double-loop learning entails making more profound modifications to the underlying assumptions (García-Morales, Verdú-Jover and Lloréns, 2009).

Ferlie et al. (2005) suggested that it is prudent to evaluate the applicability of replication logic for every particular instance and determine whether sampling is necessary for the purpose of true reproduction – which would yield consistent outcomes and bolster the findings – or speculative reproduction, which would produce results that diverge and constrain the outcomes. Prior to sampling, presuppositions are established regarding whether a given instance represents a direct or conceptual reproduction. According to Eisenhardt (1989a), in order to acquire a profound comprehension of a phenomenon, it is advantageous to select two cases that exhibit highly contrasting characteristics in a single dimension of sampling. Subsequently, one should proceed to explore a distinct area to identify an additional set of opposing cases until an adequate number of components of the occurrence have been examined. Following this strategy, the researcher selects the cases, including some that fall somewhere in the centre or that defy classification along a single parameter. More specifically, in the current study, the sample includes medium and large firms, thereby ensuring maximum variation. The exclusion of small enterprises from the sample is based on their inherent constraints in cultivating dynamic capabilities. Smaller enterprises sometimes have limitations in terms of their financial and human resources, which can lead to challenges in allocating investments towards R&D, technology and training (Weaven et al., 2021). These areas are essential for cultivating dynamic capabilities. Moreover, it is worth noting that smaller enterprises may lack the economies of scale that their bigger counterparts possess (Matysiak, Rugman and Bausch, 2017). This may impose constraints on their capacity to avail themselves of cost-effective resources and technologies, thus impeding their potential to compete in terms of innovation and efficiency. Here, the selected cases (outlined in the following table) also have variances in their positions within the oil, gas and renewable energy value chains, which added depth to the comparative analysis. These include differences in their

expertise areas and years of operation and the nature of their business activities. The study also captures diverse perspectives on strategic transitions and capability development in the energy sector by analysing firms from various cases in the value chain. Moreover, the analysis incorporates the historical backdrop of the corporations, encompassing the time period in which they were founded and their first activities. It is recognised that companies founded at different points in time may possess unique organisational cultures and practices. The process of migrating to new energy paradigms may require different levels of unlearning in order to address the historical legacies associated with them.

Also, the variance among the cases is primarily based on the firms’ sizes, areas of expertise and positions within the energy value chain. Such variation has allowed for a comprehensive analysis of different strategic approaches and capability development processes across the industry. For instance, Case A is a large, well-established company that has extensive operational experience in the production and service of oil and gas. Within the oil and gas sector, Case B is a medium-sized company that concentrates on exploration, production, refinement and distribution. Case C is also medium sized, with a lower number of employees that specialise in the production of hydrogen and renewable energy, indicating a transition to sustainable energy sources. Case D is a medium-sized firm that has high operational experience in the oil and gas industry and is involved in renewable energy projects.

In line with the above, Table 2 identifies the case firms selected and depicts their characteristics.

Table 2: Characteristics of firms.

Case Firm	Number of Employees / Annual Turnover	Number of Years Operational	Area of Expertise
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A	Approximately 20,000+ employees	40+ years	Oil and gas production, refining and drilling services
B	Approximately 2,700 employees	12 years	Oil and gas exploration, production, refining and distribution
C	Approximately 500 employees	18 years	Renewable energy and hydrogen production
D	Approximately 1,000 employees	30 years	Oil and gas production, drilling and exploration

In addition, a total of 15 participants took part in the data collection process and were chosen from the above-mentioned firm. Three employees from Case A, four employees from Case B, three employees from Case C and five employees from Case D participated in the study. Certain demographics about them were collected, such as their job description, experience in their current position, experience in their organisation and educational qualifications, as represented in the following table.

Table 3: Participant characteristics.

Participant	Job Role / Description	Experience in Current Position	Experience in the Organisation	Educational Qualifications
Case A Participants				
A1	Creating strategies for the company's development	2 years	More than 16 years	Master's degree in project management
A2	Managing contracts, analysing risks and ensuring governance	3 years	16 years	Bachelor of Business Administration – major in finance
A3	Senior manager in development and investment	4 years	7 years	Master of Business Administration
Case B Participants				
B1	Sales and commercial manager	6 years	10 years	Bachelor's degree in electronics
B2	Leadership consultant	3 years	3 years	MBA
B3	Head of treasury and corporate finance	4 years	4 years	MBA
B4	Analysing and monitoring financial data	5 years	10 years	MBA
Case C Participants				

C1	Implementing sustainable technologies	15 years	20 years	Bachelor of Engineering
C2	Governance, risk and compliance management	1 year	1 year	Master's degree – GRC
C3	Senior vice president of human capital	4 years	12 years	Master's degree in technology
Case D Participants				
D1	Handling offshore drilling operations	8 years	15 years	Bachelor of Petroleum Engineering
D2	Renewable energy project planner and implementer	5 years	10 years	PhD in Electrical Engineering
D3	Regulatory compliance review and EIA performance	3 years	6 years	Master's degree in environmental science
D4	Vice president of sustainability	4 years	8 years	Master's degree in environmental management
D5	Senior vice president of project planning	9 years	15 years	Master's degree in energy management

The selection of medium and large firms from different segments of the energy value chain with participants from varying backgrounds and with diverse experiences ensured a rich dataset for examining the dynamic capabilities development and interrelatedness of culture and learning in the energy sector.

3.8 Data Collection

In order to perform a comprehensive investigation and attain a substantial, intricate stream of analytical information, the case study research methodology may reap advantages from a fusion of various data sources, such as archival records and documentation, observations, interviews and focus groups, reflection and the utilisation of research diaries and other such aids, as suggested by Saunders et al. (2016). Yin (2003) argued that researchers should choose data-gathering methods that are both suitable for the study's purposes and helpful in achieving those goals and, more specifically, in providing answers to the research questions. In the current study, the primary data was collected via a single study instrument – semi-structured interviews, from which the researcher compiled extensive field notes.

The use of interviews as a means of gathering data is ubiquitous in qualitative case study research. The underlying assumption of this argument is that comprehending human behaviour and the significance attributed to social actions and choices can be achieved through language, specifically by valuing individuals' narratives (Seidman, 1998). According to Lincoln and Guba (1985), interviews serve the purpose of obtaining current perspectives on various entities, such as individuals, events, organisations, emotions, motivations, claims and concerns. Additionally, they involve reconstructing past experiences, projecting future experiences, and verifying, correcting and expanding information obtained from both human and non-human sources, as well as verifying, correcting and expanding the interviewer's own constructions. The utilisation of interviews enables a researcher to obtain a comprehensive, first-hand perspective of a participant's perception of a current, historical or prospective entity. There are two main forms of interviews, as follows: the more focused, structured interview and the less focused, more in-depth unstructured interview. The semi-structured interview approach

is characterised by a balanced approach that seeks to strike an equilibrium between the unstructured and structured interview formats.

The current study has employed semi-structured interviews as a data collection method, whereby the informants were remotely interviewed through the utilisation of Zoom or Microsoft Teams. The interview process involved a comprehensive set of questions with subsequent follow-up inquiries aimed at elucidating specific points or obtaining further understanding of the topics discussed. It was crucial to maintain a seamless flow during the interviews' progression. The interviews were scheduled to last for 1 hour, but some ran for a maximum time of 1 hour 30 minutes. To ensure redundancy in the event of a recording device malfunction during the interviews, two distinct recording mechanisms were employed, as follows: a mobile phone equipped with a recording function and the integrated meeting controls of online meeting platforms. The research ethics section of this chapter covers the application of ethical research guidelines and procedures during interviews. The complete interview protocol can be found in Appendix A.

3.9 Data Analysis

In accordance with Adu's (2019) suggestion that qualitative data analysis should strive for coherence and transparency throughout the analysis process, this section commences by examining how the gathered data fulfil these aims. As previously stated, data was gathered from 15 participants through semi-structured interviews. The transcribed interviews were subjected to data reduction as the initial step towards accomplishing the three specified objectives. The process of data reduction, commonly referred to as coding, is regarded as a meticulous procedure that entails comprehending and analysing the information obtained from participants' discussions or actions. This involves reflecting on the categories to be pursued, as outlined by Bazeley (2013). Gunby, Marshall and McCulloch (2011) conducted a study wherein they identified coding as the primary step in analysing interview data. This is because it enables researchers to engage in data reduction and simplification. According to Gunby, Marshall and McCulloch (2011), researchers can enhance their data utilising coding techniques to establish novel connections between concepts, convert data into meaningful units and reframe theoretical associations.

Saldana (2013, p. 3) offered an alternative viewpoint on coding, characterising it as “a concise term or phrase that symbolically designates a comprehensive, noteworthy, essence-capturing, and evocative characteristic for a segment of language-based or visual data”. The dataset may comprise various sources, such as transcripts of interviews, field notes from participant observations, journals, documents, drawings, artefacts, photographs, videos, online resources, email exchanges, literature and other similar materials. According to Adu (2019), coding is a subcategory of qualitative analysis that necessitates a methodical, subjective and transparent approach to condensing data into significant and trustworthy concepts that effectively represent the data and tackle the research problem, purpose or questions. As stated by Saldana (2013, p. 3), the term “researcher-generated construct” refers to a symbolic representation that assigns meaning to each individual piece of data. This is done for the purpose of detecting patterns, categorising information, building theories and conducting other analytical processes at a later stage.

The initial phase of data reduction in this investigation involved transcribing the interviews and engaging in a process of familiarisation with the participants’ responses. Subsequently, the responses were subjected to annotation in order to explicate or endeavour to construe the intended meaning of the participants. This particular stage bore a resemblance to the data familiarisation stage outlined in Braun and Clarke’s (2006) documentation. Their study highlighted that during this phase, the researcher experiences a state of immersion in the data by engaging in repeated readings of transcripts and taking notes. Upon completion of this stage in the current study, the transcripts were imported into the NVivo software. According to Adu (2015), the NVivo software programme enables the analysis of data by means of coding pertinent text, categorising identified codes, and producing or visualising outcomes. Following the importation of transcripts, a word frequency analysis was conducted, which subsequently led to the development of a word cloud. The generated word cloud provided a comprehensive summary of frequently utilised terms and their respective contextual associations.

After a thorough analysis of the word cloud and annotated transcripts was conducted, a set of empirical indicators was developed to facilitate the process of initial coding, which

was followed by the commencement of stage two. According to Charmaz (2014), in cases where implicit indicators are present, a thorough examination is conducted to ascertain their suitability in effectively addressing the research problem or question. During this phase, the process of initial coding – also referred to as first cycle coding by Saldana (2013) – was initiated, utilising the empirical indicators as a framework. It is noteworthy to acknowledge that a diverse range of coding methodologies are at researchers' disposal to facilitate qualitative analysis. This study posited that the recommendations offered by Saldana (2013) and Adu (2019) in their comprehensive guide were superior.

The technique of descriptive coding was employed to succinctly encapsulate the fundamental subject matter of a qualitative data excerpt, specifically the interview transcripts, by means of a single word or brief phrase (Saldana, 2013). According to Wolcott (1994), the coding technique in question is employed to direct the reader's attention towards the researcher's observations, as they were made during the data collection phase. The technique does not involve any efforts to infer the underlying motives behind the participants' reactions or behaviours. The methodology involves the utilisation of the exact phrasing employed by the subjects themselves, as stated by Adu (2019). During the coding process in the current study, particular remarks made by individuals required additional interpretation. To address this, the interpretive coding technique was employed, utilising implicit metrics.

The subsequent stage involved the process of selective coding, which entails the careful selection of a model and the formulation of propositions that elucidate the connections and correlations among the axial categories (Creswell and Poth, 2017). The coding procedures demonstrated consistency, with identical coding techniques being employed across all interviews, as per Yin's (2014) guidelines.

3.9.1 Within-Case Analysis

Patterns may be seen among case facts using a procedure called within-case analysis (Eisenhardt, 1989a; Eisenhardt, 2021). The researcher prepared “a detailed description of each case and themes within each case” (Creswell and Poth, 2017) and evaluated all the data acquired for each case at the within-case analysis stage. Researchers gain more nuanced knowledge of each case situation by comparing the patterns that form across

cases. The evidence available regarding the links among firm survival, organisational learning and organisational culture in every case was analysed using these patterns (Voss et al., 2002).

3.9.2 Cross-Case Analysis

Following the completion of the within-case study, a cross-case analysis was performed. As a standardisation measure, the researcher began comparing and contrasting cases by grouping their codes (Creswell, 2014). The researcher actively sought commonalities and distinctions across the cases (Voss et al., 2002). They then sought to find emerging theoretical linkages by comparing and contrasting within-group and between-group similarities and differences. The researcher established connections between the patterns seen in the cases and the theoretical underpinnings of this study.

3.10 Ethical Considerations

The universities' advisors granted approval to this research project. The researcher adhered to Bryman's (2008) ethical principles of non-harm, informed consent, privacy protection and avoidance of deception when considering the ethical implications of the research project. The study solely comprised interview-based data collection, thereby minimising the potential for physical harm to the participants. The utilisation of open-ended questions enabled the participants to respond in a manner that was conducive to their level of comfort. The interview guide underwent ethical review by the university prior to data collection.

The researcher implemented various measures to obtain informed consent. All participants were provided with an informational letter that detailed the research and the methodology of data collection. The letter contained the contact information of the researcher's supervisors. Participants were briefed about the study's purpose and nature before each interview and were provided with an opportunity to seek clarification. They were also informed of their right to withdraw their participation from the investigation at any moment without first giving a justification. The participants were provided a consent form by the researcher, which they signed prior to and following the interview after all inquiries had been addressed; they were given a copy of the form. The researcher obtained

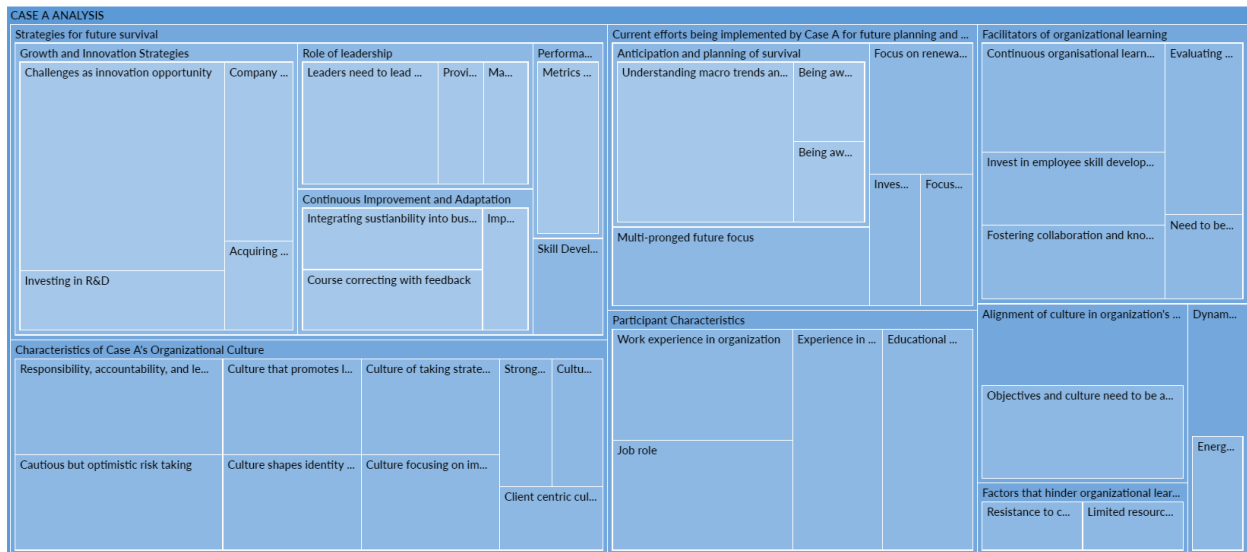
consent prior to recording the interviews and commenced recording only after receiving permission. The researcher also provided participants with clear and comprehensive information regarding the objectives of the study, the methods of data collection and the intended use of the data. These measures prevented researcher deception of the participants regarding the study. Following the interviews, the researcher gave the participants an additional opportunity to seek clarification and offered their contact information for future inquiries via phone or email.

To ensure the confidentiality of participants, all transcript excerpts intended for readers other than the researcher were anonymised. Participant anonymity was rigorously maintained throughout the study. Identifiable information was excluded from the transcripts and the writeup of the findings, and pseudonyms were used to protect the identity of the case firms and individuals. Additionally, all data was securely stored in encrypted files accessible only to the researcher. These measures safeguarded confidentiality, preventing any potential harm or identification of participants and organisations involved in the research. The study did not disclose any identifiable personal information or insights pertaining to the organisations, and the recordings were securely stored and anonymised to conceal the firms' identity. A password-protected file linking recording names and organisations was stored separately from the recordings on a password-protected computer. The thesis does not include any company document content to prevent readers from inferring the identities of participants by locating the original document via text search. The researcher exercised reservations to ensure the protection of participants.

4 Findings and Analysis

4.1 Introduction

As mentioned in the previous chapter, the analysis was done by following a comprehensive two-stage approach. This method ensured a thorough exploration of both unique patterns within individual cases and overarching themes across all cases. The within-case analysis involved a meticulous examination of each case individually to uncover their cultures and the processes of learning within the organisations. The analysis highlighted significant facts, events and observations that were crucial to understanding the context and dynamics of each firm (Creswell and Poth, 2017). In this stage, the researcher primarily created a narration of each case based on the common information provided by the participants of that firm. Codes were developed for each of the cases as represented in the hierarchy chart presented below, which was extracted from the NVivo software.



CASE C ANALYSIS														
Strategies for future survival				Characteristics of Case C's Organizational Culture				Participant characteristics		Facilitators of organizational le...				
Importance of communication		Importance of R&D and innovati...		Role of leader...		Facilitating collaboration as a signif...		Culture wi...	Company's...	Educational Qualific...	Work experien...	Implement training programs		
Importance of risk management		Importance of st...		Consistent risk ev...		View...		Importance of...	Reco...	Gua...	Innovation and ...	Cultu...	Organizational learning...	
Implement innovation		Transparency ...		Importa...	Importa...	Establis...		Current Efforts being implemented by Case C for future planning and ...		Experience in current position		Implement feedback ...		
Conduct analysis for identifyin...		Organizational ...		Establish KPIs		Building ...		Anticipation and planning of survival		Need of change ...	Digit...	Factors that hinder organizational ...		
		Meeting stan...		Energy sector must ...				Implement needs assessment		Company's sta...	Com...	Poor organizational culture can ...		
								Task force for understanding market...		Company's shift...		Dynamics of UAE's Energy Sector		

CASE B ANALYSIS													
Strategies for future survival				Current efforts being implemented by Case B for future planning and survival				Participant characteristics					
Engage in continuous learning...		Alignment of learning and ...		Implement r...	Conduct an...	Settl...		Company's focus on innovation and adaptation		Company'...	Company...	Work experience in orga...	Experience in current po...
		R&D for innovation		Rigorous p...	Having ...	Having ...				Company...	Company...	Job role	Educational Qualifications
Culture and learning are emb...		Investing in digital technolo...		Post-failure...	Focus on un...	Co...		Organization's focus on being in line with curr...		Company...	Company...		
Assessment...		Importan...		Incorporating failures into s...	Importance ...	Focus on loc...		Facilitators of organizational learning		Importance of collaboration among ...		Implement training ...	Role of lead...
Characteristics of Case B's organizational culture		Company's stance on ris...		Company's culture foc...		Company'...						Performance management ...	Ne...
Stable and flexible organizational...		Company's stance on fal...		Company's ability to adj...		Company...						Implement regular feedback	Role of culture to overcome organizational ...
Role...		No o...										Alignment of culture in organization's fram...	Dynam...
												Strate...	Ener...
												Factors...	Multi...

CASE D ANALYSIS															
Strategies for future survival				Participant characteristics				Dynamics of UAE's Energy Sector							
Enhancing collaboration and knowled...		Implementing flexibi...		Ensuring compliance		Risk asses...		Importance ...		Job role	Experience in ...	Educational ...	UAE's e...		
Cross-functional teams for...		Open...		Alignment of...		Tec...		Overcomi...		Work experience in organization				UAE's energy sector is hi...	
Importance ...		Importance ...		Digit...		Incorporating fail...		Ensuring regulator...						UAE's e...	
Implementing learning for sustainability		Creating an innovative cultu...		Focusing on ...		Developing c...		Portfol...		Facilitators of organizational learning		Implementation of training prog...		Importance of communicat...	
Organizational learni...		Implement...		Aligning in...		Role of cult...				Imple...		Importance of c...		Co...	
Failures to improve procedures		R&D for more adaptability		Monitoring market t...		Im...		Imp...		Co...		Characteristics of Case D's organizational culture		Safety-focused organi...	
Turning failures into lessons		Leadership builds culture		Implement innovati...		Brainstromi...		Agl...		Culture's role to overc...		Efficiency-f...		Culture of f...	
		Integration of advanced te...		Attending events to ...		Allocating re...				Client-centr...		Factors that hinder...		Alignment of cult...	
		Imple...										Chang...		Financ...	

Figure 2: Hierarchy charts of all cases.

Following the within-case analysis that involved outlining the codes and patterns in the cases individually, the cross-case analysis was conducted, which entailed the comparison and contrast of the cases to identify broader patterns and unique variations. After the transcripts were coded, categories (sub-themes and themes) were created based on common patterns observed among the cases. The initial step in this stage was to standardise the data for comparison by gathering the codes from various cases following the thematic analysis process. Subsequently, the researcher actively pursued both the similarities and differences among the cases to comprehend the broader patterns that emerged from the data and the distinctive variations that set each case apart. Furthermore, a thematic map was developed following the process of thematic analysis.

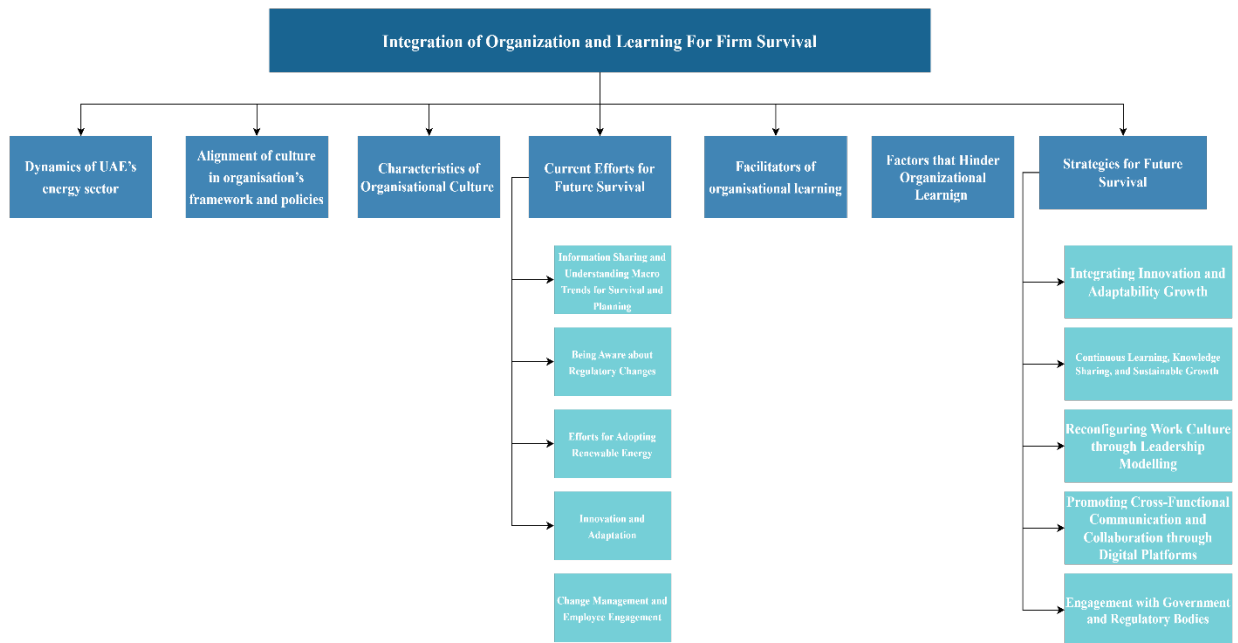


Figure 3: Thematic map.

4.2 Case Description

4.2.1 Case A

Case A, originally founded as a government-owned organisation, is a prominent oil and gas and energy corporation based in the UAE. It has been operational for almost four decades, has had a significant impact on the energy sector of the country and the Middle

East region and has transformed into a diversified international participant in the oil and gas sector. The company has diverse businesses, such as oil and gas production, downstream businesses, drilling services and other such operations, and has expanded its scope to include a diverse array of activities along the whole energy value chain. The development has been propelled by a strategic vision to optimise the worth of the nation's hydrocarbon reserves while concurrently seeking prospects for expansion and diversification. Over time, Case A had utilised its knowledge and resources to position itself as a major participant in the worldwide energy industry, with a notable presence in different sectors, such as exploring and extracting resources, refining and producing petrochemicals, and distributing and processing gas. Case A's integrated business strategy and emphasis on operational excellence have continually generated value for its stakeholders while also contributing to the economic progress and prosperity of the UAE. It has shown resilience and adaptability in the face of obstacles, including volatile oil prices, geopolitical uncertainty and changing market dynamics. The company has consistently pursued innovation and optimisation in its operations to stay competitive and achieve sustainable long-term development. Case A has established itself as an industry leader in energy by making strategic investments, forming alliances and demonstrating a strong commitment to sustainability, which has enabled it to drive innovation and facilitate the transition towards a more sustainable energy future.

4.2.2 Case B

Case B is a large energy corporation based in Abu Dhabi, UAE, and has been operational for 12 years. Founded in the early twenty-first century, it has become a prominent player in the energy industry worldwide. The company has a varied range of investments that include activities such as exploring, producing, refining and distributing oil and gas. Case B is also involved in power generation and water desalination, and it focuses on its fundamental objective of delivering enduring and dependable energy solutions to address the increasing needs of both local and global markets. Case B prioritises innovation and technical progress, dedicating resources to R&D projects aimed at improving operational efficiency and promoting environmental sustainability across its activities. The company's strategic advantage resides in its robust alliances and cooperation with prominent global energy firms, governmental bodies and financial establishments.

Through these agreements, the firm has been able to enter new markets, use advanced technology and expand its sources of income, ultimately guaranteeing sustained development and profitability. Case B not only engages in economic operations but also has a strong dedication to corporate social responsibility and sustainable development. It actively participates in community activities, educational programmes and environmental conservation efforts, with the goal of exerting a good societal effect while decreasing its carbon footprint and environmental influence.

4.2.3 Case C

Case C is primarily a company that focuses on renewable energies and sustainable technologies. It has been operational for 18 years and has been leading the way in the clean energy revolution, taking the helm in efforts to reduce the impact of climate change and promote environmental sustainability. Case C is based in Abu Dhabi, UAE, and aims to facilitate the shift towards a more sustainable and environmentally friendly future with less carbon emissions. The primary focus of the company is on the advancement, execution and administration of sustainable energy initiatives, with a specific emphasis on solar and wind energy. Case C has conducted several projects and initiatives that are primarily about implementing innovative sustainable urban development in the UAE. Apart from its focus on local and regional development, the company has also been instrumental in promoting the worldwide implementation of renewable energy via strategic investments, partnerships and collaborations. It has also played a crucial role in reducing the cost of renewable energy sources, hence enhancing their competitiveness in comparison to traditional fossil fuels. Case C's dedication to sustainability goes beyond its corporate operations. The company actively conducts R&D activities, which reflects its engagement to be intuitive by identifying new opportunities for generating renewable energy and improving energy efficiency. Moreover, Case C is committed to implementing corporate social responsibility efforts, which include providing assistance for education, enhancing the skills and abilities of individuals, and promoting programmes for the development of communities in the areas where it conducts its operations. Case C, a prominent player in the clean energy industry, consistently pioneers new ideas and actively promotes positive transformation.

4.2.4 Case D

Case D is a prominent company in the energy industry, with operations based in the UAE. Established a long time ago, it has transformed into a prominent worldwide petroleum company, known for its inventive methods, advanced technology and strategic investments. Case D started its operations by exploring and extracting oil and gas reserves from highly productive regions in the UAE. Gradually, it expanded its activities to include several aspects of the petroleum sector, such as refining, distribution and marketing. The company's dedication to achieving high standards of quality and productivity has allowed it to build a strong presence across the whole process of producing and delivering energy, guaranteeing a dependable and consistent energy supply. Case D has expanded its range of activities to include renewable energy sources and environmental projects in addition to its main business. The corporation has undertaken ambitious programmes to reduce carbon emissions and promote renewable technology, acknowledging the significance of environmental stewardship and the shift towards cleaner energy. Located strategically in Dubai, a prominent worldwide centre for trade and business, Case D utilises its advantageous geographical location to streamline operations and expand its international presence. Its advanced infrastructure and skilled team from varied backgrounds demonstrate the company's dedication to achieving operational excellence and satisfying customers. Case D maintains a dominant position in the conventional energy industry while also being flexible and responsive, always seeking out new prospects and emerging developments to preserve a competitive edge.

4.3 Within-Case Findings and Analysis

The first step of the analysis was performing a within-case analysis, which involved examining the four firms in the UAE's energy sector and their organisational cultures. The analysis helped in understanding how different organisations have different characteristics and strengths that represent their organisational culture.

4.3.1 Case A Analysis

The Case A firm has developed an organisational culture that effectively combines risk-taking with financial restraint. Moreover, the company also promotes a culture of creativity, experimentation and pushing limits, and employees are given the authority and

support to make well-considered decisions that include some level of risk. They are encouraged to learn from any failures that may occur as they lead the way in developing solutions in the field of sustainable energy. The adoption of a risk-taking attitude is a recent phenomenon, occurring within the last three years, as the organisation has grown more receptive to making calculated investments in new domains. In addition, the firm's culture combines risk-taking with financial restraint and promotes creativity and experimentation, which are traits of an adhocracy culture that also values innovation and taking risks. Participants from the Case A firm were significantly focused on organisational culture being underpinned with risk-taking culture, as can be observed in their responses.

A1: Even though we are a technology company, we are typically risk adverse, so this may be taking some credit from us. Yet recently, in the past 3 years, we started to be more open, especially while we place strategic bets in the new energy space. We are now on the trend of innovation and creativity; we try to engage in a culture that encourages experimentation and learning from our failures.

A3: Our approach to the issue of risk is consistent with our culture and rational in view of our strategic roles. We evaluate the market situation and any risk that arises; hence, if we take it, the risks will be very carefully calculated. This approach is in line with our organisational culture, which employs strategic and tactful thinking to handle uncertainty in the energy industry.

Nevertheless, Case A's inclination towards taking risks is balanced by a significant focus on maintaining financial discipline and implementing strategic risk management. Assessments of risks are conducted with great care, and strategic choices are influenced by financial limits and anticipated investment gains. The company's strong business sense and well-established financial procedures guarantee that resources are used wisely and that strategic decisions are made with a focus on long-term sustainability and profitability in the competitive energy market of the UAE. Also, Case A's organisational culture is characterised by its client-centric approach and emphasis on cooperation. This is indicated in the response of participant A2:

Our client-centric culture, focused on collaboration and continuous improvement, was instrumental in responding to evolving consumer preferences. As demand rose for sustainable communities with low carbon footprints, we worked closely with the client's team to re-envision different projects. Adapting to the client's zero-carbon vision ensured competitive differentiation.

The participants emphasised that the organisation proactively engages with stakeholders, such as customers and partners, and collaborates closely with them to develop solutions that effectively address their changing requirements. Internally, there is a commitment to fostering a collaborative attitude by dismantling functional divisions and promoting efficient communication across teams in order to accomplish common objectives, as outlined by A2: *“Collaborate emphasises breaking down functional silos through effective communication to achieve shared goals”*.

Case A's culture is also characterised by a strong emphasis on continuous development and adaptation, which reflects its dynamic capabilities. Employees are urged to recognise areas with potential for improvement and create inventive resolutions, fostering a culture of continuous learning and experimenting, which is indicative of institutionalising that is an aspect of organisational learning. In the Case A firm, employees are constantly empowered through learning, as stated by A1: *“A culture that encourages ongoing learning and innovation equips employees with the tools and mindset needed to consistently improve processes and adapt to changes”*. As evidenced, it can be observed that Case A is adopting intuitive practices, whereby an organisation proactively adapts to evolving customer tastes and market conditions and also interprets new information by reimagining projects and tactics as required.

Not only employees are motivated to engage in learning, Case A firm fosters a culture that emphasises shared accountability, openness, and the opportunity to learn from mistakes. A3 outlined an interesting point in this regard: *“This flexibility, which is a characteristic feature of our trail-blazing spirit, helped us immeasurably to steer through the choppy waters that marked the dynamics of the solar industry”*. This indicated that the organisation's objective is to minimise the occurrence of failures and guarantee accurate execution of procedures by emphasising quality rather than speed or quantity. It can be

observed that Case A's organisational culture is defined by a combination of prudent risk-taking, client-centricity, ongoing improvement, strategic decision-making, emphasis on quality, learning and cooperation. The cultural features of the business are in line with its principles and strategic goals, which allows it to successfully overcome difficulties and achieve sustained development in the energy industry.

4.3.2 Case B Analysis

The Case B firm has highlighted the significance of harmonising its organisational culture with its strategic objectives, demonstrating a comprehensive understanding throughout the organisation that culture should not be separate from but rather included in the wider strategy framework. B1 stated, "*Frequent evaluations and reviews ensure that the organisation is on track while our culture aligns with our strategic goals*". It is evident that the alignment of culture and objectives guarantees that all actions, behaviours and choices are focused on accomplishing the organisation's goals, which also reflects a market culture emphasis on achieving strategic objectives while integrating cultural values into the operational framework. Case B's culture is firmly grounded in its fundamental principles, including creativity, honesty, persistence, integrity, accountability and cooperation, as these values function as fundamental principles that influence Case B's identity, behaviours and decision-making processes. B2 mentioned, "*Innovation, honesty and perseverance define our company culture*". These aspects establish a shared vocabulary and set of anticipated outcomes that bring employees together and cultivate a feeling of inclusion and direction.

The participants also indicated that Case B has a culture of continual improvement and learning, which indicates that the organisation highly values adaptability, growth and resilience. Case B cultivates an atmosphere conducive to innovation and empowers people to make positive contributions to the organisation's performance by promoting learning from failures and sharing ideas and solutions. Case B also embodies a dynamic approach to intuiting and interpreting new opportunities and challenges, which is contingent upon its capacity to adapt to evolving market circumstances, especially in light of the worldwide trend towards carbon emission reduction and the use of cleaner energy sources.

B1: Our firm was able to adjust well to changed market conditions that moved towards reducing carbon emissions.

These responses demonstrate the organisation's cognisance of external variables and its proactive stance in tackling industry trends and issues. Case B's organisational culture also indicates that the firm has prioritised flexibility and agility, acknowledging the significance of swiftly adapting to changing conditions. The organisation's adaptability allows it to maintain competitiveness in a rapidly changing and dynamic market, where innovation and creativity are crucial to remaining ahead of the competition. Case B's organisational culture not only focuses on the development of organisational capabilities but also prioritises employee well-being, teamwork, innovation, collaboration, sustainability and excellence, which indicates the firm's internal focus and flexible approach, as indicated by B3: *"Our company's culture is characterised by explicit and widely communicated values – safety, innovation, collaboration, sustainability and excellence. These values underpin senior management goals and KPIs, fostering employee engagement through effective communication"*.

Case B also promotes a proactive approach to problem-solving and advocates for calibrated risk-taking as crucial factors for fostering innovation and achieving success, as indicated by B4: *"'No risks, no returns' applies in the energy business, which embraces risk. Our organisation views risk-taking as crucial for growth and competitiveness"*. The firm empowers people by fostering a culture that sees problems as chances for progress and innovation, which encourages employees to take ownership of their work and make well-informed choices. Participants also placed a lot of emphasis on leadership playing an important role in shaping and sustaining Case B's organisational culture. As outlined by B4: *"Strong organisational culture is built on the leadership's strategic vision and dedication to employee well-being, company sustainability and community participation"*. This indicates that leaders set the tone for desired behaviours and outcomes across the firm by fostering a culture of trust and transparency. It can be observed that Case B's organisational culture can be described as being in line with strategic objectives, prioritising continuous improvement and learning, adopting a values-based approach, being adaptable to market dynamics and flexible, and placing importance on employee

well-being and collaboration. Additionally, it demonstrates proactive problem-solving, calculated risk-taking and significant leadership engagement. The organisation's resilience, creativity and long-term performance in the energy industry are all influenced by these cultural attributes. Overall, Case B's culture is focused on internal improvements and a flexible approach, making it aligned with clan culture.

4.3.3 Case C Analysis

Case C's culture has primarily prioritised the cooperation and sharing of information across many disciplines. The organisation cultivates an atmosphere of open information sharing across departments and teams by dismantling barriers and encouraging diversity, and this strategy improves communication, fosters creativity and boosts problem-solving skills within the firm, as indicated by C1: *"Our company culture emphasises cross-discipline collaboration and knowledge exchange. This method breaks down silos, promotes diversity, and fosters information sharing between departments and teams"*.

Case C is more inclined towards taking a flexible and external approach, allowing it to breakthrough and create new opportunities for itself, which is a characteristic of adhocracy culture.

The organisational culture in Case C also focuses on encouraging employees to explore new ideas through dedicated innovation and recognition programmes and cross-functional collaboration, as C3 mentioned: *"The organisation encourages employees to explore new ideas through dedicated innovation programs and cross-functional collaboration"*. C3 also outlined that *"Recognition programs highlight and celebrate collaborative efforts, motivating employees to actively engage in knowledge-sharing activities"*. By providing avenues for experimentation and creativity, the organisation cultivates a culture of innovation that drives continuous improvement and adaptation, which are aligned with intuiting and interpreting stages of organisational learning, driving adaptation and innovation.

Significant collaborative efforts have increased motivation among employees by actively engaging them in the organisation's activities and operations. Along with the focus on collaboration, the firm has significantly leveraged digital platforms in its operations to facilitate collaboration among the stakeholders. C2 outlined, *"Successful firms use digital platforms for information exchange, team-building activities, mentorship programs, and*

cross-functional collaboration". This indicates that firms that implement technologies can facilitate their operations, leading to better outcomes. It can be observed that Case C also seizes the opportunity to leverage these technologies to improve the internal operations of the firm. Also, such digital platforms provide virtual venues for the sharing of insights and best practices and project collaboration, contributing to a positive and inclusive workplace culture.

One of the important characteristics outlined regarding Case C's organisational culture is that it is centralised in nature. The participants indicated that the firm has a centralised culture that enables quick problem-solving and coherent strategy implementation, as suggested by C1: *"Our centralised culture enabled quick problem-solving. This centralised approach enabled a coherent strategy, providing excellent change adaptation"*. The centralisation approach reflects an internal focus on and commitment to maintaining efficient decision-making and change adaptation. However, it may also introduce tiered processes that could potentially hinder agility.

Case C's organisational culture is also focused on the significance of maintaining a balance between stability and innovation, which is in line with clan culture. An organisational culture that fosters both stability and innovation enables workers to comprehend the need to maintain continuity while embracing change, which suggests the necessity of an adaptable framework, explicit anticipations and an environment that promotes calculated experimentation. C1 mentioned, *"Organisational culture affects balancing stability and innovation. A culture that promotes stability and innovation helps employees appreciate the need for consistency and change"*. It can be observed that Case C's organisational culture is defined by the integration of many disciplines, fostering of creative thinking, acknowledgement of teamwork, utilisation of digital technology, use of centralised problem-solving and emphasis on maintaining a balance between stability and innovation. These cultural characteristics enhance a dynamic and flexible work environment that promotes creativity, collaboration and ongoing learning.

4.3.4 Case D Analysis

The organisational culture of Case D is primarily client-centric, which entails a thorough comprehension of the requirements and inclinations of customers within the energy

market in the UAE. As market culture is also focused on competing effectively and on its customers to produce effectiveness, Case D's culture also aligns with these characteristics. D5 outlined, "*Our client-centric strategy involves knowing UAE energy industry clients' particular needs*". A culture focused on customers allows the Case D firm to customise its items and services to fulfil precise consumer demands, augmenting contentment and establishing enduring partnerships. It was observed that Case D can foresee market changes and adjust its services accordingly by prioritising the client's perspective, which aligns with dynamic capabilities in sensing market trends and consumer needs.

Case D's culture is also characterised by a strong inclination towards adaptation and change, which allows the organisation to efficiently react to market movements, changes in regulations and improvements in technology, as outlined by D2: "*This cultural flexibility allowed the company to rethink its strategies, reallocate resources and fund renewable energy projects*". The culture promotes proactive decision-making, enabling Case D to quickly seize opportunities and minimise challenges. Additionally, it fosters a mentality of ongoing improvement and knowledge acquisition, ensuring that the organisation remains adaptable and resilient in the face of uncertainty, reflecting the interpreting and integrating stages of organisational learning and dynamic capabilities in regard to seizing, as outlined by D2: "*The culture of resilience and adaptability prepares the company for energy industry developments*". Case D's versatility allows it to readily adopt new concepts, technologies and commercial frameworks, permitting smooth adjustments to changing market conditions. The organisation's adaptability also applies to the distribution of resources and the development of long-term plans, which is a demonstration of dynamic capabilities in reconfiguring resources in accordance with shifting priorities or market circumstances to meet opportunities and address challenges.

Additionally, Case D also fosters a robust culture of resilience, where employees are encouraged to embrace difficulties and see failures as chances for personal and professional development. Participant D3 mentioned, "*Organisational culture helped overcome this obstacle... It led to a rethink of internal processes and a commitment to an agile and responsive culture*". This response also indicates that firms with an

organisational culture, which prioritises promptly addressing the causes of failure, can exhibit adaptability and versatility in handling regulatory changes. The company may effectively traverse industry upheavals and emerge more robust by cultivating a mentality of resilience to tackle future problems, which is aligned with the institutionalising stage of organisational learning, where lessons from failures are embedded in the organisational memory and practices. Case D prioritises employee well-being, which includes not only physical safety but also mental and emotional wellness, as outlined by D1: *“Our culture values employee well-being and operations integrity. Since unexpected problems can arise, constant awareness is necessary. When failure occurs, we investigate thoroughly”*. This indicates that when organisations place high importance on establishing a work atmosphere that is supportive, employees feel appreciated, respected and empowered to put forth their utmost efforts, leading to better firm survival and organisational outcomes. Not only does the organisational culture of Case D focus on the well-being of employees, but it also emphasises enhancing innovation by implementing tools to seek and execute creative ideas from employees at all levels. The firm promotes a culture that encourages experimentation, acknowledging that innovation often requires going beyond conventional limits and questioning established norms. Another significant characteristic of Case D’s organisational culture is that it is safety and efficiency based, as indicated by D1 and D5: *“Operations excellence is our goal”*, and *“our work culture is based on safety and efficiency”*, respectively. The organisation aims to maximise operational performance while upholding strict safety requirements. This commitment guarantees that company operations are carried out in an ethical and sustainable manner. It can be observed that every element of Case D’s organisational culture plays a role in its overall achievement and long-term viability in the UAE energy sector. The firm is strategically positioned to flourish in the face of unpredictability and establish itself as a front-runner in the industry by cultivating a customer-focused, flexible, creative and employee-centred atmosphere.

An overall representation of the findings of the within-case analysis of all cases is illustrated in the following figure.

CASE A	CASE C
<ul style="list-style-type: none"> • Culture of risk taking and financial resilience • Strategic risk management • Client-centric and collaborative culture • Culture of innovation and adaptation • Culture of Quality, Learning, and Cooperation 	<ul style="list-style-type: none"> • Culture of Cross-discipline Collaboration • Culture of innovation • Implementation of innovative technologies to facilitate collaboration and knowledge sharing • Centralised organisational culture • Focus on keeping a balance between stability and innovation
CASE B	CASE D
<ul style="list-style-type: none"> • Alignment of culture with strategic objectives • Culture of continuous Improvement and Learning • Adaptability to Evolving Market Circumstances • Prioritises swift adaptation to changing conditions • Fosters a culture of collaboration, innovation, and excellence • Pro-active problem-solving • Effective leadership to shape organisational culture 	<ul style="list-style-type: none"> • Client-centric culture • Culture of Adaptability and Change • Culture of Resilience • Focus on employee well-being • Culture of innovation • Prioritizes operational excellence and safety

Figure 4: Within-case analysis.

4.4 Cross-Case Findings and Analysis

After the within-case analysis was performed, the cross-case analysis was conducted to find similarities and differences among the energy firms implementing strategies for future survival.

4.4.1 Dynamics of the United Arab Emirates' Energy Sector

The energy sector is a crucial and strategically important aspect of the UAE, as oil and gas are among the most significant contributors to the nation's economy and development. The energy industry of the UAE has always been closely associated with its plentiful hydrocarbon reserves, which have driven economic expansion and established the country as a significant participant in the worldwide energy market. The cross-case analysis explored the current perspectives of the participants regarding the UAE's energy sector, as indicated in the following table.

Table 4: Summary of the dynamics of the United Arab Emirates' (UAE) energy sector.

Perspectives Related to the Dynamics of the UAE's Energy Sector	Case A	Case B	Case C	Case D
It is highly reliant on oil and gas.			✓	✓
It is a high-risk sector.	✓			

It is making a strategic shift towards renewable energy.	✓	✓	✓	✓
It is engaging in diversification.	✓		✓	✓
It is making significant investments.	✓	✓	✓	✓
It is implementing new technologies.	✓		✓	✓
It is highly regulated.				✓

It was revealed in the cross-case analysis that Cases C and D have primarily presented the perspective of the UAE’s energy sector being highly reliant on oil and gas, as most cases focused on the sector’s focus on implementing renewable energy. The participants outlined that the nation’s huge oil reserves and longstanding reliance on hydrocarbons have been the main drivers of economic development for many decades. Participant D1 effectively illustrated this fact: *“The UAE’s energy sector relies heavily on oil and gas, which have historically driven economic growth”*. As suggested by C1, *“strong reliance on oil and gas is one of the sector’s key traits”*. The perspectives mainly outlined the need to maintain a harmonious equilibrium between the established advantages of traditional reliance and the rising prospects in the field of renewable energy.

Additionally, one of the cases, case A has outlined that energy sector of the UAE is a high-risk factor. A1 stated, *“The energy industry is a high-risk sector; undoubtedly, from hydrocarbon exploration and extraction activities to electricity transmission and distribution”*. It can be understood that the energy business is fundamentally high risk, including several hazards related to hydrocarbon exploration, extraction, transmission and distribution operations. The response highlights the need to implement strong risk management methods and follow strict safety and environmental regulations.

In response to the worldwide trend towards sustainable practices and the pressing need to tackle climate change, the UAE has deliberately shifted its focus towards renewable energy sources. All cases A, B, C, and D all recognise this change, highlighting the UAE’s dedication to investing in renewable energy, adopting green technologies and increasing market awareness. Participant B2 accurately asserted that renewable energy is crucial for global efforts to transition towards cleaner and more sustainable practices, as indicated in

their response: *“Renewable energy is essential to global attempts to switch to cleaner, more sustainable practices. This requires renewable energy investments, green technology adoption and market awareness. Equally important is adaptability”*. Similarly, participant D2 stated, *“Renewables are transforming the UAE energy economy. This transition supports global climate change and carbon emission reduction initiatives. Solar and wind energy projects are growing”*. This indicated that the shift to renewable energy sources is facilitating the growth of energy sector companies in the UAE.

Nevertheless, some of the cases – A, C and D – outlined that the UAE has acknowledged the need to expand its energy portfolio and reduce its dependence on fossil fuels. The similarity of these perspectives demonstrates the country’s efforts to pursue energy diversification, especially via substantial expenditures in renewable energy sources such as solar and nuclear power. According to Case D3, *“The UAE has also invested much in energy diversification. As the country seeks to minimise its fossil fuel use and increase sustainability, solar and nuclear power have grown in popularity”*. Given the nation’s efforts to reduce its reliance on fossil fuels and promote sustainability, solar and nuclear energy have become the more favoured options.

Cases A, B, C and D also acknowledged that the UAE’s energy sector is making significant investments. As outlined by participant D5, *“in recent years, the UAE has invested extensively in renewable energy, nuclear energy and energy efficiency projects to diversify its energy portfolio”*. Similarly, participant C2 also stated, *“The UAE is making strategic investments in sophisticated technology, and sustainability”*. The emphasis on investments demonstrates the UAE’s significant financial commitment to renewable energy sources, energy efficiency projects and environmental efforts.

To facilitate the shift towards renewable energy, it is important for the energy firms to implement new technologies. However, only two cases – C and D – outlined that the UAE’s energy sector is implementing technologies to improve efficiency, safeguard the environment and provide energy security. Participant D4 outlined the use of smart grid technologies, sophisticated analytics and digitalisation in their response: *“The UAE energy sector is embracing smart grid technology, advanced analytics and digitalisation”*. This demonstrates the sector’s dedication to innovation and technical progress.

One of the most important characteristics of the UAE's energy sector outlined solely by Case D is that it is highly regulated. The government has a crucial influence on the business by enacting rules and regulations that control exploration, production, environmental standards and market competitiveness. Although this regulatory structure ensures stability, D3 recognised that bureaucracy may impede market responsiveness, as indicated in the following quote: *“Government laws shape the industry, which is highly regulated. Regulations govern exploration, production, environmental standards and market competitiveness. This regulatory system is stable but may slow market reactions due to bureaucracy”*.

It can be understood that the UAE's energy sector is successfully managing a multifaceted environment, effectively reconciling its traditional dependence on oil and gas with a deliberate transition towards renewable energy sources and endeavours focused on sustainability. The industry is distinguished by elevated risks, substantial investments, technical progress and a rigorously regulated environment. In order to achieve a more sustainable future, the UAE has to tackle the issues of decreasing its carbon emissions, promoting innovation and remaining competitive in the international energy market while also expanding its range of energy sources.

4.4.2 Alignment of Culture in an Organisation's Framework and Policies

Organisational culture is critical to the success and long-term viability of any business. It embodies the values, beliefs, attitudes and behaviours that define the firm and influence its operations. Aligning this culture with the organisation's strategy and goals is critical to attaining long-term development, encouraging innovation and sustaining a competitive advantage in the market. A robust cultural alignment guarantees that everyone at every level possess a uniform comprehension of the organisation's mission, goals and expectations, facilitating the cooperative and triumphant pursuit of corporate objectives. Based on the analysis, primarily two of the cases provided a perspective on how they had aligned their culture with the organisation's framework and analysis, as represented in the following table.

Table 5: Summary of the alignment of culture in the organisations' frameworks and policies.

Alignment of culture in organisation's framework and policies	Case A	Case B	Case C	Case D	Typology
Communicating Organisational Mission, Values and Objectives	✓	✓			Interpreting, Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
Leadership Alignment and Modelling	✓	✓			Interpreting, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
Inclusive Decision-Making and Employee Involvement	✓	✓			Interpreting, Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
Feedback and Evaluation Mechanisms	✓				Integrating, Institutionalising (Learning); Adhocracy Culture (External Focus × Flexibility)
Clear Communication and Transparency		✓			Interpreting, Integrating, Institutionalising (Learning); Adhocracy Culture (External Focus × Flexibility)

From the above table, it can be observed that both Case A and Case B highlighted the significance of clearly identifying and effectively expressing the company's purpose, values and goals, which serve as the basis for aligning the organisational culture with the framework and policies. Based on the responses given below of participants from Cases A and B, it can be observed that when the organisational culture aligns with these components, it fosters an atmosphere in which people are motivated, engaged and united in pursuing a shared objective. Also, the alignment cultivates a feeling of collective

identity, enables efficient communication and encourages a unified approach to decision-making and problem-solving.

A1: The first step into ensuring the organisational culture aligns with the strategic objectives, is to clearly define the objectives of the company and communicate them well to the workforce of the company.

B2: We align our culture with our strategic goals by incorporating these principles within our organisation. This alignment improves employee engagement and happiness and helps our organisation succeed and survive in the ever-changing energy sector.

It is important to understand that the alignment between culture and organisational architecture manifests in various ways in different companies. Moreover, the emphasis on clear communication and shared objectives reflects the interpreting, integrating and institutionalising processes within the learning framework and is characteristic of clan culture, which focuses on internal relationships and flexibility.

Additionally, leadership has a crucial function in personifying and disseminating this culture since executives and managers at every level act as exemplars and champions of the organisation's principles. As outlined by participant A1, "... *leaderships at all levels [are] aligned with the company's values. Leaders are our role models for the desired culture that we want for the company. Foster an inclusive decision-making process. When employees feel involved, they are more likely to connect with the organisation goals*". Both Cases A and B emphasised the need for leadership alignment and modelling, where leaders at every level are responsible for embodying and promoting the ideal company culture and values, further indicating the presence of clan culture within the organisation, based on internal focus and stability.

Case A specifically focuses on feedback and evaluation systems, such as staff surveys, to evaluate the success of cultural practices and ensure they are aligned with the strategic objective, as indicated in the response by A3 below. The emphasis on feedback and continuous improvement aligns with the integrating and institutionalising processes

within the learning framework and suggests an adhocracy culture, which emphasises external focus and flexibility.

A3: We hold semi-annual surveys to ensure that the culture of our company meshes well with the overall objectives. This approach allows us to learn the employee's perspectives and evaluate the effectiveness of our cultural practices to assure their consistency with our strategic direction. The firm needs this mechanism to have an informed way of making some changes and ensure it is moving in the right direction.

This characteristic was not expressly stated by the participants from other case firms. Participants from Cases A and B – A2 and B1 – also highlighted the significance of inclusive decision-making and employee engagement, which promote a feeling of connection and ownership among workers, connecting them with the aims and culture of the firm, as indicated in their responses below.

A2: It's embraced by the overall goals and objectives and ultimately translated into tactical actions and deliveries in the short and midterm. By enabling rich connections through multiple forums, we empower employees to align efforts while also achieving personal growth goals, enriching our culture and offerings.

B1: This is something that our company has been able to achieve by specifically outlining these cultural dimensions in its policies. This alignment is further strengthened by the fact that it is firmly embedded in our organisational framework through the clear transmission of cultural values and expectations to employees.

Employing inclusive decision-making processes and fostering active employee engagement are crucial for cultivating a sense of ownership and dedication to the organisational culture. Moreover, Case B stands out by prioritising effective communication and openness, specifically in connecting the objectives and performance indicators of senior management with the core values of the firm, thereby guaranteeing that cultural values are deeply embedded in the organisation, as indicated by B3: “Clear communication and the transparent alignment of senior management goals and KPIs with

the company's key values ensure that learning behaviours are ingrained in the organisational fabric". This also indicates that when employees are encouraged to be involved and engage in open communication, they are more inclined to accept and embrace the ideals and objectives of the organisation, which leads to their efforts being aligned towards a common objective. The focus on transparency and open communication is also indicative of adhocracy culture as well.

In addition, communicating organisational mission, values and objectives involves interpreting, integrating and institutionalising learning processes. When organisations clearly communicate their values, they enhance DC1 (sensing) by building intuition and alignment with the environment, enabling employees to anticipate shifts in the market. Leadership alignment and modelling are critical for interpreting and institutionalising learning, as leaders set the tone and demonstrate desired behaviours. In a clan culture, leadership cohesion fosters a culture of shared meaning, which supports DC2 (seizing) – the ability to capitalise on opportunities through collective sense-making. In addition, Cases C and D reflect an adhocracy culture, but DC2 (seizing) may face challenges if interpreting organisational knowledge is less structured. The flexibility of this culture can sometimes make it difficult to align all actors to seize opportunities in a coordinated way. Also, without a strong institutionalised structure, DC3 (reconfiguring) might be more difficult to achieve in this culture, as the organisations lack a firm foundation to reconfigure resources and processes systematically. It can be observed that the alignment of culture, organisational learning and dynamic capabilities is evident in how flexible, participative cultures, including clan and adhocracy cultures, foster sensing and reconfiguring capabilities through processes such as interpreting, integrating and institutionalising learning. However, challenges arise in seizing opportunities when structure and clear interpretation mechanisms are lacking.

From the above table, it can also be observed that Cases C and D do not explicitly address any of the identified subcategories, indicating that the focus on cultural alignment may be less prominent or handled differently in these firms. This may be because of the different sizes of the organisations. Cases A and B are large organisations, which possess complex organisational frameworks, several business divisions and a workforce that is spread

across different geographical locations. Ensuring cultural alignment within a varied and complex business is very important, requiring continuous communication, resilient policies and effective leadership at every level for improved organisational outcomes. However, medium-sized companies, such as Cases C and D, have fewer complex structures and a more concentrated staff and may not have clear objectives and a vision with which the culture can be aligned.

Overall, Cases A and B have certain parallels in how they align culture with the organisational architecture and rules. However, they also have distinct focuses. For instance, Case A places a higher importance on feedback and assessment procedures, while Case B emphasises communication and openness.

4.4.3 Characteristics of Organisational Culture of Cases

Organisational culture differs greatly among energy organisations, which influences their identity and activities. Various firms function differently, as each company develops its own set of values, standards and practices. Some organisations value innovation and risk-taking, cultivating an entrepreneurial environment in which staff are encouraged to think beyond the box. However, others place a premium on stability and adherence to established procedures, fostering a feeling of order and predictable outcomes. Leadership style, industry dynamics and company history are all factors that contribute to the unique organisational cultures present in the current dynamic energy sector, which have significant outcomes. Similarly, in the current analysis, all four cases had some similarities and differences in their organisational cultures, as indicated in the following table.

Table 6: Summary of perspectives regarding the characteristics of organisational cultures.

Cultural Aspect	Case A	Case B	Case C	Case D	Typology
Risk-Taking Culture	✓	✓			Sensing (Dynamic Capabilities); Adhocracy (External Focus × Stability); Intuiting (Learning)

Client-Centric Culture	✓		✓	✓	Seizing (Dynamic Capabilities); Market (External Focus × Stability); Interpreting (Learning)
Culture of Improvement and Adaptability	✓	✓	✓	✓	Reconfiguring (Dynamic Capabilities); Adhocracy (External Focus × Stability); Integrating (Learning)
Culture of Learning and Empowerment	✓				Intuiting, Interpreting, Integrating (Learning); Clan (Internal Focus × Flexibility)
Collaboration-Focused Culture	✓	✓	✓		Integrating (Learning); Clan (Internal Focus × Flexibility)
Culture of Employee Well-Being		✓		✓	Clan (Internal Focus × Stability); Marginalising (Unlearning)
Culture of Open Communication			✓		Clan (Internal Focus × Flexibility); Integrating (Learning)
Centralised Organisational Culture			✓		Hierarchy (Internal Focus × Flexibility); Institutionalising (Learning)
Innovation-Focused Culture			✓	✓	Seizing (Dynamic Capabilities); Adhocracy (External Focus × Flexibility); Intuiting, Interpreting (Learning)
Efficiency-Focused Culture				✓	Hierarchy (Internal Focus × Stability), Market (External Focus × Stability);

					Institutionalising (Learning); Realising, Marginalising (Unlearning)
Safety-Focused Culture				✓	Clan (Internal Focus × Flexibility); Institutionalising (Learning)

Energy firms with a risk-taking organisational culture can be characterised by a readiness to accept uncertainty and actively explore possibilities that may lead to significant obstacles or possible risks. In these environments, people are motivated to engage in creative thinking, experiment with novel ideas and explore non-traditional methods to accomplish strategic goals. Cases A and B represent a risk-taking organisational culture, while Cases C and D do not explicitly mention it. Regarding Case A, participants highlighted a shift towards a more risk-taking culture, especially in the past three years. Participant A1 mentioned, *“Even though we are a technology company, we are typically risk-averse, so this may be taking some credit from us. Yet recently, in the past three years, we started to be more open, especially while we place strategic bets in the new energy space”*. Participant A3 added, *“Our approach to the issue of risk is consistent with our culture and rational in view of our strategic roles. We evaluate the market situation and any risk that arises; hence, if we take it, the risks will be very carefully calculated”*. Participant B1 also stated, *“One aspect of our company is risk-taking. It is also rooted in our organisational culture and depicts how far we are prepared to make measured risks work for us and move the organisation forward both innovatively and growth-wise”*. The disparity may arise from the nature of Case A’s and Case B’s organisational operations, where deliberate risk-taking is promoted to foster innovation and maintain a competitive edge compared to the other two case firms.

Cases A, C and D have a client-centric culture, but Case B does not mention one. Participant A2 stated, *“Our client-centric culture, focused on collaboration and continuous improvement, was instrumental in responding to evolving consumer preferences”*. Participant D5 mentioned, *“Our client-centric strategy involves knowing UAE energy*

industry clients' particular needs. We can anticipate changing client needs and adapt our solutions by creating excellent client relationships". Participant C3 said, *"A customer-centric focus is paramount, with a dedication to delivering quality products or services"*. This indicates that the firms with a client-centric organisational culture prioritise the requirements, preferences and happiness of clients or consumers above all other considerations. One of the main aspects that these organisations have embedded in their objectives is focusing on clients by providing them with outstanding value and experiences, thoroughly comprehending their requirements and synchronising all organisational activities to successfully fulfil those demands. Cases A, C and D may prioritise client-centricity to better understand and adapt to evolving consumer preferences and regulatory changes considering the complex requirements of the energy sector. In contrast, Case B may be more focused on internal operations or other priorities, leading to a lesser emphasis on client-centricity.

It is interesting to note that all four case firms emphasise a culture of improvement and adaptability. For instance, A1 stated, *"Organisational culture can significantly impact a company's ability to avoid failures in its processes by creating an environment that favours continuous improvement, collaboration and adaptability"*. Participant A3 added, *"This flexibility, which is a characteristic feature of our trail-blazing spirit, helped us immeasurably to steer through the choppy waters that marked the dynamics of the solar industry"*. The participants emphasised the significance of fostering a culture of ongoing improvement inside the organisation. Participant B2 mentioned, *"Our culture helped us adapt to a fast-changing market. Our teams met rising competition with creativity and a drive to development"*. Additionally, B3 stated, *"The culture fosters cooperation and innovation, helping to keep the organisation flexible and able to adapt to easily changeable situations in its industry"*. Case B has acknowledged the need to adjust to a rapidly evolving market but does not clearly prioritise ongoing enhancements. Participant C3 highlighted, *"Adaptability is a key trait, enabling the organisation to navigate changes in the business environment effectively"*. Moreover, D2 said, *"The culture of resilience and adaptability prepares the company for energy industry developments. Our continual improvement strategy benefits us in an adaptable environment"*. These responses indicate the importance

of flexibility and adaptability in an organisation's culture, as these enable the company to effectively respond to rapidly changing circumstances within the energy industry.

In regard to the culture of learning and employee empowerment, only Case A has specifically highlighted it. This characteristic of organisational culture is specific to Case A and not indicated by Cases B, C and D. Participants emphasised the role of organisational culture in shaping the company's learning and guiding employees' actions. For instance, A1 stated, "*The company culture is always evolving around the values of growth, leadership and care. This is what shapes our organisation identity and guides the actions for our employees*". Participant A3 added, "*The culture in our company can be briefly described as pioneering. This one word represents our key values and qualities, pointing to our innovation, futurism and willingness to pioneer new developments in the sector*". The responses indicate development, leadership and caring as fundamental factors that shape the organisation's identity, which suggests a cultural environment that places importance on the development of personal and professional skills, promotes leadership at every level and gives high priority to the welfare and assistance of its staff. These characteristics provide a conducive climate that enables people to acquire knowledge, develop professionally and assume responsibility for their positions. Employees in such a culture are likely to be motivated to think creatively, take calculated chances and enthusiastically welcome new ideas, thus fostering a dynamic and empowering work environment.

It was also found that all case firms except D have outlined that their organisational culture incorporates collaboration to a significant extent. Participant A2 said, "*Our organisation is defined by a strong culture that focuses on: engage, collaborate, lead and deliver*". Participant B1 also mentioned, "*The values and characteristics that make the organisation unique are a solid attention to teamwork, innovation and dedication to excellent performance in all our activities. This creates a culture that is based on the way of life, leading to an environment in which employees feel safe and active while working together, such as sharing ideas*". Adding on to this, C1 stated, "*This collaborative approach guarantees that our operations meet regulatory standards, reducing compliance risks and improving relations with authorities*". The responses indicate that engaging, cooperating, leading and delivering highlights the significance of cooperation in the organisational

culture, suggesting that teamwork is a crucial element in accomplishing objectives. Also, the case firms strive to create an atmosphere where workers feel secure and encouraged to share ideas, which in turn promotes collaboration. Furthermore, collaboration is a means to ensure compliance and enhance relations with authorities, emphasising the importance of cooperation both within and outside the organisation, underscoring its role in effectively and efficiently achieving organisational goals. However, Case D does not provide a perspective of its culture as being focused on collaboration; rather, it is more centred on safety and efficiency.

Moreover, considering how energy firms are highly prone to risks due to their complex nature, regulations and other characteristics, only Case D has shown its organisational culture to be focused on resilience and adaptability as well as efficiency and safety. Participant D1 stated, *“Another hallmark of our society is efficiency. Operations excellence is our goal, and we consistently optimise procedures to reach production targets. We recognise that innovation may be improved. We are establishing a workplace that values safety, efficiency, innovation and forward-thinking”*. Participant D5 added, *“Our work culture is based on safety and efficiency. Our strict safety measures create an environment where employee well-being is vital”*. For companies such as Case D that operate in the high-risk energy industry, it is crucial to have a strong culture that prioritises safety and efficiency. Safety is of highest importance in the energy business due to its inherent risks, strict regulations and substantial environmental effects. It is necessary to protect people, assets and the surrounding populations. Developing a culture that prioritises safety guarantees adherence to regulations, preserves the condition of assets, promotes environmental responsibility and safeguards the well-being of employees, which eventually leads to improved operational dependability, reduced costs and the preservation of public confidence. Moreover, placing emphasis on efficiency enhances safety initiatives by simplifying procedures, maximising the utilisation of resources and minimising the likelihood of mistakes and accidents.

Cases B and D prioritise employee well-being as part of their culture. For instance, B1 stated, *“The values and characteristics that make the organisation unique are a solid attention to teamwork, innovation and dedication to excellent performance in all our*

activities. This creates a culture that is based on the way of life, leading to an environment in which employees feel safe and active while working together, such as sharing ideas". D1 also outlined, *"Our culture values employee well-being and operations integrity. Since unexpected problems can arise, constant awareness is necessary. When failure occurs, we investigate thoroughly"*. These responses demonstrate a significant correlation with the concept of fostering a culture that prioritises the well-being of employees. The prioritisation of collaboration, ingenuity and commitment to exceptional achievement implies a workplace that nurtures and appreciates its people, fostering a culture where they feel secure and empowered to freely exchange ideas. Also, Cases A and C have collaboration strategies in place to implement a better culture but have not outlined a perspective that collaboration is ingrained in their cultures. Incorporating collaboration into an organisational culture leads to the establishment of a nurturing and secure atmosphere for the employees, therefore fostering their well-being in the firm.

Collaboration and communication are significantly connected. Even though Case C's organisational culture characteristics do not represent collaboration, they do represent communication. Also, the Case C participants indicated that the organisational culture of their firm is centralised in nature. Participant C3 stated, *"If we imagine a renewable energy company that faced a project failure due to unforeseen technical issues. If the company has a culture that encourages open communication, learning from mistakes and innovative problem-solving, the employees may be more likely to report the issues early"*. Also, C1 outlined, *"Our centralised culture enabled quick problem-solving. This centralised approach enabled a coherent strategy, providing excellent change adaptation. Its drawbacks were tiered processes that could hinder decision-making"*. Although innovation is increasingly being adopted by companies around the world, the participants from Cases A and B did not provide an indication of innovation being a part of their culture, unlike those from Cases C and D.

Based on the linkages between the concepts of culture, learning and dynamic capabilities indicated in Table 4, it can be understood that the risk-taking and collaboration-focused culture in Case A exemplifies how adhocracy (external focus × flexibility) promotes sensing (DC1) through intuiting (OL1), as the culture promotes rapid adaptation and innovation.

This is substantiated by collaborative learning (OL2), which facilitates the rapid reconfiguration of knowledge through cross-departmental integration (DC3). Case A is able to remain responsive and adaptive in regard to changes in its environment due to the alignment between dynamic learning processes and a flexible culture. A distinct dynamic is emphasised in Case C by the firm’s centralised and innovation-focused culture. In this context, a hierarchy culture (internal focus × stability) enables the institutionalisation of (OL3) learning processes, thereby ensuring that routines and knowledge are deeply ingrained. Nevertheless, this structure may impede the ability to capitalise on (DC2) opportunities as a result of the delayed decision-making process. However, the emphasis on innovation through interpreting (OL4) enables Case C to remain competitive, despite the potential constraints imposed by the centralised culture’s rigidity. The contrast between Cases A and C demonstrates how dynamic capabilities are facilitated by flexible cultures, whereas more structured cultures can limit adaptability but improve efficiency and stability.

4.4.4 Current Efforts Being Implemented by Cases for Future Planning and Survival

In today’s dynamic business environment, energy companies must navigate a complex and dynamic landscape characterised by fast technical breakthroughs, fluctuating customer demands and unexpected market dynamics. In this context, the need for future planning and survival looms large, prompting firms to implement forward-thinking initiatives to ensure their sustainability and relevance. In this regard, the current analysis represents the efforts taken by the four case firms as they anticipate and prepare for their survival in the energy sector’s competitive environment, indicated as sub-categories in the following table. Each of these sub-categories are discussed in the following sub-sections.

Table 7: Summary of perspectives regarding the current efforts being implemented by the case firms for future planning and survival.

Category	Codes	Typology
Information Sharing and Understanding Macro Trends for	Effective anticipation and planning	Sensing, Seizing (Dynamic Capabilities); Intuiting, Interpreting (Learning)

Survival and Planning		
	Understanding macro trends and future possibilities	Sensing (Dynamic Capabilities); Adhocracy (External Focus × Flexibility)
	Company's focus on strategic decision-making	Seizing (Dynamic Capabilities); Integrating (Learning)
	Task force for understanding market trends and dynamics	Sensing (Dynamic Capabilities); Intuiting, Interpreting (Learning)
Being Aware of Regulatory Changes	Regulatory awareness	Interpreting, Institutionalising (Learning); Realising (Unlearning)
	Being aware of the industry trends	Interpreting (Learning); Sensing (Dynamic Capabilities)
	Company has a regulatory affairs team for managing failures	Institutionalising (Learning); Hierarchy Culture (Internal Focus × Stability)
Efforts for Adopting Renewable Energy	Focus on renewable energy	Seizing (Dynamic Capabilities); Integrating (Learning); Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility)
	Investments in achieving government benchmarks (related to renewable energy)	Seizing (Dynamic Capabilities); Institutionalising (Learning)
	Company's investments in renewable energy	Reconfiguring (Dynamic Capabilities); Integrating (Learning)
Innovation and Adaptation	Company's focus on innovation and adaptation	Seizing, Reconfiguring (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)

	Digital transformation for innovation	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning)
	Recognition programmes for innovation	Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility); Intuiting, Integrating (Learning)
Change Management and Employee Engagement	Implementing change management	Reconfiguring (Dynamic Capabilities); Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
	Increasing employee engagement	Clan Culture (Internal Focus × Flexibility); Integrating (Learning)

4.4.4.1 *Information Sharing and Understanding Macro Trends for Survival and Planning*

Planning has been identified as a prominent and coordinated focus across all the organisations analysed in this multi-firm examination. The case companies acknowledge the swiftly evolving environment of the energy sector and the need to actively prepare and adjust their strategy, operations and services appropriately. Strategic planning is crucial for organisational learning and survival in this dynamic business, and it involves forecasting market upheavals, keeping ahead of developing technology, comprehending regulatory changes and foreseeing shifting client wants. The following table indicates the similarities and differences between the survival and future planning efforts implemented by the case firms.

Table 8: Summary of information sharing and understanding macro trends.

Codes	Case A	Case B	Case C	Case D	Typology
Anticipation and planning of survival	✓	✓	✓	✓	Sensing, Seizing (Dynamic Capabilities); Intuiting, Interpreting (Learning)

Understanding macro trends and future possibilities	✓				Sensing (Dynamic Capabilities); Adhocracy (External Focus × Flexibility)
Company’s focus on strategic decision-making	✓	✓			Seizing (Dynamic Capabilities); Integrating (Learning)
Task force for understanding market trends and dynamics			✓		Sensing (Dynamic Capabilities); Intuiting, Interpreting (Learning)

It can be observed in the above table that all case firms have implemented efforts related to planning and survival. They actively monitor market trends, emerging technologies and regulatory changes to adapt their strategies and offerings accordingly, which is linked with sensing and seizing opportunities, as it involves identifying and acting on opportunities. For instance, A3 stated, *“Our firm’s first foray into the solar industry was CSP investment. Acknowledging the capabilities of solar PV technology, we have also invested a minimal amount in this sector. When the solar PV market began to develop quite dynamically, our previous experience with this technology made it possible for us to successfully switch gears and take advantage of emerging prospects”*. Participant B2 added to this by outlining, *“Our business understands the need for strategic planning to survive in the changing energy market. Our UAE energy consultants goal is to anticipate and embrace industry disruptors”*. Case B emphasises the need for strategic planning to survive in the changing energy market, with its UAE energy consultants aiming to anticipate and embrace industry disruptors. Other participants highlighted how regular feedback loops keep their learning programmes relevant to industry changes and challenges, enabling their personnel to be responsive and anticipatory. Additionally, the learning aspect is evident in the ongoing feedback loops and assessments of past projects, which help organisations interpret industry changes and integrate these insights into strategic planning. Companies also emphasise the importance of fostering strong client relationships to anticipate and adapt to changing customer needs. For instance, D5 stated, *“We can anticipate changing client needs and adapt our solutions by creating excellent client relationships”*. It is also evident that the anticipation and planning of survival are

linked to intuiting and interpreting the learning framework, as it involves understanding and making sense of future scenarios.

Only Case A recognises the importance of understanding macro trends and future possibilities in the energy industry. Energy firms have to actively monitor regulatory changes, compliance requirements and market trends to ensure their operations remain aligned with legal boundaries and industry developments. Case A underscores the need to be “*constantly aware of regulatory changes and compliance requirements in the energy industry*” and to “*read and act upon market and industry macro trends*”; this aligns with the sensing aspect of dynamic capabilities and the adhocracy typology, which values external focus and flexibility. The ability to read and act upon macro trends ensures that operations remain compliant and aligned with industry developments, fostering a proactive approach to strategic positioning.

Just as Case A has implemented efforts related to analysing macrotrends, Case B has emphasised the importance of strategic decision-making. This is a critical aspect of facilitating organisational learning and adaptation in the energy industry. Companies emphasise the importance of fostering an inclusive decision-making process, involving employees and promoting a culture of continuous learning and innovation. Case A highlights the role of leaders in fostering the desired culture and promoting an inclusive decision-making process, while Case B centres its strategic focus on understanding disruptors, continuous education and knowledge sharing, which positions it as a forward-thinking and adaptive energy player in the UAE. Participant B1 stated, “*Our strategy also entails constant learning, information sharing and innovation. We collaborate on sustainable solutions, share insights and spread the latest breakthroughs with our clientele*”. The significance of strategic decision-making is aligned with the seizing of opportunities, as the case firms are focused on integrating new knowledge and insights to stay competitive.

Apart from the above-mentioned efforts, Case C has implemented some unique efforts that can support survival planning. Participant C2 said, “*Our organisation created a specialist task force with a defined mandate to address these dynamics. This task force tracks energy sector changes, including new technology and regulations, to keep our*

company agile and responsive". This indicates that companies in the energy sector should establish dedicated task forces or teams to monitor market trends, emerging technologies and regulatory shifts to remain agile and responsive to changes in the industry. The action of implementing such tasks is in line with sensing new opportunities and trends to ensure that the firms remain agile and responsive. Not only that, it also reflects that the companies are making efforts to gather and interpret new information, which is line with identifying and developing novel data.

In both Case A and Case B, the emphasis on survival planning and anticipation is in close alignment with the ability to sense and capitalise on dynamic capabilities. These case firms employ the learning processes of interpreting (OL4) and intuiting (OL1) to anticipate opportunities and challenges. The significance of forward-thinking strategies is underscored by the proactive approach to survival, which necessitates the capacity to detect changes and capitalise on opportunities in an advantageous manner. In these instances, it is essential to establish a culture that enables strategic adaptability, thereby ensuring that organisations remain resilient in dynamic markets by supporting both perceiving and seizing. Regarding Case C, the firm's emphasis on a task force to comprehend market trends and dynamics is consistent with its active pursuit of perceiving dynamic capabilities, which involves the interpretation of external signals. The learning processes of interpreting (OL4) and intuiting (OL1) are essential for the purposes of decoding market trends and formulating strategic responses. Nevertheless, they are complemented by the company's strategic decision-making focus, as evidenced in Cases A and B, which is based on the integration of (OL2) learning to synthesise insights across departments and ensure cohesive actions. This equilibrium between identifying market trends and formulating strategic decisions illustrates the distinct strategies that firms with structured planning (Cases A and B) and dedicated market teams (Case C) employ to enhance their dynamic capabilities.

4.4.4.2 Being Aware of Regulatory Changes

Amid the fast-changing business environment of today, organisations must be alert and flexible in order to negotiate the complex network of legal obligations and industry dynamics. Regulatory compliance and industry understanding have become essential

elements for achieving long-term success, going beyond basic legal requirements to turn into strategic necessities. Companies that actively adopt these features may reduce risks, take advantage of new possibilities and sustain a competitive advantage. The following table indicates the similarities and differences among the regulatory compliance and industry awareness efforts implemented by the case firms for future planning and survival.

Table 9: Summary of regulatory compliance and industry awareness efforts.

Regulatory compliance and industry awareness efforts	Case A	Case B	Case C	Case D	Typology
Being aware of the regulatory changes	✓	✓	✓	✓	Interpreting, Institutionalising (Learning); Realising (Unlearning)
Being aware of the industry trends	✓	✓	✓	✓	Interpreting (Learning); Sensing (Dynamic Capabilities)
Company has a regulatory affairs team for managing failures		✓			Institutionalising (Learning); Hierarchy Culture (Internal Focus × Stability)

From the analysis, it can be observed that varying approaches and practices have been adopted by the four distinct entities (Cases A, B, C, and D) concerning regulatory compliance and industry awareness efforts. While all case firms have demonstrated an appreciation for monitoring regulatory changes and industry trends, their strategies and commitment levels diverge notably. Across all four companies, a shared understanding prevails regarding the necessity of staying abreast of regulatory shifts within their respective industries. This awareness was exemplified by D3: *“Our sector is intrinsically regulated, yet the incident highlighted the need to react to regulatory changes. It led to a rethink of internal processes and a commitment to an agile and responsive culture”*. Such recognition underscores the pivotal role of interpreting and institutionalising knowledge, indicating an integration of regulatory understanding into daily operations, which enhances an organisation’s ability to adapt and maintain stability amid changes.

Similarly, the analysis reveals a unanimous acknowledgement of the importance of monitoring industry trends. This proactive approach was encapsulated by B4: *“A new energy and digital transformation strategy shows commitment to staying ahead of industry developments. An effective system for monitoring industry trends, technical advances and regulatory changes helps the firm respond”*. Echoing this sentiment, D4 emphasised the role of market research in *“keeping us abreast of changing consumer tastes, technology and regulations”*, enabling swift strategic adjustments to remain competitive. These findings reflect the significance of interpreting industry information and sensing opportunities, showcasing how entities leverage external knowledge to refine strategies and stay competitive.

While all case firms prioritise regulatory and industry awareness, Case B stands out by establishing a dedicated regulatory affairs team to manage compliance failures proactively. Participant B4 underscored the efficacy of this approach: *“A dedicated regulatory affairs team analyses and interprets regulatory changes for the company. This proactive strategy lets the company adjust its operations in real time to ensure compliance and minimise disruptions. It’s notable that the corporation has avoided major failures. The company’s agility and forward-thinking culture have helped”*. This measure not only enhances compliance but also exemplifies the focus of institutionalising regulatory knowledge within the organisational hierarchy, demonstrating a structured approach to integrating compliance into the core operational framework and fostering a culture focused on internal stability and proactive adaptation.

Regarding Cases A, B, C and D, the organisations prioritise awareness of regulatory changes and industry trends, demonstrating a strong reliance on interpreting (OL4) and institutionalising (OL3) learning processes to stay informed and compliant. The ability to sense and respond to these external changes is crucial to maintaining competitive positioning and avoiding regulatory penalties. The presence of a regulatory affairs team in Case B highlights the role of institutionalising learning, particularly in a hierarchy culture, where stability and structured processes ensure that failures are managed systematically. Such a structured approach contrasts with those of the other cases, where dynamic sensing capabilities (DC1) are used to interpret broader industry trends and

adaptive unlearning (realising outdated knowledge) helps maintain compliance while evolving with industry standards.

4.4.4.3 Investing In and Adopting Renewable Energy Sources

The global energy landscape is undergoing a seismic shift, driven by the pressing need to address climate change and transition towards a more sustainable future. As a result, the adoption of renewable energy sources has become a paramount concern for organisations across diverse industries. This transformative endeavour not only aligns with environmental imperatives but also presents significant economic opportunities for forward-thinking companies. The following table indicates the similarities and differences among efforts linked to adopting renewable energy for future planning and survival.

Table 10: Summary of the adoption of renewable energy efforts.

Adopting Renewable Energy Efforts	Case A	Case B	Case C	Case D	Typology
Focus on renewable energy	✓	✓	✓	✓	Seizing (Dynamic Capabilities); Integrating (Learning); Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility)
Investments in achieving government benchmarks (related to renewable energy)	✓				Seizing (Dynamic Capabilities); Institutionalising (Learning)
Company's investments in renewable energy	✓	✓	✓	✓	Reconfiguring (Dynamic Capabilities); Integrating (Learning)

From the above table, it can be observed that all four case firms (A, B, C and D) demonstrate a clear focus on renewable energy, recognising its pivotal role in driving sustainability and aligning with a low-carbon future. This commitment was exemplified

by A2, who said, *“We are committed to embedding decarbonisation and sustainability into all facets of our operations and product offerings. By focusing on these key themes, we can transition our business to align with a low-carbon future”*. Similarly, B4’s focus on their company’s rebranding from “petroleum” to “energy” expressed its transition towards cleaner energy sources, as highlighted here: *“After rebranding, the corporation changed its name from ‘petroleum’ to ‘energy’”*. The symbolic alteration emphasises the new energy transition and plan. This illustrates the company’s transition to cleaner energy and supports its sustainable and forward-thinking mission. Also, all four case firms have made investments in renewable energy initiatives, recognising the strategic importance of diversifying their energy portfolios. Participant C1 outlined, *“Our company has adopted a strong transition strategy to address potential issues. We have invested in sustainable energy sources to adapt to the fast-changing energy situation. This transformation requires diversifying into renewable energy, lowering fossil fuel use and adopting innovative technologies that support global sustainability”*. It is evident that the focus of all four case firms on renewable energy sources exemplifies the seizing of new opportunities to capitalise on them for better development of the energy sector. Also, all four companies are integrating new knowledge and technologies into their operations to support their renewable energy goals. In addition, based on the characteristics of the organisational cultures of Cases A and B, their focus is internal regarding their commitment towards the development of renewable energy sources via adopting a more flexible approach through advanced technologies and sustainable methods. However, the focus of these firms is also external, as they want to contribute to the environment, adopt a flexible approach and contribute to innovative and sustainable methods.

Case A stands out for its investments in achieving government benchmarks related to renewable energy. Participant A2 outlined, *“Specifically, we have invested significantly in boosting the localisation of our offerings to exceed the in-country value requirements instituted by the government. This includes building out facilities to manufacture components vital for renewable energy and waste management technologies right here in the UAE”*. It is evident that the firm is institutionalising, as it is embedding government policies and standards into its strategic initiatives; this targeted effort to align with national

sustainability goals demonstrates a more structured and formalised approach to adopting renewable energy.

In Cases B, C and D, renewable energy is the primary focus, emphasising the alignment with the integration of learning processes (OL2) and the leveraging of dynamic capabilities (DC2). This focus suggests that these organisations are utilising renewable energy initiatives in a proactive manner, with the support of either clan or adhocracy cultures and driven by both internal and external flexibility. These cultures encourage innovation and adaptability, which enables the companies to effectively incorporate sustainability into their strategies. Regarding Case A, the organisation’s investments in meeting government benchmarks are indicative of a more structured approach, which involves institutionalising learning (OL3) to guarantee that the renewable energy initiatives are in compliance with regulatory requirements. The significance of reconfiguring dynamic capabilities (DC3) is underscored by investments in renewable energy in all cases. This is due to the fact that the companies are constantly adapting and integrating renewable practices into their core operations, thereby assuring long-term sustainability and a competitive advantage.

4.4.4.4 Implementing Recognition Programmes and Technologies for Innovation

In the rapidly evolving energy sector, innovation and adoption have emerged as critical drivers of success. Companies that embrace cutting-edge technologies, foster a culture of experimentation and proactively adapt to market dynamics can gain a significant competitive advantage. This analysis examines the innovation and adoption efforts undertaken by the four energy firms (Cases A, B, C and D), shedding light on the similarities and differences among the innovation and adoption efforts they implement for future planning and survival.

Table 11: Summary of innovation and adoption efforts.

Innovation and Adoption Efforts	Case A	Case B	Case C	Case D	Typology
Company’s focus on innovation and adaptation by being informed of new market trends	✓	✓	✓	✓	Seizing, Reconfiguring (Dynamic Capabilities);

					Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility), Market Culture (External Focus × Stability)
Digital transformation for innovation by adopting new technologies	✓	✓	✓	✓	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning)
Recognition programmes for innovation			✓	✓	Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility); Intuiting, Integrating (Learning)

It can be observed from the above analysis that across all four cases (A, B, C and D), a strong emphasis on innovation and adaptation is evident. Innovation and adaptation are aligned with seizing and reconfiguring, as these companies are actively identifying and leveraging opportunities within their environments. Participant B2, representing consultants, exemplified this mindset: *“As consultants, we recognise the need of keeping up with new technology and regulations. We actively track and analyse market trends. To stay informed, we meet with industry experts, attend conferences and work with research institutions. Finding technological disruptions or advances is just the beginning. Formulating effective solutions is crucial”*. Similarly, all case firms have also implemented digital transformation for innovation for better future planning and survival. Participants B4 and C1 shed light on the digital transformation initiatives undertaken by their respective organisations to drive innovation. Participant B4 stated, *“With a forward-thinking approach, the organisation has prioritised energy and digital transformation. We prioritise integrating new technology like renewable energy and digital tools into our*

operations". Similarly, Participant C1 highlighted their company's "*holistic approach to innovation and experimentation, focusing on digital transformation. These initiatives use emerging technology and encourage experimentation and innovative problem-solving. Digital transformation programs like R&D labs, hackathons and innovation challenges inspire employees to try new things*". The case firms have indicated a strong focus on leveraging emerging digital technologies and tools to drive innovation within the organisations. Initiatives such as integrating renewable energy technologies, establishing R&D labs, and holding hackathons and innovation challenges are highlighted as means to encourage experimentation and inspire employees to explore novel approaches and solutions. These responses underscore the recognition that digital transformation is a key enabler to foster a culture of innovation and survival in the rapidly evolving energy sector. This also corresponds with the capabilities of seizing and reconfiguring, as these companies are not only identifying new technologies but also reconfiguring their operations to integrate these advancements. Integrating as a learning aspect is demonstrated through the implementation and assimilation of digital tools and technologies, highlighting the firms' ability to showcase a proactive approach towards implementing these tools and renewable energy into their existing framework.

Only two case firms – B and D – emphasise the importance of fostering a culture of innovation through recognition and reward programmes. In regard to this, participant D3 noted, "*Our organisation promotes innovation and experimentation to compete in the fast-changing energy sector. Rewards and recognition programs foster innovation in our culture. These initiatives encourage employees to develop and implement innovative ideas, such as streamlining procedures, introducing new technologies or trying novel approaches to problems*". The analysis reveals a shared commitment to innovation and adaptation across all four cases, with diverse strategies and initiatives tailored to their respective organisational contexts. While some firms prioritise digital transformation and emerging technologies, others focus on fostering a culture of experimentation through recognition programmes and collaboration with external stakeholders. It is also evident that Cases B and D promote a culture of innovation through recognition and reward programmes; this is in line with clan culture, which is focused on improving internal operations and adopts a flexible approach. The focus is not only internal but also external,

as the recognition programmes implemented by the firms (e.g. Case D) represent their ability to develop and implement innovative ideas, fostering an environment conducive to intuiting and integrating aspects of the learning framework. Collectively, these efforts underscore the industry's recognition of the vital role innovation plays in driving growth, enhancing competitiveness and addressing the evolving energy landscape's challenges.

In the cases presented, the alignment of innovation efforts with dynamic capabilities, organisational learning and organisational culture demonstrates how these frameworks complement each other. For example, in all cases, the companies adopt market trends and technologies, showing strong seizing (DC1) and reconfiguring (DC3) capabilities, which are likely supported by intuiting (OL1) and integrating (OL2) learning processes. However, the strength of these links depends on the cultural context. For instance, intuiting (OL1) may naturally enhance seizing in more flexible adhocracy cultures, but reconfiguring might only fully materialise if institutionalising (OL3) has been established, especially in a clan culture, where internal cohesion supports change. However, recognition programmes in some cases suggest that learning integration is further supported by the clan or adhocracy culture, reconfiguring (DC3) flexible approaches to innovation that allow organisations to both adapt internally and react to market demands.

4.4.4.5 Ensuring Effective Change Management and Employee Engagement

In the swiftly changing business environment of the UAE's energy sector, the case firms' participants indicated that they need to readily accept change as an enduring and unavoidable influence. Effective change management and employee engagement techniques have become essential for firms to successfully traverse revolutionary transformations while retaining operational excellence and a competitive edge. These elements make it easier to not only accept new technology, processes and tactics but also promote a culture of ongoing learning and adaptability. The following table indicates the similarities and differences among the change management and employee engagement efforts implemented by the case firms for future planning and survival.

Table 12: Summary of change management and employee engagement efforts.

Change management and employee engagement efforts	Case A	Case B	Case C	Case D	Typology
Implementing change management		✓	✓	✓	Reconfiguring (Dynamic Capabilities); Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
Increasing employee engagement	✓	✓	✓		Clan Culture (Internal Focus × Flexibility); Integrating (Learning)

From the above table, it can be observed that Cases B, C and D have implemented efforts related to change management. The participants' responses indicated the critical challenge of implementing effective change management strategies within their organisations. They acknowledged the inherent resistance to change, particularly from long-tenured employees accustomed to well-established operational practices. This resistance poses a significant hurdle that necessitates a multifaceted approach to change management. Participant B4 indicated, *“Our company’s learning culture has been difficult to implement. Traditional employees’ opposition to change was a major impediment. To fix this, we had to upgrade our procedures strategically. Continuous process updates fostered organisational adaptation and resilience. Change management included thorough communication plans to explain the benefits of a learning culture to overcome resistance. Training programs taught staff how to use new technology and methods. Leaders promoted the culture transformation by emphasising the long-term benefits of learning organisations”*. Participant C2 added on to this by stating that *“major operational changes often face resistance. The organisational culture resisted changes*

that affected long-standing operating practices when our company faced a difficulty. Long-term employees (15–20 years) resisted change, highlighting the necessity for sophisticated change management". Participant B4's response illustrated the systematic efforts undertaken by their company to overcome resistance and foster a learning culture. However, C2 highlighted the challenges their firm faced when operational changes threatened to disrupt long-standing practices. It is evident in Cases B, C and D that their focus is also on reconfiguring as they aim to implement change management strategies to update their procedures to adapt to change.

In regard to employee engagement, Cases A, B and C have emphasised efforts related to this area. While implementing change management is crucial, participant C2's response also emphasised the importance of increasing employee engagement as a complementary strategy: *"We foster ownership and commitment to strategic goals by embracing varied ideas and involving staff from different areas"*. Moreover, this participant's emphasis on the resistance put forth by long-term employees aligns with the need for institutionalising, highlighting the challenge of embedding new practices within the organisational culture. By embracing diverse perspectives and actively involving staff from various organisational areas, the company fosters a sense of ownership and commitment to strategic goals. This inclusive approach not only enhances employee buy-in but also taps into the collective wisdom and creativity of the workforce, enabling more informed decision-making and driving lasting organisational change.

The findings also indicate the firms' focus on their internal operations and high flexibility, which are characteristics of clan culture, and also underscore the importance of fostering a supportive and adaptable organisational environment, as reflected in participant B4's approach to thorough communication plans and training programmes aimed at overcoming resistance and promoting a learning culture.

4.4.5 Facilitators of Organisational Learning

In today's ever-changing energy sector environment, organisational learning is a critical success factor, allowing companies to adapt, develop and survive in dynamic situations. At the centre of this process are the facilitators of organisational learning, which allow firms to successfully acquire, understand and apply information. These facilitators act as

catalysts for continual development and progress, ranging from sophisticated information management systems to collaborative platforms that promote idea sharing. In regard to the current study, the cross-case analysis outlined facilitators of organisational learning and how they impact the learning experience across the four case firms. Understanding the similarities and differences of facilitators presented in the following table provided insights into the methods and procedures that supports cases in their planning for future and survival.

Table 13: Summary of the facilitators of organisational learning.

Facilitators of Organisational Learning	Case A	Case B	Case C	Case D	Typology
Learning and Innovation	✓	✓	✓	✓	Seizing, Reconfiguring (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Training and Development	✓	✓	✓	✓	Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility)
Regular Feedback Mechanisms	✓	✓	✓	✓	Interpreting, Integrating (Learning); Clan Culture (Internal Focus × Flexibility)
Collaboration and Communication	✓	✓	✓	✓	Integrating, Institutionalising (Learning); Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility)
Leadership	✓	✓	✓	✓	Intuiting, Integrating (Learning); Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility)

Performance Management	✓	✓			Institutionalising (Learning), Hierarchy Culture (Internal Focus × Stability)
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Learning and innovation are closely intertwined, as organisations that prioritise continuous learning are better equipped to identify opportunities for innovation and adapt to emerging trends and technologies. All case firms highlight the importance of organisational learning in enabling companies to stay at the forefront of new technologies and adapt to changes in their respective industries. As quoted by participant A1, “*The energy sector is rapidly evolving, so organisational learning enables companies to stay at the core of new technologies, adapting to new changes in the industry and implement innovation*”. Additionally, A2 emphasised the role of leadership in promoting a culture of learning, stating, “*Equipping employees with opportunities to gain new skills and knowledge is instrumental to their professional growth and enables the evolution of our organisation. By making learning a cultural priority backed by leadership, we can empower individuals to take charge of their own development journey in alignment with larger business objectives*”. These responses indicate that fostering a culture of learning and innovation is essential for organisations to stay competitive and adapt to changes in their respective industries, aligning with the emphasis on seizing and reconfiguring dynamic capabilities and fostering an adhocracy culture focused on external adaptability and flexibility.

Training and development programmes are essential facilitators of organisational learning, as they provide employees with the necessary skills and knowledge to perform their roles effectively and contribute to their firm’s goals. All case firms highlight various approaches to training and development, including continuous learning programmes, tailored training aligned with company goals, change management workshops, and programmes focused on emerging trends and industry best practices. For instance, participant A1 noted, “*The company invested in continuous learning and skill development programs for the employees; this ensures that the workforce remains knowledgeable about the latest advancements in the energy sector*”. Participant B2 emphasised the importance of aligning training with company goals, stating, “*We tailor*

training to the company's goals. This ensures employees learn the skills and knowledge needed to achieve the company's goals". The responses indicate that investing in targeted and continuous training and development programmes is crucial for equipping employees with the necessary skills and knowledge to contribute to organisational goals and stay up-to-date with industry trends, reflecting the focus on integrating and institutionalising learning within a clan culture that emphasises internal focus and flexibility.

Regular feedback mechanisms are crucial to facilitating organisational learning, as they provide insights into the effectiveness of training programmes, identify areas for improvement and foster a culture of continuous improvement. All case firms highlight the use of feedback loops and continuous dialogue to assess and enhance learning initiatives. Participant B2 stated, *"Regular feedback loops assess training program effectiveness. This iterative process lets us improve our learning initiatives regularly"*. Participant B3 further emphasised the role of continuous dialogue and feedback mechanisms in fostering alignment and improvement, saying, *"Continuous dialogue and feedback mechanisms further support the alignment, fostering a culture of continuous improvement"*. Participant D4 also said, *"Rewards are crucial to promoting desired cultural features. Rewarding sustainable and learning individuals and teams creates a positive reinforcement cycle"*. These observations suggest that implementing regular feedback mechanisms and fostering continuous dialogue are essential in assessing the effectiveness of learning initiatives, identifying areas for improvement and promoting a culture of continuous learning and growth, which is consistent with internal focus and flexibility, thereby reflecting the clan culture.

Effective collaboration and communication are essential for facilitating organisational learning, as they enable the sharing of knowledge, best practices and ideas across different teams and departments. All case firms highlight the importance of teamwork, open communication, cross-functional activities and knowledge management in solving problems and identifying opportunities for improvement. Participant B2 noted, *"Teamwork and open communication helped us solve the problems. Teams from several departments analysed market trends, customer input and internal processes. This collaboration identified service enhancement opportunities"*. Participant B1 further

emphasised the role of HR procedures in promoting collaboration and knowledge sharing, stating, *“Through our HR procedures, employees in our company work in teams and share ideas together. These processes comprise programs and tools promoting cross-functional activities, sharing best practices and knowledge management within the company”*. In line with communication, D4 outlined, *“The company’s strategic goals are reinforced through regular communication and training. These programmes teach employees about sustainability and how to achieve organisational goals”*. It can be observed that fostering collaboration, open communication and knowledge sharing across teams and departments is essential for solving problems, identifying opportunities for improvement and facilitating organisational learning, aligning with the integration and institutionalisation of learning within both clan and adhocracy cultures.

Leadership plays a vital role in facilitating organisational learning by setting the tone, providing direction and fostering a culture that values continuous learning and improvement. All case firms emphasise the importance of leadership development and consistent communication in promoting a learning culture. Participant B2 stated, *“Leadership development experts living learning. We see challenges as growth opportunities and iteratively solve them. Consistent communication, targeted training and a focus on learning requirements have fostered a culture of continuous learning”*. The response indicates that strong leadership support, consistent communication and a focus on leadership development are essential to creating a culture that values continuous learning, views challenges as growth opportunities and aligns learning initiatives with organisational goals.

Performance management systems that recognise and reward learning, innovation and continuous improvement can serve as powerful facilitators of organisational learning. The case firms highlight the use of performance management strategies to encourage desired behaviours and integrate lessons learned into organisational processes and plans. Participant B4 noted, *“Our thorough performance management and lesson-learning strategy encourages these behaviours. Performance management recognises and rewards innovative employees. The company also encourages continual learning and improvement, integrating experiment results into procedures and plans”*. The response

indicates that implementing performance management systems that recognise and reward learning, innovation and continuous improvement is crucial to encouraging desired behaviours and integrating lessons learned into organisational processes and plans.

The facilitators of organisational learning across the cases reveal critical interdependencies among the three concepts. For instance, the emphasis on learning and innovation indicates a strong relationship between seizing (DC2) and reconfiguring (DC3) capabilities, bolstered by intuiting (OL1) and integrating (OL2) processes. Such a linkage between these concepts is particularly evident in adhocracy cultures, where external focus and flexibility foster a dynamic learning environment. Training and development support integrating (OL2) and institutionalising (OL3), which are essential for embedding new knowledge and are best facilitated in a clan culture, which values internal collaboration and flexibility. The presence of regular feedback mechanisms also highlights how interpreting (OL4) and integrating (OL2) capabilities work best in a clan culture, as these mechanisms reinforce a supportive atmosphere conducive to learning. Similarly, collaboration and communication are vital in both clan and adhocracy cultures, as they promote knowledge sharing and adaptive learning. Leadership plays a pivotal role as well, linking intuiting (OL1) and integrating (OL2) processes to culture; the impact of leadership is more pronounced in environments that prioritise flexibility. Lastly, while performance management fosters institutionalising, its effectiveness appears limited in the absence of broader learning initiatives, reflecting the stability characteristic of hierarchy cultures. By implementing and leveraging these facilitators of organisational learning, companies can create a culture that embraces continuous learning, fosters innovation and enables adaptability to changing market conditions and industry trends.

4.4.6 Factors That Hinder Organisational Learning

The analysis revealed that the participants also outlined the factors that hinder organisational learning. All case firms have different resources, operational capabilities, human resources and rules, which can lead to challenges related to organisational learning. A range of obstacles obstruct the progress towards long-lasting improvement and innovation, including deeply ingrained hierarchical systems, bureaucratic structures, reluctance to change and fear of failure. The analysis of the four case firms revealed

various factors hindering their organisational learning processes, as represented in the following table.

Table 14: Summary of factors that hinder organisational learning.

Factors That Hinder Organisational Learning	Case A	Case B	Case C	Case D	Typology
Limited resources hinder learning	✓				Sensing, Reconfiguring (Dynamic Capabilities); Intuiting (Learning)
Resistance to change	✓	✓	✓	✓	Reconfiguring (Dynamic Capabilities); Institutionalising (Learning); Realising (Unlearning)
Multiple nationalities hinder firm's learning culture		✓			Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Poor organisational culture can lead to delays			✓		Clan Culture (Internal Focus × Flexibility), Hierarchy Culture (Internal Focus × Stability); Institutionalising (Learning)

It can be observed in the above table that the most common factor is resistance to change, identified to hinder the implementation of the organisational learning process. Apart from this common obstacle indicated by the participants for each of their firms, they also noted specific challenges that the companies face in regard to organisational learning. It was found that Case A faces challenges related to limited resources, Case B has challenges related to multiple nationalities (high diversity) and Case D deals with challenges regarding delays. These factors can significantly affect organisational learning.

Participant A1 emphasised the obstacle of limited resources, stating, “Another challenge is always the limited resources; another example could be [that] a limited budget for

training programs or learning platforms can hinder the implementation of a stronger learning culture". This aligns with the concepts of sensing and reconfiguring within dynamic capabilities as well as intuiting within learning. Limited resources affect the organisation's ability to sense opportunities for improvement and reconfigure its resources effectively, which are critical aspects of dynamic capabilities. Intuiting within learning is hindered, as employees lack the necessary exposure and tools to develop new insights and knowledge. Without sufficient investment, employees may lack access to necessary tools and experiences for continuous learning and growth.

As indicated in the table, resistance to change was identified as a significant obstacle to organisational learning by the participants from all case firms. Participant A1 stated, *"Adoption in my view is the biggest challenge; for example, let's think about our oldest employees that often tend to resist adopting a continuous learning culture due to fear of change or concerns about the impact on daily routines"*. Participant C2 elaborated, *"No specific failure condition exists in our organisation, as requested. However, company culture is crucial in addressing change resistance. When changes were made, especially to long-standing operational norms, the organisational culture resisted, especially among long-term personnel"*. Participant D1 also noted, *"However, organisational learning integration is difficult. Resistance to change might make it difficult to integrate these lessons into strategic planning. We are aggressively promoting a culture that embraces change and sees organisational learning as a tool for ongoing improvement"*. These insights highlight the significant impact of reconfiguring within dynamic capabilities and institutionalising and realising within learning and unlearning. Resistance to change directly affects an organisation's ability to reconfigure its processes and structures to adapt to new knowledge and practices, a core element of dynamic capabilities. Institutionalising new practices and unlearning outdated ones are essential for organisational learning but are hindered by resistance to change, making it difficult to incorporate new insights into strategic planning.

Participant B1 identified the challenge of having multiple nationalities within their multicultural structure, stating, *"The adoption of a learning culture within the firm has been faced by one obstacle regarding incorporating people from various nationalities into*

our multi-national structure". This scenario underscores the complexity of a clan culture that focuses on internal organisational operations and flexibility and an adhocracy culture that focuses on external organisational operations and flexibility. High diversity introduces distinct challenges in creating a cohesive learning environment. Clan culture emphasises internal focus and flexibility, which can be strained by diverse nationalities, leading to potential conflicts and misunderstandings. Adhocracy culture, which focuses on external orientation and flexibility, also faces challenges, as varying cultural norms and communication styles may hinder the flexibility needed for innovative learning and adaptability.

Participant C1 highlighted the impact of poor organisational culture on organisational learning, mentioning, "*Organisational cultural differences contributed to our company's failures and missed opportunities. Siloed structures sometimes led to department-specific decision-making. This lack of cross-functional communication may cause oversight and missed opportunities because teams may not have a complete view of the company*". This indicates that without effective collaboration and information sharing across teams, valuable lessons and opportunities for improvement may be overlooked or missed entirely.

The challenges that are encountered by energy firms in promoting organisational learning, such as resource constraints, resistance to change, cultural heterogeneity and inadequate organisational culture, directly impact their capacity to formulate and execute successful strategies for long-term survival. Organisational learning is essential for adaptation and resilience in firms, as it allows them to consistently gain knowledge, embrace innovation and incorporate lessons learnt into their strategic planning. In order to successfully use organisational learning for long-term survival, companies must deliberately foster an organisational culture that promotes and motivates continual learning, cooperation and flexibility. Firms may establish an atmosphere that supports organisational learning by dealing with limitations in resources, encouraging a receptive attitude towards change, seeing diversity as a valuable asset, and supporting effective communication and exchange of information across different functions. The presence of a culture that prioritises learning allows companies to effectively recognise upcoming trends, predict

changes in the market and take proactive measures by implementing creative strategies to guarantee their long-term viability and capacity to compete. By incorporating organisational learning into their strategic planning processes, firms gain the ability to make well-informed choices, take advantage of opportunities and minimise possible risks. This ultimately improves their capacity to negotiate the challenges of a constantly changing business environment. Therefore, businesses must closely connect their recommended strategies for future survival with efforts to foster a strong organisational learning culture. This will facilitate a smooth transition from acquiring knowledge to implementing strategic plans and will enhance the organisations' ability to adapt and withstand ongoing changes. In line with this, certain strategies for future survival are outlined in the following section.

4.4.7 Strategies for Future Survival

In the complex and continuously changing energy sector, the pursuit of organisational survival in the face of uncertainty and upheaval is a widespread issue. In the UAE's energy industry, companies encounter various issues related to implementing effective organisational culture and learning, which illustrates the need for firms to adapt and endure in the face of changing circumstances. Various strategies related to survival were outlined by the participants, as indicated in the following table.

Table 15: Summary of strategies for future survival.

Category	Codes	Typology
Innovation and Adaptability	Foster a culture of innovation by navigating risks	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Perceive challenges as an innovation opportunity	Sensing, Seizing (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Invest in digital technologies and integrate them	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning);

		Adhocracy Culture (External Focus × Flexibility)
	Invest in research and development for adaptability and innovation	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Allocate resources for innovation	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Attend events to be aware of new technologies	Sensing (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Implement brainstorming workshops to implement innovation	Seizing, Reconfiguring (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
	Implement innovation teams	Dynamic Capabilities (Seizing, Reconfiguring); Learning (Integrating); Adhocracy Culture (External Focus × Flexibility)
Learning and Knowledge Sharing	Perceive failure as a learning opportunity	Learning (Intuiting, Interpreting); Unlearning (Realising)
	Engage in continuous learning to be in line with current advancements	Learning (Intuiting, Integrating); Market Culture (External Focus × Stability) Dynamic Capabilities (Sensing)
	Incorporate lessons learned into operations	Learning (Integrating, Institutionalising); Dynamic Capabilities (Reconfiguring)
	Implement platforms for knowledge sharing	Learning (Integrating, Institutionalising); Clan Culture (Internal Focus × Flexibility),

		Adhocracy (External Focus × Flexibility)
	Develop culture for better learning and development	Learning (Integrating, Institutionalising); Clan Culture (Internal Focus × Flexibility)
	Implement learning for sustainability	Learning (Integrating, Institutionalising); Dynamic Capabilities (Seizing); Clan Culture (Internal Focus × Flexibility)
Collaboration and Communication	Emphasise the importance of communication	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
	Improve collaboration through knowledge sharing	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
	Set agenda to cater to multi-national staff	Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
	Improve collaboration by leveraging digital technologies	Learning (Integrating); Adhocracy Culture (External Focus × Flexibility)
	Enhance collaboration in cross-functional teams	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Risk Management and Resilience	Implement risk management	Dynamic Capabilities (Reconfiguring); Learning (Institutionalising); Hierarchy Culture (Internal Focus × Stability)
	Engage in rigorous and strategic planning to overcome risks	Dynamic Capabilities (Seizing, Reconfiguring); Learning (Integrating)
	Have appropriate resources to mitigate risks	Dynamic Capabilities (Reconfiguring), Learning (Institutionalising)
	Conduct timely risk assessment and evaluation	Dynamic Capabilities (Sensing, Reconfiguring);

		Learning (Interpreting, Institutionalising)
	Build organisational resilience	Dynamic Capabilities (Reconfiguring); Learning (Integrating); Clan Culture (Internal Focus × Flexibility)
Leadership and Culture	Lead by example	Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility); Learning (Intuiting, Integrating)
	Establish a supportive and innovation-based work culture	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
	Embed culture and learning in organisational structure	Clan Culture (Internal Focus × Flexibility); Learning (Institutionalising)
	Enhance organisational agility	Dynamic Capabilities (Reconfiguring); Adhocracy Culture (External Focus × Flexibility)

4.4.7.1 *Integrating Innovation and Adaptability Growth*

In today’s rapidly evolving business landscape, innovation and adaptability are essential for organisations to maintain a competitive edge and ensure long-term survival. The energy sector in particular is undergoing significant transformations driven by technological advancements, regulatory changes and shifting consumer demands. Companies must proactively embrace strategies that foster innovation, leverage digital technologies and cultivate an organisational culture that embraces change. The following analysis explores the various strategies employed by the case firms (A, B, C and D) to promote innovation and adaptability, supported by relevant participant quotes.

Table 16: Summary of innovation and adaptability strategies.

Innovation and Adaptability Strategies	Case A	Case B	Case C	Case D	Typology
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Foster a culture of innovation by navigating risks	✓	✓	✓	✓	Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Perceive challenges as innovation opportunity	✓	✓			Sensing, Seizing (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Invest in digital technologies and integrate them		✓			Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Invest in research and development for adaptability and innovation	✓	✓	✓		Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Allocate resources for innovation			✓		Seizing, Reconfiguring (Dynamic Capabilities); Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Attend events to be aware of new technologies				✓	Sensing (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)
Implement brainstorming workshops for implementing innovation				✓	Seizing, Reconfiguring (Dynamic Capabilities); Intuiting, Integrating (Learning); Adhocracy Culture (External Focus × Flexibility)

Implement innovation teams				✓	Dynamic Capabilities (Seizing, Reconfiguring); Learning (Integrating); Adhocracy Culture (External Focus × Flexibility)
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All case firms have recommended strategies related to innovation and adaptability, with Cases B and D providing the most recommendations in this category.

Fostering a culture of innovation is crucial for companies to stay ahead of the curve and drive positive change within their respective industries, as derived from all cases. As highlighted by participant C2, “*additionally, promoting innovation and constant progress in the company is crucial. This involves rewarding creative problem-solving, celebrating technology advances and motivating employees to lead industry changes. Our company can navigate energy sector risks and grab opportunities by actively incorporating these factors*”. This approach aligns with the concepts of seizing and reconfiguring within dynamic capabilities and integrating within learning. By rewarding innovation and encouraging progress, a company can seize new opportunities and reconfigure its strategies to address sector risks, fostering a culture that is flexible and forward-thinking, which also reflects the adhocracy culture that emphasises external focus and flexibility.

Participant D2 further emphasised the importance of implementing an organised innovation strategy, stating, “*This organised innovation strategy creates opportunities for teams to experiment with new ideas within parameters. Creating an innovative culture while keeping basic operations stability is the goal. This dichotomy lets the company grow while maintaining stability for long-term success*”. The response indicates that actively promoting and implementing innovation strategies is critical for organisations to navigate risks, capitalise on opportunities and achieve sustainable growth in the energy sector. Also, this approach supports the principles of seizing and reconfiguring in dynamic capabilities as well as integrating within learning. By structuring innovation efforts within defined parameters, a company can balance experimentation with stability, aligning with

the adhocracy culture's emphasis on external focus and flexibility while ensuring operational consistency.

Successful organisations view challenges not as obstacles but as opportunities for innovation and growth. Participant A3 highlighted this mindset, stating, *“In our organisation, the culture is very much embedded in the nature of problem solving as well as pioneering work. Our organisational identity includes the most important aspect: we find innovative and creative solutions for new challenges. This strategy not only determines how successful we will be, but it also defines what our place in the industry is”*. This perspective aligns with sensing and seizing within dynamic capabilities as well as intuiting and integrating within learning. Viewing challenges as opportunities for innovation reflects an ability to sense and seize emerging opportunities while intuitively understanding and integrating new insights into the organisational framework, consistent with the adhocracy culture's emphasis on external focus and flexibility.

Another strategy to implement innovation is investing in digital technologies and integrating them. Embracing digital technologies is essential for companies to enhance operational efficiency, data-driven decision-making and seamless integration with emerging technologies. Participant B2 emphasised this approach, saying, *“Riding the digital renewable wave summarises a strategic approach, which includes technology, sustainability and adaptability. Technology organisations must invest in digital solutions that improve operational efficiency, data-driven decision-making and seamless interaction with emerging technologies”*. This aligns with seizing and reconfiguring within dynamic capabilities and integrating within learning, as investing in digital technologies and integrating them into organisational operations is a strategic approach for enhancing efficiency, data-driven decision-making and seamless interaction with emerging technologies, ultimately contributing to sustainability and adaptability.

Investing in R&D is a crucial strategy for companies to stay at the forefront of technological advancements and foster adaptability and innovation. Participants from multiple case studies highlighted the importance of R&D investments, partnerships and collaborations. For instance, participant A2 noted, *“Dedicated R&D hubs in partnership with universities allow our scientists and engineers protected space to design*

experimental prototypes informed by market gaps. Specialised labs replicate real-world conditions for use-case trials on technologies like carbon fibres, biofuels or predictive analytics modules without disrupting live assets. Having a balanced capital allocation approach has also helped the company with innovation". Dedicating resources, including financial and human capital, to innovation initiatives is essential for companies to translate innovative ideas into practical solutions. Participant D1 stated, *"We also allocate resources for pilot initiatives to structure experimentation. This ensures that staff have the tools and resources to transform innovative ideas into practical experiments, creating a culture where experimenting is encouraged and essential to continual improvement"*. It can be observed that allocating resources is essential for fostering a culture of continuous improvement and translating innovative ideas into practical solutions. Such investment in R&D supports a culture of continuous improvement and adaptability, consistent with the adhocracy culture's emphasis on external focus and flexibility.

Staying informed about emerging technologies, industry trends and best practices is also crucial for companies to adapt and remain competitive. Participant D5 highlighted the importance of attending networking events and industry conferences, saying, *"Our organisation attends networking events and industry conferences to track energy sector changes. These platforms help us adapt to the UAE's energy market by revealing new technology, regulations and best practices"*. Similarly, Case D has also recommended to implement brainstorming workshops for implementing innovation by encouraging employees to contribute their ideas and fostering a collaborative environment are essential for driving innovation. Participants D1 and D5 emphasised the role of brainstorming sessions, hackathons and workshops in promoting innovation within their organisation.

Moreover, establishing dedicated teams focused on innovation and experimentation can help companies stay ahead of the curve and drive transformative change. Participant A1 highlighted the importance of this, saying, *"Establish dedicated innovation teams, where they are constantly creating and experimenting with new ideas and new technologies"*. Participant D3 further stressed the value of designated innovation teams, stating, *"Designated innovation teams stimulate creativity while abiding to compliance constraints. These teams are free to try new methods, technology and strategies. This*

method provides stability while allowing for innovative, long-term efforts that benefit the organisation". This indicates that establishing dedicated teams focused on innovation and experimentation while balancing compliance requirements is a strategic approach for organisations to foster continuous innovation, explore new methodologies and technologies, and drive long-term organisational benefits. Establishing innovation teams and workshops allows firms to seize new opportunities, reconfigure their strategies and integrate innovative solutions into their operations, reflecting the adhocracy culture's emphasis on flexibility and external focus.

In regard to the findings obtained, it was observed that the process of nurturing a culture of innovation by navigating risks demonstrates how the capabilities of seizing (DC2) and reconfiguring (DC3) are improved through integration (OL2), particularly within an adhocracy culture that prioritises external focus and flexibility. The significance of a flexible culture that encourages risk-taking is further emphasised by the perception of challenges as opportunities for innovation, which is in alignment with sensing (DC1) and seizing (DC2) capabilities. It is also supported by intuiting (OL1) and integrating (OL2) processes. Reconfiguring (DC3) and seizing (DC2) capabilities are directly related to investing in digital technologies (OL3), which demonstrates a dedication to innovation in a cultural context that is similarly adaptive. The allocation of resources for innovation illustrates the connection between seizing (DC2) and reconfiguring (DC3) capabilities and integrating (OL2) learning processes within an adhocracy culture, thereby fostering a proactive approach to adaptation. Intuiting (OL1) and integrating (OL2) processes are further embedded into the organisational framework by attending events to remain informed about new technologies, which emphasises the role of sensing (DC1) in fostering awareness and learning. Via implementing brainstorming seminars and innovation teams, a dedication to seizing (DC2) and reconfiguring (DC3) capabilities is demonstrated. These capabilities are based on intuiting (OL1) and integrating (OL2) processes, which are most effective in an adhocracy culture. By implementing these strategies, companies in the energy sector can foster a culture of innovation, embrace digital technologies, leverage R&D and cultivate an organisational mindset that embraces change and adaptability. These approaches not only enable firms to navigate the

challenges of the rapidly evolving energy sector but also position them as leaders in driving positive change and shaping the future of the industry.

4.4.7.2 Continuous Learning, Knowledge Sharing and Sustainable Growth

Effective learning and knowledge-sharing strategies are crucial for organisations to stay ahead of the curve and foster a culture of continuous improvement. The energy sector is undergoing significant transformations driven by technological advancements, regulatory changes and an increasing emphasis on sustainability. By embracing learning and knowledge-sharing strategies, companies can equip their workforce with the necessary skills and knowledge to adapt to change, drive innovation and navigate the complexities of the industry. The following analysis explores the various strategies employed by the cases firms to promote learning and knowledge sharing.

Table 17: Summary of learning and knowledge sharing strategies.

Learning and Knowledge Sharing Strategies	Case A	Case B	Case C	Case D	Typology
Perceive failure as a learning opportunity	✓	✓	✓	✓	Learning (Intuiting, Interpreting); Unlearning (Realising)
Engage in continuous learning to be in line with current advancements by analysing market trends		✓			Learning (Intuiting, Integrating); Market Culture (External Focus × Stability) Dynamic Capabilities (Sensing)
Incorporate lessons learned into operations	✓				Learning (Integrating, Institutionalising); Dynamic Capabilities (Reconfiguring)
Implement platforms for knowledge sharing			✓	✓	Learning (Integrating, Institutionalising); Clan Culture (Internal Focus × Flexibility), Adhocracy (External Focus × Flexibility)
Develop culture for better learning and development				✓	Learning (Integrating, Institutionalising); Clan Culture (Internal Focus × Flexibility)

Implement learning for sustainability				✓	Learning (Integrating, Institutionalising); Dynamic Capabilities (Seizing); Clan Culture (Internal Focus × Flexibility)
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It can be observed that Cases A, B, C and D have highlighted the importance of learning and knowledge sharing, with varying emphases. For instance, all four case firms recognise the importance of perceiving failure as a learning opportunity. Participant A1 highlighted the significance of embracing failures as learning opportunities, stating, “*Failure is no stranger in the new energy space but should not be deemed necessarily as a bad thing. For instance, failure to pilot and deploy new emerging technology at a certain scale and timing occurs often. Having the ability to embrace the failures as learning opportunities help[s] pivot and adjust for a better and more prepared experience in the future*”. This perspective aligns with the learning concepts of intuiting and interpreting as well as realising within unlearning. Viewing failure as a learning opportunity fosters an environment where insights gained from setbacks are used to improve future practices, reflecting a commitment to continuous learning and adaptation. Participant D1 echoed this sentiment: “*We strive to strengthen organisational learning by encouraging failures to be seen as learning opportunities rather than blame*”. Such responses indicate that cultivating an organisational culture that views failures as valuable learning opportunities – rather than sources of blame – is essential to fostering continuous improvement and adaptability.

Case B recognises the importance of engaging in continuous learning to keep pace with the changing market environment, stay at the leading edge of technological advancements and continuously enhance its processes. Participant B1 emphasised the importance of continuous learning in their firm, stating, “*It is through our system of learning that behavioural organisational behaviours ensure sustainability mechanisms for our firm in the energy business. It enables us to keep pace with the changing market environment, be at the leading edge of technological advancements and continuously enhance our processes*”. This strategy aligns with the learning concepts of intuiting and integrating as

well as sensing within dynamic capabilities. Continuous learning supports an organisation's ability to sense and adapt to market trends, ensuring that it remains current with advancements and improves processes accordingly. This approach reflects the market culture's emphasis on external focus and stability, ensuring that firms stay competitive and relevant.

Cases B and C actively incorporate lessons learned from past experiences into their operations and strategic planning processes. Participant B4 highlighted the importance of integrating organisational learning into strategic planning, stating, *“Integrating organisational learning into strategic planning is laborious and iterative. After assessing business results and strategy efficacy, the company incorporates lessons learnt into future planning. This integration entails systematically reviewing past experiences to find successes and areas for development. These evaluations help refine strategic objectives and action plans. By encouraging learning from triumphs and failures, the organisation keeps its strategic planning dynamic, adaptable and aligned with the changing energy market”*. Participant C3 further discussed the value of regular assessments and evaluations, noting, *“Regular assessments and evaluations of past initiatives and projects provide valuable insights into successes and failures. This information is actively incorporated into strategic planning sessions, shaping future goals and objectives”*. This indicates that systematically incorporating lessons learned from past experiences, successes and failures into strategic planning and operations is crucial for organisations to remain dynamic, adaptable and aligned with the evolving energy market, which is in line with the learning concepts of integrating and institutionalising as well as reconfiguring within dynamic capabilities.

Cases C and D have recommended implementing dedicated platforms and systems to facilitate knowledge sharing and dissemination of lessons learned across different departments and the entire organisation. Participant C3 highlighted the importance of establishing dedicated knowledge-sharing platforms: *“Establishment of a dedicated knowledge-sharing platform fosters communication among different departments, facilitating the dissemination of lessons learned”*. Participant D1 further emphasised the value of these platforms, noting, *“Our knowledge-sharing platforms consolidate best*

practices, lessons learned and new ideas. These platforms, which are regularly updated and widely available, enable seamless information exchange, fostering a culture of collaboration and knowledge sharing in our daily operations". This indicates that implementing dedicated platforms for knowledge sharing is essential for facilitating communication, disseminating lessons learned and fostering a culture of collaboration and continuous learning within organisations.

Case D stresses the importance of aligning organisational culture with strategic goals to improve learning and development. The firm recognises the need to encourage creativity and adaptation and provide learning programmes that teach strategic milestone skills and knowledge. By actively integrating cultural values with strategic imperatives, it aims to improve synergy and holistic organisational development. Participant D1 emphasised the significance of aligning organisational culture with strategic goals, stating, "*We recognise that culture and strategic goals must be harmonious. We are working to match our learning behaviours with strategic goals. This involves encouraging creativity and adaptation and providing learning programmes that teach strategic milestone skills and knowledge. By actively integrating our cultural values with strategic imperatives, we hope to improve synergy and holistic organisational development*". These strategies align with learning concepts of integrating and institutionalising as well as clan and adhocracy cultures. Dedicated knowledge-sharing platforms enhance internal communication and collaboration, promoting a culture of continuous learning and adaptability, which reflects clan culture's internal focus and flexibility as well as adhocracy culture's external focus and flexibility. Participant D3 highlighted the importance of organisational learning for sustainability in the energy sector: "*Organisational learning behaviour is crucial to our energy company's sustainability. The industry is dynamic and highly regulated, requiring constant adaptation to new technology, regulations and environmental requirements. Thus, organisational learning is essential to long-term success*".

The findings indicate that the ability to view failure as a learning opportunity (OL1) is a good example of how intuiting (OL1) and interpreting (OL4) contribute to a culture that promotes adaptability and resilience. The strategy is consistent in all case firms, indicating a robust foundation for the learning and unlearning processes that promote growth.

Continuous learning to remain current with market trends (OL2) underscores the importance of sensing (DC1) in recognising changes, which is facilitated by intuiting (OL1) and integrating (OL2) processes within a market culture that prioritises external focus and stability. Such a proactive approach to knowledge acquisition is suggested by the strategic emphasis on external advancements. The significance of integrating (OL2) and institutionalising (OL3) processes is demonstrated by the integration of lessons learned into operations, which is essential for the integration of knowledge into practices. This strategy is consistent with the capabilities of reconfiguring (DC3), indicating an organisational dedication to adapting in accordance with past experiences. The importance of integrating (OL2) and institutionalising (OL3) in promoting collaboration is underscored by the implementation of platforms for knowledge exchange. This aspect is particularly apparent in clan and adhocracy Cultures, which prioritise both internal and external knowledge exchange and flexibility. In the same way, the establishment of a culture that promotes improved learning and development reinforces the integrating (OL2) and institutionalising (OL3) processes within a clan culture, thereby creating a supportive environment that promotes ongoing growth. The integration (OL2) and institutionalisation (OL3) processes as well as the connection to seizing (DC2) capabilities are further emphasised in the implementation of learning for sustainability, which is more suitable for clan culture. In general, these strategies emphasise the significance of aligning learning processes, dynamic capabilities and cultural attributes to improve the effectiveness of organisations in the sharing of knowledge and the acquisition of new skills.

4.4.7.3 Promoting Cross-Functional Communication and Collaboration through Digital Platforms

Effective communication and collaboration strategies play a pivotal role in fostering an environment conducive to learning and innovation. In this analysis, various cases are presented to understand how different firms prioritise and implement these strategies to promote organisational learning.

Table 18: Summary of communication and collaboration strategies.

Communication and Collaboration Strategies	Case A	Case B	Case C	Case D	Typology
Emphasise the importance of communication	✓	✓	✓	✓	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Improve collaboration through knowledge sharing			✓	✓	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Set agenda to cater to multi-national staff		✓			Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Improve collaboration by leveraging digital technologies	✓	✓	✓	✓	Learning (Integrating); Adhocracy Culture (External Focus × Flexibility)
Enhance collaboration in cross-functional teams				✓	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)

Across all four case firms (A, B, C and D), there is a shared focus on the need to foster transparent communication within the organisation. Case D underscores the necessity of fostering open dialogue, whereby team members are able to freely exchange views without apprehension of negative consequences. This promotes responsibility and collaboration – essential components in promoting organisational learning. Participant D1 emphasised the need to maintain transparent communication channels to effectively resolve challenges and promote a cultural transformation towards a mindset of continuous learning that is accepted by all members of the firm, as indicated: “*Open communication*

channels to recognise and address issues are maintained to ensure that the culture shift towards learning is understood and welcomed by all company members". This demonstrates a purposeful endeavour to create an atmosphere where communication is not just promoted but actively enabled. This approach aligns with fostering a culture that values internal focus and flexibility, creating an environment where learning is integrated into daily practices.

Cases C and D exemplify the significance of increasing collaboration via the sharing of knowledge. Both firms prioritise cross-functional teams, which facilitate collaboration among personnel from several departments and allow them to contribute their specialised knowledge. This cooperative method dismantles barriers and guarantees that a wide range of perspectives are taken into account in the decision-making processes. Case D underscores the necessity of regularly evaluating and modifying strategic plans in response to organisational learning, hence emphasising the need for flexibility for successful knowledge sharing. As indicated by D4, *"knowledge sharing is promoted by cross-functional teamwork. This collaborative method ensures varied viewpoints and experiences in strategic decision-making. Strategic plans must be reviewed and adjusted based on organisational learning. This adaptable approach lets the organisation quickly respond to internal and external changes"*. This approach resonates with a culture that encourages flexibility and external focus, promoting adaptability and innovation within the organisation.

Designing an agenda that accommodates the needs and preferences of workers from various nationalities is the focus of Case B. Participant B1 stated, *"To conquer this challenge, we have set out a malleable, edifying agenda that will provide for the definite requirements and proclivities of every employee of different nationalities. This strategy ensures that our learning culture is all-encompassing and made available to everyone, considering the multi-faceted staff we have"*. This involves creating a flexible agenda that is customised to suit the unique requirements of a multi-national crew. This method guarantees that the learning culture is inclusive and accessible to all people of the organisation, irrespective of their background. By recognising and adapting to changes,

the firm promotes a more inclusive atmosphere that is favourable for learning and cooperation.

In Cases C and D, digital technologies are used to enhance collaboration and facilitate the exchange of information. Digital platforms provide online spaces where workers can exchange ideas, implement best practices and cooperate on projects, regardless of their geographical location. As indicated by D3, “*digital platforms and solutions enable knowledge sharing, making expertise available across the enterprise*”. Participant C1 also stated, “*Digital platforms enable virtual venues where employees can share insights, best practices and project collaboration regardless of location. We prioritise a positive, inclusive workplace to encourage these collaborative behaviours. This encourages people to share their knowledge and ideas, creating a culture of collaboration*”. This not only improves the ability for people to access information but also promotes a healthy and inclusive work environment that stimulates the exchange of knowledge and cooperation. This demonstrates an acknowledgement of the significance of technology in enabling communication and cooperation in contemporary organisations.

The importance of cultivating collaboration in cross-functional teams is emphasised by Cases B and C. The organisations facilitate collaboration among specialists from a variety of fields in order to promote a productive exchange of ideas and experiences. Conventional forums, such as seminars and brainstorming sessions, promote open debate and facilitate the exchange of ideas, thereby improving internal cooperation within the firms. This underscores the importance of a proactive approach to fostering collaboration and leveraging diversity as a catalyst for organisational growth. It is evident that the implementation of effective communication and collaboration strategies is essential for the facilitation of organisational learning. By prioritising open communication, promoting knowledge sharing, embracing diversity, utilising digital technology and fostering cooperation in cross-functional teams, companies can cultivate a conducive environment for learning, innovation and continuous improvement. Organisations that desire to thrive in the present dynamic business environment must implement these strategies, as demonstrated by the analysed examples.

4.4.7.4 Continuous Risk Management for Long-Term Resilience

Amid the unpredictable nature of the current business environment, it is crucial for organisations to use efficient risk management and resilience techniques in order to successfully traverse uncertainty and maintain long-term prosperity. This analysis examines four case firms to comprehend how diverse companies execute and prioritise risk management and resilience strategies to reduce possible risks and enhance organisational resilience.

Table 19: Summary of risk management and resilience strategies.

Risk Management and Resilience Strategies	Case A	Case B	Case C	Case D	Typology
Implement risk management		✓	✓	✓	Dynamic Capabilities (Reconfiguring); Learning (Institutionalising); Hierarchy Culture (Internal Focus × Stability)
Engage in rigorous and strategic planning to overcome risks		✓			Dynamic Capabilities (Seizing, Reconfiguring); Learning (Integrating)
Have appropriate resources to mitigate risks		✓			Dynamic Capabilities (Reconfiguring), Learning (Institutionalising)
Conduct timely risk assessment and evaluation			✓	✓	Dynamic Capabilities (Sensing, Reconfiguring); Learning (Interpreting, Institutionalising)
Build organisational resilience			✓		Dynamic Capabilities (Reconfiguring); Learning (Integrating); Clan Culture (Internal Focus × Flexibility)

Cases B, C and D highlight the importance of implementing robust risk management strategies. Case C emphasises the adaptability, innovation and proactive responsiveness of its risk management approach, emphasising a corporate culture that values learning

from mistakes and actively addresses potential issues. Participant C2 stated, “*Our risk management strategy constantly evaluates and adapts to obstacles. While no organisation is immune to uncertainty, our agility, innovation and proactive responsiveness to industry developments prepares us for future obstacles. Neglecting past failure does not indicate complacency. Instead, it emphasises our ongoing efforts to create a resilient corporate culture that values learning from mistakes and proactively addressing possible issues*”. This indicates a proactive stance towards risk management, where organisations continuously evaluate and adapt to obstacles to stay prepared for future challenges. The culture in the Case C firm is characterised by an internal focus and flexibility and supports the building of organisational resilience, which encourages collaboration and a strong sense of community, enabling the company to endure shocks and setbacks by leveraging the collective strength and adaptability of its members. Case C’s emphasis on learning from mistakes and continuously adapting the risk management strategy underscores the value of interpreting past experiences to improve future responses. This approach aligns with the concept of institutionalising learning, where organisations embed lessons learned into their practices and policies.

Case B underscores the significance of rigorous and strategic planning in overcoming risks. Conducting an ongoing situation analysis as part of strategic planning helps identify potential threats and develop proactive adaptive strategies. Participant B3 noted, “*We also conduct ongoing situation analysis as part of our strategic planning to identify potential threats and develop proactive adaptive strategies*”. This proactive approach ensures that the organisation is better equipped to anticipate and address risks before they escalate. Case B’s focus on integrating learning into strategic planning and resource allocation illustrates how organisations can enhance their adaptive strategies by continuously analysing situations and identifying potential threats.

Moreover, Case B emphasises the importance of having appropriate resources to mitigate risks effectively. By participating in power and water generation projects as local shareholders, the organisation ensures it has considerable resources to contribute to energy projects, thereby mitigating failures and leveraging continuous growth opportunities, which highlights the strategic advantage of having adequate resources to

navigate risks successfully. Cases C and D stress the importance of conducting timely risk assessment and evaluation. Case D mentions incorporating risk assessments into the project planning process and making decisions based on potential impacts on deadlines, budgets and outcomes. Participant D5 stated, *“We conduct risk assessments as part of our project planning process and make decisions based on potential impacts on deadlines, budgets and outcomes. Our accountability culture promotes risk-aversion, ensuring that decisions are taken with potential repercussions in mind”*. This reflects a culture of accountability and risk aversion, where decisions are informed by a thorough understanding of potential repercussions, ensuring proactive risk management. Regarding Case C, the organisation’s proactive responsiveness and adaptability exemplify dynamic capabilities. The constant evaluation and adaptation of the firm’s risk management strategy demonstrate the company’s ability to sense and reconfigure in response to industry developments. This proactive stance is further reinforced by its emphasis on innovation and agility.

Case C focuses on building organisational resilience to endure shocks and setbacks. By diversifying its business, including its energy portfolio, the organisation avoids overreliance on one revenue stream, thereby better weathering market swings. As outlined by C1, *“resilience means enduring shocks and setbacks. Our business diversifies to avoid overreliance on one revenue stream. This involves diversifying our energy portfolio to include traditional and sustainable sources to better weather market swings”*. This proactive approach to diversification enhances the organisation’s ability to adapt and thrive in the face of adversity, fostering long-term resilience.

It can be observed that effective risk management and resilience strategies are imperative for organisations to navigate uncertainties and sustain long-term success. By implementing robust risk management practices, engaging in rigorous strategic planning, ensuring adequate resources, conducting timely risk assessment and evaluation, and building organisational resilience, firms can mitigate potential threats and position themselves for sustainable growth. These strategies, as exemplified in the analysed cases, underscore the importance of proactive risk management and resilience-building efforts in today’s dynamic business environment.

4.4.7.5 Reconfiguring Work Culture Through Leadership Modelling

The importance of providing effective leadership and cultivating a supportive work culture cannot be overstated when it comes to achieving organisational success and promoting innovation. The analysis outlined presents how the four case firms prioritise leadership and culture initiatives in order to create a favourable atmosphere for development, innovation and organisational agility.

Table 20: Summary of leadership and culture strategies.

Leadership and Culture Strategies	Case A	Case B	Case C	Case D	Typology
Lead by example	✓		✓	✓	Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility); Learning (Intuiting, Integrating)
Establish a supportive and innovation-based work culture	✓	✓	✓	✓	Learning (Integrating); Clan Culture (Internal Focus × Flexibility), Adhocracy Culture (External Focus × Flexibility)
Embed culture and learning in organisational structure		✓		✓	Clan Culture (Internal Focus × Flexibility); Learning (Institutionalising)
Enhance organisational agility			✓		Dynamic Capabilities (Reconfiguring); Adhocracy Culture (External Focus × Flexibility)

Exemplary leadership is highlighted by Cases A, C and D, underscoring its significance. Case A emphasises the importance of leaders embodying and maintaining the desired culture by actively engaging in new activities. A participant from Case A suggested that an additional approach would include ensuring that leaders at every level exemplify and reinforce the culture they advocate, which illustrates the influential effect of leadership role modelling on maintaining a team’s engagement and motivation, as indicated in A1’s response: “Another strategy would be to ensure that leaders at all levels embody and

reinforce the desired culture they promote. The good communication with the employees will always guarantee success in keeping the team engaged. Measures of leadership role modelling, when leaders actively support and participate in innovative initiatives, it sends a powerful message to the entire organisation”.

Developing a work culture that is both supportive and focused on innovation is crucial, as acknowledged by all examples (B, C, D). Case B highlights the significance of cooperation and exchange of knowledge, giving priority to a friendly atmosphere that recognises the contributions of team members. Participant B4 stated that a collaborative mentality is strengthened by providing incentives to those who exemplify the cultural values of the organisation, as indicated in their response: *“A collaborative mindset is reinforced by rewarding individuals who embody the company’s cultural values. Collaboration and information sharing are crucial to success” thus, the company prioritises a supportive environment that honours team members’ efforts”.* This underscores the congruity between the company’s culture and its focus on collaboration and ingenuity.

Cases B and D emphasise the integration of culture and learning into the organisational structure. Case B highlights the incorporation of cultural values and learning behaviours within the business framework to guarantee alignment with the overall plan. Participant B1 stated, *“Our culture and learning practices should now be fully integrated into our strategic direction and standard operations, rather than being treated as mere additions”.* This demonstrates a purposeful endeavour to establish the desired culture and learning processes as a permanent part of the organisation.

To improve organisational agility, it is crucial to adapt and respond effectively to future difficulties, as shown by Case C. By prioritising agility and resilience, the firm is prepared to adapt to market, technological and regulatory changes. Participant C1 asserted that energy firms should prioritise agility and resilience in order to adequately prepare for the future, as indicated by in the response: *“Energy firms must prioritise agility and resilience to prepare for the future. Our company understands that agility is key to adapting to market, technical, and regulatory changes. Our organisational culture and operations are rooted in agility”.* The foundation of Case C’s organisational culture and operations

lies on agility. This emphasises the organisation's proactive strategy in promoting agility as a fundamental element of its culture and operations.

Cases A, C and D demonstrate a strong correlation between the intuiting (OL1) and integrating (OL2) processes, which are critical for the development of both clan and adhocracy culture. They are aligned with a leading with example strategy that fosters an environment that promotes innovation and adaptability. The significance of integrating (OL2) in the establishment of a collaborative environment is underscored by the ubiquitous presence of a supportive and innovation-based work culture. The necessity of an internal emphasis on adaptability and an external orientation towards innovation is emphasised by this strategy, which is consistent with both clan culture and adhocracy culture. The commitment to institutionalising (OL3) knowledge within a clan culture is suggested by the embedding of culture and learning in the organisational structure, which is particularly evident in Cases B and D. The alignment guarantees that learning is incorporated into the firm structure, thereby facilitating continuous growth and adaptability. The significance of an adhocracy culture is further underscored by the direct connection between reconfiguring (DC3) capabilities and the enhancement of organisational agility in Case B. The emphasis on agility is indicative of a responsive strategy towards market dynamics, which underscores the necessity for organisations to promptly adjust to changes.

The promotion of innovation and organisational adaptability relies on strong leadership and the cultivation of a conducive work culture. Through demonstrating exemplary behaviour, fostering a work culture that encourages creativity and support, integrating cultural values and learning into the organisational framework, and improving the capacity of the firm to change, companies may develop an atmosphere that promotes growth, resilience and adaptability. The analysed instances highlight the significance of leadership and culture in propelling organisational success and innovation in the current dynamic business environment.

5 Discussion

5.1 Introduction

The current research is focused on exploring how firms in the energy industry of the UAE can develop their organisational culture and learning behaviours to strengthen their chances of survival. This chapter is organised and structured around the research questions, outlining a clear discussion of the findings and answering the queries. The first research question concerns understanding how energy firms in the UAE anticipate and plan for their survival in the dynamic and competitive energy industry. The second research question regards understanding how organisational culture can be leveraged to mobilise energy firms in a direction that enhances their survival prospects in the UAE. The third research question is focused on understanding the key factors that facilitate or hinder organisational learning within energy firms and how these factors contribute to the companies' ability to strengthen their survival strategies. The fourth research question is about outlining strategic plans and safeguards that could be adopted by energy firms in the UAE to effectively integrate organisational culture and learning, thereby enhancing their long-term survival and competitiveness. This chapter presents the discussion of the findings for all of the research questions in line with past literature. The preceding chapters detailed the background, methodology and results of the investigation.

5.2 United Arab Emirates' Energy Firms' Efforts to Anticipate and Plan Their Survival

The analysis of energy firms in the UAE yielded significant insights about the approaches used by these organisations to proactively foresee and strategise for their long-term survival within the ever-changing and fiercely competitive energy sector. These approaches include survival and future planning, regulatory compliance and industry awareness, efforts to adopt renewable energy, innovation and adaptation, and change management and employee engagement. It was observed that all case firms have implemented efforts related to planning and survival for which they actively monitor market trends, emerging technologies and regulatory changes to adapt their strategies and offerings accordingly. These companies recognise the dynamic nature of the energy

industry and the need to modify their approaches, activities and offerings in response. For instance, Case A is the only firm that has acknowledged the significance of comprehending macro trends and prospective opportunities inside the energy sector. Energy firms must engage in proactive monitoring of regulatory modifications, compliance obligations and market dynamics in order to maintain operational alignment with legal parameters and advancements within the sector. The significance of strategic decision-making has been underscored by Case B. The facilitation of organisational learning and adaptation in the energy business is heavily reliant on strategic decision-making (Sohaib et al., 2010). Case C has emphasised the fact that energy businesses should create specialised task forces or teams to oversee market trends, new technology and regulatory changes in order to be adaptable and responsive to sectoral transitions. The idea of dynamic capabilities provides support for these endeavours by highlighting the significance of organisations' capacity to perceive, acquire and adapt their resources and capabilities in light of changing market circumstances (Helfat, 2022). These firms exhibit a dedication to cultivating dynamic skills that allow them to foresee and adjust to future issues by continually monitoring market trends, new technology and regulatory changes (Ferreira, Coelho and Moutinho, 2020). The existing body of literature (Massa, Tucci and Afuah, 2017; Lei and Slocum, 2005; Cao and Shi, 2020) indicates that the cultivation of strategic anticipatory thinking and planning is crucial for the development of dynamic skills within organising entities. The ability to look ahead allows companies to identify and understand sudden changes in their surroundings, which is essential for predicting future dangers and sustaining long-term competitiveness. Efficient navigation of the complex and dynamic energy environment in the UAE may be enhanced by energy corporations via the integration of anticipatory thinking into their strategic planning processes.

One of the other efforts that firms have focused on to anticipate and plan their future survival is ensuring regulatory compliance and enhancement of their industry awareness. All case firms acknowledged the need to remain updated on regulatory modifications and industry patterns in order to mitigate risks, capitalise on emerging prospects and maintain a competitive edge. They all indicated the necessity of conducting regulatory compliance, as it is essential for energy organisations to maintain operational stability and legal

validity. In a sector distinguished by rigorous environmental criteria, safety measures and licensing prerequisites, compliance with laws is not only an issue of corporate accountability but also a necessary condition for ongoing functioning (Cyrus, 2021). Failure to comply may lead to substantial financial penalties, legal conflicts, harm to the firm's reputation and perhaps even the cessation of operations, all of which can greatly disrupt the continuity of company operations and undermine the confidence of stakeholders (Merendino and Sarens, 2020; Salvato et al., 2020). Birol (2022) outlined that it is essential for energy firms to possess a comprehensive understanding of the sector in order to effectively predict and adjust to evolving trends, technical breakthroughs and market fluctuations. The energy industry is subject to continuous transformation, driven by several causes, including geopolitical relations, technical advancements, consumer inclinations and worldwide economic patterns (Birol, 2022). In keeping up with these advancements, companies may see prospects for expansion, reduce risks and adjust their strategy appropriately. For example, the recognition of the increasing need for renewable energy sources may incentivise conventional fossil fuel corporations to broaden their range of investments and allocate resources towards clean energy technologies in order to sustain competitiveness within a market undergoing a transition (ITA, 2022). This is in line with the third approach that is related to future planning and survival.

Energy firms could adopt initiatives to implement renewable energy, as indicated by the analysis of all case firms. It was observed in the findings that all four cases exhibit a distinct emphasis on renewable energy, acknowledging its crucial contribution to promoting sustainability and aligning with a future characterised by reduced carbon emissions. The results also reflected that all firms have allocated resources towards renewable energy programmes, acknowledging the strategic significance of expanding their energy portfolios. Nevertheless, Case A distinguishes itself by its emphasis on achieving government criteria pertaining to renewable energy. The findings indicated that all companies analysed exhibit a distinct focus on incorporating renewable energy sources into their strategic efforts. These corporations acknowledge the significance of conforming to national sustainability objectives and expanding their energy portfolios in order to foster enduring expansion and enhance competitiveness. The attempts to capitalise on new opportunities and handle sustainability concerns are supported by

dynamic capabilities theory, which highlights the significance of innovation and adaptability in enabling organisations (Salvato and Vassolo, 2018). The existing body of literature (Glenn, 2006; Miller, 2011) indicates that firms have the potential to cultivate dynamic skills pertaining to the adoption of renewable energy via the allocation of resources towards R&D, strategic alliances and technical advancements. Energy firms in the UAE may strengthen their capacity to anticipate and adapt to evolving market dynamics, as well as establish themselves as front-runners in the shift towards a more sustainable energy landscape, by prioritising renewable energy programmes and investments.

Moreover, the results of the study suggested that all case companies analysed place a high importance on innovation and adaptability as a key factor for future planning and survival in the dynamic energy industry. These companies significantly emphasise the adoption of state-of-the-art technology, the cultivation of a culture that encourages experimentation and the proactive adjustment to market dynamics in order to attain a competitive edge. Danneels (2002) and Teece (2009) outlined that innovation plays a crucial role in helping energy firms to maintain a competitive advantage by keeping up with technical developments and market trends, which enables them to create and implement advanced technological solutions that improve operational efficiency, decrease expenses and manage risks effectively. In a sector marked by rapid technical advancements and transformative inventions, companies which neglect to engage in innovation face the potential consequence of lagging behind their rivals and becoming outdated (Lawrence, 2018; Lara and Salas-Vallina, 2017). Also, the ability to adapt is crucial for energy firms to effectively traverse the ever-changing dynamics of the market, regulatory frameworks and customer preferences, as outlined by Alegre and Chiva (2008) and Barkema and Schijven (2008). The energy industry is now experiencing a significant shift, primarily influenced by factors such as the adoption of renewable energy sources, the decentralisation of power production and the growing emphasis on sustainability. Organisations that do not successfully adjust to these changes face the possibility of being left behind or encountering existential challenges to their business models. Additionally, dynamic capabilities theory provides support for implementing and adopting new technologies by emphasising the significance of innovation in facilitating enterprises to

cultivate and use their resources and capabilities in order to adapt to changing market circumstances (Easterby-Smith and Prieto, 2008). Existing literature indicates that cultivating a culture that promotes innovation and experimentation is crucial for developing companies with dynamic capabilities. All case firms here have also increased their efforts in relation to digital transformation, which is focused on implementing new technologies and other digital efforts. Interestingly, the analysis also revealed that only two cases (B and D) have emphasised the importance of fostering a culture of innovation through recognition and reward programmes – suggesting that while innovation may be recognised as a strategic imperative across all cases, firms vary in their approaches to incentivising and nurturing innovative thinking among employees. As outlined by Chatman et al. (2014) and Basten and Haamann (2018), via implementing recognition and reward programmes, firms can incentivise creativity, foster a sense of ownership and accountability, and cultivate a culture that embraces experimentation and continuous improvement.

The results further indicated that the companies analysed place a high importance on change management and employee engagement as crucial tactics for successfully navigating significant transitions and future survival and planning. These firms acknowledge the significance of surmounting opposition to change, cultivating a culture of continuous learning and actively engaging workers in strategic decision-making systems. Their efforts are supported by dynamic capabilities theory, which highlights the significance of organisational culture and learning in facilitating businesses' ability to adapt and prosper in dynamic contexts. Cases B, C and D have outlined that implementation of change management plays a pivotal role in effectively navigating businesses through the many challenges associated with transformative approaches, including the adoption of novel technology, the reorganisation of operations and the adaptation to changing market dynamics. Teece (2018) also noted that energy organisations may effectively reduce opposition, prevent interruptions and allow a seamless transition towards targeted objectives using structured change management approaches. Effective change management is crucial for promoting organisational agility and resilience in response to emerging issues. Concurrently, the level of employee engagement assumes a crucial function in propelling organisational performance and

cultivating a climate of innovation and ongoing improvement. As outlined by Cases A, B and C, engagement among employees has been shown to have a favourable impact on company results and customer satisfaction, as it is associated with increased commitment, motivation and productivity. Energy firms have the potential to augment employee engagement using a range of strategies, such as fostering clear communication, providing avenues for skill development, offering meaningful recognition and including employees in decision-making procedures (Chuang, Morgan and Robson, 2012; Veiseh et al., 2014). By placing emphasis on the well-being and empowerment of employees, organisations may foster a workforce that exhibits resilience, adaptability and alignment with the objectives of the business, which guarantees long-term success in the face of industry changes and competitive challenges.

5.3 The Effect of Organisational Culture on the Survival of the United Arab Emirates' Energy Firms

The analysis of the findings and current literature on organisational culture provided valuable insights on how energy firms might leverage their culture to improve their survival in the dynamic energy landscape of the UAE. The firms that participated in the current research showcased that their differing organisational cultures have an effect on their survival and contribute to their growth. For instance, all case firms emphasise fostering a culture of improvement and adaptability that contributes to high survival of energy companies in the UAE. The significant focus on fostering a culture of ongoing improvement and adaptability in all cases aligns with the literature's emphasis on adaptation and flexibility in ever-changing markets (Saebi, Lien and Foss, 2017). Such an environment is related to adhocracy culture, which is characterised by its focus on flexibility and the ability to respond to changes (Ogbeibu, Senadjki and Gaskin, 2018). Numerous studies (Sanz-Valle et al., 2011; Ogbeibu, Senadjki and Gaskin, 2018; Palanisamy, 2008) have shown that firms characterised by cultures that place a high emphasis on continuous improvement and flexibility have enhanced capabilities to innovate and efficiently navigate dynamic market situations. Nevertheless, the extent to which improvement and adaptability are prioritised may differ across various instances, which might possibly affect firms' capacity to innovate and promptly adjust to changes in

the market (Sørensen, 2002). The participants mentioned that the fostering of such a culture allows them to respond to changes quickly during any geopolitical tensions or supply chain disruptions or while implementing any advanced technologies, contributing to firm survival. This finding is in line with the results of Merendino and Sarens (2020), Parker and Ameen (2018) and Salvato et al. (2020), as the authors have also mentioned that the energy industry is highly volatile and is affected by various factors, such as technological advancements, regulatory changes or any other external environmental elements. Sanz-Valle et al. (2011) also outlined that an adaptable culture encourages innovation and creativity, which increases firms' competitive advantage, contributing to their survival. Here, Case A's proactive approach to encouraging innovation and employee development is evident via the existence of a culture of learning and empowerment (Hackman and Wageman, 2005). Numerous studies have shown that businesses characterised by cultures that place a high emphasis on learning and empowerment have a greater propensity to produce innovative ideas and effectively respond to dynamic conditions.

The findings also showcased that firms with client-centric cultures have better survival, as these companies prioritise their clients in operational strategies and decision-making, ensuring that all aspects of the organisation are in accordance with the clients' requirements and expectations. By making client contentment and loyalty primary objectives, energy firms focus on cultivating significant relationships that function as the foundation for continued expansion and stability. The culture's focus on clients is in line with market culture, which is focused on meeting the expectations and needs of customers. These findings are in line with the existing body of research that highlights the significance of customer-driven cultures in achieving organisational success (Gordon and DiTomaso, 1992; Pfeffer and Veiga, 1999). Cameron and Quinn (2011) and Gallagher et al. (2008) also outlined that organisations with a market culture prioritise customer satisfaction and loyalty above other considerations, aligning their strategies, processes and values with the goal of delivering exceptional customer experiences. Research has repeatedly shown that companies that possess robust customer-centric cultures surpass their rivals and attain elevated levels of client satisfaction. The absence of a strong focus on client-centricity in Case B might potentially hinder the firm's capacity to

comprehensively comprehend and adequately address the ever-changing demands of its customers. The aforementioned disparity underscores the possible hazards linked to disregarding customer-centricity within a fiercely competitive market environment such as the energy industry of the UAE, where one of the main aspects on which to focus is client satisfaction.

Another aspect of culture that is common among all case firms is their focus on collaboration. The culture of collaboration is in line with the clan type of organisational culture, which is characterised by a focus on communication, collaboration and mutual support. Case C also has a culture of open communication, which is in line with the clan culture type, emphasising that when stakeholders engage in proper communication, they tend to navigate challenges, offer solutions and establish stronger partnerships in competitive environment. The findings outlined that organisational cultures that prioritise cooperation in fostering teamwork and promoting creativity are apparent in Cases A, B and C. Numerous studies (e.g. Veiseh et al., 2014) have repeatedly shown that firms characterised by collaborative cultures have enhanced capabilities in harnessing collective intelligence, thus attaining higher levels of performance and survival. Nevertheless, the lack of clear focus on cooperation in Case D gives rise to questions regarding its capacity to effectively use the combined efforts of its personnel. The observed disparity underscores the possible risks linked to disregarding collaboration in favour of alternative organisational objectives, especially within sectors where teamwork and innovation play crucial roles in achieving favourable outcomes.

Moreover, multiple case firms are focused on a culture of risk-taking and safety, which are very important aspects of energy sector. Poor risk-taking capability and implementation of safety procedures in energy firms can significantly harm their operations and also pose a threat to their community and human resources. The focus on cultivating a culture that encourages risk-taking in Cases A and B is consistent with existing work that indicates such cultures promote creativity and adaptability, which are crucial attributes for effectively navigating ever-changing market conditions (Tellis et al., 2009). According to previous research (Tellis et al., 2009; Bartlett and Ghoshal, 1988), risk-taking cultures play a crucial role in promoting radical innovation and achieving

superior performance. However, the lack of clear focus on taking risks in Case C leads to concerns about its capacity to take advantage of opportunities and adjust to evolving market circumstances (Saebi, Lien and Foss, 2017). The aforementioned difference highlights the significance of cultivating a culture that promotes strategic risk-taking, as proposed by the dynamic capabilities theory, in order to maintain competitiveness within the energy industry (Teece, Peteraf and Leih, 2016). Research places significant importance on safety cultures in high-risk sectors such as energy, as seen by the substantial focus on safety and efficiency culture in Case D (Amabile and Pratt, 2016). Studies have illustrated that firms that possess robust safety cultures are more proficient in guaranteeing adherence to regulations, protecting valuable resources and ensuring the welfare of employees. Case D's possible reliance on innovation and client-centricity may pose a constraint on its long-term sustainability, especially within a competitive market landscape.

Additionally, it is interesting to note that only one of the firms – Case C – has a culture of centralised decision-making, which is more in line with the hierarchy type of organisational culture. This type of culture is characterised by its primary focus on top-down support and decision-making, in which leaders make the decisions and employees follow them; it is based on following regulations and policies. Considering the fact that only one of the case firms practices such a culture, it can have a limited effect on survival, as in dynamic and complex environments, employees should be involved in decision-making. Several researchers (Brady and Davies, 2004; Floyd and Lane, 2000) have also outlined that hierarchical cultures typically emphasise top-down authority, with decisions flowing from leaders or senior management down to lower levels of the organisation. While this structure may offer clarity and efficiency in certain situations, it can hinder adaptability and innovation in rapidly changing industries such as the energy sector.

Furthermore, along with the characteristics of organisational culture, the current findings also focused on the importance of aligning culture in an organisation's framework and policies. It was found that Cases A and B have significantly outlined this alignment, specifically in terms of effectively conveying the mission, values and objectives of the organisation to all relevant parties. Rai (2011) and Crossan et al. (1999) noted that it is

important to establish precise descriptions for these organisational aspects and ensure that they effectively spread across the organisation to cultivate a collective understanding of purpose and trajectory among the workforce. It is also important for energy firms to support this alignment with leadership and modelling, as leaders can act as role models and advocate spreading values and principles across the organisation. This finding is in line with the results of Zorlu (2011) and Su et al. (2011), who also explained that leaders establish a favourable setting that fosters the growth of cultural alignment through advocating an effective culture, which increases employee dedication and organisational effectiveness, further contributing to firm survival. The findings of the current research regarding placing emphasis on employee participation and inclusive decision-making are in line with those of Ogbeibu, Senadjki and Gaskin (2018), as they highlighted the significance of granting employees the authority to influence the organisational culture and decision-making procedures. An environment in which employees perceive themselves as being esteemed and informed about organisational decisions increases the likelihood that they will contribute to the realisation of the company's objectives and principles, thereby cultivating a sense of commitment and ownership. With effective involvement of employees, energy firms can foster innovation and agility, which are critical qualities for business survival in a complex environment, as also explained by Nonaka, Toyama and Konno (2000). The findings also emphasised the importance of engaging in an iterative process of feedback and evaluation, which can allow energy firms to strengthen their commitment to ongoing enhancement and cultural alignment, thereby augmenting their capacity to withstand and adjust to industry and firm-level challenges. The alignment between the framework and policies of an organisation and its culture is critical in promoting employee engagement, propelling organisational performance and ultimately guaranteeing the survival of the firm within a dynamic and competitive industry setting. Through the proficient transmission of organisational values and objectives, the delegation of authority to employees and the adoption of feedback-driven improvement, establishments can foster a robust and flexible culture that bolsters their enduring prosperity.

In line with the above discussion, the framework for leveraging organisational culture is presented in the following figure.



Figure 5: Framework for leveraging organisational culture.

5.4 Factors of Organisational Learning and Their Effect on the Survival of the United Arab Emirates' Energy Firms

Organisational culture sets the stage for learning and development in a firm by establishing the values, norms and behaviours that guide employee actions and perceptions (Cameron and Quinn, 2011). Hogan and Coote (2014) stated that a culture that promotes openness, collaboration, flexibility and innovation fosters a dynamic learning environment wherein employees feel motivated to learn, share knowledge and innovate, which contributes to firm survival. The study's results provided insights into the primary characteristics that support organisational learning in energy firms, hence enhancing their capacity to enhance their survival strategies. The findings outlined that there are certain common factors that promote organisational learning – such as learning and innovation, training and development, regular feedback mechanisms, collaboration and communication, and leadership – among all four cases that took part in the current research.

The interdependence of learning and innovation is frequently emphasised as a critical factor for achieving organisational success. All findings here underscored the need to be at the front of emerging technology and shifts within industries by means of ongoing education and adjustment. This is in line with the results of Shahzad et al. (2020) and

Darawong (2018), who outlined that organisational learning enhances a company's ability to quickly adapt to changes in the environment and enables the firm to identify opportunities and efficiently reallocate resources. In the organisational context, innovation cultivates a climate that promotes experimentation and exploration, therefore motivating workers to actively pursue novel concepts, technologies and methodologies. Innovation fosters cooperation and information dissemination across various departments and teams, dismantling barriers and promoting the interchange of ideas and optimal methods, which enables energy firms to enhance their capacity to surmount obstacles and execute novel solutions (Tellis et al., 2009).

The participants also emphasised training and development to be an important facilitator of organisational learning, which leads to better firm survival. This is because when organisations implement and invest in training and development programmes, they are able to maintain educated and qualified staff, therefore allowing them to make valuable contributions towards achieving organisational objectives. Also, Lara and Salas-Vallina (2017) outlined that dynamic capabilities theory explains that the implementation of learning and development initiatives enhances a company's capacity to effectively respond to changing conditions and maintain its competitive edge in the long run. Training and development programmes also cultivate a learning-oriented culture inside the company, whereby employees are motivated to actively explore new information, gain additional skills and strive for professional advancement (Weaven et al., 2021). The establishment of a culture of learning not only serves to augment employee engagement and retention but also fosters creativity and adaptability, as employees exhibit a greater inclination towards experimentation, risk-taking and embracing change.

Participants from all firms also emphasised the implementation of frequent feedback mechanisms as an important facilitator of organisational learning. These mechanisms have been found to facilitate the evaluation of the success of training programmes and promote ongoing improvement, cultivating a culture of learning and development. Gong, Zhang and Xia (2017) explained in their research that providing feedback allows firms to facilitate continuous improvement, enhance performance and foster a culture of openness and accountability. Azadegan et al. (2019) also outlined that proper feedback mechanisms

lead to open communication, which promotes trust and collaboration, allowing firms to proactively address problems to increase survival. In addition, feedback systems play a crucial role in promoting organisational learning due to their ability to capture and distribute information and best practices throughout the whole business. Through the exchange of feedback about effective techniques, insights gained from previous encounters and inventive concepts, employees gain the opportunity to acquire knowledge from one another and harness the collective expertise to foster ongoing improvement and innovation (Watad, 2019; Brix, 2019).

The findings of the current study also placed emphasis on efficient teamwork and collaboration as a crucial facilitator of organisational learning that contributes significantly to firm survival by fostering knowledge sharing, innovation and adaptability. The participants outlined that teamwork and collaboration facilitate the exchange of ideas, expertise and perspectives among team members, leading to collective learning and problem-solving, which is in line with the findings of Annosi et al. (2020) and Kostova (2009). The authors explained that firms can promote a culture of trust and mutual support through cooperation and collaboration, enabling employees to freely express their ideas, take risks and explore innovative techniques. Büschgens et al. (2013) outlined that with poor teamwork, firms can face significant losses. However, other researchers (Cameron et al., 2022) who have outlined the results of clan culture which is based on teamwork and collaboration have illustrated that focusing significantly on collaboration can prevent individual creativity in favour of group unity or cohesion, which can then impede individual learning. To overcome this, it is important for firms to promote teamwork but not disregard individual opinions, as outlined in the current study's findings and the results of Sharifirad and Ataei (2014).

Furthermore, it is well recognised that robust leadership support plays a crucial role in facilitating success in all instances. The role of leadership is of the utmost importance in establishing an atmosphere for a culture that emphasises ongoing learning and enhancement, thereby ensuring that learning efforts are in line with the objectives of the organisation. The focus on leadership in this context is in accordance with the dynamic capabilities theory, as it enhances a company's capacity to develop and adjust to changing

situations by means of regular communication and focused training. The finding is also in line with the results of Benner and Tushman (2003) and Su et al. (2011), as these authors mentioned that efficient leadership is crucial in advancing organisational learning by advocating for a clear vision for learning and development, creating a nurturing atmosphere and enabling people to take responsibility for their own learning and advancement. Leaders that place a high value on learning exhibit a dedication to ongoing enhancement and provide occasions for workers to gain fresh expertise, understanding and experiences. Moreover, leadership that provides support fosters an environment that promotes risk-taking, experimentation and innovation, therefore empowering employees to engage in the exploration of novel ideas and techniques without apprehension of potential failure (Pfeffer and Veiga, 1999; Miguel, 2015). In addition, leaders assume a pivotal position in furnishing resources, offering assistance and delivering feedback to help learning and development endeavours, therefore guaranteeing that employees are equipped with the necessary support to achieve success, further increasing the survival of energy firms.

Apart from the facilitators of organisational learning outlined in the current research, the participants also discussed the factors that hinder organisational learning. For instance, it was found that employees resist change, which does not allow the organisations to effectively implement learning, further hindering the survival of the firms. According to Zollo and Winter (2002), under the framework of dynamic capabilities theory, the presence of resistance to change has a detrimental influence on a company's ability to adapt and respond to changes in its environment, which negatively affects its capacity to innovate and successfully compete. The findings also outlined that this resistance from employees hinders the incorporation of acquired knowledge into strategic planning and challenges the organisation's capacity to adjust to changing market circumstances. The presence of limited resources is a notable obstacle to the process of organisational learning, as seen in Case A. A lack of sufficient financial resources allocated to training programmes and learning platforms hinders workers' ability to access the essential tools and experiences required for continuous learning and professional development. Garvin, Edmondson and Gino (2008) and Argote (2011) also outlined in their research that the limited availability of resources poses a hindrance to a firm's potential to foster a robust

learning culture, thereby limiting its ability to adapt. Different companies face varying challenges in terms of implementing organisational learning. For instance, the participants from Case C emphasised cultural differences as a challenge to implementing learning because the integration of individuals from many nationalities within a multi-national framework presents difficulties in establishing a cohesive organisational setting. The organisation's flexibility is hindered by communication obstacles, varying cultural norms and differing opinions, which impede effective information exchange and learning (Lin and Huang, 2020). One of the most crucial factors that hinder learning and its implementation is a lack of effective organisational culture. Moreover, the presence of a deficient organisational culture, as illustrated in Case D, leads to the occurrence of delays and lost chances in the process of organisational learning. The occurrence of siloed structures and department-specific decision-making hinders the exchange of information and cooperation across different functions, resulting in supervision and the failure to capitalise on potential areas for improvement. According to Ghosh and Srivastava (2020) and Salvato and Vassolo (2018), under the framework of dynamic capabilities theory, a fragmented organisational culture hampers a firm's capability to incorporate new information and experiences into its established practices, hence constraining its ability to successfully adapt to market fluctuations. Organisational learning is crucial for companies to successfully adjust, create new ideas and compete in ever-changing circumstances (Carmeli and Schaubroeck, 2008; Jones and Macpherson, 2006). Nevertheless, businesses face many challenges that hinder their capacity to effectively use learning opportunities and incorporate them into strategic planning procedures.

By drawing connections between these results and the findings of existing research, namely the dynamic capabilities theory, it becomes evident that organisational learning plays a crucial role in enhancing survival strategies inside energy firms. The concept of organisational learning is a dynamic capability that allows firms to successfully respond to changing market circumstances, identify potential opportunities and efficiently reallocate resources. The results obtained from the research illustrate the ways in which several factors that promote organisational learning – including training and development, feedback systems, cooperation, leadership support and performance management – play

a role in improving a company’s dynamic capabilities, as well as the factors that hinder organisational learning, which is further represented in the following figure.

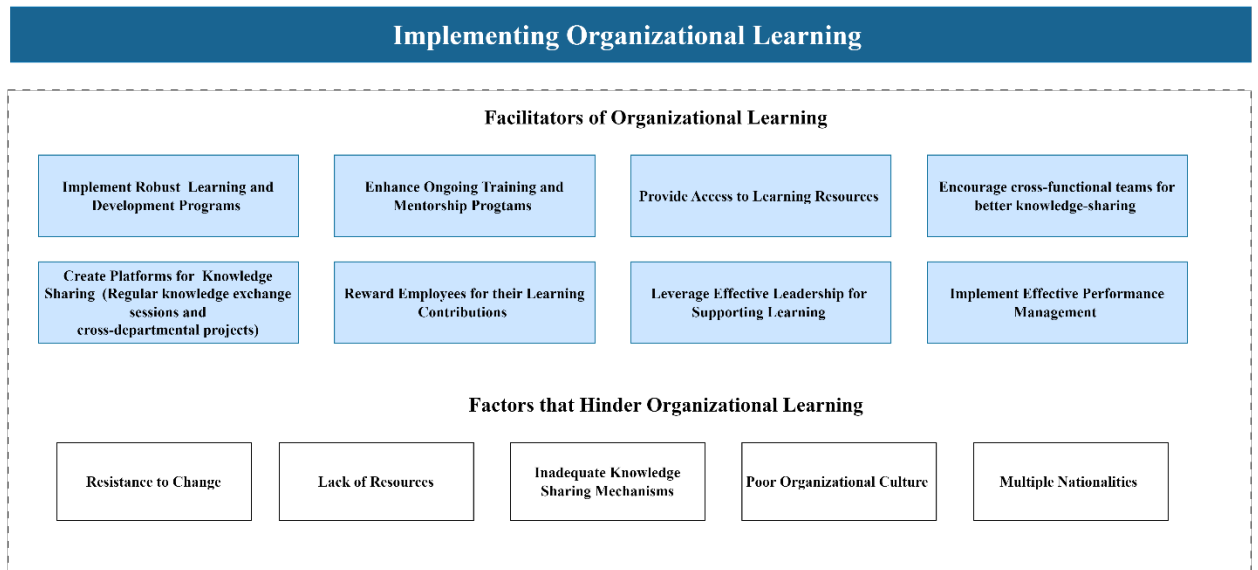


Figure 6: Framework for implementing organisational learning.

Ultimately, it is essential for energy firms to tackle these impeding elements in order to enhance their strategies for survival. To strengthen their adaptive ability and resilience, organisations may overcome resistance to change, provide enough resources for learning initiatives, cultivate a culture of inclusion and cooperation, and promote effective communication across departments. The integration of organisational learning into strategic planning processes empowers companies to make well-informed choices, capitalise on strategic opportunities and effectively manage the dynamic and ever-changing business environment.

5.5 Strategies for Future Survival

Energy firms play a crucial role in facilitating economic development, fostering innovation and promoting sustainability via their support of many industries and facilitation of technical progress. In addition, the capacity of energy companies to withstand and adapt to various difficulties, such as climate change, limited resources and energy security, is crucial for effectively tackling global issues. This underscores the importance of their existence in ensuring the welfare and economic success of

communities on a global scale. Energy firms' survival in the future relies on various factors, such as organisational culture and organisational learning. In line with this, various strategies for survival were identified through an analysis of the data.

The findings presented that innovation and adaptability are among the most important strategies for survival for energy firms. The participants indicated that companies need to implement innovation, perceive challenges as innovation opportunities, invest in digital technologies and integrate them, invest in R&D for adaptability and innovation, allocate resources for innovation, attend events to become aware of new technologies, implement brainstorming workshops for enhancing innovation and develop innovation teams for better survival in the future. Both this analysis and the results of Lyu et al. (2020), Brown and Duguid (2001) and Oh and Han (2020) outlined the strategic importance of adaptation for enterprises working in quickly changing contexts. The findings highlighted the importance of innovation, digital integration and proactive strategies in effectively managing industry transformations. This is further supported by the literature, specifically the studies conducted by Alegre and Chiva (2008) and Barkema and Schijven (2008), which emphasised the significance of adaptability for firms to succeed in the face of evolving market conditions. This convergence underscores the widespread acknowledgement of adaptation as a fundamental skill for achieving sustained success. The findings also noted that investing in the use of techniques such as allocating resources to R&D, participating in industry events and forming innovation teams is a method to foster ongoing learning and innovation. The significance of organisational learning in fostering innovation, competitiveness and development is supported by the scholarly works of Santos-Vijande, López-Sánchez and Trespalacios (2012) and Dunphy, Turner and Crawford (1997). The alignment of the findings with the literature highlights the widespread agreement about the crucial significance of learning and innovation in augmenting the flexibility of organisations.

Another strategy for firm survival is learning and knowledge sharing, which can be implemented by adopting approaches such as perceiving failure as a learning opportunity, engaging in continuous learning to be in line with current advancements, incorporating lessons learned into operations, implementing platforms for knowledge sharing,

developing the culture for better learning and development, and applying learning for sustainability. Although all case firms recognise the significance of seeing failure as a chance for learning, Carmeli and Schaubroeck (2008), Abdi et al. (2018), Madsen and Desai (2010) and Cucculelli and Peruzzi (2018) outlined that it is necessary to have a detailed understanding of how failure is dealt with in organisational cultures. The emphasis placed by participants from Cases A and D on the significance of adopting a positive perspective towards failure is praiseworthy. However, it is possible that there exist inherent difficulties in fully accepting failure within the context of a business environment. Organisations often face challenges in establishing platforms where workers may freely engage in experimentation and failure without fear of retaliation or social disapproval. Moreover, while the language around the acceptance of failure is widespread, the practical execution and endorsement of failure as a valuable learning experience may differ (Liu, 2017; Garud and Kumaraswamy, 2005). Thus, it is essential for organisations to actively foster environments that promote experimentation and the willingness to take risks. The participants also focused on adopting a learning and adaptation approach, emphasising the need for organisations to maintain flexibility and responsiveness in order to effectively navigate evolving market conditions. The importance of investing in staff development programmes cannot be overstated; yet, it is crucial to continuously evaluate and adapt these efforts to guarantee their continued relevance and efficacy, as noted by Weaven et al. (2021). In addition, the rapid rate of technical progress and regulatory modifications within the energy industry underscores the need for a proactive stance towards knowledge acquisition that entails organisations anticipating forthcoming skill demands and making proactive investments in training and development initiatives. Cases B and C exemplify a dedication to incorporating acquired knowledge into both strategic planning and day-to-day operations. Nevertheless, Peter and Jarratt (2015) outlined that the efficacy of this integration is contingent upon the readiness of the organisational culture to receive feedback and the appropriateness and capacity of the methods used to capture and distribute lessons learnt. It is important to establish strong systems and procedures to guarantee that these observations result in concrete enhancements in operations and decision-making. The participants also discussed the need to establish specialised platforms for knowledge sharing – as indicated by Lara and Salas-Vallina

(2017) and Limaj and Bernroider (2019) – because these platforms allow for effective communication and collaboration. Oh and Han (2020) mentioned that the efficacy of these platforms relies on the active endorsement of leadership and continuous involvement from employees across all hierarchical levels. Case D emphasises the significance of connecting organisational culture with strategic objectives in order to improve learning and development. Although alignment is important for promoting synergy and comprehensive organisational growth, it is necessary to acknowledge the intricacies associated with cultural change.

The next strategy linked to better firm survival is collaboration and communication among stakeholders. The findings of the current research underscore the significance that all the companies prioritise in cultivating transparent and open communication inside the firm. This finding aligns with existing scholarly works, which highlight the significance of proficient communication in facilitating organisational learning and fostering innovation (Argote and Miron-Spektor, 2011; Edmondson, 1999). The establishment and maintenance of open communication channels facilitate the unrestricted flow of ideas, the recognition of issues and the cultivation of a culture that prioritises ongoing education. Additionally, the importance of enhancing collaboration through knowledge sharing is indicated by Cases C and D. These results are in line with those of Nonaka and Takeuchi (1995) and Crossan et al. (1999), who also emphasised the significance of information sharing and cross-functional cooperation in facilitating organisational learning and fostering innovation. The convergence of personnel with distinct functional backgrounds fosters the assimilation of many viewpoints and the amalgamation of information, resulting in the creation of innovative solutions. As explained by participants from Case B, it is important to set an agenda that caters to multi-national staff within the organisation. This is consistent with the scholarly literature's focus on the significance of embracing diversity and inclusion in creating a culture that prioritises learning (Nishii, 2013; Theodorakopoulos and Budhwar, 2015). Organisations may foster an atmosphere that promotes learning and cooperation by acknowledging and accommodating the varied requirements of their workers. The findings also emphasise leveraging digital technologies to augment cooperation and streamline the exchange of information. Alavi and Leidner (2001) and Kane et al. (2014) also stated that utilising digital platforms and

solutions may facilitate overcoming geographical and functional barriers, hence enhancing the efficiency of information sharing and cooperation. The importance of increasing collaboration across cross-functional teams was also stated by participants from Cases B and C. This finding is consistent with the previous research conducted by Edmondson and Nembhard (2009) and Bunduchi (2017), which highlighted the significance of cross-functional cooperation in facilitating organisational learning and fostering innovation. The formation of cross-functional teams enables the incorporation of varied viewpoints and the amalgamation of information, resulting in the creation of innovative solutions.

Another strategy for firm survival is improving risk management and resilience, which can be done by implementing approaches such as a risk management strategy, engaging in rigorous and strategic planning to overcome risks, having the appropriate resources to mitigate risks, conducting timely risk assessment and evaluation, and building organisational resilience. The significance of a risk management strategy that is distinguished by flexibility, creativity and proactive reactivity was underscored by participants from Case C. Cameron et al. (2022) also emphasised the need for a proactive approach to risk management. However, the findings further underscored the importance of an agile and adaptable strategy that enables firms to consistently assess and modify their risk management procedures in light of changing difficulties that demonstrates a more adaptable and versatile viewpoint on risk management, beyond the conventional fixed methods. Another approach to increasing risk management for firm survival is engaging in rigorous and strategic planning to overcome risks. The findings emphasised that the integration of risk assessments into the project planning process is based on probable implications that demonstrate a distinctive and methodical method of risk management. The significance of risk assessment has been underscored in the literature (Abdi et al., 2018; Watad, 2019; Ogbeibu, Senadjki and Gaskin, 2018), while the instances demonstrate a comprehensive incorporation of risk management into the fundamental decision-making structure of the business that highlights the need of integrating risk management into the operational and strategic planning processes of the firm. The findings also focused on cultivating an accountability culture, which promotes timely risk assessment and evaluation. In the scholarly literature, Watad (2019) and Hartnell et al.

(2019) also examined the significance of risk awareness and mitigation. However, the empirical evidence indicates that fostering a cultural mentality that places emphasis on responsibility and proactive risk management may serve as a crucial distinguishing factor in an organisation's capacity to effectively navigate difficult circumstances. It is very important for energy firms to leverage their resources effectively to increase their resilience and survival. When companies diversify their energy portfolio, their dependency on a single product decreases, which exemplifies a distinctive technique for enhancing resilience. Moreover, the findings outlined that engaging with a local supplier for energy projects can also allow firms to perform effective risk management, as this approach can help them in instances of global supply chain disruptions or any other worldwide issues.

One of the most important strategies for firm survival is the alignment of leadership and culture, which can be done by implementing approaches such as leading by example, establishing a supportive and innovation-based work culture, embedding culture and learning into the organisational structure and enhancing organisational agility. The findings outlined that leaders must lead by example through exemplifying the desired company culture and values via their personal actions and behaviours. This finding is in accordance with the existing body of leadership literature, which emphasises the importance of "leading by example" as a crucial element of successful governance (Avolio and Walumbwa, 2014; Katzenbach and Smith, 1993). The demonstration of expected actions by leaders serves as a potent means of communication and contributes to the reinforcement of desirable cultural norms inside their teams. Moreover, another approach outlined by participants from all four case firms highlighted the significance of fostering a work culture that is both supportive and centred on innovation. This finding aligns with the existing body of research on organisational culture, which posits that a culture that promotes cooperation, information dissemination and a propensity for experimentation is essential for facilitating innovation and adaptation (Giritli et al., 2013; Tellis et al., 2009). It is important for firms to establish a conducive atmosphere that fosters employee empowerment and motivation to undertake risks and engage in the exploration of novel concepts as a fundamental facilitator of organisational innovation. Leaders in energy firms could also exemplify the intentional endeavour to include the

intended organisational culture and learning processes into the fundamental framework of the companies rather than seeing them as supplementary elements. Adopting this approach may allow the firms to ensure that an effective culture is implemented in their organisation and that they can benefit from its overall outcomes. Cameron and Quinn (2011) and Schein (2010) outlined the necessity of aligning culture with organisational strategy to ensure its effective operations, further contributing to long-term survival and competitiveness. The significance of addressing organisational agility and resilience as a fundamental cultural and operational component was noted in the findings of the current research. Thus, the present study contributes to the current body of research on organisational agility and survival, which mostly focuses on the significance of processes, technologies and structures in facilitating agility (Doz and Kosonen, 2010; Teece et al., 1997). These findings underscore the necessity of fostering an organisational culture that has natural agility and adaptability, whereby agility remains a fundamental element of the corporate identity.

Based on the analysis of the diverse cases presented, it is evident that energy firms in the UAE must strategically prioritise and execute a comprehensive range of initiatives across multiple domains in order to secure their enduring viability and success in the midst of an uncertain and swiftly changing business landscape. To enhance their overall competitiveness, ensure long-term sustainability and successfully navigate the complex and dynamic challenges of the current business landscape, energy firms in the UAE should implement these multifaceted strategies across innovation, learning and knowledge sharing, communication, risk management, and organisational leadership and culture. It is crucial for these companies to have a comprehensive approach to strategic planning and execution in order to ensure their survival and success in the future.

In line with the above discussion of the research questions, the following framework has been developed.

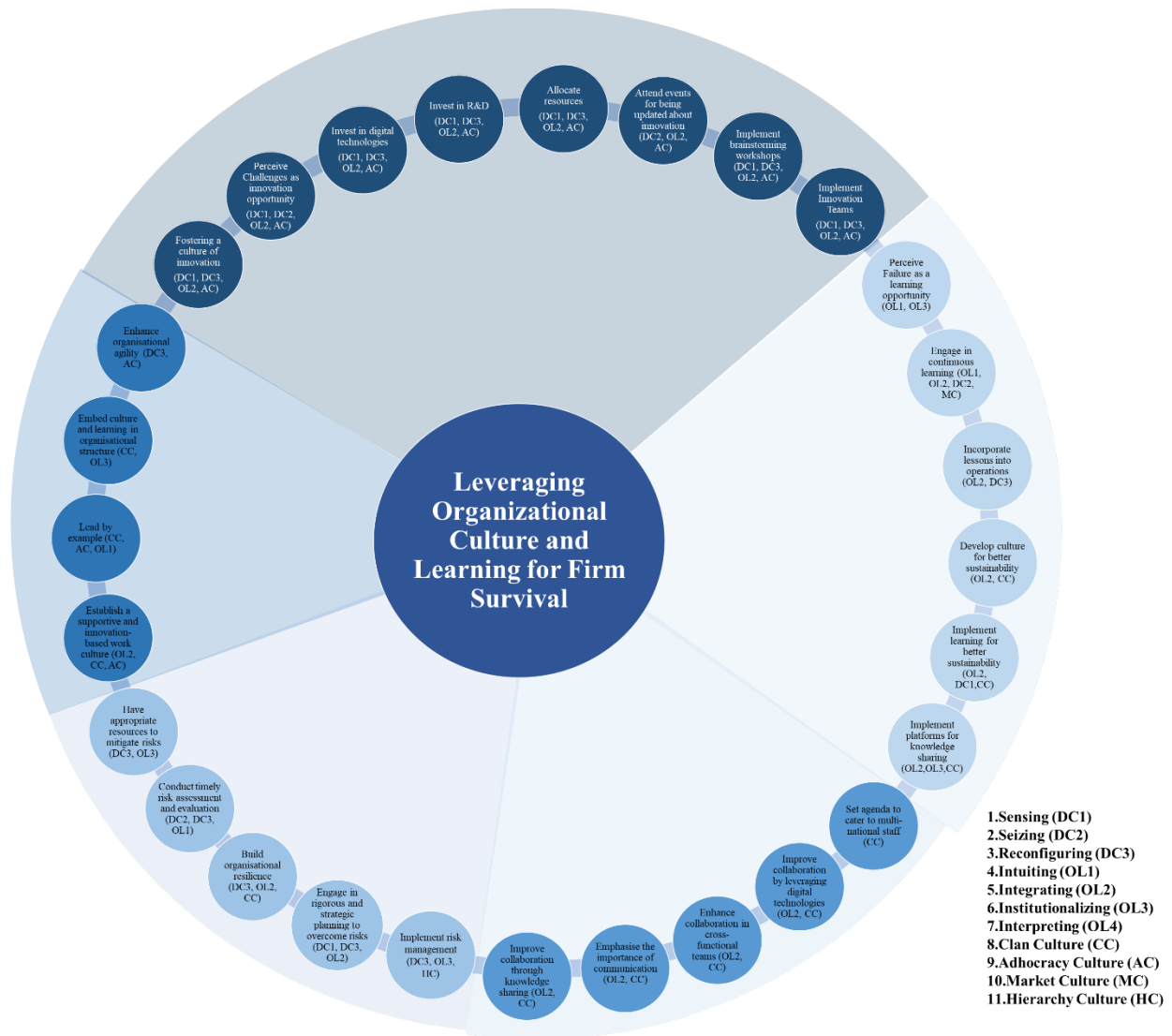


Figure 7: Framework of organisational culture, learning and firm survival.

The framework represents the ways in which the elements of the research are interconnected with each other.

5.6 Theoretical Implications

The theoretical implications of this research on organisational culture in the energy industry in the UAE are significant, especially when considered within the wider framework of dynamic capabilities theory. The results of this study may enhance the academic understanding of how organisational culture might influence the formation and implementation of organisational learning as a dynamic capability, which is essential for companies operating in a complex environment. The research expands its relevance of the dynamic capabilities theory to the context of the energy sector, with a specific focus on organisational learning as a dynamic capability to foster firm survival. The current study has established interrelationships between organisational culture, organisational learning and firm survival, outlining the significance of learning and development initiatives for energy firms to improve their operations in the long run. As Teece et al. (1997) outlined, the fundamental dynamic capabilities theory posits that companies are required to continuously adjust and restructure their assortment of resources in order to effectively respond to changing market requirements and competitive forces. According to this idea, organisations that possess robust dynamic capabilities are more adept at perceiving changes in their surroundings, capitalising on favourable circumstances and adapting their activities appropriately. The research has shown that organisational culture plays a pivotal role in fostering and maintaining dynamic capabilities.

This study provides unique insights into strategies for the survival of energy firms in the UAE's context. The research contributes to the existing literature by outlining these company survival strategies, which are linked to an effective organisational culture and facilitators of organisational learning. The presence of several organisational cultures within energy enterprises in the UAE also highlights the intricate manner in which culture might impact a firm's capacity to sense, seize and reconfigure (Teece, 2007). The results underscore the significance of risk-taking cultures that foster innovation and adaptation in augmenting a company's ability to perceive and address emerging trends and disruptions. However, organisations that adopt customer-centric cultures, placing a high value on client happiness, may be better positioned to capitalise on possibilities by aligning their products and services with the changing demands of the market. The

exploration of these organisational cultures places a significant focus on the alignment between the type of organisational culture and firm survival research, specifically in context of the energy industry.

Furthermore, the prominence placed on cooperation, employee well-being and open communication as prevalent cultural characteristics in the findings is consistent with the results of the existing body of research on dynamic capabilities. Collaborative work environments have the potential to facilitate the exchange of ideas and the joint generation of knowledge, therefore allowing organisations to swiftly adjust their resource allocation in light of evolving conditions. The present study's analysis of factors that promote organisational learning enhances the theoretical comprehension of how cultural dynamics influence the development of dynamic capabilities over time. The significance of fostering a culture of continuous improvement and innovation is underscored by investments in training and development, the implementation of frequent feedback systems and the availability of platforms for information exchange. The presence of such a cultural environment has the potential to augment a company's capacity to perceive and capitalise on emerging prospects while also facilitating the adaptation of its resource portfolio to sustain competitiveness (Zollo and Winter, 2002; Easterby-Smith and Prieto, 2008).

The current research pertaining to organisational culture within the energy industry of the UAE provides significant theoretical contributions that enhance and broaden our comprehension of the dynamic capabilities framework. The results of this study will add to the existing academic conversation on the antecedents and micro foundations of dynamic capabilities by shedding light on the many ways in which culture may influence the sensing, seizing and changing capabilities of enterprises.

6 Conclusion

6.1 Overview

A thorough examination of the intricate relationship between organisational culture, learning and firm survival in the complex energy sector of the UAE was presented in the antecedent chapters. The current conclusion chapter provides a summary of the study, focused on achieving the research objectives along with outlining the research implications, limitations and recommendations. In light of the initial research objectives discussed in this chapter, the goal is to succinctly summarise and extract the most important findings obtained from the study. The chapter also explores the theoretical and practical implications for the UAE's energy firms along with the implications for policymakers to provide practical suggestions and judgements that could guide strategic decision-making, policy development and organisational procedures that are favourable to the long-term survival of energy firms in the nation. The chapter further outlines potential directions for future research and recommendations for managers in line with the limitations of the current study.

6.2 Achieving the Research Objectives

6.2.1 Research Objective 1

The first research objective was to explore how energy firms in the UAE anticipate and plan for their survival. The objective was achieved, as the study outlined the approaches through which energy firms in the country anticipate and plan for their survival as revealed in section 4.4.4 ("Current efforts being implemented by cases for future planning and survival"). The findings revealed that energy companies in the UAE conduct survival and future planning, ensure regulatory compliance and industry awareness, adopt and implement renewable energy, engage in innovation and adaptation, and plan change management and employee engagement for the anticipation of future survival.

The results of the research also indicated that energy firms in the UAE use a comprehensive strategy to predict and strategise for their sustained viability. One crucial approach is the implementation of continuous survival and future planning assessments in order to proactively ascertain potential dangers and possibilities. The participants

mentioned that the regular monitoring of market trends, technical improvements, regulatory changes and other external variables which may affect the viability of enterprises is an essential aspect of this process. The findings also revealed that through ongoing environmental scanning, these firms may obtain a more profound comprehension of the obstacles and opportunities that await them, empowering them to make well-informed and proactive choices.

Furthermore, the energy companies place great importance on guaranteeing strict adherence to regulations and being well informed about industry trends and advancements. The participants outlined that being up to date with changing regulations, criteria and optimal methods enables the firms to adjust their activities properly and prevent any legal or reputational risks. Furthermore, via vigilant monitoring of the technical, economic and regulatory transformations taking place in the energy industry, these companies may more effectively predict changes in consumer preferences, competitor actions and resource accessibility.

The adoption and deployment of renewable energy technology and solutions are crucial elements in the survival strategy of energy organisations. The findings revealed that energy firms are actively investing in and implementing clean and renewable energy options, acknowledging the worldwide shift towards more sustainable energy sources, which not only ensures the long-term viability of their businesses in the face of the possible elimination of fossil fuels but also establishes them as environmentally conscious and forward-thinking participants in the industry. By adopting renewable energy sources, energy companies may improve their long-term sustainability and competitive advantage.

In conjunction with these technical and strategic endeavours, energy firms also actively participate in ongoing innovation and adaptation in order to effectively address changing market needs and environmental circumstances. Their efforts towards innovation entail the examination of novel company strategies, product developments and operational procedures that have the potential to augment their adaptability and promptness. By cultivating an environment that promotes innovation, these organisations are more adept at adapting and using new prospects, rather than succumbing to stagnation and being susceptible to disruption.

Ultimately, the energy firms place great importance on meticulously strategising and implementing organisational change management projects, specifically emphasising employee involvement and skill development. Acknowledging the significance of their staff as a vital resource in effectively navigating an unpredictable future, these organisations allocate resources towards training, development and change management initiatives. These approaches aim to provide their people with the essential competencies and attitudes required to successfully adapt and prosper. Through the process of empowering their personnel, the companies are able to cultivate organisational resilience and adaptation, thereby enhancing their chances for sustained viability in the long run.

From the findings, it is clear that energy firms in the UAE are exhibiting a strategic and proactive approach towards predicting and preparing for their future survival and are actively forging their own futures in response to a fast-changing energy environment using a mix of foresight, adaptability, innovation and people-centric activities.

6.2.2 Research Objective 2

The second research objective was to understand how organisational culture and learning can mobilise energy firms in a direction that facilitates survival. The objective was achieved, as the results indicated that developing an effective organisational culture and engaging in organisational learning can contribute to energy companies' future survival in the UAE, reflected in the themes "Characteristics of organisational culture" and "Facilitators of organisational learning".

The findings showed that there are various organisational cultures reflected by different oil and gas firms in the UAE. All case firms studied have distinct cultural characteristics, which are influenced by variables such as leadership style, industry dynamics, and their own values, conventions and practices. It was found that the firms have risk-taking cultures that foster innovation, client-centric cultures that prioritise customer satisfaction, cultures of ongoing enhancement and flexibility, cultures of learning and empowerment, cultures that prioritise cooperation in fostering teamwork and promoting creativity, and safety cultures. For instance, the results illustrated that organisations with a culture of collaboration have better exchange of information and development of new ideas, allowing these companies to use their combined skills and creativity to tackle intricate

problems and take advantage of favourable circumstances. Firms with cultures focused on employee well-being demonstrate a dedication to establishing a favourable work atmosphere that appreciates the physical and mental health, safety and contentment of staff members. The presence of diversity underscores the necessity of acknowledging and comprehending the fundamental cultural factors that impact decision-making, employee conduct and organisational effectiveness. The presence of many organisational cultures in these instances highlights the intricate manner in which culture impacts the identity, operations and overall capacity of energy firms to effectively address difficulties and prosper in a competitive setting.

Furthermore, it was also found that organisational culture and organisational learning can lead to better firm survival of energy firms in the UAE. The findings reflected that organisational culture fosters an environment of learning, which further contributes to higher firm survival. For instance, it was observed that firms have a culture of investing in organisational learning initiatives, such as training and development, which provide workers with the necessary skills and knowledge to effectively perform their job responsibilities and successfully navigate the dynamic landscape of the industry. Other organisational learning factors, such as feedback systems, were found to play a crucial role in assessing the efficacy of learning efforts, allowing organisations to discover areas that need improvement and then adapt their strategy. In order to cultivate a culture of collective learning and creativity, collaboration platforms and open communication channels play a crucial role in facilitating the sharing of ideas, best practices and lessons learned. The findings also showed that a culture of continuous improvement and excellence is further strengthened by robust leadership support and performance management systems that acknowledge and incentivise learning and innovation.

The results of this research highlight the significance of ensuring that a firm's organisational culture is in line with strategic goals and using factors that promote organisational learning to achieve long-term survival in the energy industry. Energy enterprises in the UAE may achieve long-term success and resilience in this complex and dynamic environment by cultivating cultures that promote innovation, cooperation and constant learning.

6.2.3 Research Objective 3

The third research objective was to recommend strategic plans and safeguards that energy firms could adopt to strengthen their survival in the UAE. The objective was achieved, as the results outlined several strategies – such as implementing innovation, engaging in learning and knowledge sharing, increasing collaboration and communication, ensuring risk management and resilience, and engaging in the alignment of leadership and culture – to strengthen companies' survival in the UAE, reflected in the theme “Strategies for future survival”.

The findings revealed an important strategy, which is implementing innovation by fostering a culture of ongoing innovation across company operations. The results suggest that firms may strengthen their survival and adaptability by aggressively investigating and integrating new technologies, business models and work methodologies. Energy firms can strategically position themselves to take advantage of emerging trends and disruptions by cultivating an innovative mindset and implementing appropriate organisational structures and processes, which may allow them to avoid falling behind their more agile and forward-thinking competitors.

The findings illustrated that another strategy for future planning and survival is engaging in learning and knowledge sharing. The participants indicated that energy organisations must actively participate in continuous organisational learning and information exchange, which is closely connected with this innovation-driven strategy. In light of the dynamic nature of the sector, the results emphasised the significance of these organisations maintaining a state of alertness, being well informed, and consistently learning novel competencies, perspectives and optimal methodologies. This strategy could be accomplished by implementing specialised training initiatives, fostering cross-functional cooperation and establishing strategic alliances with esteemed academic institutions and prominent industry stakeholders. Energy organisations may enhance their ability to predict and address future issues and opportunities by broadening their knowledge base.

The findings also revealed that energy firms in the UAE need to enhance their collaboration and communication, both inside the organisation and with external stakeholders, for better future planning and survival. The results indicated that by

dismantling functional silos and promoting enhanced coordination and information-sharing, organisations can achieve alignment, cultivate a collective comprehension of strategic priorities, and facilitate more cohesive and efficient decision-making processes. The participants also outlined that establishing strong collaborative relationships with suppliers, customers, regulators and other industry stakeholders could improve the resilience of the companies, grant them access to valuable resources and insights, and aid in navigating the intricate and interconnected environment in which these firms' function.

These strategic recommendations are supported by the need for energy firms to establish strong risk management practices and enhance organisational resilience. The participants also indicated that the long-term viability of these organisations may be ensured by the implementation of thorough risk assessment and mitigation techniques, the establishment of redundancy and backup systems, and the cultivation of the ability to promptly respond to unforeseen disruptions. By improving their capacity to endure and recover from adversities, energy firms may persist in providing value to their stakeholders within a more unstable and unpredictable operational landscape.

One of the most crucial strategies found that could support energy firms' long-term planning and survival is ensuring that the leadership and organisational culture are aligned with each other. The participants recommended that energy firms should take measures to ensure that their decision-makers, policies and cultural norms align with the importance of innovation, learning, cooperation and resilience. By cultivating a collective understanding of objectives, responsibility and flexibility throughout the whole company, energy companies may enhance their probability of effectively executing the strategic initiatives and protective measures essential for their sustained viability in the UAE.

Based on the findings, crucial strategies can be recommended for energy firms in the UAE to enhance their chances of survival in a sector that is becoming more complex and unpredictable. By adopting these suggestions, which are based on academic theory and actual research, these organisations may improve their capacity to compete, adapt and recover, setting themselves up for long-term success in the future.

6.3 Limitations and Future Research Recommendations

The current research provides crucial insights into the significance of organisational culture and organisational learning and their alignment for improved firm survival in the context of the UAE's energy industry. However, it is important to identify and outline the study's limitations and provide future research recommendations.

The first limitation is related to the limited geographical scope, which is also referred to as limited generalisability, meaning that the research mainly focused on energy firms operating in the UAE, perhaps limiting the applicability of the results to other national or regional settings. However, it may seem that the cultural and learning frameworks explored in this study are relevant to other regions with similarly dynamic and complex industries. For instance, oil and gas sectors in countries such as Saudi Arabia, Qatar and Kuwait face challenges analogous to those of the UAE in terms of market fluctuations, resource dependency and the need for innovation. In such contexts, aligning organisational culture with strategic objectives and fostering adaptive learning behaviours could enhance firms' resilience and survival prospects. In addition, the principles of dynamic capabilities, organisational culture and learning behaviours do seem that the findings can be applied to any sector, but this is not the case. That is because industries such as technology, healthcare, construction and others operate in volatile environments, and all have different ways in which to navigate rapid innovation cycles or deal with regulatory changes. Also, various nations or areas may have varied cultural, legal and organisational variables that influence the organisational cultures of energy enterprises in distinct manners. As a result, direct application of the strategies discussed may require adaptation to align with sector-specific contexts. Similarly, in regions with markedly different socio-political and economic conditions, the cultural underpinnings of organisational behaviour may not align with the frameworks developed in the UAE context. Additionally, the outcomes of the study related to facilitators of organisational learning and characteristics of organisational culture, such as risk-taking, safety, innovation and various other aspects, are in common with other industries but are more specific to the context of the energy industry. The generalisability of the results to other sectors may be limited but could be applicable to renewable energy or utilities due to the similarities of the operations. To overcome this limitation, future research could broaden the geographical context of the study by investigating and contrasting the organisational

cultures of energy firms in other nations or areas. Future studies could examine the effects of national cultures, institutional contexts and industry-specific characteristics, which may also provide insights into how they influence organisational culture and firm survival. The themes and patterns identified throughout this research may be highly context specific, making them challenging to apply universally to organisations operating under different market conditions or with varying resources and capabilities. Therefore, future studies could adopt a multilevel approach to examine the relationships between organisational culture, team-level dynamics and individual behaviours within energy firms. Researchers could investigate specific organisational practices, decision-making processes and responses to challenges to yield deeper insights into the factors influencing firm survival. Future researchers could also explore these dimensions, as this could enhance the broader applicability of cultural and learning frameworks to diverse industries and regions.

Another significant methodological limitation lies in the reliance on a small number of in-depth case studies and interviews as the primary research method. While this qualitative approach offered comprehensive and profound insights, it may not have encompassed the entire scope and complexity of organisational variables considered in the study. Despite being considered sufficient for qualitative research, the sample size of 15 participants from four energy firms was considerably small considering the sample for each case firm. This limitation implies that the study may not have comprehensively included a wide array of viewpoints represented by different stakeholder groups from energy firms other than the four companies outlined in the study. However, in the present research, data saturation was achieved for each stakeholder group at the specified number of participants for each group, indicating the appropriateness of the sample size. Future research could explore empirical linkages between the concepts, such as organisational culture, learning and firm survival, to understand their impact. The use of a mixed-methods approach has the potential to provide supplementary perspectives on the interconnections among organisational culture, learning and firm survival.

This study provided a cross-sectional analysis of organisational learning and culture at a certain moment of time. Nevertheless, organisational cultures are subject to change and

may undergo transformation in reaction to changes in leadership, market circumstances or strategic objectives, which can further affect learning and firm survival. It is important to explore these aspects for a longer time period to understand the dynamics of the energy industry. Future researchers could conduct longitudinal studies, as these have the potential to provide valuable insights into the development of organisational culture and learning within energy firms by examining the progression of cultural norms, values and learning practices over an extended period. Performing a longitudinal study may allow researchers to gain insights into how energy firms negotiate changes in response to evolving market circumstances, technical progress or strategic objectives. Longitudinal studies can provide valuable insights into the dynamic nature of survival strategies and their effectiveness in different contexts.

Different organisational structures, such as ownership status (e.g. the presence of a founding family or state ownership), governance arrangements (e.g. boards, CEO duality, strength of unions, CEO incentives or stakeholder management) and client base (e.g. wholesale versus retail), play a significant role in shaping which values are prioritised, which behaviours are adopted and, ultimately, which organisational culture dominates. Similarly, these structural and contextual factors influence how learning (and unlearning) routines are deployed and how firms develop dynamic capabilities for survival. In the current study, these antecedents were not specifically addressed across the four case studies, representing a limitation that could affect the depth of insights into the variability of organisational culture and learning behaviours. Future research could address this limitation by incorporating a more granular analysis of organisational structures and governance arrangements. By examining these factors, researchers could uncover how specific organisational contexts shape the mechanisms through which culture and learning are developed and sustained. Additionally, longitudinal studies or multi-region comparisons could provide deeper insights into the interplay between organisational structure and the implementation of dynamic capabilities.

An additional limitation concerns the potential presence of biases, such as social desirability, researcher bias and retrospective bias, within the research. Social desirability bias occurs when participants in a study intentionally alter their responses to conform to

prevalent cultural expectations or standards as opposed to genuinely conveying their own thoughts or experiences. It is possible that social desirability bias was present during the interviews with participants from various firms within the scope of present research. The potential impact of this bias on their responses could be that they might have emphasised the positive attributes of their companies' organisational cultures. In order to mitigate potential bias, the researcher fostered a rapport with the participants, thereby establishing a foundation of trust between the two parties. The safeguards implemented by the researcher to ensure the confidentiality and anonymity of the participants throughout the research effectively allayed their concerns regarding potential evaluations. The interview questions were developed with an open-ended format, providing participants with a broader scope to articulate their thoughts. Meanwhile, researcher bias is related to the researcher's personal beliefs, attitudes and perspectives that may influence the course of the study. This bias was effectively managed within the parameters of the present study in order to mitigate any potential influence on the findings. The researcher implemented a systematic research approach, which encompassed the meticulous development of an interview guide and the solicitation of feedback or suggestions from supervisors and fellow researchers in order to improve the guide. However, the reliance on interviews alone to reconstruct the survival strategies of the case study organisations may have led to retrospective bias. The participants or records may have selectively remembered or emphasised certain events or decisions, potentially leading to a distorted understanding of the actual decision-making processes and the factors that shaped the organisations' survival strategies. This limitation was managed in the current study via the employment of follow-up questions and iterative probing during the interviews to ensure consistency and accuracy in participants' responses. Additionally, the use of multiple participants from each case firm helped to cross-validate perspectives, reducing the likelihood of reliance on any single individual's account and thus mitigating the effects of retrospective bias. The researcher ensured the study's credibility by acknowledging and mitigating these biases.

Moreover, future researchers could conduct a multilevel approach to investigate the intricate relationship between organisational culture, team-level dynamics and individual behaviours in energy firms. Also, they could explore factors affecting firm survival by

examining specific organisational practices, decision-making processes and responses to challenges.

6.4 Managerial Recommendations

In line with the findings of the current research, certain recommendations for managers will also be outlined and discussed. Managerial recommendations are outlined to support the implementation of organisational learning initiatives, foster culture and enhance firm survival in the UAE's energy sector. For instance, managers should initiate a meticulous evaluation of their organisation's current cultural environment, which involves the analysis of the fundamental values, beliefs and assumptions that influence the conduct of employees, their decision-making processes and the overall success of the business. Managers may adopt various approaches, including employee surveys, focus groups and cultural assessments, to provide significant data that can assist them in acquiring a comprehensive perspective of their organisation's dynamics.

Managers could cultivate an organisational culture which embraces change, encourages experimentation and enables rapid adaptation to evolving market conditions. They may also implement flexible organisational structures and decision-making processes to enhance the firm's responsiveness. To promote effective learning, managers could also empower employees to take calculated risks, explore innovative ideas and learn from both successes and failures.

Managers should also prioritise collaboration and knowledge-sharing to foster learning. By facilitating cross-functional collaboration and interdepartmental communication, energy firms can leverage diverse expertise and foster the exchange of knowledge and insights. Managers may implement online platforms or create project teams to enable learning and knowledge-sharing that can significantly contribute to firm survival. Managers should also invest time and resources to facilitate organisational learning and continuous improvement to equip employees with the skills and knowledge needed to adapt to industry changes. Managers should also encourage a culture of continuous learning, where employees are empowered to seek out new knowledge, experiment with novel approaches and share their insights. Managers should also develop their leadership

approaches to embed cultural priorities into the firm's strategic planning, decision-making processes and other organisational practices to effectively encourage learning and increase firm survival. They should leverage digital technologies and other innovative solutions to streamline processes, enhance customer experiences and foster innovation, which are crucial for firm survival. It is also essential for managers to prioritise organisational learning skills, which serve as the foundation for fostering a culture of ongoing improvement and innovation. Such skills can be developed by allocating resources towards training and development initiatives, implementing effective feedback mechanisms and providing venues for the systematic organisation and dissemination of information. It is important for managers to ensure that their performance management systems effectively acknowledge and incentivise actions related to learning, adaptability and knowledge sharing.

6.5 Recommendations for Practitioners

This research study conducted on organisational culture, organisational learning and firm survival in the context of the UAE's energy industry has practical implications for other energy companies in the region. The insights obtained from this research provide valuable information for making strategic decisions, guiding the design and implementation of organisational changes, and contributing to the establishment of a sustainable competitive advantage in a rapidly changing and demanding market environment. In line with this, energy firms should carefully analyse and intentionally develop their organisational culture to match their strategic goals and improve their ability to adapt and change. The presence of many cultural characteristics observed in the current study findings highlights the absence of a universally applicable approach to organisational culture and firm survival. Energy companies should prioritise acquiring a comprehensive perspective of their own cultural environment, including the principles, standards and fundamental presumptions that influence the conduct of employees and the overall effectiveness of the business.

Moreover, insights into facilitators of organisational learning provide energy firms with a framework to cultivate a culture of learning and continuous improvement. These companies should implement comprehensive training and development programmes,

build consistent feedback mechanisms, and construct forums for the sharing of ideas and best practices, which could enable them to proactively anticipate market trends and swiftly adjust to changing conditions.

Energy firms could also engage in improved strategic planning by exploring methods of anticipating and planning survival, which may allow them to identify potential challenges and develop contingency strategies. Additionally, these companies could leverage the research findings to foster a learning-centric environment which encourages experimentation, knowledge sharing and cross-functional collaboration. This could be done by implementing learning and innovation strategies and training and development programmes, providing regular feedback mechanisms, collaborating and communicating, and implementing effective leadership and performance management. One of the most crucial approaches to anticipate firms' planning and survival is to invest and engage in renewable energy initiatives, as this may enable companies to diversify revenue streams, mitigate climate risks, future-proof against market shifts, enhance their corporate reputation and access new growth opportunities in the rapidly evolving energy landscape.

The current research findings also outlined the factors that hinder organisational learning, which include limited resources, high resistance to change, multicultural teams and poor organisational culture. It is crucial for energy firms to overcome these challenges for improved strategic planning of survival. The companies should invest in developing their resources, such as human resources, infrastructure and knowledge management systems to foster a culture of continuous learning and innovation. They should implement change management initiatives as a part of their organisational culture to overcome resistance to change among employees. This may be done by engaging in proactive communication, stakeholder engagement and leadership support to create a shared vision for organisational learning and align it with the strategic objectives. These companies should also implement diversity and inclusion initiatives to leverage the unique perspectives and experiences of multicultural teams.

In line with the approaches related to organisational culture and organisational learning mentioned above, it is crucial for energy firms to implement strategies for survival, such as innovation and adaptability, learning and knowledge sharing, collaboration and

communication, risk management and resilience, and alignment of leadership and culture. Energy companies should enhance and develop their strategic objectives by establishing a comprehensive understanding of their culture and thereafter implementing proactive measures to strengthen their survival strategies. They should also focus on improving their creativity and adaptability to cultivate a risk-taking culture and ongoing learning to improve their survival. Firms should enhance their focus on customer satisfaction to develop a culture that values being quick to respond, working together and having a thorough awareness of changing client requirements. Managers of energy businesses should focus on adopting effective leadership approaches, as the research findings suggested that effective leadership and its alignment with culture can encourage employees to adopt and embody strategic objectives in their daily organisational operations, contributing to higher firm survival. Energy companies could also reconfigure their reporting hierarchies, decision-making procedures and performance evaluation frameworks in order to strengthen their organisational culture for better firm survival. Practical implications for energy organisations were also derived from the study's focus on cooperation, employee well-being and open communication as prevalent organisational culture characteristics. Energy firms could cultivate a supportive and inclusive work atmosphere for increased employee engagement, better information exchange and innovation. These factors are of the utmost importance in effectively navigating the intricate and swiftly changing energy sector. Pragmatic measures might also include the adoption of cross-functional collaboration, the establishment of consistent feedback channels and the allocation of resources towards staff development and wellness activities.

6.5.1 Integrating Learning Processes Into Renewable Energy Strategies

Energy firms could integrate organisational learning with renewable energy initiatives in the UAE's energy sector, as this presents a significant opportunity for the companies to enhance their adaptability, innovation and long-term sustainability. As the global energy landscape shifts towards renewable sources, it is crucial for firms to foster a culture that supports continuous learning and innovation. This requires encouraging cross-disciplinary knowledge sharing and collaboration across different sectors within the organisation. Energy firms could create environments that facilitate the exchange of ideas

between experts in renewable energy technologies, business management and sustainability and could enhance their capacity to innovate. These organisations could also promote a growth mindset among employees, where they are encouraged to continually update their skills and knowledge, particularly in emerging renewable technologies, to maintain competitiveness in a rapidly evolving industry. Moreover, integrating organisational learning with strategic planning for renewable energy initiatives may ensure that lessons learned from past projects are applied to future endeavours. By developing feedback loops and encouraging scenario planning, firms could better anticipate shifts in market conditions, technological advancements and regulatory changes, allowing them to remain proactive and adaptable.

Furthermore, the development of robust knowledge management systems is crucial for capturing and disseminating insights gained from renewable energy projects. Establishing centralised repositories for best practices, case studies and lessons learned would enable firms to document and share valuable experiences across the organisation, ensuring that both successes and challenges inform future decision-making. This system of continuous learning would help avoid repeating mistakes and ensure that innovations are scalable. Empowering leaders within the organisation to champion this culture of learning is vital. Leaders should not only support the integration of renewable energy initiatives into their firm's strategy but also create spaces for experimentation and risk-taking. By encouraging employees to engage in pilot projects and small-scale renewable energy initiatives, firms may foster innovation while minimising potential risks. In doing so, they could ensure that their organisational learning practices are aligned with the technological advancements and regulatory frameworks driving the transition towards renewable energy, ultimately positioning themselves for long-term success and sustainability in the sector.

6.6 Recommendations for Policymakers

The current research has some crucial implications for policymakers and regulatory bodies in the energy industry. As governments and governing bodies seek to shape the future of the energy landscape, the insights generated by this study could inform policy decisions and interventions aimed at fostering a competitive, innovative and sustainable

energy sector. Policymakers may leverage the findings of this research to justify the need for supportive policies that facilitate the transition towards renewable energy sources, which should be a part of firms' organisational culture. This could allow policymakers to accelerate the adoption of renewable energy technologies and drive sustainable energy transitions at both national and regional levels. The research findings outline the importance of innovation, which can be a part of organisational culture and also facilitate organisational learning. In line with this, policymakers could prioritise investments in R&D initiatives aimed at advancing technologies and developing high-end infrastructure. They could also examine their regulatory frameworks or incentive schemes aimed at promoting the cultivation of innovative, collaborative and continuous learning cultures implemented by energy firms. Policymakers could encourage firms to engage in training programmes, knowledge-sharing platforms and staff development initiatives. They may also facilitate the cultural changes required for energy companies to succeed in a rapidly changing and intricate operational environment by implementing policy-level initiatives.

Furthermore, the current research places significant importance on the influence of leadership in developing and strengthening the culture inside an organisation. In line with this, policymakers could promote the implementation of leadership development programmes or certificates particularly designed for top executives in the energy industry, which may prioritise the utilisation of strategies aimed at providing leaders with the necessary skills, attitudes and tools to proficiently oversee organisational culture transformation. It is also important for policymakers to consider the impact of industry-level influences on the formation and evolution of organisational culture inside energy firms. The results of the research indicate that the cultural landscape of the energy industry may be influenced by past policies, market dynamics and regulatory frameworks. Policymakers should conduct a thorough evaluation of the wider industrial landscape and its influence on organisational culture, which could help them develop policies and actions necessary for the sector. Policymakers have the opportunity to investigate the establishment of industry-wide platforms, forums or knowledge-sharing efforts that facilitate collaboration among energy corporations, research institutions and other relevant players and enable them to jointly tackle common difficulties and collaboratively generate solutions. In order to foster transparency, accountability and good governance

within energy firms, policymakers have the chance to engage in collaborative efforts with industry stakeholders to establish regulatory frameworks. Furthermore, they have the ability to promote the adoption of optimal strategies in risk management, including the frequent execution of risk assessments, the establishment of comprehensive compliance procedures and the cultivation of a culture that emphasises ongoing improvement. Policymakers could bolster the resilience of energy enterprises in a fast-changing business environment by improving regulatory monitoring and risk management, enabling them to overcome uncertainty. In addition, policymakers may consider the possibility of engaging in public–private partnerships to collaboratively develop strategic plans and protective measures that effectively mitigate systemic risks and bolster the overall competitiveness of the energy industry.

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Appendices

Appendix A: Interview Protocol

Dear Participant:

I, Ahmed, am a DBA research candidate at Durham University and Emlyon Business School. I am doing this research study as a part of my thesis for a Professional Doctorate programme. The aim of this study is to investigate how firms in the energy industry of the UAE can develop their organisational culture to promote organisational learning and unlearning, with the ultimate goal of increasing their chances of survival.

This interview is voluntary and the data will be treated with utmost confidentiality and anonymity. If you are willing to participate, kindly provide your signature and read the below terms.

1. I agree to take part in the above research. I have read the Participant Information Sheet for the study. I understand what my role will be in this research, and all my questions have been answered to my satisfaction.
2. I understand that I am free to withdraw from the research at any time, without giving a reason.
3. I am free to ask any questions at any time before and during the study.
4. I understand what information will be collected from me for the study
5. For the purposes of the Data Protection Act (2018), if this project requires me to produce personal data, I have read and understood how the university will process it.
6. I understand what will happen to the data collected from me for the research.
7. I have been told about any disadvantages or risks regarding me taking part
8. I understand that quotes from me may be used in the dissemination of the research
9. I understand that the interview may be recorded.
11. I have been informed how my data will be processed, how long it will be kept and when it will be destroyed.
12. I have been provided with a copy of this form and the Participant Information Sheet

Name of participant (print).....

Signed.....

Date.....

If you have any additional questions, please send an email on the following email address:

Thank you for participating in this questionnaire!

Demographic Questions

1. Can you indicate what your job entails on a daily basis?
2. How many years have you worked in this organization in this position?
3. What are your educational qualifications?
4. How long have you worked in this organization as a whole?

Research-Related Questions

1. What are the core characteristics of the energy sector in the UAE?
 - a. How does your company identify and respond to changes in the energy sector, such as emerging technologies and regulations?
 - b. Can you describe a situation where your company faced failure, and how did the organization's culture affect this?
2. Would you say that your organization has a high or low probability to fail in the future?
 - a. Can you describe a situation where your company faced failure, and how did the organisation's culture contribute to this outcome?
 - b. What strategies have your company adopted to enhance its survival in the energy sector of the UAE?
3. How does your company handle failure, and what measures are in place to ensure that the organization learns from these experiences?
4. What conditions are necessary to ensure that a firm in the energy sector is prepared for the future?
5. How does your company ensure that organizational learning is integrated into its strategic planning process?
6. How does your company ensure that its organizational culture and learning behaviours align with its overall strategic objectives?
7. How would you describe your company's culture, and what are the key values or characteristics that define it?

- a. Can you describe a situation where your company has successfully adapted to a changing market or competitive landscape, and how did the organisation's culture play a role in this outcome?
 - b. How does your company approach innovation and experimentation, and what measures are in place to encourage these behaviours?
 - c. How does your company approach risk-taking, and how does this relate to the organisation's culture?
 - d. How does your company foster collaboration and knowledge sharing among employees, and what measures are in place to support these behaviours?
 - e. How does your company ensure that its culture is aligned with its broader goals and objectives, and what measures are in place to ensure that the organization is moving in the right direction?
 - f. How does your company balance the need for stability and consistency with the need for innovation and adaptation, and how does this relate to the organisation's culture?
8. What challenges has your company faced in implementing a culture of learning, and what solutions have been implemented to overcome them?
 9. What role does organizational learning behaviour play in ensuring the sustainability of your company in the energy sector?
 10. How does your company assess the effectiveness of its organizational culture and learning behaviours?
 11. Is there anything else you might want to add that I may have missed? (Is there a question that you think I should have asked?)

Thank you for your participation; this greatly helps my research. If you are interested, once the analysis is complete, I can share a copy of the results with you.

Appendix B: Interview Transcript

1. Can you indicate what your job entails on a daily basis?

My primary focus at work involves creating strategies to foster optimal development and advancement for our company. I describe it as the creation of attainable goals and objectives that guide the company towards achieving desired goals in the market. Another crucial aspect of my role is coordinating the effective mobilization of resources, working collaboratively with the teams at all levels

2. How many years have you worked in this organization in this position?

It has been 2 years now.

3. What are your educational qualifications?

Masters degree in Project Management and Certificate of specialization in Strategy form Harvard.

4. How long have you worked in this organization as a whole?

More than 16 years.

1. What are the core characteristics of the energy sector in the UAE?

To provide context, the political system of the United Arab Emirates is integrated by a Federal Supreme Council, composed of the 7 rulers of its emirates. The council is the highest constitutional authority. The United Arab Emirates has an open economy with a high per capita income. The country's oil business has played a significant role in its development, transforming it from an impoverished nation into a modern state with a high standard of living. One of the main characteristics of the energy sector in the UAE is the constant effort to make electrical power easy and accessible for everyone in the country, utilizing the best technology in services. Another characteristic is the continuous exploration of ways to use renewable energy. The demand for electrical power is steadily increasing due to population growth and a constantly expanding economy.

a. How does your company identify and respond to changes in the energy sector, such as emerging technologies and regulations?

The majority of the energy generated in the UAE comes from the combustion of natural gas. However, market trends indicate that we need to diversify with the goal of exploring new alternatives in mixed energy. This involves a combination of renewable energy,

nuclear energy, and new clean energies that, together, can support the economic and environmental requirements that will arise in the future. We defined strategic pillars to invest in new energy by allocating capital and resources to build such capabilities and future proof the business.

b. Can you describe a situation where your company faced failure, and how did the organisation's culture affect this?

The energy industry is a high-risk sector; undoubtedly, from hydrocarbon exploration and extraction activities to electricity transmission and distribution. The generation and commercialization of energy require significant technical, economic, and financial skills to ensure the successful development of the company. A situation that would undoubtedly put us at a disadvantage is the lack of vision in the face of the new challenges posed by staying at the forefront of new forms of energy production. Failure is no stranger in the new energy space but should not be deemed necessarily as a bad thing. For instance, failure to pilot and deploy new emerging technology at a certain scale and timing occurs often. Having the ability to embrace the failures as learning opportunities help pivot and adjust for a better and more prepared experience in the future.

3. Would you say that your organization has a high or low probability to fail in the future?

a. Can you describe a situation where your company faced failure, and how did the organisation's culture contribute to this outcome?

Organizational culture can significantly impact a company's ability to avoid failures in its processes by creating an environment that favours continuous improvement, collaboration, and adaptability. A culture that encourages ongoing learning and innovation equips employees with the tools and mindset needed to consistently improve processes and adapt to changes. An organizational culture that prioritizes quality over speed or quantity tends to reduce the likelihood of failures as it focuses on doing things correctly from the beginning. Culturally the core business shames failing projects and teams, in new growing businesses is que lack of incentives to promote the wellbeing of the workforce. I see the leadership grasping this yet the challenge is normally how can you create the right structured KPIs to measure success. We keep asking ourselves when it comes to new and uncertain opportunities, how can we define success.

3. Would you say that your organization has a high or low probability to fail in the future?

b. What strategies have your company adopted to enhance its survival in the energy sector of the UAE?

We need to be ahead of the new strategies for renewable energy. The UAE is rapidly expanding the use of clean energy, as an example the UAE is home to three of the largest and low-cost solar plants in the world. At the same time another strong strategy would be to work on lowering the carbon impact of hydrocarbon fuels.

4. How does your company handle failure, and what measures are in place to ensure that the organization learns from these experiences?

Managing failure scenarios is a critical aspect of our organizational resilience and growth. We always have to be fostering a culture where work teams take responsibility for their actions and outcomes. This contributes to creating an environment in which individuals are more likely to learn from failures instead of blaming their colleagues. Similarly, we try to promote a positive and supportive work culture. Employees are more likely to learn from failures and take risks if they feel they are working in an environment that supports them.

5. What conditions are necessary to ensure that a firm in the energy sector is prepared for the future?

Reading and acting upon the market and industry macro trends. Imbedding those changes in the strategy, resource allocation and processes to make it happen. We need to be ahead of the emerging technologies, like renewable energy innovations, smart grids and energy storage solutions. Also, another important aspect is to be constantly aware of regulatory changes and compliance requirements in the energy industry, adapting and complying to evolving regulations ensures that the company operates within the legal boundaries. Another condition that I think is necessary to prepare for the future is to always keep investing in research and development, this enables the company to explore and develop new technologies. We need to stay informed about global markets and geopolitical factors that could impact the energy sector.

6. How does your company ensure that organizational learning is integrated into its strategic planning process?

Learning is an integral part of the company strategy and executed upon through internal and external learning resources. As a company we are always in search of learning from our mistakes, and as our company grows and gains experience, we integrate the new learnings into our overall work process. The global workforce has been changing over the last years due to many different factors like increasingly business landscapes, digital revolution and multigenerational workforce, therefore having a solid organizational learning will help the company by ensuring competitiveness in a changing business environment, being adaptable and enabling innovation.

7. How does your company ensure that its organizational culture and learning behaviours align with its overall strategic objectives?

The first step into ensuring the organizational culture aligns with the strategic objectives, is to clearly define the objectives of the company and communicate them well to the workforce of the company. Another strategy would be to ensure that leaders at all levels embody and reinforce the desired culture they promote. The good communication with the employees will always guarantee success in keeping the team engaged. Establish performance metrics and KPI's aligned with strategic objectives will also contribute.

8. How would you describe your company's culture, and what are the key values or characteristics that define it?

The company culture is always evolving around the values of growth, leadership and care. This is what shapes our organization identity and guides the actions for our employees. It is the collective personality of the company. A place where the core values represent the fundamental principles that guide behaviour and decision-making day by day.

8.a. Can you describe a situation where your company has successfully adapted to a changing market or competitive landscape, and how did the organisation's culture play a role in this outcome?

New energy space is a good example where the company was among the first in the sector to announce carbon neutrality targets and commit to sustainability early on. In this sense, innovation and adaptability plays a very important role to encourage employees to explore new ideas and technologies. Culture of growth and seeing challenges as opportunities certainly played a role. The company invested in continuous learning and skill development programs for the employees, this ensures that the workforce remains knowledgeable about the latest advancements in the energy sector.

8.b. How does your company approach innovation and experimentation, and what measures are in place to encourage these behaviours?

It really can be very different from one part of the company to the other. Typically, core businesses have a lot at stake so do not venture too often, while its nearly the opposite when it comes to new disruptive innovation where experimentation is more welcomed. Measures of leadership role modelling, when leaders actively support and participate in innovative initiatives it sends a powerful message to the entire organization. Open communication channels, provide time and resources for the employees, this allows flexibility in work schedules and can foster creativity. Establish dedicated innovation teams, where they are constantly creating and experimenting with new ideas and new technologies.

8.c. How does your company approach risk-taking, and how does this relate to the organisation's culture?

Even though we are a technology company we are typically risk adverse, so this maybe taking some credit from us. Yet recently in the past 3 years we started to be more open especially while we place strategic bets in the new energy space. We are now on the trend of innovation and creativity, we try to engage in a culture that encourages experimentation and learning from our failures.

8.d. How does your company foster collaboration and knowledge sharing among employees, and what measures are in place to support these behaviours?

Regular in person lunch and learn, this means open new communication channels that facilitate the exchange of ideas and information. Leadership engagements play a crucial roll in modelling collaborative behaviour, it sets the tone for the entire organization. Also invest in training programs that enhance collaboration skills. We also organize team building activities to promote camaraderie and trust among employees.

8.e. How does your company ensure that its culture is aligned with its broader goals and objectives, and what measures are in place to ensure that the organization is moving in the right direction?

First, we need to ensure that the mission and values serve as the foundation of the companies' culture and that the leaderships at all levels is aligned with the companies values. Leaders are our role models for the desired culture that we want for the company.

Foster an inclusive decision-making process. When employees feel involved they are more likely to connect with the organization goals.

8.f. How does your company balance the need for stability and consistency with the need for innovation and adaptation, and how does this relate to the organisation's culture?

Strategic bets the company places are driven often by financial thresholds, but this doesn't mean you cannot develop a strategic plan that incorporates both short term stability measures and long-term innovation goals. This can make the company remain adaptable while still achieving its objectives. KPIs to quantify those risks and determine expected returns. Its culturally stemming from the strong commercial acumen and financial processes the company has in place.

9. What challenges has your company faced in implementing a culture of learning, and what solutions have been implemented to overcome them?

Adoption in my view is the biggest challenge, for example let's think about our oldest employees that often tend to resist adopting a continuous learning culture due to fear of change or concerns about the impact on daily routines. Another challenge is always the limited resources, another example could be a limited budget for training programs or learning platforms can hinder the implementation of a stronger learning culture.

10. What role does organizational learning behaviour play in ensuring the sustainability of your company in the energy sector?

The energy sector is rapidly evolving, so organizational learning enables companies to stay at the core of new technologies, adapting to new changes in the industry and implement innovation. Also organizational learning involves understanding the past successes and failures to help identify and mitigate risks. Another important role is the employee engagement, in the energy sector the technical expertise is crucial to operate and maintain advanced technologies.

11. Is there anything else you might want to add that I may have missed? (Is there a question that you think I should have asked?)

feel free to reach out if you have any questions and best of luck with your PHD