# Leadership in Challenging and Changing Times: The Power of Transformational Network Leadership in Developing Organisational Resilience for the Bahrain Energy Industry

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*Abstract: As the global demand for a greener economy increases, so too does the pressure on the world's energy industry to transform its practices and comply with United Nations Sustainable Development Goals. Worldwide, energy companies are required to transit to significantly reduce the global economy's reliance on fossil fuels as the main source of reliable energy source. Additionally, the organisational complexity involved calls for more resilient energy companies to adapt and be more responsive to future energy transition challenges, including supplying more affordable, sustainable and greener energy. These challenges and changes to how we use energy also call for more suitable leadership approaches than what current transactionally based research suggests. To find out the extent to which firms are adapting to the energy demands and challenges, the authors investigated leadership capacity and resilience development in nine Bahrain Energy companies through semi-structured interviews with its senior leaders. One of the study's key findings is that in addition to the need for organisational resilience within firms and across the sector, the Bahrain oil industry also needs transformational network leadership if they are to address the growing challenges and be sustainable. This paper contributes to Network Leadership Literature by identifying the types of Transformation Network Leadership practices and processes that will help the energy companies adapt to change and develop resilience in addressing UNSDGs.*

*Keywords: SDGs, Challenges, Transformational Network Leadership, Change, Resilience*

## 1. Introduction

The worldwide demand for energy is increasing. So too are the pressures on the producing business organisations. The United Nations General Assembly obtained the consensus of member countries to implement a global action plan to address challenges to global sustainable development. The United Nations General Assembly recognised 17 Sustainable Development Goals (SDGs) which contributes towards addressing urgent global environmental, social and economic sustainability challenges. As agreed by United Nations members are expected to communicate and discuss their developed national actions to address, implement and achieve SDGs by 2030. This would require both governments and private entities to undergo large-scale organisational changes to address and comply with the United Nations Sustainable Development Goals. Those changes combined with growing organisational and environmental complexity requires multiple changes at different organisational levels to address UNSDGs. The Energy industry is one of the most SDG challenged sectors that would require multiple organisational changes to address and implement SDGs in the core business. The implementation of various organisational change events requires Energy companies to practise a suitable leadership approach to address the sustainability and development challenges. Network-based leadership approach that links different scattered organisational elements in

such a way that enhances the achievement of organisational goals has been considered as appropriate if energy companies are to stand a chance of suitably addressing the SDGs.

This paper explores what potential Organisational Resilience may play in the complex SDGs challenged Energy Company sector by focusing on Transformational Network Leadership. Research and literature on Transformational Network Leadership suggest that it is the outcome of the expansion of network leadership in the organisational change domain (Alghanem, 2021). Transformational Network Leadership addresses organisational challenges in an innovative, holistic, and collaborative approach (Alghanem *et al.*, 2021). We perceive Transformation Network Leadership as a sway from traditional individual approach to organisational management to the assembling networks of change agents to implement organisational goals. Due to the nature of Transformation Network Leadership, this leadership approach is thought to improve organisational resilience. With increasing pressure on the Energy industry to continue supplying global economy from sustainable and affordable sources of energy while, simultaneously, addressing the SDGs through pursuance of cleaner energy. For this to happen, energy companies are required to be more resilient and adaptive to address energy transition plans to address SDGs. This paper examines the impact of Transformational Network Leadership in achieving the needed organisational resilience that could enhance the sustainable addressing of the SDGs challenges in the context of Bahrain Energy industry.

This paper adopts an interpretivist/constructivist ontological/epistemological position. The study's findings are based on an in-depth, qualitative research in the context of Bahrain Energy industry. The empirical data was gathered from executives and senior management in Bahrain Energy companies. The data sampling is based on purposive sampling where companies operating in the Bahrain Energy industry is the unit of analysis. The gathered descriptive data was analysed utilising Braun and Clarke's (2006) six-step analysis technique. This paper is structured as follows: following this introduction is the contextualisation of leadership and organisational resilience, addressing SDGs in the Energy industry and theorising Transformational Network Leadership. Next, is the explication of research methods utilised to extract data from Bahrain Energy industry. The study then advances to lay down the Transformational Network Leadership practices and concepts to help develop Organisational Resilience. The paper closes with some conclusions, limitations and areas for future research.

## 2. Contextualisation

### *2.1 Leadership and Organisational Resilience*

The literature suggests that Organisational resilience is a multifaceted approach that addresses organisations challenges, their capacity to cope with and execute changes (Kantur and Say, 2015; Burnard, Bhamra and Tsinopoulos, 2018). Organisational resilience is linked to challenges of organisational change, crisis management and business continuity (Weick, 1993; Ford, 2018). Scholars define organisational resilience as the adaptive capacity to overcome unexpected challenges and disruption to organisational operations (Ford, 2018). Organisational resilience is linked to the leader's ability to anticipate and respond to any unexpected set of events (Duchek, 2020). The energy industry is pressurised to continue supplying markets with modern reliable energy sources at affordable prices and to execute clean energy transition plans

simultaneously. These demands require energy companies to be more resilient and innovative in avoiding any operational disruptions in the process of making the transition to cleaner energy and in meeting the SDGs. Organisational resilience also involves the "firm's ability to effectively absorb, develop situations-specific responses to, and ultimately engage in transformative activities to capitalise on disruptive surprise" (Lengnick-Hall *et al.*, 2011, p. 244). Organisational resilience highlights the importance of developing and embedding organisations' capacity to respond to pre anticipated organisational situations (Burnard *et al*., 2018). Research suggests that this is achieved through encouraging knowledge exchange across organisational boundaries by allowing organisations to take rapid innovative urgent actions to diminish sudden complicated challenges (Liu *et al*., 2019). As energy companies are exposed to complex challenges to address SDGs, organisational resilience is viewed as a multiple-level process that requires developing and embedding into and as part of organisational culture (Burnard *et al*., 2018). On the other hand, leadership is acknowledged by scholars as an essential element contributing towards more resilient organisations (Williams and O'Reilly, 1998; Stephens *et al.*, 2013). The complexity of the challenges and the demands to change posed on energy companies call for practising leadership at multiple organisational levels to enhance organisational resilience to mitigate or minimise the disruptiveness of the change (Do *et al.,* 2022). This paper explores Network Leadership in Bahrain Energy industry to identify a set of appropriate Transformational Network Leadership Practices that will fill the gap between increased energy demands and affordability and sustainability and thereby enhance Organisational Resilience.

### *2.2 Addressing SDGs in the Energy industry*

Energy companies are the major source of supply to the sustainability of affordable energy. This makes the energy industry the major contributor to global economic development and growth. Given that economic development and growth are positively correlated to the anti-poverty goals of the UN SDGs, it is crucial to examine how such a corelation manifests itself in Bahrain, a leading, worldwide producer of oil and gas. Alternatively, economic development and growth are negatively correlated to the preservation of the environmental and ecosystems' preservation set up by the UN. Additionally, the Energy industry has a moral and social responsibility to address global social, economic and environmental concerns. Caught in between these opposing dynamics, this paper examines the nature of the relationship between the Energy industry and different SDGs within the Bahrain context with the aim of filling the resilience, sustainability and leadership gap created by the opposing dynamics. To do so, the authors examine the nature of the SDGs and the demands for organisational change they pose to firms in the energy sector.

UN SDG1 is concerned with ending poverty by 2030. Such an ambitious target requires global collaborative efforts to address all the causes of poverty in all its forms both in society and organisations. The Energy industry contributes to SDG1 in the following ways. Firstly, by implementing SDG7 organisations seek to increase access to affordable sustainable energy sources. Secondly, by doing so, they maintain ecosystems and preserve the global environment as these affect the agriculture industry. The latter generally represents the main source of income especially for the world's less fortunate and deprived communities. A way to partly

achieve this is by countries and organisations taking urgent actions in addressing SDG13 by combatting climate change. One would like to think that this type of action requires the mitigation of fossil fuel emissions according to the 2016 Paris agreement and the ambitious target of achieving Net-Zero target by 2050. Thirdly, countries in general and organisations can address SDG8 by contributing to local development in developing economy countries by directing greater investments into training, education and subcontracting to local businesses. Such actions lead to more local job creation opportunities and increase economic development. SDG2 is linked to maintaining sustainable agricultural food supply security and the achievement of zero hunger by 2030. However, the food production industry is fully dependent on fossil fuel supplies, which power agricultural machinery and serve as catalysts for fertiliser production and food packaging. This is achieved by addressing SDG13 to reduce the impact of fossil fuel emissions, which, in turn, helps to reduce global warming and to achieve SDG9. This can be facilitated by sharing enhanced multi-use resource infrastructure from onshore activities. SDG4 targets equal education quality and learning opportunities for all. The Oil and Gas industry can invest in education and training in areas they are operating in especially through workforce training. SDG6 is concerned with assuring sustainable clean water and sanitation for the world's population. This goal is related to SGD1 on ending poverty, to SDG2 on achieving zero hunger and to SDG13 on climate change. Energy companies can play a role in facilitating the achievement of all these goals as well as global water supply management. Although the Energy industry is a major consumer of global water supplies in the production of fossil fuels and power generation (see SDG7), water sanitation is also a major consumer of fossil fuel. Therefore, the Energy industry's contribution towards ensuring global supplies of sustainable affordable energy supplies impacts on the capacity of governments and private entities to achieve SDG6.

SDG7 is concerned with providing access to sustainable affordable and reliable global energy supplies (Sharma *et al*., 2022). This goal is embedded within the core business of Energy companies in the following way. Firstly, expanding Energy companies' investments in the energy services sector in developing poorer countries can facilitate such a process. Secondly, increasing efficiency in the production and consumption of fossil fuels can also help. This is through the reduction of energy sources lost through the process of refining, transporting and distributing that contributes towards the availability of sustainable energy supplies at more affordable prices. SDG8 is related to assure sustainable development and economic growth that contributes towards more job creation. The Energy industry's supply of affordable fossil fuel energy sources helps to increase productivity and economic growth, thereby addressing SDG8. SDG9 is related to the achievement of sustainable industrialisation through encouraging innovation. SDG9 is dependent on achieving the infrastructural resilience of the entire global energy industrial sector. This would require sustainable fossil fuel supplies to be affordable to everyone. SDG10 is related to reducing inequality amongst countries and SDG11 is linked to maintaining sustainable resilient communal cities (Zutshi *et al*., 2021). Achieving these goals is directly related to fossil fuel companies implementing SDG7 and addressing the SDG8 concerns.

SDG13 is associated with urgent actions needed to combat climate change and reducing global warming to sustainably safe levels. Massive population increases and economic growth have combined to raise the global demand for fossil fuels. This has resulted in the increasing concentration of greenhouse gas emissions contributing to global climate change. During COP 21 the Paris Agreement under the UNFCCC got the consents of the United Nations members to commit to mitigate fossil fuel emissions to reduce climate change, reduce global warming to below 2ºC and to pursue efforts to limit it to 1.5ºC. The ultimate target is to reach Net-Zero by 2050. Energy companies have a pivotal role in reaching the Net-Zero target by integrating climate change actions into their core business goals and activities. Companies implement many actions to address climate change challenges such as setting strategic long-term Net-Zero plans, assessing their carbon resilience, operating emissions mitigation strategies, developing carbon capture use and storage. Energy companies' operations are in locations of sensitive environments, both on and offshore. Such operations impact on the achievement of SDG14 in terms of maintaining life below water and SDG15 in terms of protecting life on land and maintaining ecosystem balance. This requires Energy companies to integrate environment assessments into their policies, reducing ocean acidification, sustainable ecosystems balance management and implementing new innovative technologies to reduce risks to ecosystems' balance.

The energy industry is a major contributor to sustainable development and economic growth and the potential achievement of the UN SDGs, including the maintenance of global sustainable growth, combatting poverty, enhancing education, employment and providing sanitised water and food supplies. However, there remains a dilemma and a global challenge in terms of energy companies providing sustainable and accessible energy sources at an affordable price level whilst there still exists a global demand of moving to emissions free economies. The energy industry's direct linkage and contribution to most of the SDGs therefore calls for a suitable leadership practice approach, through which the capacity of Energy companies' activities and actions are collaboratively and collectively integrated to efficiently achieve the SGDs. This requires the companies to practice leadership at multiple organisational levels. This paper argues that exploring a Transformation Network Leadership approach is crucial if the Energy industry is to facilitate the implementation of the UN SDGs by adopting multiple integration activities and networks that can simultaneously be coordinated and interconnected.

### *2.3 Transformational Network Leadership Theory*

Network-based approaches to Leadership is a sway from the reliance on single agency leadership towards more collaborative and collective forms of leadership, where actors exchange responsibilities between different network actors (Muijs *et al.,* 2011; Azorìn *et al.,* 2020). The concept of Network Leadership emerged because of growing complexity that creates challenges to organisations to remain resilient (Barbagila *et al*., 2021), like those posed by the UN SDGs, which require leadership practice at multiple organisational levels and across organisational boundaries (Silvia and McGuire, 2010; Lithwood, 2019). Scholars argued that

the shift from vertical hierarchal structures towards more resilient network-based clusters mocked traditional management techniques as a problematic leadership approach (Silvia, 2010; Turner and Baker, 2018). Network-based leadership is a management approach that evolves around the notion of constructing high density ties between different organisational elements, exchange knowledge and communicate to address and provide solutions to organisational challenges (Silvia and McGuire, 2010; Lithwood, 2019; Uster *et al.*, 2021). Díaz-Gibson *et al.* (2017) suggests that Network Leadership is a management tool that evolved in the context of high network density of interconnected ties between scattered organisational clusters and based on the capacity of network actors to address different challenges in collaboration.

O'Neil and Brinkerhoff (2018) argued that Network Leadership is a self-organised systematic leadership practise viewing entities as a network of connected organised systems in a lean structure environment where the capacity to address organisational challenges are perform fulfil their responsibilities are conditional to actors' ability manage those systems. Network Leadership is another idea of a resilient systematic leadership approach that is associated with networks ability to manage various organisational events in coordination (Alghanem *et al.*, 2020; Azorín *et al.*, 2020). The literature suggests that the success of network-based leadership practices in leading multiple managerial events evolves around the capacity of actors to delegate different responsibilities in a systematic distribution process based on networks actors' capacity to execute those events (Turner and Baker, 2018; Strasser, De Kraker and Kemp, 2020). Furthermore "network leadership is taking hold in both academia and practice…advancement is being made in both theory and practice, but empirical research needs to be emphasised and enhanced" (Cullen-Lester and Yammarino, 2016, p. 174). Silvia (2010) postulates that "while the network level approach to the study of networks is important, the issues of leadership and management within these collaborative ventures has largely been overlooked" (p. 67). Silvia and McGuire (2010) described Network Leadership as "the 800 lb gorilla in the room" (p. 264) that is furthermore to be explored to understand its impact on organisational management. Network Leadership is perceived as a reactive leadership practice to organisations activities. We argue that Network Leadership can be embedded and planned in organisations current and future organisational plans and the role of leaders/managers in the oil and gas industry in the network leadership dilemma has been overlooked and therefore, needs urgent attention.

This paper suggests that Transformational Network Leadership is a suitable leadership approach that contributes towards Organisational Resilience and its ability to address challenging SDGs in the Bahrain Energy industry. The literature suggests further expansion of Network Leadership to other research domain to conceptualise its impact (Wind *et al.*, 2021; Cullen-Lester and Yammarino, 2016; Silvia and McGuire, 2010) and we have chosen the Bahrain Energy industry for this. Therefore, addressing SDGs by Energy companies calls for a suitable resilient leadership approach that collectively address those goals. This paper further explores Transformational Network Leadership in Bahrain Energy industry initiatives to address SDGs and, in so doing, help to identify concepts and attributes of Transformation Network Leadership in the achievement of the Organisational Resilience. We argue that Transformational Network Leadership essentially contributes towards Organisational

Resilience to address SDGs through different sets of concepts and attributes beyond those of the traditional Network Leadership school of thinking.

This paper has reviewed literature related to network leadership and the network-based leadership approach that has been published in the last thirty years of scholarship in this significant and burgeoning area. Although network leadership was recognised by scholars as a leadership approach that emerged as a response to increasing organisational complexity in context, structures, growth, and a mindset shift away from disassembling classic organisational structures towards, limited studies on how it is implemented have been published. Those that have been, have focused on defining and conceptualising what network leadership theory is about. However, no clear or comprehensive perception of the network leadership concept has been developed in a manner that captures network leadership practices especially in the Middle Eastern context. Scholars were conceptualising this leadership construct by adopting the practices and attributes of what network leaders look like (Popp *et al.,* 2014; Silvia and McGuire, 2008; McGuire and Silvia, 2009; Agranoff and McGuire, 2003). In other words when network leadership was discussed it was the network leader practices and attributes that were being defined, not the network leadership concept. Silvia and McGuire (2010) describe network leadership as "the 800 lb gorilla in the room" (p. 264) that needs to be researched and that its concept has not been fully captured yet. Network leadership is yet to be further investigated and its dimensions to be explored to be able to capture this emergent network-based leadership approach (Popp *et al.,* 2014; Silvia and McGuire, 2008; McGuire and Silvia, 2009; Agranoff and McGuire, 2003) outside of the predominantly Western and North American contexts it has been conceptualised in.

Transformational Network Leadership "emerged as an outcome of expanding large-scale organisational transformation initiatives which affect multiple functions at different organisational Levels. Transformation Network Leadership is a shift away from the reliance on a single leader, change implementor or change agent. Instead, it suggests the creation of transformation leaders" (Alghanem, 2021, p. 208). The transformational leaders' network is assembled by individuals drawn from different organisational levels and functions to implement the transformational initiatives (Silvia, 2010; Wind *et al.,* 2021). Transformation Network Leadership is defined and assembled by network leaders' attributes and practices during large-scale organisational change. This paper utilised Whetten's (1989) theory building and contribution criteria in acknowledging Transformation Network Leadership as a theoretical contribution. Whetten's (1989) framework defines what makes a good theory. He sets out four criteria that circumscribe a theoretical contribution addressing what, how, why and when questions of a theory to identify its component, postulate relationship between the components and to suggest conditions under which Transformational Network Leadership is more or less likely to support the implementation of planned change initiatives. He argues that the 'what' question addresses the phenomena's core constructs or variables; the 'how' question sets out relationships between the constructs describing the phenomena; the 'why' question proposes underpinning assumptions that may exist and the 'who, where, when' questions specify boundary conditions of a theory. Transformational Network Leadership is constituted of two

constructs: Network Leader Attributes and Network Leader Practices. Each of these constructs consist of sub-constructs, as set out in Figure 4.

The second criterion is to set out *relationships* between constructs. There are three ways in which the relationships are manifested. One, developing change agents with the Network Leader Attributes leads to a stronger network of change leaders. Two, encouraging change agents to carry out Network Leader Practices creates a more resilient network of change leaders. Lastly, fostering an environment for change leaders to develop and deploy their Network Leader attributes and practices leads to transformational network continuity. Transformational Network Leadership links actors to implement transformational initiatives, as a network of leaders is better positioned to execute organisational changes (McGuire and Silvia, 2009; Silvia, 2010; Rincón-Gallardo, 2020). Transformational Network Leadership posits that a stronger and more capable network of transformational leaders leads to the implementation of the planned organisational change. Social network theory supports this argument as it acknowledges that higher frequency of interactions between network actors leads to a stronger network (D'Innocenzo *et al.*, 2014; Benton, 2015), as the attributes and practices of network determines the actor status within the network (Cristofoli *et al.*, 2020; Strasser, de Kraker and Kemp, 2020).

Whetten's (1989) third criterion is to lay down *assumptions* of a theory. One assumption that Transformational Network Leadership makes is that organisations are more likely to implement planned organisational changes through network of change leaders rather than assigning a single leader or change agent to execute the planned changes (Agranoff and McGuire, 2001; Silvia and McGuire, 2010; Day *et al.*, 2014; Leithood and Azah, 2016; Uster *et al.*, 2022). This assumption stems from large scale change affecting wide swathes of the organisation, which are beyond the purview of one person or even a single transformation project team. A network of transformation leaders, drawn from different levels and silos of an organisation can gather a wide range of responses and make sense of their meaning. Another assumption is that attributes and practices can be developed and learnt, over time, by network members across different organisational layers (Kickert *et al.*, 1997; Agranoff and McGuire, 2001; Popp *et al.*, 2014; Ogden, 2018). A third assumption is that attributes and practices are dynamic, inasmuch as they vary for different transformational initiatives and adapt to internal and external environmental changes. The fourth assumption is that the development of Network Leader attributes and practices can be incorporated as activities in project plans of large-scale change initiatives. Those requirements set parameters for assembling networks of leaders with suitable attributes and practices (McGuire and Silvia, 2009; Wei-Skillern and Silver, 2013; Stiver, 2017; Shvindina, Balahurovska and Heiets, 2022). The final assumption is that most large scale, planned change initiatives are unlikely to have networks of change leaders in place at the outset. Transformational Network Leadership argues that the network can be fostered and developed as the change initiative is rolled out.

Among Whetten's fourth criteria are the *boundaries* of the theory. Based on the research examined, the authors posit that Transformational Network Leadership is less effective in emergent or unplanned change initiatives. The need for and the time required to assemble a

network of transformational leaders may be disproportionate to small scale change initiatives. Moreover, Transformational Network Leadership calls for senior management commitment to the planned change initiative. Lack of commitment from senior managers can either disrupt networks of transformational leaders from being formed or lead to destabilisation of the network after one is formed. Weak commitment takes many forms, including but not limited to, withholding resources and creating an environment that is hostile for the network to survive. Senior management's intentional or unintentional failure to fulfil their roles places a limitation on the contribution Transformational Network Leadership can make to the field of change management. Transformational Network Leadership theory argues that leaders in the network must cooperate during the implementation of change initiatives. This may not be possible when individual leaders feel under pressure or that their position is under threat. Thus, where leaders in the network withhold their support and cooperation, the efficacy of Transformational Network Leadership is compromised. The above discussion operationalises Whetten's (1989) framework for 'what constitutes a theoretical contribution'. Transformational Network Leadership developed in this study addresses each of Whetten's four criteria for a theoretical contribution.

### *2.4 Research Questions*

The research questions evolved from the interest in identifying what energy sector leaders identified as preferred leadership practice in the SDG challenged firms to achieve organisational resilience in Bahrain energy industry and thereby help to address the challenges posed by the 17 Sustainable Development Goals. The questions that were jointly developed with the energy firm leaders were outlined in a way to proceed with theory building on network-based leadership literature that will be extended to include a Transformational Network Leadership approach for the Bahrain energy industry. The research questions were developed to help highlight participants' crucial understanding of a suitable leadership approach in Bahrain Oil and Gas industry towards organisational resilience contributing towards addressing the challenges posed in implementing challenging UNSDG targets. The following research questions provide the basis for this study's investigation into Transformational Network Leadership practices in the Bahrain Energy industry:

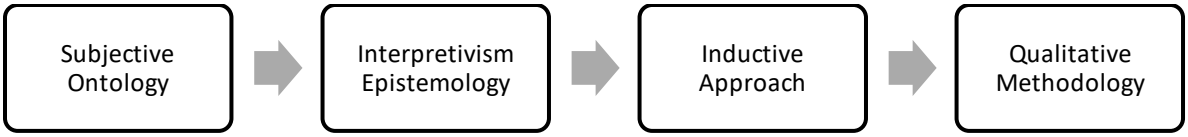
RQ1. What are the outcomes of exploring Transformational Network Leadership as organisations transform their practices to enhance their resilience?
RQ2. How does Transformational Network Leadership enhance the implementation of the UN SDGs of Bahrain's energy companies?
RQ3. What are the conceptual and attributional dimensions of Transformational Network Leadership in Bahrain Energy companies?

## 3. Methodology

This paper is in a constructivism/interpretivism paradigm (Saunders *et al.,* 2012). This philosophical stance is utilised to understand the impact of Transformational Network Leadership within the Organisational Resilience domain. Interpretivism/ constructivism stance allows the researcher to examine and explore the individual experience through placing them

in their proper social context (Collis and Hussey, 2009). This paper is based on arguments, discussions in building a theoretical understanding of Transformational Network Leadership. Interpretivism is a preferable philosophical stance in leadership studies. Interpretative researchers are advocates of qualitative based research contributing to knowledge through developing existing theories or building new theories. Therefore, this study utilised interpretative stance for the purpose of expanding Network based Leadership literature in the Organisational Resilience domain identifying Transformational Network Leadership as a suitable leadership practice towards resilience (Burrell and Morgan, 1985). Inductive reasoning is followed as a suitable method in leadership related studies and the construction of theoretical background of Transformational Network Leadership (Antonakis *et al.,* 2004). This paper adopts a qualitative approach based on theory building concept and knowledge expansion (Collis and Hussey, 2009)). The paper's philosophical framework is illustrated in Figure 1.

Figure 1. Research's Philosophical Position Framework




The findings are based on in-depth study in the context of Bahrain Energy industry and their organisational leaders form the unit of analysis. Bahrain's Energy industry was first established in 1929. It continues to be the main pillar of the national economy and a major contributor to its GDP. Companies operating in the Energy industry are challenged to address the United Nations Sustainable Development Goals. Organisations operating in Bahrain Energy industry is the unit of analysis. This paper explored the following nine organisations: Noga, Noga Holding, Bapco, Tattweer, Banagas, Gpic, Chevron, Bafco and Asry. This research's unit of analysis is also composed of executives and senior management leading energy companies in the context of the Kingdom of Bahrain. The criterion for selecting the firms' executives and senior management were based on the theoretical sampling of leaders who are exposed to organisational challenges, sustainability and resilience issues in the Bahrain SDG challenged energy companies. The participation response rate was 81%. This included 8 chairpersons and 17 top executives from CEO to GM levels respectively. This approach is based on identification of a participants with experience, knowledge and awareness of the research topic (Glaser and Strauss, 1999).

### *3.1 Data collection*

Semi-structured interviews were decided as an appropriate main source of data collection method to capture the outcomes of exploring Transformation Network Leadership in the challenged SDGs energy companies. Participants were asked to describe their views on issues linked to the study topic. Most of the interviews were face-to-face interviews and took from 45-94 minutes. Semi-structured interviews provided the interviewer with the space to build up and expand the main ideas of discussions (Bryman and Cramer, 199). However, semi-structured interviews have limitations such as limiting the research objectives and influencing

interviewees by research bias (Kallio *et al.*, 2016). The data was gathered within a timeframe of two months and then coded and analysed to extract meaningful interpretation generated themes and sub-themes.

### *3.2 Data Analysis*

The questionnaire was conducted during face-to-face interviews with leaders and senior management in Bahrain. The gathered data was analysed based on Braun and Clarke's (2006) thematic analysis six-phase process for nodes and themes generating and development. The analytical approach is based on a six-phase process as shown in Table 3 below.

Table 3. Six-phase process theme generating

| **Phase** | **Description** |
|---|---|
| 1.Famillarising yourself with the data | Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas |
| 2.Generating initial codes | Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code |
| 3.Searching for themes | Collating codes into potential themes, gathering all data relevant to each potential theme |
| 4.Reviewing themes | Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic map of the analysis |
| 5.Defining and naming themes | Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme |
| 6.Producing the report | The final opportunity for analysis, selection of vivid, compelling extracts examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis |

Source (Braun and Clarke, 2006, p.35)

The gathered data is segmented in a way that defines and allows the conversion of the extracted primary codes to facilitate the examination of themes and sub-themes. Themes and sub-themes evolved from categorising coded data into different nodes. Themes and sub-themes were developed based on inductive reasoning at three different levels. The first level of surfacing the themes was related to participants perception of suitable practice to enhance organisational resilience, description of their leadership style, their understanding of organisational resilience and their perception of Network Leadership. The second level of themes discussion was on participants' perception of the impact of leadership practice and the extent to which it enhanced organisational resilience in Energy companies to address SDGs. The third level of themes' discussion was based on findings from the research and literature which led to the identification of Transformational Network Leadership. The identified themes were thematically analysed in

accordance with the research questions with the aim of exploring Transformation Network Leadership practices and attributes in the challenged SDG energy companies toward facilitating the achievement of organisational resilience and the sustainability of firms in the sector.

## 4. Findings

The overreaching findings of this paper were key in the conceptualisation of Transformational Network Leadership. In this paper, Transformation Network Leadership was initially identified by firstly constructing multiple ties with strong correlations between various organisational networks. Secondly, the concept was identified from leaders providing a strategic prospective about their organisation's commitment to implement challenging SDGs targets and thirdly, to their adoption of increasing organisational as well as environmental complexity. Fourthly, the leadership role delegation based on the situational need highlighted certain attributes and skills of different network actors to execute a specific required leadership role. The delegation of leadership roles is based on the capacity of network actors to face specific organisational instant and contribute to enhance organisational resilience. Fifthly, the construct was identified from organisational leaders providing what they thought were a holistic solution to organisational problems and challenges (Barbagila *et al*., 2021). Finally, Transformational Network Leadership is a knowledge-based approach which calls for assembling groups of network actors with diversified attributes, skills and knowledge. Based on the empirical interview data, this paper identified Transformational Network Leadership Attributes as follows: firstly, effectively communicating organisational messages to network actors and across networks; secondly, exchanging knowledge amongst network actors and different network clusters; thirdly, having a holistic problem solving approach to organisational challenges; fourthly, having skilful actors who can utilise their attributes towards inspiring actors; fifthly, providing innovative solutions in addressing complex organisational challenges and problems; sixthly, assembling group of networks with diversified skills actors to delegated roles based on the situational need; finally, inspiring networks to operate collectively in collaboration towards efficient organisational resilience. The study's participants argued that the practice of Transformational Network Leadership is essential towards enhancing organisational resilience to address challenging United Nations Sustainable Development Goals (UN SDGS) targets in the Energy industry. Transformational Network Leadership approach is an effective management practice that contributes towards organisational resilience to implement of planned large scale organisational changes.

The ethos of Transformational Network Leadership inspires network actors to seek management roles regardless of their hierarchal status rather than being assigned to managerial responsibilities (Wei-Skillern and Silver, 2013; McGuire and Silvia, 2009). This leadership approach is an intellectually knowledge exchange based, collaborative leadership approach that interconnects energy companies in a collective effort to achieve the resilience to address challenging SDGs as well as integrating them to core value operating plans (Cristofoli *et al.*, 2020; Wind, 2017; Popp *et al.*, 2014; Provan and Kenis, 2008). In other words, Transformational Network Leadership evolves around the idea of placing different networks and actors based on their capacity to collaborate, motivate, share knowledge, effectively

communicate, and innovatively come up with solutions enhancing organisations' resilience and capacity to address SDGs. Transformational Network Leadership is argued to be a dynamic innovative based leadership practice that exchanges roles between different actors and network according to the situational demands of the strengthening organisational resilience towards SDGs implementation plans. Tables 3 and 4 below illustrate a set of transformational networks leadership-based constructs and attributes identified by interested scholars in network-based leadership approach. These tables highlight the paper's insights that conceptualises Transformational Network Leadership as Sustainable Leadership towards Organisational Resilience in Bahrain Energy industry efforts to address SDGs implementation challenges.

Table 3 below illustrates the Transformation Network Leadership Concept as defined by various scholars. Organisational resilience was developed by exploring Transformation Network Leadership in the Bahrain Energy industry companies, which were being challenged by the SDGs. Therefore, Transformational Network Leadership is essential for organisational resilience if the energy companies are to address the challenging SDGs targets in Bahrain Energy industry.

**Table 1**. Conceptual Contribution to Transformational Network Leadership

| ***Concepts*** | *(McGuire and Bevir, 2011)* | *(Wei-Skillern and Silver, 2013)* | *(Stiver, 2017)* | *(Strasser, de Kraker and Kemp, 2020)* | *(Cristofoli et al., 2020)* | ***Research Contributions*** |
|---|---|---|---|---|---|---|
| **Coordination** | **X** | | | **X** | | |
| **Collaboration** | **X** | | **X** | **X** | | |
| **Facilitative/ Collective** | **X** | **X** | **X** | | **X** | |
| **Power/ Influence** | **X** | **X** | **X** | | **X** | |
| **Connectivity** | | **X** | **X** | | **X** | |
| **Relational/ Trust** | **X** | **X** | **X** | | | |
| **Structure** | **X** | **X** | | **X** | **X** | |
| **Knowledge** | **X** | | **X** | | | |
| **Assembling multiple ties** | | | | | | **X** |
| **Strategic prospective** | | | | | | **X** |
| **Growing complexity** | | | | | | **X** |
| **Role delegation** | | | | | | **X** |
| **Holistic approach** | | | | | | **X** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Knowledge exchange** | | | | | | **X** |

Table 4 below illustrates Transformational Network Leadership attributes suggested by scholars and adds the Transformation Network Leadership attributes found in this study to mitigate against the growing organisational and environmental complexity demands and to develop organisational resilience. To integrate SDG business operating plans into an organisational resilience frame, a sustainable set of leadership practices have been developed as this study's contribution to leadership and organisational resilience.

**Table 2.** Contribution to Network Leadership attributes

| ***Attributes*** | *(McGuire and Bevir, 2011)* | *(Wei-Skillern and Silver, 2013)* | *(Stiver, 2017)* | *(Peckham and Whitehead, 2019)* | *(Strasser, de Kraker and Kemp, 2020)* | ***Research Contributions*** |
|---|---|---|---|---|---|---|
| **Power/Influence** | **X** | | | **X** | **X** | |
| **Trust** | **X** | **X** | | | **X** | |
| **Personal Skills** | | | **X** | **X** | **X** | |
| **Social Skills** | | | **X** | **X** | **X** | |
| **Collaborative** | **X** | **X** | **X** | | **X** | |
| **Efficient communication** | | | | | | **X** |
| **Exchanging knowledge** | | | | | | **X** |
| **Visionary** | | | | | | **X** |
| **Personal skills** | | | | | | **X** |
| **Innovative solutions** | | | | | | **X** |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Diversified traits** | | | | | | **X** |
| **Inspiring** | | | | | | **X** |

## 5. Contribution, limitations and future research

The energy industry is challenged to transform and contribute towards implementing UNSDGs. Companies operating in the energy industry are obligated to undergo large-scale organisational changes to meet UNSDGs targets by 2050. This requires energy companies to undergo multiple change initiatives and transform their operations to efficiently implement those changes together. This paper drew from earlier and ongoing research to provide insights on Transformational Network Leadership as a leadership approach that enhances and facilitates organisations that have been adversely challenged to change and become greener in their energy production to develop resilience. It contributes to existing literature by exploring Transformational Network Leadership in SDG challenged firms and identifying Transformational Network Leadership as a form of leadership that contributes positively towards organisational resilience. Additionally, such type of leadership is an efficient practice that contributes towards achieving organisational resilience in high reliability organisations where changes are required to meet the SDGs targets. This study recognises its limitations: the study is based on the single context of Bahrain energy industry and data was collected from organisational leaders only. Gathering data from a broader swathe of employees may have provided greater levels of nuances in the findings. This paper opens interesting seams of future research in the Organisational Resilience and Network-based Leadership domains, including, but not restricted to, the proactive formation of Transformational Network Leadership groups, the composition of Transformational Network Leadership groups and processes for maintaining and enhancing these networks over time. These studies could lend themselves to using a mix of qualitative, quantitative, and longitudinal methods and adopting a range of research philosophical orientations to ascertain a greater range of data collection, change management and leadership enhancing characteristics for strategic organisational resilience in energy sector firms.

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