

Sustainable transformation of Qatar oil and gas industry: An organisational cultural perspective

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Abstract

Sustainable development and sustainability are concepts that are gaining a lot of popularity recently, mainly due to the increasing concerns regarding business and the environment relationship. Following the footsteps of the world, Qatar commitment towards sustainability was confirmed with the introduction of the Qatar National Vision 2030 and different National Development Strategies, where the Qatar leadership had outlined its development goals for the next generations to incorporate the concept of sustainable development. Such decisions induce changes within the country's local, regional and national industry sector and especially oil and gas. The pathway for a successful implementation of sustainability strategies within organisations in the sector depends heavily on the alignment of the organisational culture with such change. Therefore, this paper provides a in depth view of the cultural changes the Qatar oil and gas sector underwent to manage the adaption of sustainability initiatives. The paper adopted a qualitative approach for the data collection process, interviewing 24 professionals from eight different Qatar oil and gas organisations. A thematic analysis was carried out to analyse the results and findings shows that important cultural changes had been experienced within the sector since the organisations' decision to implement sustainability. Four cultural changes identified to be adapted in the Qatar oil and gas sector and are: behavioural change, leadership attitude, shareholders' attitude and inter-organisational collaboration. Sustainability is not a stand-alone issue, but a dimension of management culture. As such, sustainability-related skills will have to reach further than personal relations skills.

Keywords: Organisational culture, Organisational change management, Sustainability initiative, Qatar oil and gas industry.

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1. Introduction

The huge expansion of human activities the world had experienced during the last century had certainly gone with minimum public notice (Vorosmarty et al, 2010) compared to nowadays. It was not until recently that a serious attention was brought to the potential detrimental impact

of human's development on the planet (Lee et al, 2020; Grove, 2002). The industrialized economy had transformed the lifestyle of the worldwide population by improving the standards of living and increasing prosperity. Carbon-based economies had driven humanity to invest more into technology and innovation, making their lives easier and more efficient. However, such development did not come without any consequences, the increase of the earth's core temperature, the growing amount of pollutant-based particles in the air and the continuous threats to the marine world are only a few examples amongst a lot of human activities' impact on the environment. Therefore, the introduction of the concept "sustainable development" by the World Commission on Environment and Development (WCED, 1987) was an essential step forwards to deal with this issue.

Qatar had experienced an unparalleled development and economic growth; this is seen in the increase in the standards of living of the Qatari population (Richer, 2015; Aboushaqrah et al, 2019). The rapid development, especially between 2005 and 2008, was considered unsustainable by several scholars and specialists (Sillitoe, 2014), and was the product of three main factors, the population's rapid growth, the high energy consumption and production patterns and the significant technological change the country is experiencing (Salahuddin and Gow, 2019). Qatar's transition to an economy away from fossil fuel is one of the critical challenges the government is currently facing, as it needs to look into a more sustainable and cleaner energy and set up new approaches to analyse the interaction between the environment, energy and the country's development. The combination of both economic advances and unsustainable energy consumption could be considered as the foundation on which Qatar launched its long-term vision 'Qatar National Vision (QNV) 2030', in the hopes of transforming the country into an advanced state sustaining its development and assuring a high quality of life for its people and the generations to come.

The introduction of the QVN2030 would mean the implementation of significant changes within the national and regional energy strategies and industry sector taking into consideration the social, technological, economic and political aspects. Thus, the implementation of Qatar Energy and Industry Sustainability Strategy (QEISS). This program pushed for an important change within organisations in the sector, a change towards sustainability. Kotter (2012) stresses that the success of change depends on its ability to become a core part of the organisation, and its culture is the key aspect in determining that. Therefore, changing the culture of an organisations is an essential step in order to ensure a successful introduction of sustainability initiatives within the Qatar oil and gas organisations. Linnenluecke and Griffith (2010) add that organisational culture's popularity increased within the literature of sustainability. However, there is a limited research regarding organisational cultural changes the Qatar oil and gas underwent to manage sustainability initiative, which is the core *raison d'être* of this paper. That is why, this paper will explore Qatar oil and gas organisations' cultural changes in their response to the implementation of sustainability strategies.

2. Organisational change management

Change is amongst the concepts that received multiple definitions throughout the years. For instance, French and Bell (1999) define change as "the new state of things that is different from the old state of things". Therefore, organisational change refers to the new state of the organisation which is different from the previous state. Additionally, Van de Ven and Poole (1995) dubbed change as "empirical observation of a difference in quality of state over time". The authors relate thus organisational change to transformation experienced throughout the

organisation's lifecycle while seeking organisational growth and competitive advantage. Furthermore, Ragsdell (2000) noted that organisational change is the organisation's move from the current state to a more beneficial one, whether it was because of minor or radical changes. In agreement with the authors, Lozano (2013) defines change as organisations' response to new a process, system or technological opportunities that could result in financial gains.

Despite the variety surrounding the definition of change within literature, there is a consensus regarding the cause of organisational change. Pressures from external and internal forces are believed to be the origin and main driver for organisational change (Kotter and Schlensinger, 1979; Whelan-Berry *et al*, 2003; Lozano, 2013; Lewis, 2019). The authors agree that these change drivers are an important component for a successful implementation of change since they provide an understanding for the need for change. This is important especially since organisational change involves significant transformation within strategy, systems, structure, culture or processes. This agrees with Epstein and Buhovac (2014) lines of thoughts that emphasises on the importance on a preconceived knowledge on reasons pushing for change to ensure an effective implementation and guarantee a benefit from it.

Due to external and internal drivers, organisations tend to implement strategic change and undertake transformation in order to stay competitive within the market. However, Balogun and Jenkins (2003) argue that several organisations fail to properly implement change, for mainly a lack of adequately capturing the complexity of the whole process of change. In other words, these organisations do not possess the necessary capabilities, resources and understanding to effectively and properly manage change. Therefore, making the concept of "organisational change management" (OCM) widely explored in the literature. It is the management process when organisations decide to implement some transformation to its strategies, technologies, processes or internal culture to move up organisations from a current status quo to a more desirable one (Lewin, 1947; Hamlin *et al*, 2018). Authors within the literature agree that a successful organisational change management is essential for organisations to ensure their survival and prosperity in a very competitive and fast changing business environment (Todnem, 2005; Hamlin *et al*, 2018; Senior *et al*, 2020). However, it should be mentioned that the models and approaches of change management presented by academics and implemented by practitioners may be contradictory, mainly on how to quantify results.

Despite the difference of attitudes towards change management, three separate models marked the OCM literature. Lewin's (1947) three step model is amongst the early ones to address change management, it focuses on the implementation of small scale and incremental change within the organisation. The model is composed of three main stages; unfreezing old - moving to new - refreezing, which is based on the organisation's rejection of the current strategy, systems, or processes by the adaptation of new ones and then refreezing the new situation. A number of authors tried to improve and add more details on Lewin's work. For instance, Goodstein and Burke (1995) emphasis on the engagement of top management on the different steps of Lewin's model, with a focus on employees' support and empowerment when implementing new strategies and finally addressing monitoring, feedback and promotion at the refreezing stage. However, Lewin's model has been criticised for being slow and non-efficient for organisations to adapt, since they require a more rapid and non-incremental change (Puri, 2019).

Thus, the introduction of Burnes (2004) model of transformational change has gained a lot of appraisal for its ability to represent change within the different direction of the organisation.

The model asserts that change is a continuous and an open-ended process and not a compartmental or linear as Lewin highlights (Van den Berg *et al*, 2019). The author argues that the change process is unpredictable since it depends highly on variables within the organisation. In line with this, Johnson and Scholes (2010) states that transformational change differs from one organisation to another since it depends on external factors. The authors add that this type of change would involve radical transformation that requires a lot of preparation since it aims to implement change that goes beyond strategy and targets the organisation at its core.

The third model with important impact on the change management literature is the contingency model or situational model presented by Dunphy (1993). The author opines that organisations need to consider both transformational and incremental approaches when implementing change, this allows decision makers to use directive and participative means to achieve the wished change. Dunphy's argument for the combination of the two models originates from his belief that change depends on situational variables such as the organisation size, leadership style and employees' engagement. On one hand, the model's approach towards incremental change allows decision makers to look past personal values as the main criterion for implementing change. On the other, it stresses the need for a directive management style when dealing with transformational change. Therefore, a mixture of both directive and consultative management styles is needed to jump start and keep up the momentum of change.

3. Organisational change for sustainability

Sustainability strategies are becoming an essential component of organisations' activities, but their implementation is regarded as complex and challenging for decision makers mainly due to the changes associated with the process (Sroufe, 2017). That is why the concept of change management for sustainability had been addressed extensively within the literature (Doppelt, 2017; Benn *et al*, 2014; Lozano, 2013; Kolk and Pinkse, 2007). Change for sustainability has been defined by many authors as the change that should not focus only on the changing of raw materials, products or processes but one that is able to reach corporate culture, adapt behavioural attitudes, enable the application of the know-how and assist in overcoming technological barriers (DeSimon and Popoff, 2000; Baumgartner, 2009; Lozano, 2013b). Therefore, the need to focus beyond changes in the technological level and shift it towards management style, leadership and culture is vital to ensure a successful implementation of sustainability. Linnenluecke and Griffiths (2010) argue that change programs that require a change in leadership and culture take a long time and need a combination of skill and luck to be properly implemented. Thus, a holistic change management approach is required to guarantee an organisational change for sustainability that would last.

Table 1: Summary of three change management models

Doppelt (2017) wheel of change	Benn <i>et al</i> (2014) eight-phase model	Lozano (2013) orchestrating change for sustainability model
<ul style="list-style-type: none"> • Disrupt and change the dominant mindset and establish a compelling need for achieving change. • Rearrange the parts of the system by organising transition teams. • Change the goals of the system and create an idea vision. • Restructure the rules of engagement. • Shift the flows of information, communicate vision, strategies and actions. • Correct feedback loops in the organisation by introducing encouragement and rewards programs and innovation. • Adjust and align the system's parameters. 	<ul style="list-style-type: none"> • Evaluate the organisation's current sustainability programs. • Evaluate the possible type of intervention change needed. • Identify change agents, catalysts and leaders. • Test out the new practices and innovations programs through a pilot test. • Exploit internal resources and capabilities to the fullest. • Communicate the changes and extend programs throughout the rest of the organisation. • Align organisational systems. 	<ul style="list-style-type: none"> • Employees empowerment and rewards programs. • Fostering change for sustainability drivers through collaborations and shared values. • Overcoming resistance to change barriers. • Continuous learning • Improved communication of knowledge and awareness through the organisation. • Continuous employees' training. • Alignment of key aspects (Vision, management style ...)

Despite the differences in the definition of the term “change management for sustainability”, authors seem to be in agreement in specific aspects. For instance, the proper identification of the organisation's sustainability vision or missions is crucial, leadership style, employees' development, communication, collaboration, resistance or adaptation to change. Three main models are leading the way for the change management for sustainability literature, Doppelt (2017) “Wheel of change”, Benn *et al* (2014) eight phase model and Lozano (2013) “orchestrating change for sustainability” model (See Table 1).

Doppelt's wheel of change is an updated and a newer version of Kotter's eight step model. The author regards the process of change for sustainability as messy one and non-linear, he views it as a wheel, cycle or a closed loop that is composed of seven elements where the intervention when applied would insure an efficient sustainability change. Benn *et al* (2014) is amongst a few number of authors that adopted an inside-out approach towards change for sustainability, in which internal change and innovation trump in importance measurement and control. The authors' model allocates more importance to organisational soft issues such as leadership, vision, policies and employees and they have introduced eight management aspects to cover all of this issue. Lozano's model focuses on the disruption of the non-sustainable status quo and helps in the establishment of a more sustainably oriented state. The model is based on a continuously iterative process that addresses the full system and its elements, ranging from organisational behaviour, assessment and reporting, management style and employees' empowerment.

A comparison between the three models shows that they share resemblance and differences in several aspects of their approaches. The first point of similarity is the authors' emphasis on the alignment of change for sustainability with the organisation's systems, that is its vision, objectives, culture, leadership and processes. This indicates the importance and influence of

alignment for a successful implementation of sustainability strategies, which goes in accordance with the original change management literature. The second common aspect is the important role culture plays in guaranteeing an efficient change for sustainability, especially in the early stages. The third shared resemblance between the three models is their focus on leadership and its part in assuring a successful adaptation of change for sustainability. The authors identified leadership style as a crucial key aspect when dealing with employees for instance or setting up organisation's goals and objectives. The authors' agreement on culture consideration in the change management towards sustainability showcase its importance in ensure its success. Therefore, this paper studies the cultural changes the Qatar oil and gas organisations experienced when adapting sustainability strategies.

4. Research methodology

A well-constructed and identified research question guarantees a focus on the research scope avoiding unrelated searching and ensuring the use of only useful information (Akobeng, 2005). This research aims to identify the key cultural change management strategies implemented within the Qatar oil and gas sector to manage sustainability initiatives. Given the relatively new and unexplored nature of the research problem, a qualitative research approach was carried out as Creswell and Poth (2017) noted that it is appropriate to use this method. Qualitative research methods focus on discovering and understanding the experiences, perspectives, and thoughts of participants. Qualitative research explores meaning, purpose, or reality (Creswell and Creswell, 2018). This corresponds with the research topic, which requires understanding of the key challenges organisations face in embedding sustainability strategies in the Qatar oil and gas sector.

Semi-structured interviews were selected as the data collection tool to answer the research question. Fifteen oil and gas organisations in Qatar were invited to take part in the study of which eight organisations agreed to participate. A set of twenty-four semi-structured interviews were carried out with professionals from eight different organisations in the Qatar oil and gas sector. The research followed a purposive sampling method; this type of sampling techniques is widely used for exploratory research (Palinkas *et al*, 2015). However, due to the nature of the sensitivity of the oil and gas industry in Qatar and the middle eastern culture, a further sampling technic needed to be implemented, thus the addition of snowball sampling.

The questions of the interviews were designed to examine the interviewee's perception regarding the cultural changes experienced within their organisations in response to sustainability strategies implementation. Open questions were adapted to avoid participants' bias and encourage them to delve in depth in their answers. Specific and closed questions were also used to obtain more information regarding a specific point or subject (***From the job role and responsibilities in this organisation, please enlighten me of the cultural change that have been experienced within your organisation for dealing with sustainability initiatives?***) The interviews lasted between twenty and thirty minutes, with necessary ethical issues considered such as confidentiality and anonymity. The interviewees were, top management which included directors and engineers (directors, project directors, quality directors, environmentalist engineers, process engineers and maintenance engineers) amongst other with a minimum of three years' experience within the oil and gas industry. Table 2 represents the interviewees that participated in the study, interviewee code, company code, profession of each interviewee in the organisation and their years of experience.

Table 2: Classification of interviewees

No	Participants	Profession	Company	Experience
1.	SUSC1	Director	Company A	>13
2.	SUSC2	Process engineer	Company A	>6
3.	SUSC3	Senior health and safety officer	Company A	>5
4.	SUSC4	Process engineer	Company A	>3
5.	SUSC5	Director of sustainable development	Company B	>14
6.	SUSC6	Environmental engineer	Company B	>5
7.	SUSC7	Environmental engineer	Company B	>3
8.	SUSC8	Director	Company C	>10
9.	SUSC9	Project director	Company C	>8
10.	SUSC10	Project director	Company C	>7
11.	SUSC11	Environmental engineer	Company C	>5
12.	SUSC12	Process engineer	Company C	>3
13.	SUSC13	Mechanical engineer	Company C	>3
14.	SUSC14	Quality director	Company D	>15
15.	SUSC15	Senior process engineer	Company D	>8
16.	SUSC16	Process engineer	Company D	>6
17.	SUSC17	Mechanical engineer	Company E	>5
18.	SUSC18	Maintenance engineer	Company F	>4
19.	SUSC19	Facility engineer	Company F	>4
20.	SUSC20	Senior project engineer	Company G	>7
21.	SUSC21	Reservoir engineer	Company G	>5
22.	SUSC22	Electric engineer	Company G	>4
23.	SUSC23	Maintenance engineer	Company H	>7
24.	SUSC24	Exploration supervisor	Company H	>4

Thematic analysis was selected to acquire an in-depth knowledge of the collected data. The analysis would follow Elo *et al* (2014) guide for qualitative analysis. The steps followed are transcription of the audio interviews, preparation of transcripts, multiple reviews of transcripts, coding of transcripts and generation of themes and subthemes. The interviews were coded to ensure anonymity of the participants, with each interview being coded as: Sustainability in Company # → SUSC#. The themes were carefully generated from the interviews and followed by coding with the help of Nvivo, a qualitative data analysis computer software. Because of the nature of the interviews, where participants tend to discuss several subjects at the same time with relatively incomplete sentences, the thematic analysis was set by phrase in the Nvivo software.

5. Findings

Organisational culture is a term that received several definitions and approaches within the change management literature (Seel, 2000). Latukha (2015) and Kontoghiorghes (2016) define it as the moderator that manages the impact of talent management on the organisation's performance. Additionally, Douglas (1985) defines it as the output of the continuous creation, expression and developed values of the organisation's members and its surroundings. Emphasising that culture is not a static aspect but an active and a changeable one that exposed from within the organisation. Furthermore, Schein (1987) describes it as a set of a number of assumptions that are either developed, invented or discovered by the members of the organisation along their journey to learn to cope with problems from their external or internal environments.

In this study, interviewees highlighted that there was a cultural change within their organisations in relation to sustainability initiatives. A number of interviewees identified several aspects of cultural change, mainly focusing on behavioural changes from both management and employees, leadership attitude, shareholders' attitude and inter organisational collaboration.

- **Behavioural change**

Adams *et al* (2018) posit that organisations wishing to adapt sustainability values are required to start on a slow process in order to transform the ideology of their employees where their previous assumptions and behaviours are recalibrated to match their organisations' perceived goal. In line with this, interviewee SUSC19 explained that organisations' views of sustainability changed with time:

“I can say that the people's perception towards sustainability had changed a lot over the years; before they use to look at it as an additional luxury, but now they see it as an essential necessity for the survival of their companies”.

It is evident from analysing the interviewee's statement that organisations within the Qatar oil and gas sector have come to realise that their business performance is no longer measured by only their financial benefits, but also by their sustainability related policies, touching the community and environment. This change of perception stems from both high- and low-level employees' change of behaviours and actions over time to be realigned with their organisations' new objectives and goals. Agreeing with the interviewee, Crittenden *et al* (2011) assert that organisations wanting to incorporate sustainability within their ethos should alter their core beliefs and organisational culture overtime.

Chan *et al* (2012) identified the employees' perception of sustainable development, their motivation and attitude towards it to be an important factor for an effective implementation and improvement of sustainability strategies. Interviewees noted that employees' positive attitude towards sustainability issues act as an incentive for organisations to adapt effective sustainability initiatives. For instance, interviewee SUSC15 stated that:

“People within Company D believed in sustainability projects and to keep our commitment towards the society and environment, because their support and attitude towards these issues is very important”.

From analysing the interviewee's statement, it can be revealed that employees' pressure and involvement is important for improving organisations' sustainability performances. Mainly since concerned and engaged employees can be a source of pressure on organisations to face their sustainability issues.

- **Leadership attitude**

Schein (2016) and Matinaro and Liu (2017) visualise leaders as the engineers and architectures of culture change, seeing their ability to shape organisations' culture since they have the ability to create a new ones through their actions. Moreover, Blanco-Portela *et al* (2017) argue that leaders could be the champions of sustainability as they help teach employees and staff members to act as the organisation's agents of change. Accordingly, interviewee SUS9 asserts:

“Seeing that the workforce is a reflection of the top management, the perception and interest for sustainability would be passed for the employees too”.

From the interviewee’s statement it is clear that an important organisational change, such as the introduction of sustainability values, requires a champion to lead it, which is represented in this case in the top management and their leadership. Mainly since they passed on their beliefs and attitudes towards sustainability issues to their employees. In agreement with the interviewee, Defee *et al* (2009) consider the adoption of sustainability practices as an important organisational change that would induce a change in the organisation’s overall culture. Therefore, a good leadership approach would ensure a successful implementation of change and thus sustainability.

Leadership’s support of sustainability issues is essential to ensure a successful implementation of sustainability strategies to achieve Qatar oil and gas organisations’ sustainability agenda. Mainly since individuals in a leadership position are responsible to be aware of sustainability issues surrounding their organisations to incorporate the correct approach for a successful adoption of sustainability agenda. However, Meek (1988) questions leaders’ impact on changing the organisational culture and their ability to create a new one, mainly because they are an important part of the already existing culture and not apart from it. Meaning they will have difficulties to change culture towards sustainability. However, within the Qatar oil and gas sector, top management’s input and ability to impact organisational culture is a key element to implement sustainability strategies, as interviewee SUSC7 and similarly to interviewee SUSC9 emphasise on leadership’s role in creating a sustainable culture:

“I personally see the importance from communicating the message (of sustainability culture) from up to down ... top management Company B believed in sustainability projects and it is our duty to keep their and our commitment towards the society and environment.”

The aforementioned statement reveals that top management’s collaboration and communication with the rest of the employees do assist in shaping organisational culture towards sustainability. Mainly since difficulties in managing and nurturing such culture would reflect negatively on the organisation’s inter-relations (Beugelsdijk *et al*, 2006) and therefore threatening the ability of the organisation and the sector to transit towards a more sustainable action.

- **Shareholders’ attitude**

Shareholders’ impact on organisations is very important, since they have a direct influence on their long-term performance on several levels (Gomez-Bezares *et al*, 2016). That is why their behaviour was amongst the most important factors for pushing sustainability implementation within organisations, along with environmental legislations and social pressure (Othman and Ameer, 2009), through shareholder activism or sustainability responsible investments. Interviewee SUS14 highlighted that sustainability is becoming a requirement for shareholders in the industry:

“I used to attend shareholders meetings in Company D and Company A and they have sustainability as a requirement for us, so each company needs to

report their achievement in terms of sustainability to them, to be honest this was not the case eight years ago”

The aforementioned statement suggests that shareholders in the Qatar oil and gas industry are adopting a positive attitude towards sustainability strategies and considering it a more of an important necessity than it was before. This shows that these shareholders are currently inclined to move their interest from a short-term gain to a more long-term benefit related to a more responsible social and environmental impact. Pickl (2019) noted shareholders pressure oil and gas organisations into adopting sustainability strategies, importantly environmental initiatives such as reduction of carbon emission to limit global warming. Furthermore, Renukappa et al (2014) argued that shareholders are considered amongst the key reason organisations choose to adopt sustainability strategies, since it enhances organisations’ reputation and increase their value in the process.

Additionally, from a shareholder’s perspective, sustainability investments are regarded as efficient, seeing that an improved sustainability performance would help the organisation improve its financial performance (Hillman and Keim, 2001; Fombrun, 2005; McWilliams and Siegel, 2011), by acquiring better resources, more skilled employees, target a wider consumer base and reduce any possible legislative or regulatory sanctions. Therefore, a rise of pro-sustainability shareholders and responsible investors is experienced throughout the industry. Interviewee SUSC14 highlighted the importance of shareholders engagement for the success of sustainability implementation strategies:

“Basically, our wish is to implement sustainability, the idea is simple, review our operations and see where can we intervene to improve our performance, ... because we have to prove that in front of the shareholders and in front of the market to be able to carry on doing that”

From the interviewee’s statement it is clear that shareholders’ engagement in sustainability push organisations to effectively implement it, because they require a demonstration of how well sustainability strategies are managed and how are they aligned with the organisation’s vision to ensure success in the market.

- **Inter-organisational collaboration**

Another example of cultural organisational change within the Qatar oil and gas sector, given by interviewee SUSC10, is the increase of cooperative culture between organisations in sharing different resources and knowledge:

“The mindset of sharing is one of the key strategies, this is something that from Total point of view we are trying to implement within our upcoming frameworks, to have some sharing with one of our sister companies here in Qatar ... We have been able to successfully share different resources with different operators in Qatar, logistically talking, such helicopters, boats ... you have plenty of sharing with other companies and you want to influence your good practices within national companies.”

This change of mindset and culture to one that encourages and supports the sharing of knowledge and resources is an important feature to ensure the success of sustainability within the Qatar oil and gas sector. This is especially since sustainable development is for one became

very critical to the country and second because of the great gap of sustainability related knowledge noticed amongst the organisations. In line with this, Maizza *et al* (2019) argue that sustainable development activities could be improved by more than production processes but also with knowledge sharing culture, mainly since it allows collaboration and exchange of different attributes from multiple backgrounds. In alignment with this, Sharma and Kearins (2011) assert that inter-organisational collaboration would assist organisations to have a better understanding of sustainability issues that exist in their region, and thus help them overcome any challenges. Additionally, such sharing of knowledge and resources would improve organisations' relationships and eventually equip them with the necessary tools to respond to various sustainability pressure. However, it should be noted that such collaborations may sometimes be challenging, because although organisations would benefit from exploring different solutions that integrate sustainability issues within the national level, one of their main objectives is to enhance their competitive advantage.

6. Conclusion

Hart and Milstein (2003) stated that organisations need to consider their exposure to social and environmental events, not only in the present, but also in the future, as a means of generating sustainable value. This paper explores the cultural changes the Qatar oil and gas sector experienced to manage the implementation of sustainability strategies. Four cultural changes were identified, behavioural change, leadership attitude, shareholders attitude and inter-organisational collaboration. The implementation of sustainability strategies within the Qatar oil and gas sector has prompted organisations to adapt cultural changes in several of their aspects to cope with that. The change of leadership attitude was highly emphasised as they are the ones that carry out the organisation's vision and objectives in adapting sustainability. Additionally, a significant behavioural change from lower end employees to sustainability issues has been noted within the sector, a more appreciative and understanding approach was more adapted. Nevertheless, employees' different backgrounds enable them to place their sustainability focus on different aspects of the organisation, such as energy efficiency, environmental impact, and employees' welfare. Therefore, the existence of a leader to champion this change towards sustainability is vital for a successful sustainability implementation. Since leaders would be able to properly harness employees' capabilities towards the achieving the organisation's overall objectives. Moreover, the interorganisational collaboration has seen an increase, which would enable the sector eventually to improve its sustainability performances.

Organisations should abandon their reactive attitude towards sustainability issues and adopt a proactive approach to ensure a better involvement of all their levels and thus a successful implementation of sustainability strategies. Sustainability is not a stand-alone issue, but a dimension of management culture. As such, sustainability-related skills will have to reach further than personal relations skills. Hence, across the Qatar oil and gas sector sustainability-related themes should be gradually integrated into management training and functional departments across all levels of the organisation, including strategy, design, procurement, marketing, logistics, sales, human resources, communication and operations.

This paper can be of great importance to several parties interested within sustainability issues, seeing that the degree of success for sustainability strategies implementation depends highly on organisations' ability of cultural change. The following implications could be documented:

Theoretical implications

The paper presents a new input of sustainability concept from the perspective of the Qatar oil and gas industry, which was under researched. Since it explores the cultural changes Qatar oil and gas organisations experienced as a response for sustainability initiatives implementation.

Management implications

The paper offers a practical insight for organisations within the oil and gas sector that are intending to implement sustainability strategies. This offers top management a clear understanding of the impact and importance of culture on organisations' ability to adapt sustainability initiatives, mainly since it requires change over all levels of the organisation, from low level employees to decision making shareholders. This will also help top management to highlight cultural issues within their organisations and decide a course of action that will make an optimum utilisation of available resources during times of resource scarcity.

Despite the novel insights provided by this paper, it has some limitations. Given that the research reported in this paper is exploratory by nature, the results presented are only tentative and of limited value for the purpose of generalizability. Furthermore, the findings of this paper are limited to the Qatar oil and gas sector only; as such, the level of generalizability outside this context may be very limited. However, it could be argued that the results obtained are useful to similar Gulf countries. Furthermore, additional research could be conducted to explore other aspects of the change management adapted by the Qatar oil and gas sector, concerning for instance structure, strategies or systems. A study of these different aspects would provide a holistic perspective and understanding of the change management strategies organisations adapt to manage the implementation of sustainability initiatives.

References

- Aboushaqrah, N. Onat, N. Kucukvar, M and Jabbar, R. (2019) Life cycle sustainability assessment of sport utility vehicles: The case for Qatar. *Smart and Green Solutions for Transport Systems*, pp. 279-287.
- Adams, R. Matrin, S and Boom, K. (2018) *University culture and sustainability: Designing and implementing an enabling framework*. *Journal of Clean Production*, **171**(1), pp. 434-445.
- Akobeng, A. (2005) Principles of evidence based medicine. *Archives of disease in Childhood*, **90**(8), pp. 837-840.
- Balogun, J and Jenkins, M. (2003) *Re-conceiving change management: A knowledge-based perspective*. *European Management Journal*, **21**(2), pp. 247-257.
- Baumgartner, R. (2009) *Organizational culture and leadership: Predictions for the development of a sustainable corporation*. *Sustainable Development*, **17**(1), pp. 102-113.
- Benn, S. Edwards, M and Williams, T. (2014) *Organizational change for corporate sustainability*. **3rd ed.** Routledge: New York.
- Beugelsdijk, S., Koen, C and Noorderhaven, N. (2006) *Organizational culture and relationship skills*. *Organization Studies*, **27**(6), pp. 833-854.
- Blanco-Portela, N. Benayas, J. Pertierra, L and Lozano, R. (2017) *Towards the integration of sustainability in higher education institutions: A review of drivers of and barriers to organisational change and their comparison against those found of companies*. *Journal of Cleaner Production*, **166**(1), pp. 563-578.
- Burnes, B. (2004) *Kurt Lewin and the planned approach to change: A re-appraisal*. *Journal of Management Studies*. **41**(6), pp. 977-1002.
- Chan, R. He, H. Chan, H and Wang, W. (2012) *Environmental orientation and corporate performance: The mediation mechanism of green supply chain management and moderating effect of competitive intensity*. *Industrial Marketing Management*. **41**(1), pp. 621-630.
- Creswell, W and Poth, C. (2017) *Qualitative inquiry and research design: Choosing among five approaches*. **4th ed.** London: Sage.
- Crittenden, V. Crittenden, W. Ferrel, L. Ferrel, O and Pinney, O. (2011) *Market-oriented sustainability: A conceptual framework and propositions*. *Journal of the Academy of Marketing Science*, **39**(1), pp. 71-85.
- Defee, C. Esper, T and Mollenkopf, D. (2009) *Leveraging closed-loop orientation and leadership for environmental sustainability*. *Supply Chain Management: An International Journal*, **14**(1), pp. 87-98.
- DeSimon, L and Popoff, F. (2000) *Eco-efficiency: The business link to sustainable development*. MIT Press: Cambridge.
- Doppelt, B. (2017) *Leading change towards sustainability: A change-management guide for business, government and civil society*. **2nd ed.** Routledge: New York.

Douglas, M. (1985) *Measuring a culture: A paradigm for the analysis of social organization*. New York: Columbia University Press.

Dunphy, D. (1993) *The strategic management of corporate change*. *Human Relations*, **46**(8), pp. 905-920.

Elo, S. Kaatiainen, M. Kanste, O. Polkki, T. Ultriainen, K and Kyngas, H. (2014) *Qualitative content analysis: A focus on trustworthiness*. *Sage Open*, **4**(1), pp. 1-10.

Epstein, M and Buhovac, A. (2014) *Making sustainability work: Best practices in managing and measuring corporate social, environmental and economic impacts*. **2nd ed.** Berrett-Koehler Publishers, Inc: San Francisco.

French, W and Bell C. (1999) *Organization development: Behavioral science interventions for organization improvement*. **6th ed.** Englewood Cliffs: Prentice-Hall.

Gomez-Bezares, F. Przychodzen, W and Przychodzen, J. (2016) *Corporate sustainability and shareholder wealth-evidence from British companies and lessons from the crisis*. *Sustainability*, **8**(3), pp. 276-298.

Goodstein, L and Burke, W. (1995) *Managing organizational change*. American Management Association: New York.

Grove, R. (2002) Colonialism and the history of environmentalism. *Harvard International Review*, **70**(1), pp. 50-55.

Hamlin, R. Ellinger, A and Jones, J. (2018) *Evidence-based initiatives for organizational change and development*. IGI Global: United States of America.

Hart, S. L., and Milstein, M. B. (2003) Creating sustainable value, *Academy of Management Executive*, **17**(2): 56–69.

Johnson, G and Scholes, K. (2010) *Exploring corporate strategy*. Prentice-Hall: Essex.

Kolk, A and Pinkse, J. (2007) *Towards strategic stakeholder management? Integrating perspectives on sustainability challenges such as corporate responses to climate change*. *Corporate Governance*, **7**(14), pp. 370-378.

Kontoghiorghes, C. (2016) *Linking high performance organizational culture and talent management: Satisfaction/motivation and organizational commitment as mediators*. *The International Journal of Human Resources Management*, **27**(16), pp. 1833-1853.

Kotter, J and Schlesinger, L. (1979) *Choosing strategies for change*. *Harvard Business Review*, **57**(1), pp. 106-114.

Kotter, J. (2012) *Leading Change*. Harvard Business Review Press: Boston Massachusetts.

Kupers, W. (2011) *Integral responsibilities for a responsive and sustainable practice in organisation and management*. *Corporate Social Responsibility and Environmental Management*, **18**(1), pp. 137-150.

Latukha, M. (2015) *Talent management in Russian companies: Domestic challenges and international experience*. The International Journal of Human Resources, **26**(8), pp. 1051-1075.

Lee, K. Noh, J and Khim, J. (2020) *The blue economy and the united nations' sustainable development goals: Challenges and opportunities*. Environmental International, **137**(1), 105528.

Lewin, K. (1947) *Frontiers in group dynamics: Channels of group life; Social planning and action research*. Human Relations, **1**(2), pp. 143-153.

Lewis, L. (2019) *Organizational change: Creating change through strategic communication*. 2nd ed. London: John Wiley & Sons, Incorporated.

Linnenluecke, M and Griffiths, A. (2010) *Corporate sustainability and organizational culture*. Journal of World Business, **45**(1), pp. 357-366.

Lozano, R. (2013) *Are companies planning their organisational changes for corporate sustainability? An analysis of three case studies on resistance to change and their strategies to overcome it*. Corporate Social Responsibility and Environmental Management, **20**(1), pp. 275-295.

Lozano, R. (2013b) *A holistic perspective on corporate sustainability drivers*. Corporate Social Responsibilities and Environment Management, **22**(1), pp. 32-44.

Matinaro, V and Liu, Y. (2017) *Towards increased innovativeness and sustainability through organizational culture: A case study of Finnish construction business*. Journal of Cleaner Production, **142**(1), pp. 3184-3193.

Meek, L. (1988) *Organizational culture: Origins and weaknesses*. Organization Studies, **9**(4), pp. 453-473.

Othman, R and Ameer, R. (2009) *Corporate social and environmental reporting: Where are we heading? A survey of the literature*. International Journal of disclosure and governance, **6**(4), pp. 298-320.

Palinkas, L. Horwitz, S. Green, C. Wisdom, J. Duan, N and Hoagwood, K. (2015) *Purposeful sampling for qualitative data collection and analysis in mixed method implementation research*. Administration and Policy in Mental Health and Mental Health Services Research, **42**(5), pp. 533-544.

Pickl, M. (2019) *The renewable energy strategies of oil majors – From oil to energy*. Energy Strategy Reviews, **26**(1), 100370.

Puri, J. (2019) *Transformational change: The challenge of a brave new world*. In: Schmidt, M. Giovannucci, D. Palekhov, D and Hansmann, B. *Sustainable global value chains*. Natural Resources Management in Transition, **2**, Springer, Cham.

Ragsdell, G. (2000) *Engineering a paradigm shift? An holistic approach to organisational change management*. Journal of Organizational Change, **13**(1), pp. 104-120.

Renukkappa, S. Egbu, C, Akintoye, A and Suresh, S. (2014) *Drivers for embedding sustainability initiatives within selected UK industrial sectors*. Journal of International REAL Estate and Construction Studies, **3**(1), pp. 1-22.

Richer, R.A., (2015) Sustainable development in Qatar: Challenges and opportunities. QScience Connect, p.22. <http://www.qscience.com/doi/pdf/10.5339/connect.2014.22>

Salahuddin, M and Gow, J. (2019) Effects of energy consumption and economic growth on environmental quality: Evidence from Qatar. Environmental Science and Pollution Research, **26**(1), pp. 18124-18142.

Schein, E. (1987) *Defining organizational culture, Classics of organizational theory*. Kingsport: Cole Publishing Company.

Schein, E. (2016) *Organizational culture and leadership*. **5th ed.** San Francisco: Wiley.

Seel, R. (2000) *Culture and complexity: New insights on organisational change*. Culture and Complexity – Organisations and People, **7**(2), pp. 2-9.

Senior, B. Swailes, S and Carnall, C. (2020) *Organizational change*. **6th ed.** Pearson Education Limited: Harlow.

Sharma, A and Kerins, K. (2011) *Interorganizational collaboration for regional sustainability: What happens when organizational representatives come together?*. The Journal of Applied Behavioral Sciences, **47**(2), pp. 168-203.

Sillitoe, P., (2014) *Sustainable development: An Appraisal from the Gulf Region*, Berghahn publishing, New York, USA.

Sroufe, R. (2017) *Integration and organizational change towards sustainability*. Journal of Cleaner Production, **162**(1), pp. 315-329.

Stacey, R. (2007) *Strategic management and organisational dynamics*. Pearson Education: United Kingdom.

Todnem, R. (2005) *Organisational change management: A critical review*. Journal of Change Management, **5**(4), pp. 369-380.

Van de Ven, A and Pool, H. (1995) *Explaining development and change in organizations*. Academy of Management Review, **20**(3), pp. 510-540.

Van den Berg, R. Margo, C and Mulder, S. (2019) *Evaluation for transformational change: Opportunities and challenges for the sustainable development goals*. International Development Evaluation Association (IDEAS): Exter

Vorosmarty, C. McIntyre, P. Gessner, M. Dudgeon, G. Prusevich, A. Glidden, S. Bunn, S. Sullivan, C. Liermann, C and Davies, P. (2010) Global threats to human water security and river biodiversity. Nature, **467**(7315), pp. 555-561.

Whelan-Berry, K. Gordon, J and Hinings, C. (2003) *The relative effects of change drivers in large-scale organizational change: An empirical study*. *Research in Organizational Change and Development*, **14**(1), pp. 99-146.

World Commission on Environment and Development (WCED). (1987) *Our Common Future*. United Nations: Oxford University Press.