Faculty of Technology Management and Technopreneurship

FACTORS THAT EFFECT BUSINESS CONTINUITY AND DISASTER RECOVERY PLAN IN THE ADNOC ONSHORE IN THE UNITED ARAB EMIRATES

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FACTORS THAT EFFECT BUSINESS CONTINUITY AND DISASTER RECOVERY PLAN IN THE ADNOC ONSHORE IN THE UNITED ARAB EMIRATES

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DECLARATION

I declare that this thesis entitled “Factors That Effect Business Continuity and Disaster Recovery Plan In The ADNOC Onshore In The United Arab Emirates” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : .....

Name : ARIF FARAJ AWADH ABDULLA ALSEIARI

Date : ……15/03/2022…….

APPROVAL

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Master of Science in Technology.

Signature : .....

Supervisor Name : DR. MURZIDAH BINTI AHMAD MURAD

Date : ……15/03/2022…….

DEDICATION

This work is dedicated to the people who have inspired me in my life…

My dear mother, Um Hamad, who always wants me to have the best, for her love, the prayers that she made for me.

…to my love…

My wife, Um Zayed, is a wonderful wife, a great companion and so much more in my life. She is always a source of love, courage and strength at every tough instant throughout these years.

…to my great guide…

My dear supervisor, Dr. Murzidah Binti Ahmad Murad, for her visions in Technology Management and Technopreneurship.

ABSTRACT

The oil and gas industry is recognized as the leading industry around the world because of the importance of oil and gas for every human being around the globe. The oil and industry involves almost every other industry, as without engines, life could be very difficult. The Abu Dhabi National Oil Company (ADNOC) is one of the world's leading companies in the energy sector. Its operations extend to the entire hydrocarbon value chain, with operations ranging from exploration, production, storage, refining and distribution to the development of a wide range of petrochemical products. The business continuity and disaster recovery plan focus on reducing the risks that cause problems in the normal operations of the organization. There are several social and economic problems that affect the profitability of the oil and gas industry globally, for the current research, the main problem is investigating factors that affect oil and gas business continuity is necessary for this industry's sustainability. This study was formulated for the purpose of evaluating the business continuity and disaster recovery plan of ADNOC Onshore in the United Arab Emirates. The literature background was provided for the topic's variables in order to provide a theoretical background to the research framework. The data collection process for this research began with the preparation of a questionnaire. The questionnaires were distributed randomly to ADNOC Onshore Companies in Abu Dhabi to the research location. The research used a well-known statistical program that is often used in quantitative methods. The program, the Statistical Package for Social Sciences (SPSS) version 23, was used to analyze the data collected. The study found that project initiation, risk assessment, business affect analysis, mitigation strategy development, plan development, plan testing, auditing, and maintenance, and training affect the evaluation of business continuity and disaster recovery plan by ADNOC Onshore. As an implication of the study, this study reveals that ADNOC managers must pay more attention to business continuity because, the oil and gas sector is not a stable sector, it can drop immediately with no notice by reasons like wars, so by oil and gas companies must be having solid and vital business continuity and disaster recovery plans for such incidents.

FAKTOR-FAKTOR YANG MEMPENGARUHI KESINAMBUNGAN PERNIAGAAN DAN PELAN PEMULIHAN BENCANA DI ADNOC ONSHORE DI EMIRATES ARAB BERSATU

ABSTRAK

Industri minyak dan gas diiktiraf sebagai industri terkemuka di seluruh dunia kerana pentingnya minyak dan gas bagi setiap manusia di seluruh dunia. Minyak dan industri melibatkan hampir semua industri lain, dapat dilihat sebagai enjin untuk hidup, tanpa kehidupan dapat menjadi sangat sulit. Syarikat Minyak Negara Abu Dhabi (ADNOC) adalah salah satu syarikat terkemuka di dunia dalam sektor tenaga. Operasinya meliputi keseluruhan rantaian nilai hidrokarbon, dengan operasi dari penjelajahan, pengeluaran, penyimpanan, penapisan dan pengedaran kepada pembangunan pelbagai produk petrokimia. Pelan kesinambungan perniagaan dan pemulihan bencana difokuskan untuk mengurangkan risiko yang menyebabkan masalah dalam operasi normal organisasi. Terdapat beberapa masalah sosial dan ekonomi yang mempengaruhi keuntungan industri minyak dan gas di seluruh dunia, untuk penyelidikan semasa, masalah utama adalah menyiasat faktor-faktor yang mempengaruhi kesinambungan perniagaan minyak dan gas diperlukan untuk kesinambungan industri ini. Kajian ini dirumuskan untuk tujuan penilaian kesinambungan perniagaan dan pelan pemulihan bencana oleh darat ADNOC di Emiriah Arab Bersatu. Latar belakang kesusasteraan disediakan untuk pembolehubah topik, untuk memberikan latar belakang teori kepada kerangka penyelidikan. Proses pengumpulan data untuk penyelidikan ini bermula dengan penyediaan soal selidik. Soal selidik telah diedarkan secara rawak ke ADNOC Onshore di Abu Dhabi ke lokasi penyelidikan. Penyelidikan telah menggunakan program statistik terkenal yang biasanya digunakan dalam kaedah kuantitatif. Program ini dipanggil SPSS (Pakej Statistik untuk Sains Sosial), SPSS versi 23 digunakan untuk menganalisis data yang dikumpul. Kajian ini mendapati bahawa inisiasi projek, penilaian risiko, analisis kesan perniagaan, pembangunan strategi mitigasi, pembangunan pelan, ujian pelan, pengauditan, dan penyelenggaraan, serta latihan memberi kesan kepada penilaian kesinambungan perniagaan dan pelan pemulihan bencana oleh ADNOC di luar pesisir. Sebagai implikasi dari kajian ini, kajian ini mengungkapkan bahawa pengurus ADNOC harus lebih memperhatikan kesinambungan perniagaan kerana, sektor minyak dan gas bukan sektor yang stabil, ia dapat turun dengan segera tanpa disedari oleh alasan seperti perang, oleh itu oleh minyak dan gas syarikat mesti mempunyai rancangan kelangsungan perniagaan dan pemulihan bencana yang kukuh dan penting untuk insiden tersebut.Kata kunci: permulaan projek, penilaian risiko, analisis impak perniagaan, pengembangan strategi mitigasi, pengembangan rancangan, pengauditan dan penyelenggaraan pengujian rancangan, kesinambungan perniagaan dan pemulihanbencana, ADNOC, UAE.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, continuity in all types of business is important due to the priority given to the service to, the financial results and the survival in the market. This priority is in line with the objective of being at the forefront of a competition. In this context, companies must have advantages that make them competitive in the market, and one of these advantages is to guarantee availability, even after the occurrence of a disaster (Sahebjamnia, Torabi, & Mansouri, 2015).

In the global context, the ISO standard: 22301, which refers to business continuity management, is designed to protect the company against any eventuality, such as extreme weather, fire, flood, natural disasters, theft, interruption of services, illness of the staff or terrorist attacks. The ISO 22301 management system allows the identification of relevant threats and critical business functions that could suffer from consequences. It also allows firms to set up plans in advance to make sure the company does not stop its activity (Ferguson, 2018).

1.2 Problem statement

The main problem of this study-analysis is motivated by the need that arises in the oil and gas industry to have a contingency plan that allows it to mitigate the effects of the potential

loss of the infrastructure and minimize the loss of information and stop production. The design of the recovery plan allows the industry to have a mechanism or methodology that helps the industry reduce the business's interruptions and significantly reduce the risks related to continuity of service. In addition, this plan allows the oil and gas industry to publicize the cost-benefit of recovery strategies, analyze critical level functions for the survival of the industry, and selects the best alternatives for operation.

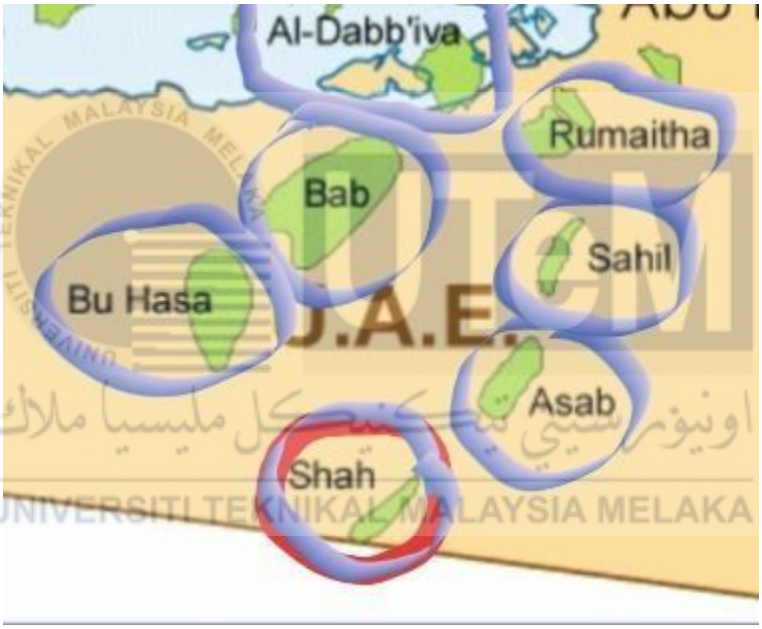

Figure 1.1: Production fields of ADNOC Onshore

Source: ADNOC 2017

ADNOC Onshore is a global provider of oil and gas products. It is the leading onshore producer within ADNOC Group. The company operates seven production fields as shown in Figure 1.1. With regard to potential disasters, successive earthquakes have hit hundreds of

kilometers away from these fields over the period of 2010 to 2015, and these shakes have caused alarm for the company to be more aware of potential earthquakes (M. Yagoub, 2016; M. M. Yagoub, 2015).

Over the last decade, the global oil and gas industry has suffered from several risks that threat its continuity. These threats relate to political, social, environmental, economic, and natural disasters. In the political aspect, imposing a ban on oil and gas export, such as USA's ban towards the Iranian oil and gas industry, threats the Iranian oil and gas industry development (Islam, 2019). In the social aspect, many global non-profit organizations have called to transform fossil energy to renewable energy due to the global warming issue (Seo, 2019). In the economic aspect, the global price of oil and gas industry has suffered a sharp decline starting from the end of 2014, which affected the profitability of the oil and gas industry globally (Ansari & Kaufmann, 2019). Thus, investigating factors that impact oil and gas business continuity is necessary for this industry's sustainability.

The basis for the success of business continuity activities is the existence of clear standards and the development of programs, supportive policies, guidelines and procedures necessary to ensure that the work continues without interruption, regardless of the circumstances or negative events that may occur. In order to have any hope for business continuity, disaster recovery, and, in some cases, system support. Business continuity and disaster recovery are often mixed up, but each is a separate entity. Disaster recovery is a small subset of business continuity. It is also sometimes confused with the revitalization of the work area due to the loss of the building through which the work is being conducted, which in turn is part of the business continuity activities.

In the Arab world in general and in the UAE in particular, the prosperity of the economy is largely focused on the oil and gas industry. There are many risks surrounding this cut-off, and among the most important risks, for example, the sudden drop in oil prices (Shqairat & Sundarakani, 2018), wars (Luzon & El-Sayegh, 2016), and surplus production (Aminjonov, 2020). ADNOC onshore operates and manages the entire oil and gas industry of the UAE. In this regard, the business continuity and disaster recovery plan of ADNOC established in the nineteens. According to (M. Ali, Kasim, & Adaji, 2020) there is a necessary of evaluating the business continuity and disaster recovery plan to be updated to the latest events. This evaluation must take into consideration the latest changes at the economic, political, technical, and environment aspects. In the context of ADNOC, there is a lack of evaluating the business continuity and disaster recovery plan periodically (Mohan et al., 2020), which maximize the potential risks that may affect the production of oil and gas continuity (Ranieri & Karam, 2020). The problem of the current study revolves around knowing the factors that affect the evaluation of business continuity and disaster recovery plan in ADNOC onshore in the UAE.

1.3 Research objectives

This research aims to achieve the following objectives:

1. To identify the effect of project initiation on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.
2. To identify the effect of risk assessment on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.

3. To identify the effect of business impact analysis on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.
4. To identify the effect of mitigation strategy development on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.
5. To identify the effect of plan development on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.
6. To identify the effect of plan testing, auditing, and maintenance on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.
7. To identify the effect of business continuity and disaster recovery on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.

1.4 Research questions

This research seeks to answer the following questions:

1. What is the effect of project initiation on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?
2. What is the effect of risk assessment on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?
3. What is the effect of business impact analysis on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?
4. What is the effect of mitigation strategy development on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?

5. What is the effect of plan development on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?
6. What is the effect of plan testing, auditing, and maintenance on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?
7. What is the effect of business continuity and disaster recovery on the evaluation of business continuity and disaster recovery plan in ADNOC Onshore?

1.5 Significance of the study

The significance of this work is to make known that any business, regardless of its business or size of operations, can implement a continuity plan, taking into account the occurrence of disasters such as fire, flood and other natural disasters of human origin or technological origin that interrupt the normal operations of the business over a prolonged period. This research is not intended to cover major regional or national catastrophes such as regional earthquakes, local or regional wars, or the nuclear holocaust. However, it can provide valuable guidance in the case of a large-scale disaster. Specifically, this research is limited to the continuity and recovery of the critical processes of the main lines of business due to a serious interruption, where such processes must be discussed when defining the design of the plan. To initiate research activities in order to define the kind of continuity plan that fits the needs of the business, it must determine the main processes and the specific needs of each department. For this, it is necessary to carry out a series of initiatives by the general management and later with each manager or leader of the areas identified as sensitive to the business.

The transcendental aspect in the application of strategic planning is not only its plans, but also the development of strategic thought of the directors of an organization. It considers that the objective of directors, managers, leaders, and decision makers, is to create and maintain the necessary organizational conditions so that the company is able to detect changes and adapt to them, and have the opacity to undertake those changes in an environment that favors the business; then, it is necessary to indicate that to obtain a better competitive position, it is not enough to formulate the strategy.

The creation of that desired future, where permanent competitive advantages can be created, requires a natural ability of the ADNOC leaders to develop their strategic thinking. This thought has perception and consequent determination in pursuit of its fulfillment, often equivalent to its sense of mission, as well as a basic creative and intuitive mental process that is more rational. However, in order for strategic thinking to function properly, it is necessary for ADNOC leaders to understand the current dynamics of business and identify the direction towards which ADNOC should be oriented, as well as its purpose and nature. The current research will provide recommendations based on the results, which will help and assist in improving and enhancing the evaluation of business continuity and disaster recovery plan in ADNOC Onshore.

1.6 Operational definition

This section provides the operational definitions used for this study terminology as follows:

Project initiation: is the first phase of the project management life cycle and in this stage, companies decide if the project is needed and how beneficial it will be for them. The two metrics that are used to judge a proposed project and determine the expectations from it are the business case and feasibility study.

Risk assessment: is the overall process of hazard identification, risk analysis, and risk evaluation.

A business impact analysis: is a function that predicts the consequences of disruption of a business function and process and gathers information needed to develop recovery strategies. Potential loss scenarios should be identified during a risk assessment.

Mitigation strategy: is the function that provides the framework to identify, prioritize and implement actions to reduce risk to hazards

A development plan is an aspect of project planning in comprising a set of documents that set out the project management policies and proposals for the development

Plan testing auditing and maintenance: is a formalized method for evaluating how business continuity processes are being managed. The goal of an audit is to determine whether the plan is effective and in line with the organization's objectives

Business continuity and disaster recovery is a set of processes and techniques used to help an organization recover from a disaster and continue or resume routine business operations.

Evaluation of business continuity and disaster recovery plan refers to the assessment method used by the company to evaluate how business continuity and disaster recovery plan processesare being managed effectively

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In the late 1990s, business continuity planning came to the forefront when companies attempted to assess the likelihood that business frameworks would be disappointed as of January 1, 2000 (the now scandalous "Y2K"). Business continuity planning is an approach used to make and approve a plan to keep business tasks constant in advance, in between and after disasters and problematic occasions. The business continuity plan must deal with the operating components that allow a business to function normally to generate income and, in addition, keep up without taking into account the potential risk, danger or reason for a blackout (Sahebjamnia et al., 2015).

Business Continuity Organization is the ability to carry out value-creating activities of institutions and organizations at a predetermined level in case of any disaster, crisis or disaster. Business Continuity, any earthquake, flood, lightning strike, server crash, critical personnel leaving the job, economic crisis, etc. In this case, it refers to the fact that the organization, institutions and organizations pass their critical products, services and activities with very little casualties, and their readiness to the moment of crisis.

An organization with a Business Continuity system, Earthquake, Flood, Fire, Technological Hardware loss, software crash, etc. When faced with disasters, he passes the crisis