

**IMPACT OF CLIMATE CHANGE ON THE BUSINESS
CONTINUITY OF UAE**

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Introduction

Climate change has impacted natural and human systems on every continent and throughout the seas during the last several decades. The Arabian Gulf area, which includes the UAE, is no exception. The United Arab Emirates (UAE), a country with a size of 83000 km² and several tiny islands, is particularly vulnerable to the effects of climate change because of its fast expansion and massive urban development (Al Blooshi *et al.* 2019). The population of the United Arab Emirates is steadily increasing, and the climate is changing, as it is everywhere else, due to rising levels of atmospheric CO₂ and temperature, as well as an increase in the frequency and intensity of unusually heavy rainstorms. With the help of General Circulation Models, the average temperature in Abu Dhabi is expected to rise by 2.5 degrees Celsius by 2050, while rainfall is expected to fluctuate between -21.2 and +10.3 percent (Al Blooshi *et al.* 2019). This research is developed to understand the literature surrounding the impact of climate change on business continuity on the UAE.

Literature review

Climate change has impacted business continuity in UAE through various sectors such as agriculture, manufacturing and construction. This review has focused on four major themes which are operational risks of climate change, financial risks of climate change, emergency preparedness of UAE and crisis leadership of UAE. The range of literature discussed in the review provides both theoretical and empirical data. While some researchers focus more on the causes, some have also provided solutions to the issues highlighted.

Theme 1: Operational risks

In the construction industry there are three basic categories: mechanical process, electrical engineering, as well as civil engineering. Productivity and greenhouse emissions reduction are the primary goals of mechanical, chemical, and electrical engineering (Dlugolecki, 2009). For example, zero waste, minimal energy and climate change adaptability are all priorities in building. In order to mitigate the consequences of climate change, civil engineering includes subsurface works and infrastructure surfaces such as drainage and sea barriers. The most of projects will include some of these construction categories in some form or another (Dlugolecki, 2009). Climate change's operational and financial consequences on the construction sector are examined in this research. There are two key components to this strategy: emissions reductions and effect mitigation. Hydrology, geology, and meteorology may be affected by climate change, which may increase or decrease the frequency of natural

disasters (Dlugolecki, 2009). Weather claims in the UK construction sector are investigated by Brodoli (2010) in an attempt to describe the criteria necessary for successful claims. Rainfall, cooler temperatures, wind direction, high temperatures, as well as snow cover are some of the key climatic factors that impact building. Each of these elements has a direct impact on building site operations, he explains. According to him, a lack of morale in the workplace might be attributed to low temperatures.

Theme 2: Financial risks

Aside from direct investments as well as construction market expansion, climate change has a detrimental influence on construction site operations, resulting in longer construction times, which may lead to additional costs. More moist and warmer weather is likely to impair construction workers' output, as noted by Munawar (2017). As a result of the increased risk of flooding and other hazards brought on by heavy rain, it is probable that the project's completion date may be extended. Tall buildings in the area, he says, are already a source of worry because of the high power and water costs they cause during hot weather. Consequently, they contribute significantly to the release of greenhouse gases that exacerbate climate change. Climate change has not only disrupted typical construction activity, but has also reduced demand for building materials, particularly in locations like coastal regions that are more prone to its effects. In the long run, these effects have a significant influence on both industry and national finances. In light of these data, it is obvious that climate change has a significant impact on construction site operations. But recent research by Yildirim et al. (2009) shows that climate change and per capita income are inextricably linked. For this study's fifth purpose of assessing how climate change impacts the UAE construction sector's financial risk, these results are significant. It is because of these weather-related delays that financial output is impacted. Crissinger (2005), for example, suggests that cleaning system on a daily basis is necessary to improve their efficiency in the face of climate change. He goes on to say that dust may cause equipment to wear out and be damaged. The waste of time that would have been utilised to complete building projects to prevent cost overruns is a result of routine cleanings of the material. Equipment wears and deterioration necessitates the procurement of new equipment, which results in additional costs.

Theme 3: Disaster management and emergency preparedness

Nature-caused catastrophes are well-known, but the damage is frequently magnified by human activities and environmental deterioration in disaster-prone locations (Smith, 2001). Hazardous

occurrences will have a particularly negative impact on weaker groups that are more susceptible to their effects and have a lower level of adaptive ability (Wisner et al. 2004). Research shows that only a tiny portion of vulnerability is due to natural disasters; the majority of it is due to cultural, social, including economic factors (Emma, 2005). People's reliance on interpersonal and interpersonal networks, the media, and other sources of risk information, as well as their own social networks and affiliations, all play a role in disaster prevention.

A combination of these elements may lead to greater or poorer readiness, as well as a higher or lower level of public participation (Pidgeon et al. 2003). Behaviour is influenced by one's habits, beliefs, and cultural upbringing (Tversky and Kahneman, 1974). There are several behavioural theories that hold that individuals behave in accordance with their views about the results of their actions and how highly they value those outcomes, such as the Theory of Reasoned Action (Fishbein & Ajzen 1975). Behaviour is affected both by this attitude and by views of what other people believe they should be doing and how they ought to act - i.e., standards of acceptable behaviour (Emma et al. 2009).

Risk can't be eradicated, but it can be minimised, thus it must be analysed and handled in order to lower the risk of a tragedy. Analysing possible hazards and assessing current circumstances of vulnerability may help evaluate the type and amount of risk, which might affect people, property, institutions, economies and the ecosystem on which they rely (ISDR 2009).

Qualitative or quantitative risk assessment is a method of determining the importance of a risk. Risk quantification has been undertaken for certain environmental dangers, but not all of them, and it is a procedure that is understood only by a small percentage of the public. Due to the fact that there are inherent uncertainties in quantitative risk assessment after hazards have been defined, Furthermore, it is difficult to understand when determining spending priorities with respect to few resources.

Theme 4: Crisis leadership

Taking charge in a crisis scenario requires the integration of a wide range of necessary competencies, abilities, and knowledge. As a result, stronger crisis management strategies and responses will be possible. Due to their good impact on both various stakeholders, crisis managers don't have to rely just on corporate communication in their role as the organization's voice. It is also expected of the company's senior executives to demonstrate a level of accountability amid a crisis. According to Khalifa & Alharthi (2019), crisis leadership is successful because it consists of three components. Having a strong leader, a well-organized

strategy, and the backing of the people are all important components. Fink (1986) argued that crisis managers must adhere to particular criteria, such as the collecting and analysis of information, in order to make a decision. The Fink's theory of decision-making is the name given to this approach. In spite of this, some researchers have shown that the theory may be too idealistic to be true in practise. This is because the manager's choice is influenced by a variety of circumstances. Chatterjee & Pearson (2009) mentioned that managers would benefit from prior experience in dealing effectively with the crisis in a methodical way. This will allow the management to deal with the problem more confidently and more aggressively. To better prepare for future crises, Wooten & James (2008) cite prior experience in crisis management as providing useful plans and strategies for a more systematic approach to crisis management at all stages of the crisis cycle. However, no such studies have been undertaken to establish the necessity of talents, knowledge, or skills to cope with such a crisis scenario. As a result, the present research asserts that crisis leadership has a direct impact on business continuity management. As a result of his research, Wong has concluded that crisis leadership has improved company continuity and, as a result, has increased economic success while decreasing crisis. Crisis leadership, on the other hand, has an indirect impact on crisis response through business continuity planning. As per this indirect association, there are few research.

Summary

This review had two objectives, one is to review the impact of climate change on the business continuity of UAE and another is to develop mitigative strategies. Thus, the four themes identified in the review can be divided between the two themes. To satisfy the first objective, the review has defined the operational and the financial risks of climate change. On the other hand, crisis leadership and emergency preparedness are more focused on the mitigative strategies.

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